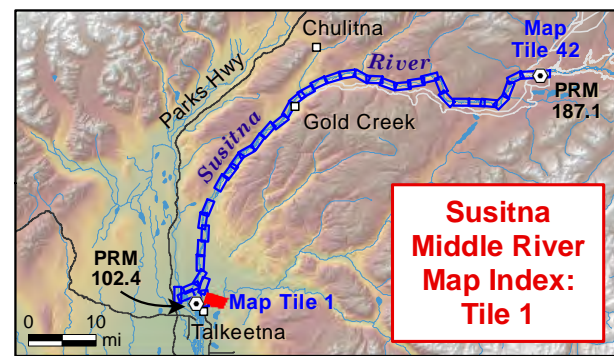


Appendix A: Maps from 2014 Remote Mapping of Beaver Dams



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



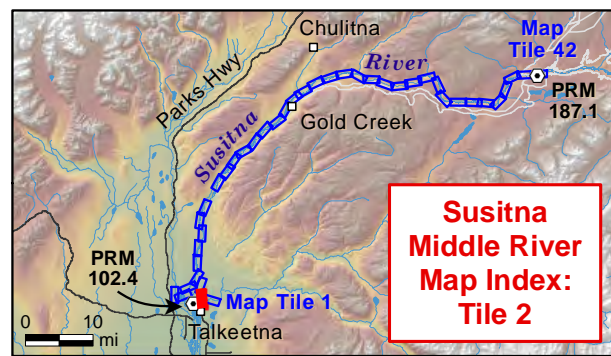
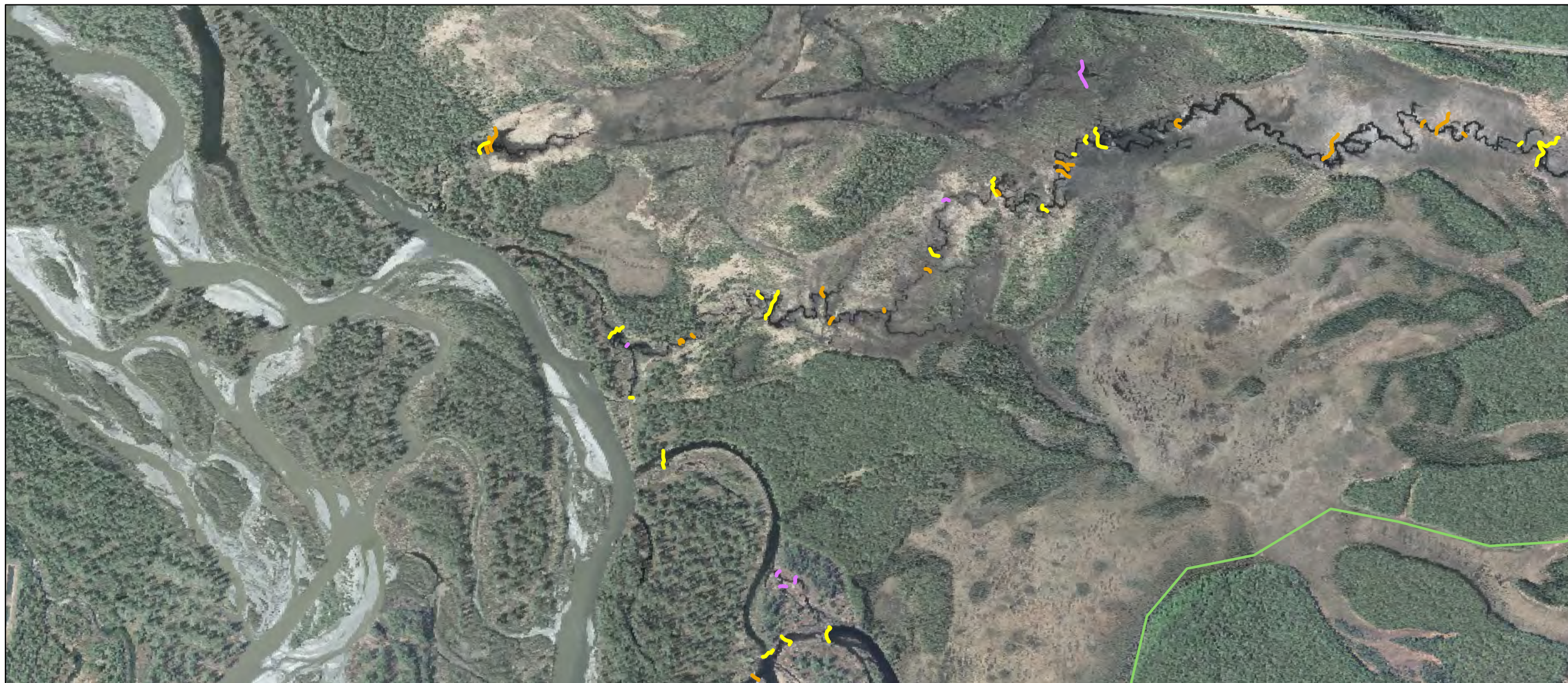
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-1

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



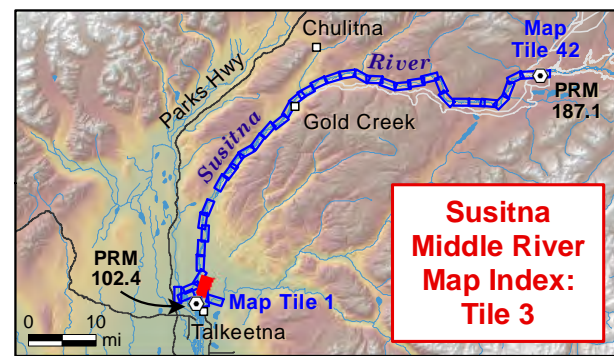
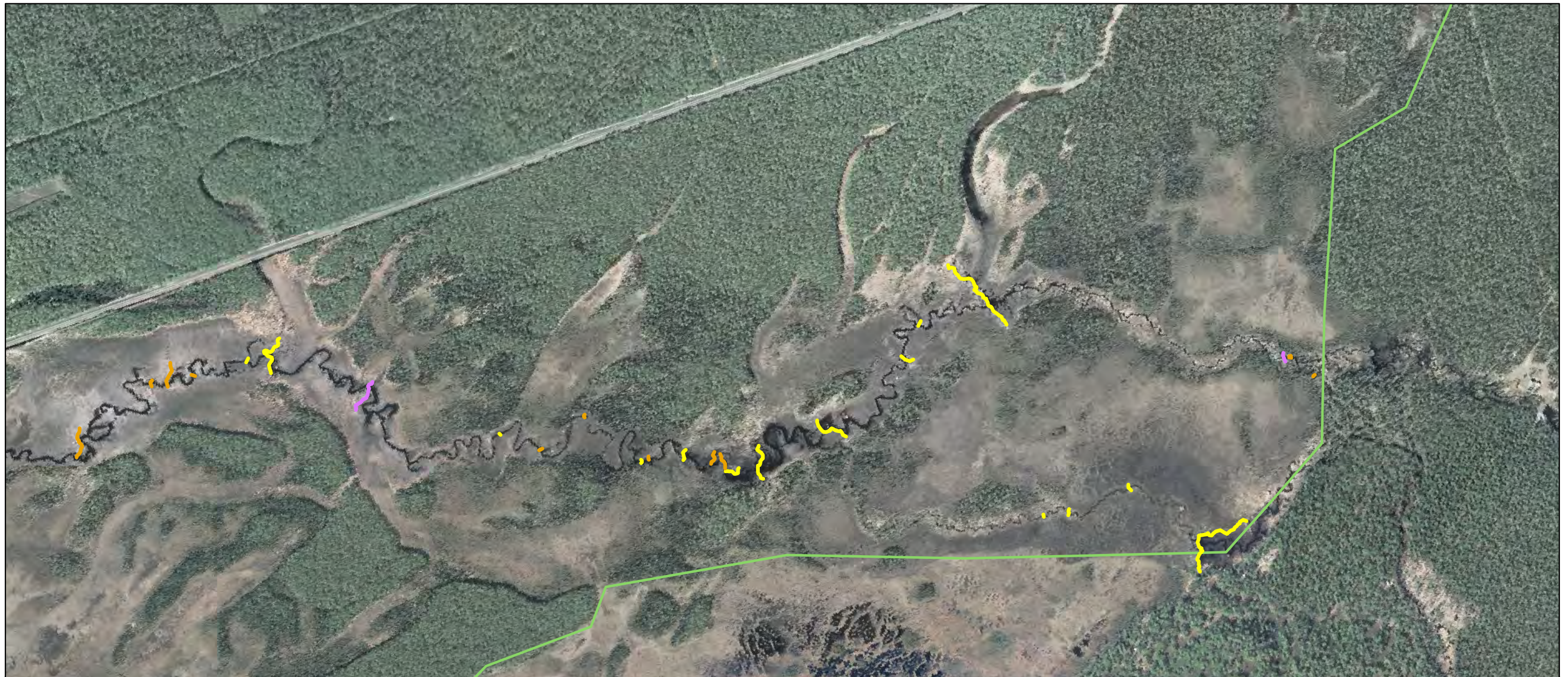
Data Sources:
 Beaver Dams: RIPR_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-2

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



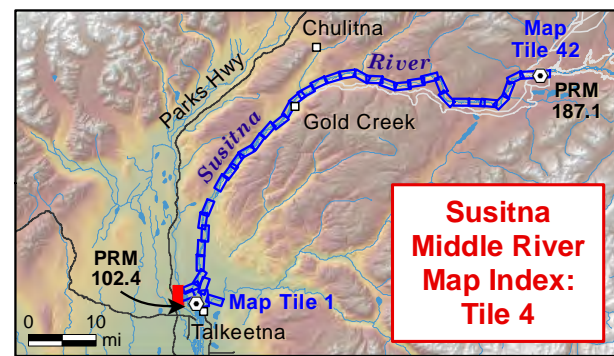
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-3

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



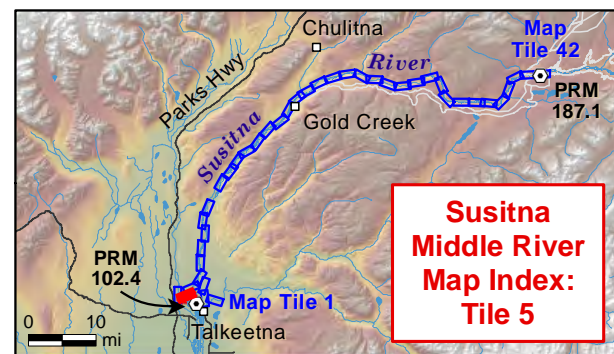
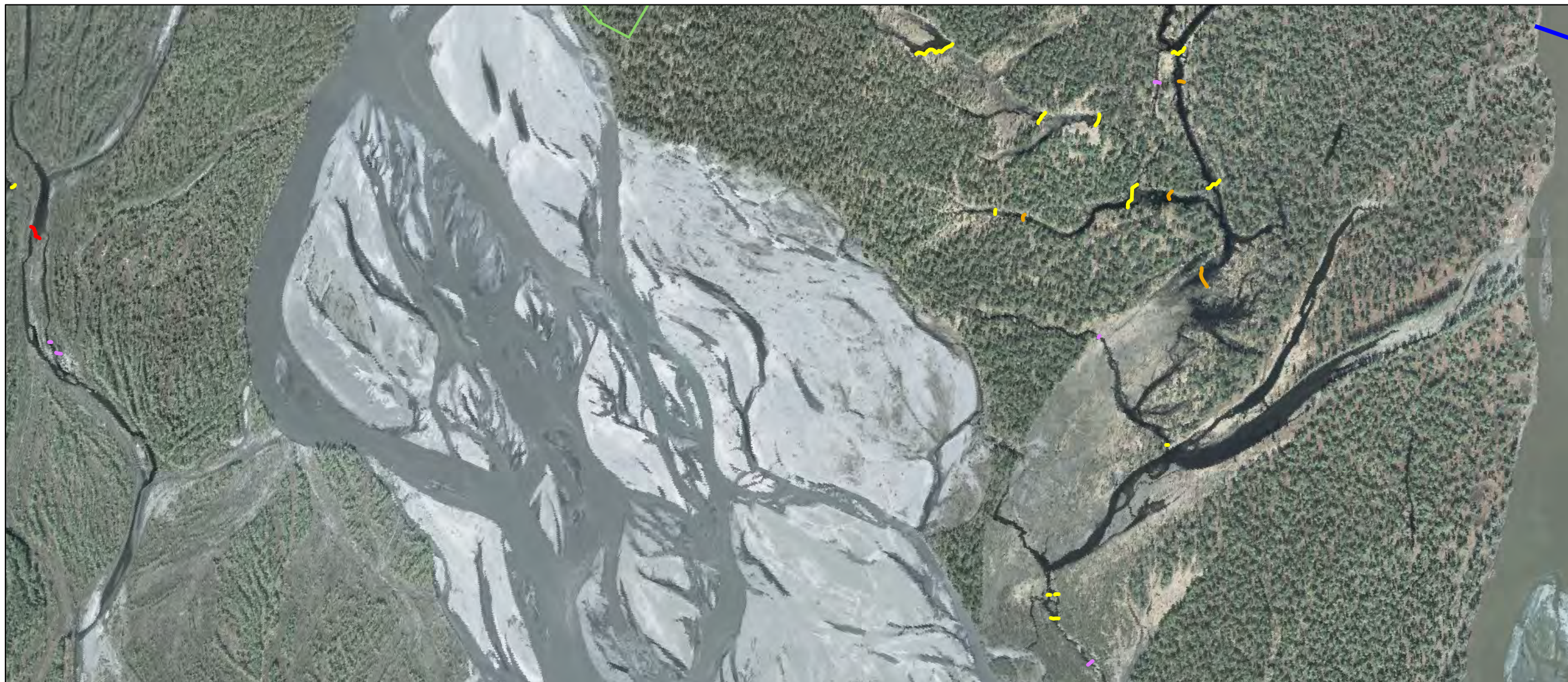
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-4

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



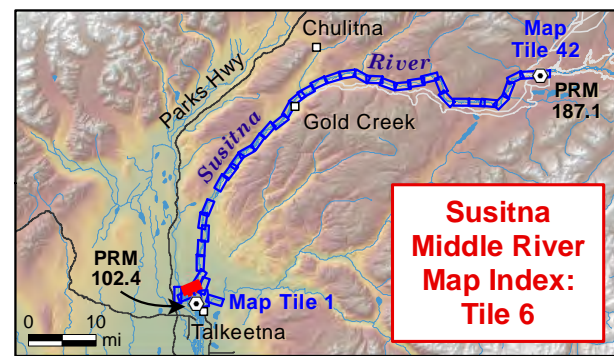
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-5

Map scale = 1:10,000
 0 500 1,000 Feet
 0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



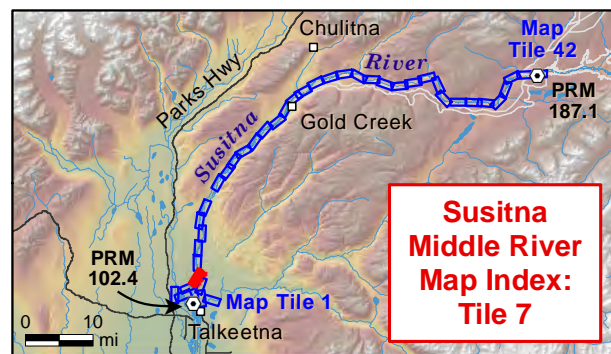
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-6

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- ### Legend
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- ### Potential Beaver Dams Structure Status from Imagery
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



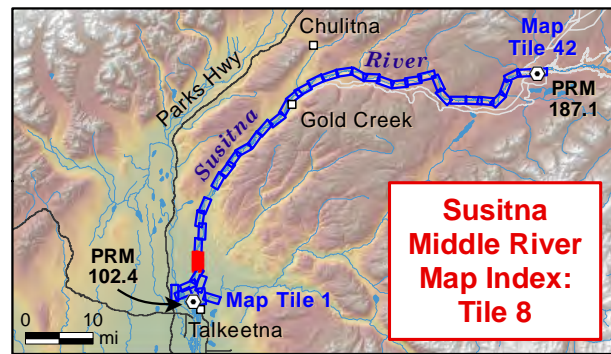
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-7

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



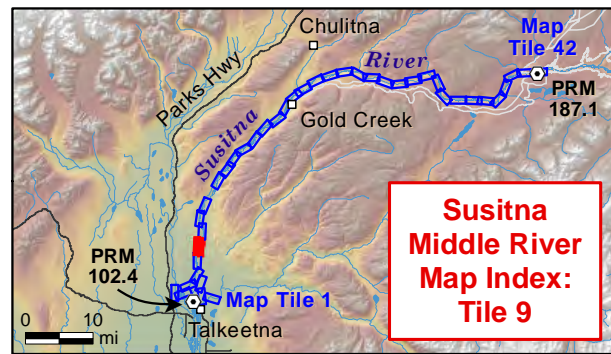
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde

Figure A-8



Map scale = 1:10,000
 0 500 1,000 Feet
 0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



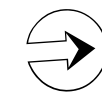
- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



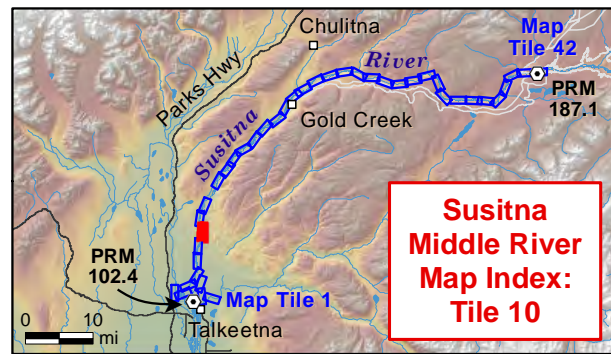
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde

Figure A-9



Map scale = 1:10,000
 0 500 1,000 Feet
 0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



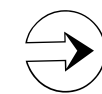
- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



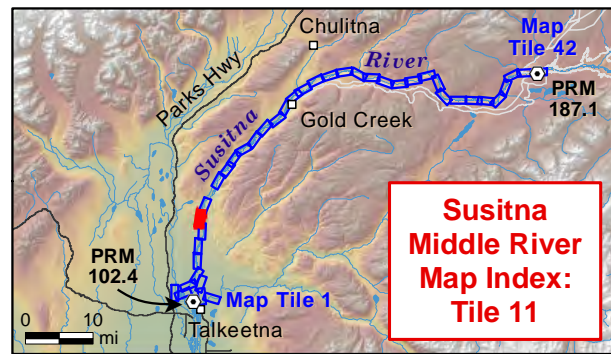
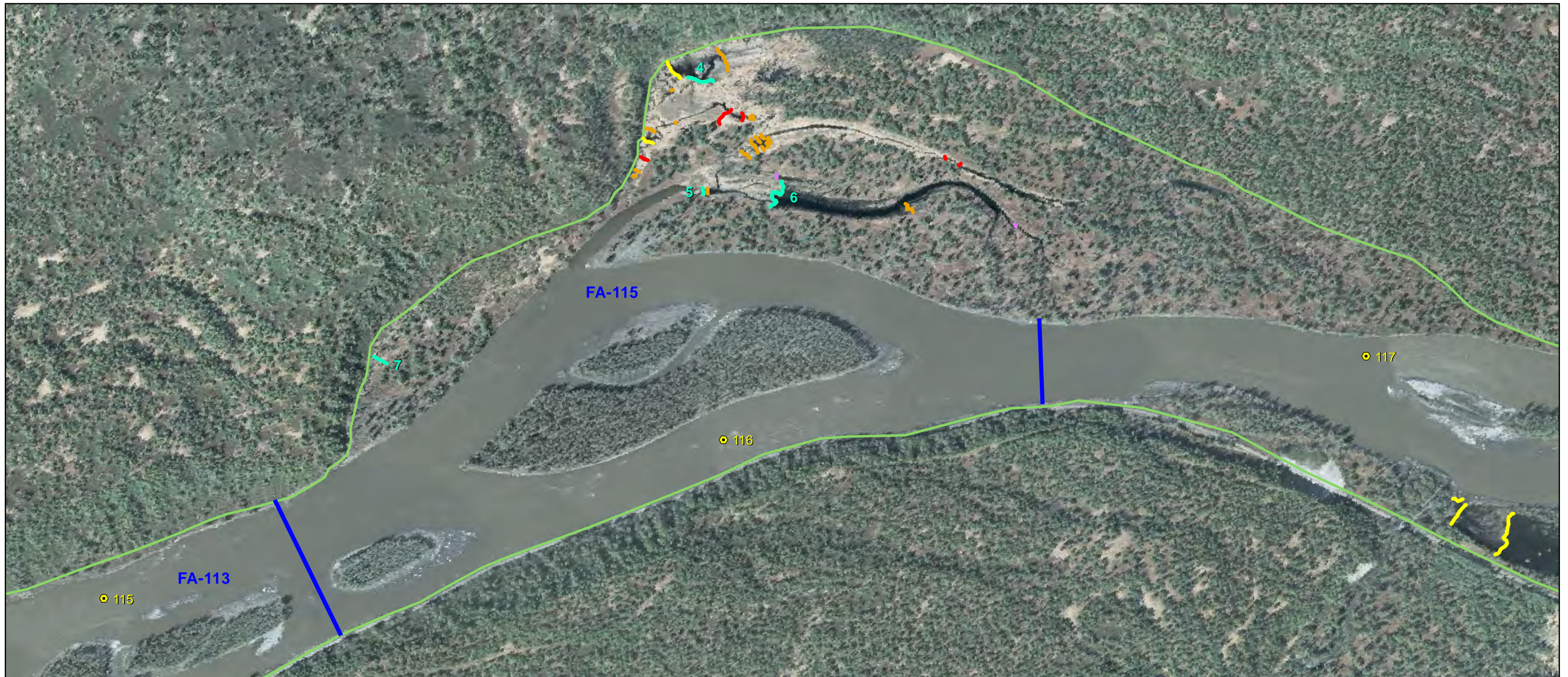
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde

Figure A-10



Map scale = 1:10,000
 0 500 1,000 Feet
 0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



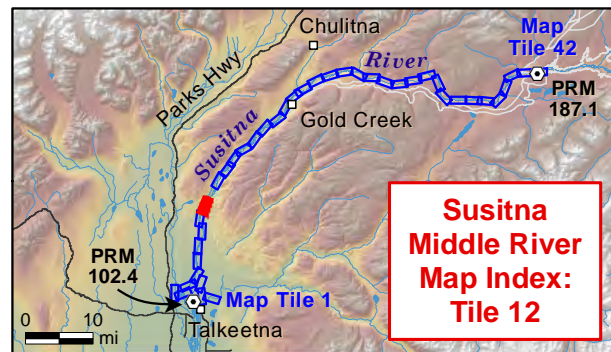
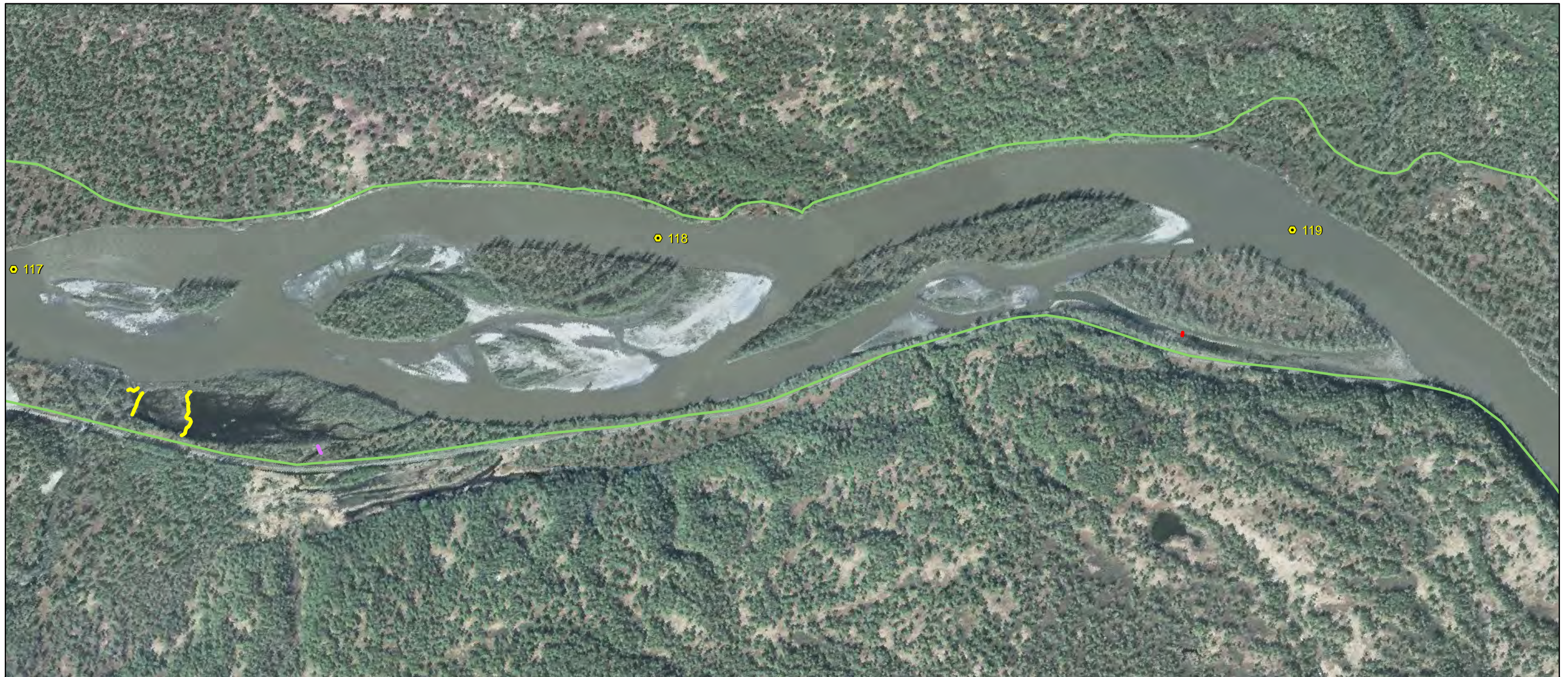
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde

Figure A-11



Map scale = 1:10,000
 0 500 1,000 Feet
 0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



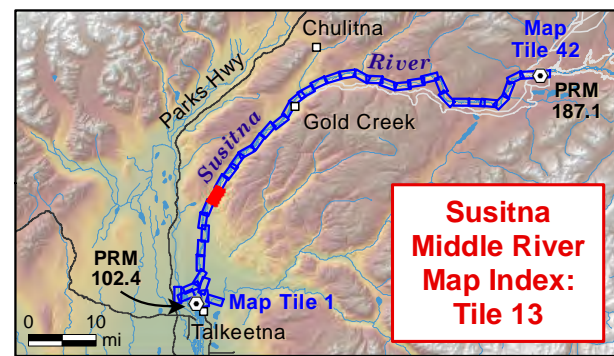
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde

Figure A-12



Map scale = 1:10,000
 0 500 1,000 Feet
 0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



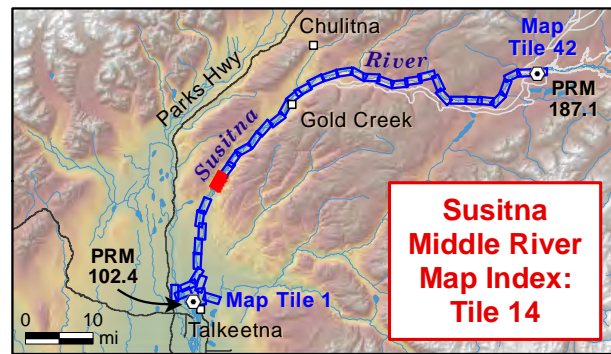
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde












Figure A-13

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
-  Project River Mile
 -  Instream Flow Focus Area (Upper and Lower Extent)
 -  Riverine Physiography Area
 -  Proposed Project Area

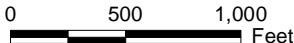

- Potential Beaver Dams Structure Status from Imagery**
-  Intact
 -  Partial
 -  Undetermined
 -  Not Intact
 -  Field Verified 2013



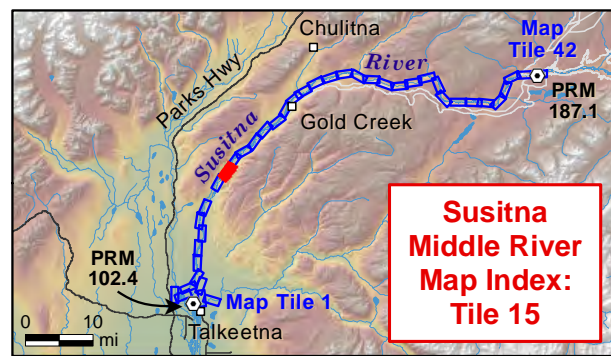
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-14

Map scale = 1:10,000
 Feet
 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



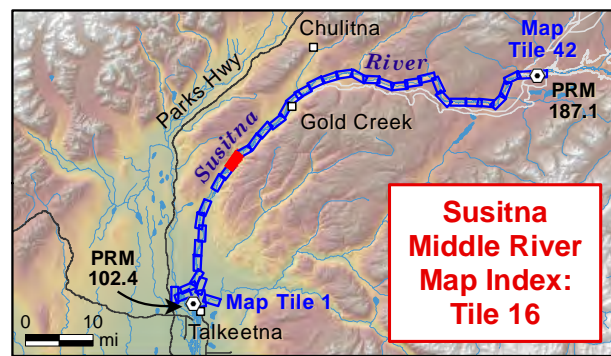
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-15

Map scale = 1:10,000
 0 500 1,000 Feet
 0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



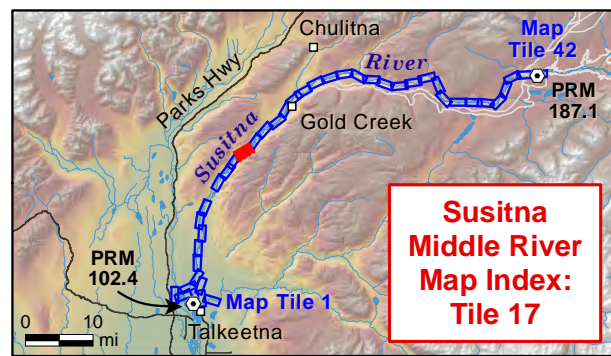
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde

Figure A-16



Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



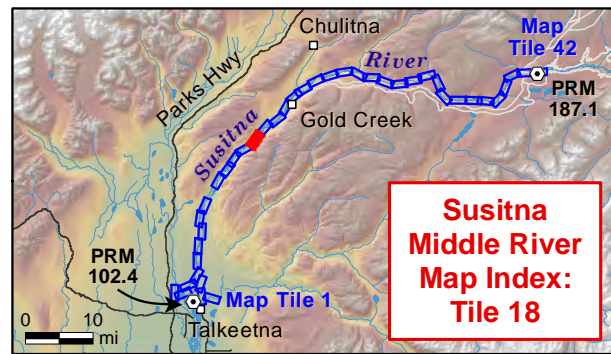
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde

Figure A-17



Map scale = 1:10,000
 0 500 1,000 Feet
 0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- ↘ Intact
 - ↘ Partial
 - ↘ Undetermined
 - ↘ Not Intact
 - ↘ Field Verified 2013



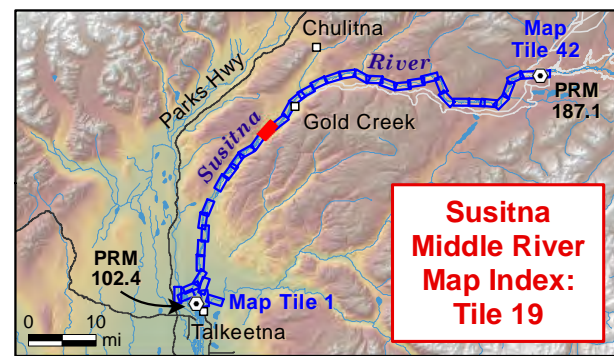
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde

Figure A-18



Map scale = 1:10,000
 0 500 1,000 Feet
 0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



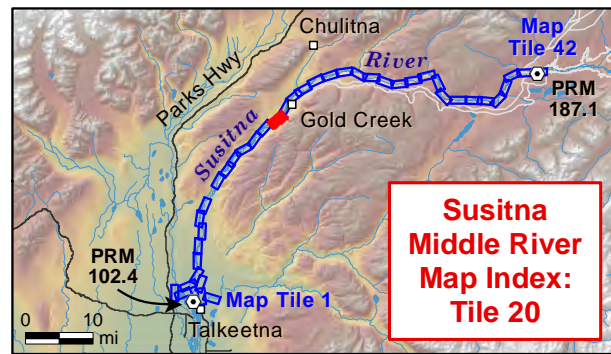
Data Sources:
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 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-19

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- ### Legend
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- ### Potential Beaver Dams Structure Status from Imagery
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



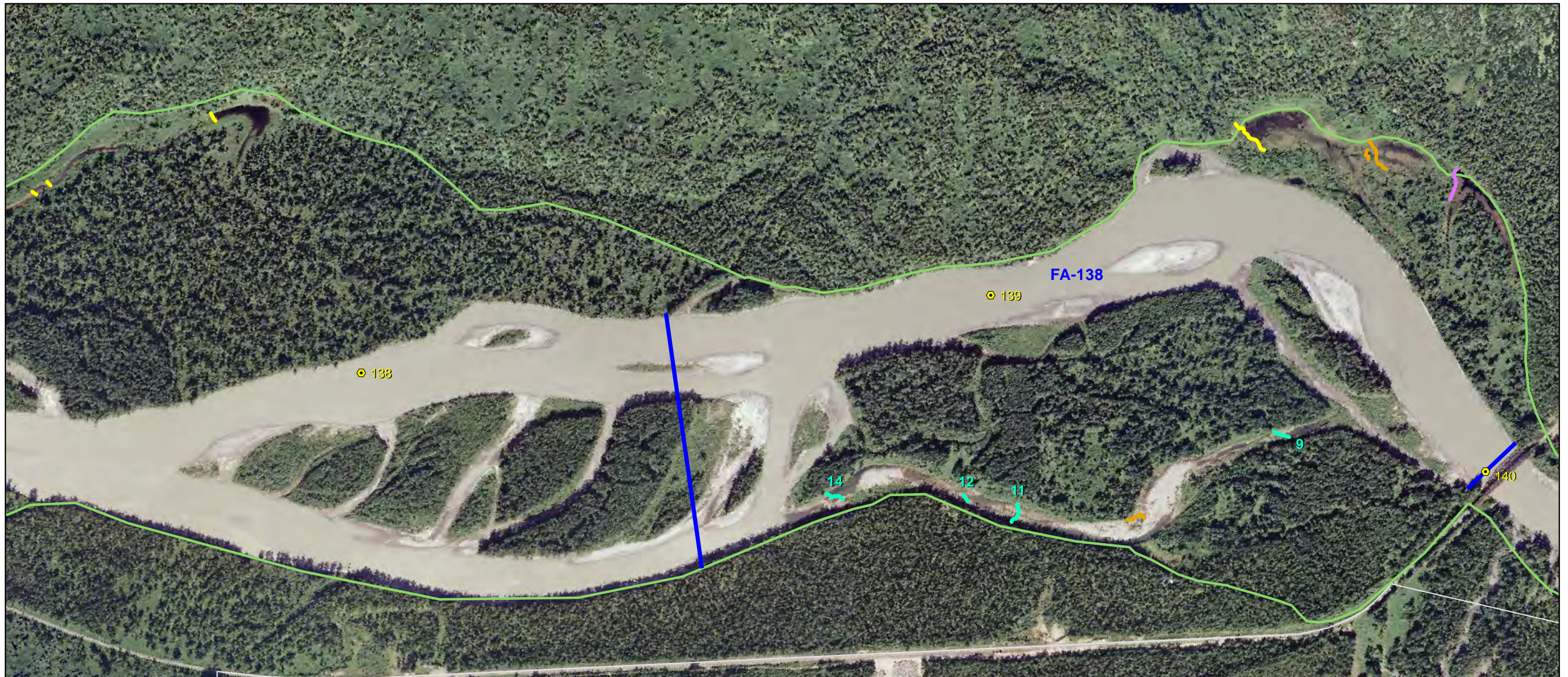
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-20

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



FA-138

139

138

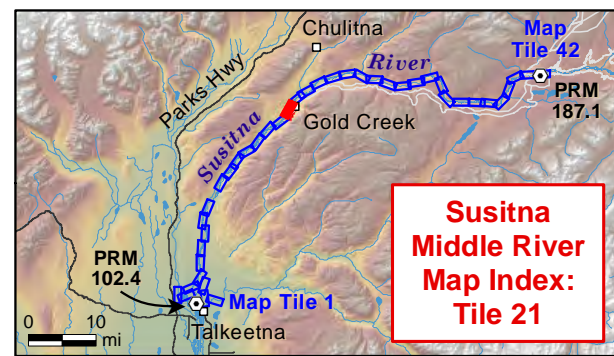
14

12

11

9

140



**Susitna
Middle River
Map Index:
Tile 21**

- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams
Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



Data Sources:
Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
Imagery: MatSu 2011 NatColor
Proposed Project: MWH 20140818
Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-21

Map scale = 1:10,000
0 500 1,000 Feet
0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
Date Saved: 10/18/2015
Map Author: ABR, Inc. - Allison Zusi-Cobb
File: SuWa_MidR_BeaverDams_SIR_v01.mxd