

# Scope, Schedule, Estimate (SSE) Confirmation

<b>Project Name</b>	<b>JNU Glacier Highway 3R: Bessie Creek to Echo Cove - 30' wide</b>		
<b>DATE</b>	1-Nov-21	<b>CATEGORY</b>	Modernization
<b>NEED ID</b>	28770	<b>REASON</b>	<input type="radio"/> New Project <input checked="" type="radio"/> Update SSE

## PLANNING SSE

### PROPOSED SCOPE

Repair sub-base and resurface Glacier Highway from approximately Adlersheim/Bessie Creek to Echo Cove for a total length of approximately 6.2 miles to preserve and extend the service life of the highway and enhance safety. The planning estimate below is from the confirmed SSE dated 9.8.17 (see project background report).

### PLANNING ESTIMATE

	Year 1	Year 2	Year 3	Year 4	TOTAL
Design (pre- and post- env)	1,345,000		723,000		2,068,000
Utilities			10,000		10,000
Right of Way			10,000		10,000
Construction				10,340,000	10,340,000
<b>TOTAL</b>	<b>1,345,000</b>	<b>-</b>	<b>743,000</b>	<b>10,340,000</b>	<b>12,428,000</b>

## CONFIRMED SSE

### CONFIRMED SCOPE

Reconstruct Glacier Highway from Bessie Creek (MPt 32.6) to Echo Cove (MPt 39.0) due to failed chip seal pavement & numerous subgrade failures. Scope includes reconstruct & widen to 30'-wide roadway by removing top 17-inches of material (1.5-inch chip seal & base/subgrade) & replacing with 2" HMA, 3" ATB, 4" D-1 Base course & 8" Subbase for full length. Numerous embankment failures repaired with a 36-inch deep "shallow patch". All guardrail replaced, culverts replaced or slip-lined (deep burial). This scope meets previous corridor & NHS minimum 30-ft width.

### ENGINEERS CONFIRMED ESTIMATE

	Year 1	Year 2	Year 3	Year 4	TOTAL
Design (pre- and post- env)	2,500,000	900,000			3,400,000
Utilities					-
Right of Way		830,000			830,000
Construction			18,500,000	8,900,000	27,400,000
<b>TOTAL</b>	<b>2,500,000</b>	<b>1,730,000</b>	<b>18,500,000</b>	<b>8,900,000</b>	<b>31,630,000</b>

## CONSIDERATIONS

### SSE

	Value	Comments
Basis for Estimate	Itemized Approximation	Previous SSE ('17) was performed when chip-seal was at end of service life. Limited field recon cross-referenced with Material section's project geodatabase revealed widespread wear and deterioration in the past 4 years to the embankment that require reconstruction. Unit costs have also risen substantially.
Field Review or Recon	No	Material section performed 2-day field recon for compiling pavement distress & embankment damages. They also gathered existing historical data on the corridor and presented as features in a GIS database, overlaying as-builts & adding centerline stationing to aide in performing cross-asset analysis.
List Assumptions & Unknowns	No survey, all quantities estimated from as-builts and takeoffs from GIS. Preliminary evaluation of LiDAR surface data indicates no culvert lengthening or substantial rock excavation required. Refer to attached estimate for further assumptions (top of page). 10% contingency added for 2024 Construction start.	

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## ENVIRONMENTAL

Anticipated Environmental Doc

Value	Comments
CE	Does not include any re-alignments - which could warrant a focused EA.
Environmental Doc Prep Time	8 - 10 months
4(F) Involvement	Yes
Permits Required	Yes
List Assumptions & Unknowns	There's no rock blasting in this estimate. Any blasting would require eagle survey(s) and permitting.

## ROW

Confidence in ROW Estimate

List Assumptions & Unknowns

Value	Comments
Low	Needs are limited to disposal sites at existing roadside turnouts.
List Assumptions & Unknowns	Estimate does not include developing material site within project limits. Design would need to evaluate this.

## UTILITY

Confidence in Utility Estimate

List Assumptions & Unknowns

Value	Comments
Full	Only a private weather station crossing near Bessie Crick.
List Assumptions & Unknowns	

## OTHER

Impacts to Annual M&O

Bridge Work Included

Geotech Considerations

List Assumptions & Unknowns

Value	Comments
Yes	Requested drainage ditch re-conditioning, removing hazard trees along roadway, replacing all guardrail to standards, embankment repairs for numerous potholes and heaves/dips.
Yes	Full 3R rehab estimate for Cowee Creek BN 1220 included.
Geotech Considerations	Materials section performed Recon, which aided their Geotech scope & estimate (refer to files). Rock cuts are unknown, so will need revisiting in Design.
List Assumptions & Unknowns	Lacking comprehensive culvert condition information, Geotech field investigation, further evaluation of potential rock cuts @ Curve #'s 4 & 7.

# Scope, Schedule, Estimate (SSE) Confirmation

## CERTIFICATION & APPROVAL

*Please adjust comment boxes to fit all text before converting to PDF*

### Confirmed SSE Prepared By

Joel Osburn

*Name*

11/2/2021

*Date*

### Confirmed SSE Pre-Construction Approval

*Kirk Miller*

*Signature, Pre-Construction Engineer*

Kirk Miller

*Name*

11/2/2021

*Date*

### Confirmed SSE Planner Approval

*Marie Heidemann*

*Signature, Planning Chief*

Marie Heidemann

*Name*

11/3/2021

*Date*

**JNU Glacier Highway 3R: Bessie Creek to Echo Cove (MPt 32.6 to 39.0)**

**SCOPE: Widen to 30' width; Remove existing chip seal & base, pave with HMA, repair numerous embankment failures, replace culverts/guardrail**  
*Estimate primarily based on quantities from 2017 SSE & Medium level MD (Menu-Driven) Recon effort*

Assume 30' widening can fit on existing footprint

Assume culvert lengths don't require extending

Assume no re-alignments (all 3 substandard curves near BOP)

Only significant substandard curve is #3, which would require 110-ft curve flattening (for 55mph), large tidelands fill

Assume no material sites developed within the project limits and all must be imported.

Assume all excavation is waste (no useable) & disposed on project

Excavation starts below ATB layer; grade rises 5-inches for ATB & HMA

Assume all previous waste sites (turnouts on DH side) will be expanded, that ROW already exists from 1970 project.

Typical Pavement section: 2" HMA, 3" ATB, 4" CABC, 8" Subbase Grading B then Select Material A as needed for fill if there are grade changes

Shallow patch repairs: Excavate 36" below subbase, fill with Select Material A & place 3 layers of geogrid 1-ft apart

Assume Bessie Creek culvert remains.

Lake Creek twin culverts & Bridget Cove Creek culverts being replaced on another project (SFHWY00359 - Darryl Lester PM)

Assume typical unit prices for highway construction.

Includes refurbishment of Bridge #1220 - Cowee Creek.

3R criteria doesn't require widening of Bridge #1220 - Cowee Creek.

Recommend programming future project to replace narrow bridges (Eagle/Herbert/Cowee) on road corridor to 30'

Item Number	Pay Item	Pay Unit	Plan Quantity	Unit Price	Amount
201.0001.0000	Clearing	Acre	15.8	\$12,000	\$189,600
201.0003.0000	Clearing & Grubbing	Acre	7.5	\$20,000	\$150,000
202.0002.0000	Removal of Pavement	SY	114,423	\$3	\$343,270
202.0004.0000	Removal of Culvert Pipe	LF	4933	\$40	\$197,320
203.0003.0000	Unclassified Excavation	CY	90945	\$14	\$1,273,231
203.0005.000A	Borrow, Type A	CY	26105	\$37	\$965,892
301.0001.00D1	Aggregate Base Course, Grading D-1 (Roadway Typ)	Ton	25400	\$25	\$635,000
303.2000.0000	Linear Grading	Station	687	\$200	\$137,308
303.2003.0000	Ditch Reconditioning	LF	8582	\$10	\$85,818
304.0001.000C	Subbase, Grading C	Ton	73800	\$25	\$1,845,000
306.0001.0000	ATB	Ton	20600	\$130	\$2,678,000
401.0001.002B	HMA, Type II; Class B	Ton	13700	\$130	\$1,781,000
401.0004.5828	Asphalt Binder, PG 58-28	Ton	1749	\$1,100	\$1,923,900
401.0008.002B	HMA Price Adjustment, Type II; Class B	Contingent Sum	All Req	\$185,000	\$185,000
401.0009.0000	Longitudinal Joint Density Price Adjustment	Contingent Sum	All Req	\$185,000	\$185,000
401.0010.0001	Pavement Smoothness Price Adjustment, Method 1	Contingent Sum	All Req	\$185,000	\$185,000
402.0001.STE1	STE-1 Asphalt for Tack Coat	Ton	26	\$1,500	\$39,000
603.0021.0024	Corrugated Polyethylene Pipe 24 Inch	LF	3879	\$135	\$523,665
603.0021.0036	Corrugated Polyethylene Pipe 36 Inch	LF	602	\$175	\$105,350
603.0021.0048	Corrugated Polyethylene Pipe 48 Inch	LF	300	\$300	\$90,000
603.2019.0024	Liner for Storm Drain 24 Inch,	LF	846	\$365	\$308,790
603.2019.0048	Liner for Storm Drain 48 Inch,	LF	88	\$550	\$48,400
603.2019.0060	Liner for Storm Drain 60 Inch,	LF	230	\$750	\$172,500
606.0001.0000	W-beam Guardrail	LF	5046.25	\$40	\$201,850
606.0006.0000	Removing and Disposing of Guardrail	LF	4663.5	\$10.00	\$46,635
606.0013.0000	Parallel Guardrail Terminal	EA	20	\$3,500	\$70,000
613.0002.0000	Culvert Marker Post	EA	87	\$100	\$8,700
615.0001.0000	Standard Sign	SF	103.25	\$100	\$10,325
615.0005.0000	Delineator, Flexible	EA	138	\$100	\$13,800
618.0002.0000	Seeding	Pound	350	\$60	\$21,000
619.2013.0000	Bonded Fiber Matrix (BFM)	Pound	18000	\$3.50	\$63,000
620.0001.0000	Topsoil	SY	45000	\$5.50	\$247,500
634.0002.0000	Geogrid, Reinforcement, Class 1	SY	75933	\$20	\$1,518,667
643.0025.0000	Traffic Control	CS	All Req	\$300,000	\$300,000
643.0032.0000	Flagging	CS	All Req	\$350,000	\$350,000
646.0001.0000	CPM Scheduling	LS	All Req	\$50,000	\$50,000
670.0008.0000	Recessed Pavement Marker	EA	560	\$60	\$33,600
670.0010.0000	Methyl Methacrylate Pavement Markings	Lump Sum	All Req	\$175,000	\$175,000
201.0003.0000	Clearing and Grubbing	LS	All Req	\$1,000	\$1,000

203.2020.0000	Debris Removal/Excavation	LS	All Req	\$5,000	\$5,000
501.2001.0000	Spall Repair	SF	6	\$50,000	\$300,000
508.0001.0000	Waterproofing Membrane, Sheet	EA	1	\$20,178	\$20,178
510.2001.0000	Bridge Deck Repair	S.F.	105	\$300	\$31,500
606.0016.0001	Transition Rail, Modification	EA	4	\$3,000	\$12,000
615.0001.0000	Standard Sign	S.F.	16	\$120	\$1,920

Detailed Item Subtotal \$17,529,718

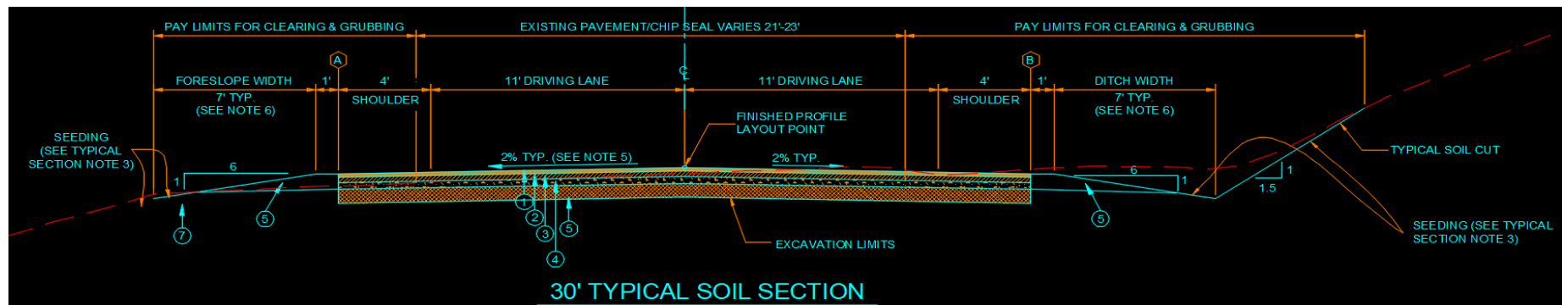
640.0001.0000	Mobilization & Demobilization	LS	All Req	10%	\$1,752,972
641.0001.0000	Erosion, Sed & Poll. Control Admin	LS	All Req	\$ 50,000	\$50,000
641.0003.0000	Temp. Erosion, Sed & Poll. Control	LS	All Req	2%	\$350,594
641.0005.0000	Temp. Erosion, Sed & Poll. Control by Directive	CS	All Req	10%	\$35,059
642.0001.0000	Construction Surveying	LS	All Req	3%	\$525,892
643.0002.0000	Traffic Maintenance	LS	All Req	4%	\$701,189

	Subtotal	\$20,945,424
Contingency	10%	\$2,094,542
CE @	15%	\$3,141,814
	Subtotal	\$26,181,780
ICAP @	4.64%	\$1,214,835
	Phase 4 Total	\$27,396,615
	<b>Rounded Phase 4 Total</b>	<b>\$27,400,000</b>

## JNU Glacier Highway 3R: Bessie Creek to Echo Cove

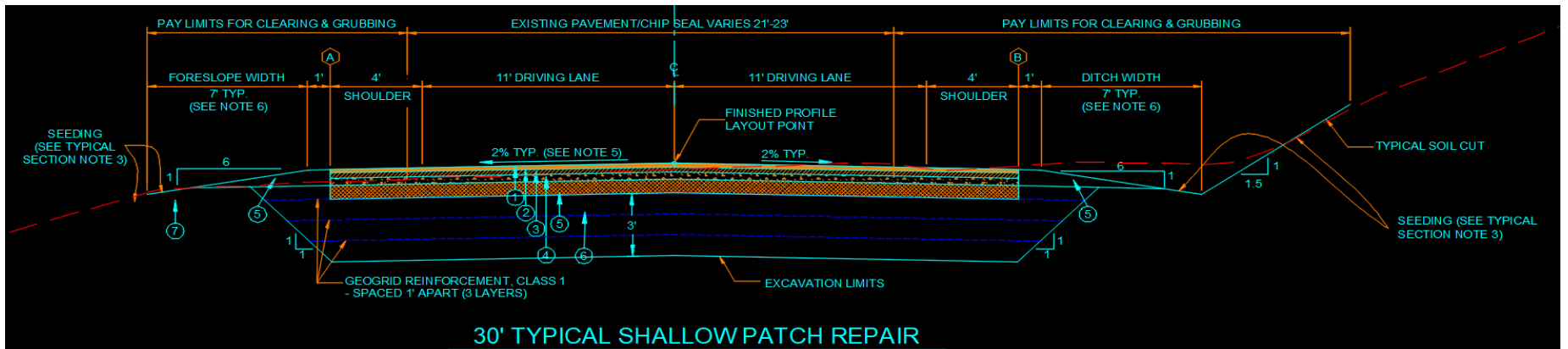
**SCOPE:** Widen to 30' width; Remove existing chip seal & base, pave with HMA, repair numerous embankment failures, replace culverts/guardrail

SUMMARY			
Phase 2	Start @ 10% of Ph4	\$2,740,000.00	
	Geotech at 13% of Phase 2	\$356,500	
	Environmental at 10% of Phase 2	\$274,000	
	TOTAL =	\$3,400,000.00	2.5M to CE, 0.9M to ATA
Phase 3	Placeholder @ 3% of Ph4	\$830,000.00	To establish the potential for ROW needs @ re-aligned curves/material sources
Phase 4	Rounded total	\$27,400,000.00	
Phase 7	No public utilities on project	\$0	Avoid the weather/comm station near Bessie Ck.
Phase 2, 3, 4, and 7 total cost		\$31,630,000.00	



#### MATERIAL LEGEND

- ① 2" ASPHALT CONCRETE, TYPE II, CLASS B
- ② STE-1 ASPHALT FOR TACK COAT
- ③ 3" ATB
- ④ 4" AGG. BASE COURSE, GRADING D-1
- ⑤ 8" SUBBASE, GRADING C



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- ④ 4" AGG. BASE COURSE, GRADING D-1
- ⑤ 8" SUBBASE, GRADING C
- ⑥ 36" USEABLE EXCAVATION MEETING REQUIREMENTS OF SELECTED MATERIAL, TYPE A (SEE NOTE 1)