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Bridge 1: Koyukuk River Side Channel

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 25 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

The typical waterway depth varies from two to three feet with a bankfull depth of three feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not likely impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

This is a side channel. The main stem of the Koyukuk River is an available alternative.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.3 miles from the nearest bend in the waterway, located upstream of the bridge. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are two bridges further up river (Middle Fork Koyukuk River) at its intersection with the Dalton Highway near Wiseman. Their minimum vertical and horizontal clearances are unknown at this time.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 2: Koyukuk River

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 700 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

The typical waterway depth varies from four to six feet with a bankfull depth of seven feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not likely impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located approximately 0.3 miles from the nearest bend in the waterway, located downstream. *(A bend in the waterway was defined as a change in river direction greater than 60 degrees.)*

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are two bridges further up river (Middle Fork Koyukuk River) at its intersection with the Dalton Highway near Wiseman. Their minimum vertical and horizontal clearances are unknown at this time.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 3: Wild River

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 340 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Typical waterway depth varies from three to four feet, with a bankfull depth of five feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.2 miles from the nearest bend in the waterway, located upstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

There are no bridges spanning this river.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 4: John River

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 480 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Typical waterway depth varies from four to five feet, with a bankfull depth of six feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.4 miles from the nearest bend in the waterway, located downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The confluence of the Malamute Fork John River with the John River is immediately upstream (less than 0.1 mile). Flow in the John River splits fairly evenly around a large mid-channel bar approximately 0.15 miles upstream from the proposed crossing.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

There are no bridges spanning this river.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 5: East Fork Henshaw Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 22 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is six feet at the site of the proposed bridge crossing.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.01 miles from the nearest bend in the waterway, both upstream and downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The stream meanders greatly in the vicinity of the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 6: South Fork Bedrock Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 40 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is four feet at the site of the proposed river crossing.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway, both upstream and downstream. *(A bend in the waterway was defined as a change in river direction greater than 60 degrees.)*

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The stream meanders greatly in the vicinity of the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 7: Unnamed Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 40 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is four feet at the location of the proposed river crossing.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low..

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway, both upstream and downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The stream meanders greatly in the vicinity of the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 8: Malamute Fork Alatna River

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 330 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Typical waterway depths vary from three to five feet near the location of the proposed river crossing. Bankfull depth is ten feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located approximately 0.2 miles from the nearest bend in the waterway, located upstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

The confluence of Tobuk Creek with the river is approximately 0.2 miles upstream. A large mid-channel bar has formed at the confluence, with split flow in the river around the bar. The confluence may create overflow icing conditions.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 9: Alatna River

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 315 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Typical waterway depths vary from four to seven feet near the proposed location of the river crossing. Bankfull depth is ten feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

No, the nearest bend in the river to the proposed bridge location is approximately 0.6 miles downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 10: Unnamed Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 40 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is four feet at the proposed river crossing location.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located with 0.1 miles from the nearest bend in the waterway, located upstream. *(A bend in the waterway was defined as a change in river direction greater than 60 degrees.)*

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The stream is steep and rocky in the vicinity of the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 11: Unnamed Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 36 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is five feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The stream is steep and rocky in the vicinity of the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 12: Unnamed Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 71 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is five feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located approximately 0.1 miles from the nearest bend in the waterway, located downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 13: Kobuk River

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 350 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

The waterway depth ranges from seven feet in the thalweg of the channel to four feet at the side of the channel at typical flow conditions. Bankfull depth is eight feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located approximately 0.2 miles from the nearest bend in the waterway, located upstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

The confluence of the Walker Lake outlet stream with the Kobuk River is approximately 0.25 miles upstream of the proposed crossing; this stream may result in overflow icing conditions.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 14: Unnamed Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 52 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is five feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway, both upstream and downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

The stream meanders greatly in the vicinity of the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the

anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 15: Unnamed Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 75 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is five feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway, both upstream and downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

The stream meanders greatly in the vicinity of the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The channel is split around a large mid-channel bar directly downstream of the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 16: Reed River

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 380 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Typical waterway depths vary from two to four feet. Bankfull depth is six feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway, both upstream and downstream. *(A bend in the waterway was defined as a change in river direction greater than 60 degrees.)*

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The proposed bridge is located between two meander bends; stream currents would be transitioning between the outside of the bends at the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 17: Beaver Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 140 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Typical waterway depths vary between two and four feet. Bankfull depth is six feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located approximately 0.2 miles from the nearest bend in the waterway, located upstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

The channel is braided into multiple channels around large vegetated islands approximately 0.25 miles upstream.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 18: Krumpet Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 35 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is four feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway, both upstream and downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The stream is steep and rocky in the vicinity of the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 19: Coal Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 115 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is four feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway, located both upstream and downstream. *(A bend in the waterway was defined as a change in river direction greater than 60 degrees.)*

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

The proposed bridge is located within an alluvial fan with high sediment and debris transport.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The stream is steep and rocky in the vicinity of the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 20: Mauneluk Side Channel

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 46 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is 3 feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located approximately 0.1 miles from the nearest bend in the waterway, located downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 21: Mauneluk River

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 376 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Typical waterway depths range from three to four feet. Bankfull depth is eight feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located approximately 0.1 miles from the nearest bend in the waterway, located downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There is a large mid-channel bar located immediately upstream from the proposed bridge, with the main current typically flowing to the west of the bar and a smaller channel flowing to the east of the bar.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Split flows from the upstream bar join at the proposed bridge location.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 22: Huffman Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 35 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Typical flow depths vary from two to four feet. Bankfull depth is seven feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located approximately 0.1 miles from the nearest bend in the waterway, located downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No. The channel is straight and uniform at the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 23: Halfman Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 40 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is four feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway, located downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The stream is steep and rocky.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 24: Square Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 28 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is five feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The stream meanders greatly in the vicinity of the proposed bridge. An outlet stream from a lake flows into the stream less than 0.1 miles upstream and may create overflow icing conditions during winter.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 25: Kogoluktuk River

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 240 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Typical waterway depths range from three to four feet. Bankfull depth is six feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway, located upstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

The channel splits around a large mid-channel bar approximately 0.1 miles downstream from the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The proposed bridge is on the downstream end of a bend; the hydraulics of the bend would push ice, debris, and potential river users to the outside of the bend. The proposed bend is at a constriction in the channel where bedrock on the outside of the bend prevents further lateral migration; the constriction would result in higher velocities compared to upstream or downstream channel segments.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 26: Ruby Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 42 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is four feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from bends upstream and downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The stream meanders greatly in the vicinity of the proposed bridge.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 27: Shungnak River

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 300 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Typical waterway depths range from three to four feet. Bankfull depth is eight feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway, immediately upstream. There is another bend approximately 0.4 miles downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

The proposed bridge is on the downstream end of a meander bend; the hydraulics of the bend would push ice, debris, and potential river users to the outside of the bend.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 28: Unnamed Creek

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 77 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

Bankfull depth is four feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The potential for recreational use is low and the only watercraft potentially being used on the river is inflatable rafts or small canoes. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for potential users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. The potential use of this river for recreational or subsistence activities is low.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

There are no alternative routes bypassing the bridge available on the waterway.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.1 miles from the nearest bend in the waterway; bends are located both upstream and downstream. (*A bend in the waterway was defined as a change in river direction greater than 60 degrees.*)

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

The channel splits into 2 channels roughly 0.5 miles downstream.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Not specifically on the stream itself; large auferis formations occur on the Ambler River (approximately 0.8 miles northwest) that could force additional flows into this stream during spring floods.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and will into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the proposed bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

A preliminary navigational evaluation has been conducted and indicates there are no bridges either upstream or downstream from the proposed bridge. This would be the first structure to span the waterway.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.

Bridge 29: Ambler River Side Channel

Waterway Characteristics

G. Discuss waterway characteristics, waterway usage, and prospective long-term navigational impacts of the proposed project, and include:

(1) Provide the name and Contact information for marine facilities within a 3-mile radius:

There are no marine facilities located within a three-mile radius of the proposed waterway crossing.

(2) What is the approximate width of the waterway at the proposed bridge location in and around the navigational channel?

The navigational channel of the waterway is approximately 35 feet wide at the site of the proposed bridge.

(3) What is the depth of the waterway at the proposed bridge location in and around the navigational channel?

The typical waterway depth varies from two to three feet with a bankfull depth of three feet.

(4) Describe vessels on the waterway that are engaged in emergency operations, national defense activities, or channel maintenance, and any potential impacts to their operation?

There are no vessels regularly operating in such a capacity on the waterway. There may be times when the Alaska State Troopers (AST) operate watercraft on the river or use the river as an aircraft landing location to respond to public safety emergencies. Typically, AST will employ a small open-bow craft (approximately 20 feet in length), with either an outboard motor or a jet drive system. Typical aircraft may include the use of helicopters or small planes using gravel bars for landing sites. The proposed bridge should have no negative impact to these operations and in fact may present itself as a positive impact, for example, in search and rescue operations where the ability to convey parties to a roadway may be beneficial.

(5) Is there any information regarding whether the Corps of Engineers has completed plans to complete a Federal navigation project on this waterway?

The Corps of Engineers has no known plans for navigation projects on this waterway.

(6) A description of the present and prospective recreational navigation on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective recreational fleet operating on the waterway:

The current users of the waterway are primarily area residents who may use the waterway for travel and fishing during summer. Additionally, a small number of individuals may use the river for recreational purposes (e.g., rafting a length of the river, fishing, or for hunting access).

Typical watercraft which might be found traveling along the river include: inflatable rafts, canoes, small jet boats, and airboats. The proposed project should have no negative impact on any user group. Abutment/pier separation spans are greater than channel width, or a minimum of 130 feet, and as such, not likely to contribute to debris/log jams which might create a safety hazard for these users.

Winter time traffic on the river is limited to snowmachine users. The proposed bridge would have no impact on their ability to safely and efficiently navigate the river.

(7) Describe the present and prospective commercial navigation and the cargoes moved on the waterway, indicating whether the proposed project will have an impact on the safe, efficient movement of any segment of the present or prospective commercial fleet operating on the waterway:

No commercial transport of cargo occurs near the project or upriver from the proposed bridge siting. No commercial fleet currently operates on the river. Possible commercial traffic along the river includes outfitter or guide services hired to assist recreational users with canoeing, rafting, hunting, or fishing trips. Additionally, the river is used by local subsistence users as a means to navigate the area.

(8) Will the proposed bridge block access of any vessel presently using local service facilities?

There are no service facilities located on the waterway. The structure would not likely impede any currently operating traffic nor is it anticipated to block access for any vessels which may wish to navigate the waterway in the foreseeable future.

(9) Are alternate routes bypassing the proposed bridge available for use by vessels unable to pass the proposed bridge?

This is a side channel. The main stem of the Ambler River is an available alternative.

(10) Describe any local harbor, indicating whether the bridge will prohibit the entry of any vessels to the local harbor refuge:

There are no local harbors located on the waterway. The proposed bridge would have no impact on vessels seeking refuge.

(11) Will the bridge be located within one-half mile of a bend in the waterway?

Yes, the bridge is located within 0.25 miles from the nearest bend in the waterway, located upstream of the bridge. *(A bend in the waterway was defined as a change in river direction greater than 60 degrees.)*

(12) Are there factors located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure? If so, describe each feature:

There are no other observed factors located within one-half mile of the proposed bridge structure which would create a foreseeable hazard for passage through the proposed bridge.

(13) Are there local hydraulic conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

No.

(14) Are there atmospheric conditions which increase the hazard of passage through the proposed bridge? If so, describe these conditions:

Fog is common along river systems in this area.

(15) Describe the guide clearances established for the waterway, if applicable. If not, indicate whether clearance gauges are needed and why:

There are no known guide clearances established for this waterway. Clearance gauges are not required due to the elevation of the bridge span from the OHW level of the river and the anticipated size of vessel which travels the waterway currently and into the foreseeable future.

(16) Describe any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge:

There are no additional factors necessary for safe vessel passage through the proposed bridge.

(17) Describe the impacts to navigation caused, or which could be reasonably caused, by the proposed bridge including but not limited to proposed construction methods and any proposed mitigation to all unavoidable impacts to navigation:

There are no negative impacts anticipated to navigation on the waterway as a result of the bridge, either during construction or operation. The siting of the proposed structure, width of span across the navigational channel, and clearance elevation should have no impact on current vessel operators or anticipated future operators. Construction methods would not affect the capacity of river traffic to safely and efficiently navigate the channel.

(a) Conduct a navigational evaluation, and include a review of all bridges upstream and downstream of the proposed site to determine the minimum vertical and horizontal clearances available on the waterway.

There are no bridges spanning this river.

(b) If the proposed bridge is fixed, and is replacing an existing drawbridge with an unlimited vertical clearance, you must determine whether the proposed bridge will accommodate existing and perspective navigation.

Not applicable—there is no existing bridge.