



US 97 Bend North Corridor Project

Final Environmental Impact Statement
and Final Section 4(f) Evaluation
Appendices

July 2014



Federal-Aid Number: S004(112) • ODOT Key Number: 14020 • FHWA-OR-EIS-14-01-F

Cover Photo: Current conditions in proposed action corridor looking north with US 97, US 20, and Empire Avenue (east-west) in the foreground.

Alternative format availability: In compliance with the Americans with Disabilities Act, alternative forms of this document will be made available on request. Contact Amy Pfeiffer at ODOT, (541) 388-6052, Amy.L.Pfeiffer@odot.state.or.us.

Appendix A

Farmland Conversion Form

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Farmland Conversion Impact Rating Form (January 2011)

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation ServiceNRCS-CPA-106
(Rev. 1-91)FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request	11/1/10	4. Sheet 1 of 1	
1. Name of Project		5. Federal Agency Involved			
US 97 Bend North Corridor Project		Federal Highway Administration			
2. Type of Project		6. County and State			
Modernization		Deschutes County, Oregon			
PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form		
		11/4/10	Dave Trochelle, NRCS - Oregon		
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form).		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated	
				Average Farm Size	
				37,821 92	
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction		7. Amount of Farmland As Defined in FPPA		
Irrigated Alfalfa Hay	Acres: 1,269,074 % 83		Acres: 1,269,074 % 83		
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System		10. Date Land Evaluation Returned by NRCS		
Draft Deschutes County Irrigated LE	None		11/29/10		
PART III (To be completed by Federal Agency)		Alternative Corridor For Segment			
		Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly		185	135		
B. Total Acres To Be Converted Indirectly, Or To Receive Services					
C. Total Acres In Corridor		185	135	0	0
PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland		10	2		
B. Total Acres Statewide And Local Important Farmland		124	90		
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		0	0		
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		8	16		
PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)		32	29		
PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))		Maximum Points			
1. Area in Nonurban Use		15	6	6	
2. Perimeter in Nonurban Use		10	4	4	
3. Percent Of Corridor Being Farmed		20	0	0	
4. Protection Provided By State And Local Government		20	0	0	
5. Size of Present Farm Unit Compared To Average		10	0	0	
6. Creation Of Nonfarmable Farmland		25	0	0	
7. Availability Of Farm Support Services		5	5	5	
8. On-Farm Investments		20	10	8	
9. Effects Of Conversion On Farm Support Services		25	0	0	
10. Compatibility With Existing Agricultural Use		10	2	0	
TOTAL CORRIDOR ASSESSMENT POINTS		160	27	23	0
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100	32	29	
Total Corridor Assessment (From Part VI above or a local site assessment)		160	27	23	0
TOTAL POINTS (Total of above 2 lines)		260	58	52	0
1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?		
To be determined after Draft EIS released for public review	135-185	Summer 2011	YES <input type="checkbox"/> NO <input type="checkbox"/>		
5. Reason For Selection:					

Signature of Person Completing this Part:

Jon Heacock, Oregon Department of Transportation

DATE

January 5, 2011

NOTE: Complete a form for each segment with more than one Alternate Corridor

Note: Corridor A represents the East DS1 Alternative; Corridor B represents the East DS2 Alternative.

NRCS Letter

United States Department of Agriculture

Natural Resources Conservation Service
1901 Adams Suite 6
La Grande, OR 97850

Office: (541) 963-4178

June 27, 2014

Amy Pfeiffer
Environmental Project Manager
Oregon Department of Transportation
63055 N Hwy 97, Building M
Bend, OR 97701

RE: US 97 Bend North Corridor Project Farmland Conversion Impact Rating

Dear Amy Pfeiffer,

This letter documents that the Natural Resources Conservation Service received a completed Farmland Conversion Impact Rating Forms (AD-106) for the US 97 Bend North Corridor Project.

The Farmland Protection Policy Act (FPPA) requires that federally funded projects that have the potential to convert farmlands be evaluated by Natural Resources Conservation Service. The goal of our evaluation is to minimize the extent to which federal programs and federally funded projects contribute to the irreversible conversion of farmland to nonagricultural uses.

Thank You,



David Trochell
NRCS Resource Soil Scientist
La Grande, Oregon

Helping People Help the Land

An Equal Opportunity Provider and Employer

Farmland Conversion Impact Rating Form (April 2014)

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation ServiceNRCS-CPA-106
(Rev. 1-91)FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request	3/19/14	4. Sheet 1 of _____
1. Name of Project		5. Federal Agency Involved		
US 97 Bend North Corridor Project		Federal Highway Administration		
2. Type of Project		6. County and State		
Modernization		Deschutes County, Oregon		
PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form	
		3/19/14	Dave Trochlell, NRCS - Oregon	
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form).		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	4. Acres Irrigated Average Farm Size	
			37,821 92	
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction		7. Amount of Farmland As Defined in FPPA	
Irrigated Alfalfa Hay	Acres: 1,269,074 % 83		Acres: 1,269,074 % 83	
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System		10. Date Land Evaluation Returned by NRCS	
Draft Deschutes County Irrigated LE	None		3/25/14	

PART III (To be completed by Federal Agency)		Alternative Corridor For Segment			
		Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly		185	135	76	
B. Total Acres To Be Converted Indirectly, Or To Receive Services					
C. Total Acres In Corridor		185	135	76	0
PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland		10	2	0	
B. Total Acres Statewide And Local Important Farmland		124	90	59	
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		0	0	0	
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		16	16	16	
PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)		32	29	32	
PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))		Maximum Points			
1. Area in Nonurban Use	15	7	7	5	
2. Perimeter in Nonurban Use	10	4	4	1	
3. Percent Of Corridor Being Farmed	20	0	0	0	
4. Protection Provided By State And Local Government	20	0	0	0	
5. Size of Present Farm Unit Compared To Average	10	0	0	0	
6. Creation Of Nonfarmable Farmland	25	0	0	0	
7. Availability Of Farm Support Services	5	5	5	5	
8. On-Farm Investments	20	10	8	0	
9. Effects Of Conversion On Farm Support Services	25	0	0	0	
10. Compatibility With Existing Agricultural Use	10	2	0	0	
TOTAL CORRIDOR ASSESSMENT POINTS		160	28	24	11
					0
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100	32	29	32
Total Corridor Assessment (From Part VI above or a local site assessment)		160	28	24	11
					0
TOTAL POINTS (Total of above 2 lines)		260	60	53	43
					0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
East DS2 Modified Alternative Corridor C	76	6/1/13	YES <input type="checkbox"/> NO <input type="checkbox"/>

5. Reason For Selection:

Corridor C was selected to minimize impacts outside of the City of Bend's urban growth boundary (UGB), including impacts to rural residential neighborhoods north of Cooley Road, while still achieving the project's purpose and need as described in the Final EIS.

Signature of Person Completing this Part:	DATE
Jon Heacock, Oregon Department of Transportation	4-1-14
NOTE: Complete a form for each segment with more than one Alternate Corridor	

Note: Corridor A represents the East DS1 Alternative; Corridor B represents the East DS2 Alternative; Corridor C represents the Preferred Alternative. The Part VI Subpart 1 scores for the East DS1 and East DS2 Alternatives were corrected for a minor calculation error.

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Appendix B

Right of Way/Summary of Relocation Benefits

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Relocation Assistance Program Brochures

The Preferred Alternative will require property acquisition and relocation of residences and businesses. ODOT implements its standard property acquisition process and relocation assistance program for all affected properties through the Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970, as amended, PL 91-646 (Uniform Act).

The Uniform Act ensures the fair and equitable relocation and reestablishment of persons, businesses, farms and nonprofit organizations displaced as a result of federal or federally assisted programs. The objective of the Uniform Act is to ensure that persons displaced as a direct result of federal or federally-assisted projects are treated fairly, consistently and equitably so that such displaced persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. The ODOT Right of Way Section and its Region Right of Way offices through its Relocation Assistance Program assure compliance with the Uniform Act and federal rules and regulations.

The following brochures describe these processes and are included in English and Spanish:

- *Moving Because of the Highway or Public Projects?/¿Tiene Que Mudarse A Causa De La Construcción De Carreteras O Proyectos Públicos?*
- *Acquiring Land for Highways and Public Projects/Adquisición De Tierras Para Carreteras Y Proyectos Públicos.*



Moving Because of the Highway or Public Projects?

A description of the
Oregon Department of Transportation
Relocation Assistance Program

Department of Transportation policy requires that no family or individual will be required to vacate any dwelling until such displacee has found or has been offered comparable replacement housing.

All replacement housing offered will be fair housing open to all persons regardless of race, color, religion, sex, or national origin.

Relocation payments and relocation advisory services, pursuant to State and Federal law, may not be provided to an alien unless the alien is lawfully present in the United States, except in cases of exceptional or extreme hardship. Displacees will be asked to sign a "Certification of Legal Residency in the United States."

Relocation legislation, because of its wide scope, is somewhat complicated and difficult to read and interpret. For the benefit of those who are affected by the Department of Transportation property acquisitions, this brochure summarizes the principal provisions of relocation services and benefits. However, persons reading this brochure are urged not to form advance opinions as to the benefits and amounts to which they may be entitled. The Right of Way Agent assigned to purchase property will have detailed information for displaced persons.

No relocation payment received by a displaced person under this part shall be considered as income for the purpose of the Internal Revenue code of 1954, which has been redesignated as the Internal Revenue Code of 1986 or for the purpose of determining the eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other Federal law, except for any Federal law providing low-income housing assistance.

■ Relocation Services

The Department of Transportation maintains Regional Right of Way offices in the following locations:

Region 1

123 NW Flanders
Portland, OR 97209
503-731-8400
888-769-7341

Region 4

63085 N Hwy 97 #102
Bend, OR 97701
541-388-6196
888-769-7344

Region 2

455 Airport Rd SE Bldg A
Salem, OR 97301
503-986-2601
888-769-7342

Region 5

3012 Island Avenue
LaGrande, OR 97850
541-963-7552
877-851-9097

Region 3

3500 Stewart Parkway #164
Roseburg, OR 97470
541-957-3559
888-769-7343

These offices maintain current lists of replacement dwellings, businesses, and farms for displaced persons, as well as current data regarding required deposits for utilities, closing costs, typical down payments, interest rates, and FHWA and VA requirements and information. The offices also have maps showing the location of schools, parks, playgrounds, and shopping areas. Public transportation routes are shown, and schedules and fare information are available. Experienced Right of Way Agents are available to aid displaced persons to the fullest extent. Right of Way Agents do not expect and will not accept any fee for any service rendered.

■ Eligibility

It is important to note that eligibility for any of the following benefits is not established until you have received a written notice of eligibility from the State.

▪ General Moving Expenses

Service charges for reconnecting utilities are reimbursable except under schedule move procedures.

▪ Individual and Family Moving Expenses

Any individual or family displaced by a Department of Transportation project is entitled to receive a payment for actual and reasonable expenses for moving personal property a distance not to exceed a 50-mile radius or to the nearest available and adequate site.

In order to obtain a moving expense payment, a displaced person must file, within 18 months after displacement, a written claim with the Department of Transportation on a form provided for that purpose. In some cases, a written arrangement with the Department of Transportation will allow the displaced person to present an unpaid commercial moving bill, and the Department of Transportation will make payment directly to the mover. If the residential displacee chooses, costs may be reimbursed according to set schedule based upon the number of rooms of furniture to be moved.

▪ Residential Moving Schedule

Unfurnished (Relocatee owns furniture)

\$ 400 (1 room)	\$ 750 (3 rooms)
\$ 550 (2 rooms)	\$ 950 (4 rooms)
\$1125 (5 rms)	\$1300 (6 rms)
\$1475 (7 rms)	\$1650 (8 rms)

Plus \$175 for each additional room

Furnished (Relocatee does not own furniture)

\$350 for first room plus \$100 for each added room

▪ Re-establishment Payment (Businesses, farms, non-profit organizations only)

Displaced small businesses, farm operations and non-profit organizations may receive a payment not to exceed \$10,000 for expenses actually incurred to relocate and re-establish themselves at a replacement site. Eligible expenses can include repairs and improvements required by law, replacement of soiled and worn surfaces at the replacement site and other modifications, exterior signing, advertisement of the replacement location, and estimated increased cost of operation of the first two years.

▪ Business, Farm and Non Profit Organization Moving Expenses

Displaced businesses, farm operations, and non profit organizations are entitled to receive actual reasonable moving expenses for moving personal property a distance not to exceed a 50-mile radius or to the nearest available and adequate site. The actual and reasonable cost of searching for a replacement location may be claimed in an amount up to \$2,500 for a farm, non profit organization or business. Such payments must be supported by receipted bills or other evidence of expenses incurred.

As an alternate moving expense procedure, in the case of a self-move, the business, farm operation, or non profit organization may be paid an amount not to exceed the lower of two estimates secured by the Department of Transportation from qualified moving companies.

Under certain conditions, businesses, farms, and non profit organizations may receive payments for direct losses of tangible personal property resulting from the necessity to relocate.

A displaced or discontinued business, non profit organization or farm operation, except advertising sign owners, may, under certain conditions, elect to receive a fixed payment in an amount equal to the average annual net earnings of the business or farm preceding the year in which such business or farm operation during the two tax years immediately preceding the year in which such business or farm operation is displaced. The payment cannot exceed \$20,000 and will not be less than \$1,000. Those who choose the fixed payment are not eligible for any other relocation benefit payment.

▪ Storage of Personal Property

Storage of personal property requires the written approval of the Department of Transportation and may not exceed twelve (12) months except in unusual circumstances. It should be clearly understood that those dislocatees who accept the scheduled move or fixed payment are not eligible to receive the storage expense benefit.

▪ Replacement Housing

A displaced owner-occupant of a dwelling owned and occupied for 180 days or more immediately prior to the initiation of negotiations for such property may be eligible for additional payments, the combined total of which may not exceed \$22,500. The replacement housing payment is the amount, if any, which when added to the amount for which

the State acquired his or her dwelling, equals the actual cost which the owner is required to pay for a decent, safe, and sanitary replacement dwelling or the amount determined by the State as necessary to purchase a comparable dwelling, whichever is less. This payment includes compensation for increased interest costs for financing the replacement dwelling and actual closing costs incidental to the purchase of replacement housing.

A displaced owner-occupant of a dwelling actually owned and occupied by the owner for 90 days or more, but less than 180 days or a tenant-occupant of 90 days or more, immediately prior to initiation of negotiations for such property may be eligible for additional payments, the combined total of which may not exceed \$5,250. This payment is the amount necessary to make a down payment on the purchase of a replacement dwelling and to reimburse the relocatee for the actual closing costs incidental to the purchase of the replacement dwelling. Necessary deposits for taxes and insurance are not considered as closing costs.

In those cases where an owner-occupant of 90 days or more but less than 180 days, or a tenant-occupant of 90 days or more chooses to rent instead of purchase a replacement dwelling, he or she may, under certain conditions, be eligible for payment to rent a decent, safe, and sanitary replacement dwelling.

The rent payment is the increase in rent necessary to rent a comparable dwelling for 42 months or the amount determined by the State as necessary to rent a comparable dwelling for 42 months, whichever is less. To be eligible for these benefits, the displaced occupant must purchase or rent and occupy a decent, safe, and sanitary replacement dwelling within one year after the required date of displacement or within one year after the actual date of displacement, whichever is later.

Claims for replacement housing differential payment and rent supplements must be made in writing on a Department of Transportation form supplied for this purpose and must be filed with the Department of Transportation no later than 18 months after the date of displacement.

Before payments for any replacement dwelling benefits can be made, the replacement dwelling must be checked by Department of Transportation personnel to ascertain that it meets the decent, safe, and sanitary standards established by the Federal Department of Transportation. It is recommended that this determination be made prior to a commitment to rent or buy. The decent, safe, and sanitary inspection of the replacement dwelling by agency personnel is for the sole purpose of determining a relocatee's eligibility for a relocation payment.

▪ Possession

No person lawfully occupying real property shall be required to move from his home, farm, or business location without at least 90 days' written notice. A displaced residential occupant will not be required to move earlier than 90 days after the date comparable replacement housing is made available.

The displacee will again be notified 30 or more days prior to the date the property must be vacated. The 30-day notice will not be given until the property owner has been paid for his or her property. However, if a purchase does not require the person to move, the agreement to purchase the property may require the person to surrender possession of his or her property upon payment.

▪ Appeals

Any person who is dissatisfied with a determination of his or her eligibility or claim for any relocation benefit payment shall have the right of appeal. Any person making such an appeal will be given a choice of appealing for an optional reconsideration conference or for an administrative hearing. A reconsideration conference is an optional process to afford a displacee an opportunity to present additional relevant information that may not have been considered by the department or to correct factual errors and for the Department to reconsider the claim with the new or corrected information. An administrative hearing is a formal hearing process conducted by the Office of Administrative Hearings according to the Administrative Procedures Act, ORS 183.310 to 183.550. Either type of **appeal must be filed within 60 days of relocation benefit or claim determination**, and must be submitted on Form 734-3623 which is available from the Right of Way Agent assigned to the file.

▪ Right of Way Agent

Relocates will be given information regarding their eligibility and possible benefits by the Right of Way Agent assigned to acquire the property.

734-3772 (08-2008)

General Summary of Relocation Benefits					
Residential			Business, Farm, Non-Profits		
Owner-occupant of 180 days or more prior to initiation of negotiations for the parcel		Owner-occupant of 90 days or more but less than 180 days and tenant-occupants of 90 days or more occupancy prior to initiation of negotiations for the parcel.		Owner-occupants and tenant-occupants entitled to same benefits.	
May be eligible for:		May be eligible:		May be eligible for:	
Replacement Housing Differential Payment	\$22,500	Rent Supplement	\$5,250 max.	Actual reasonable moving costs	Actual
Including: Costs incidental to purchase or replacement dwelling		Or Down payment benefit and costs incidental to purchase of replacement dwelling	\$5,250 max.	Or Negotiated moving costs payment not to exceed lower of two estimates secured by agency	No more than lowest estimate
And including: Increased interest cost on replacement dwelling		Plus Actual reasonable moving costs	Actual	Plus Tangible personal property loss due to relocation	Actual value or estimated costs to move, whichever is lower
Or Rent Supplement	\$5,250	And Storage of personal property for up to twelve months with prior approval	Actual	Plus Reasonable cost of search for new site	\$2,500 max.
All displacees may be eligible for:		Or Moving costs based upon schedule		Plus Storage of personal property for up to twelve months with prior approval	Actual
Actual reasonable moving costs	Actual			Plus Reestablishment expenses at the replacement site	\$10,000 max.
And, Storage of personal property up to twelve months with prior approval	Actual			Or Fixed payment in lieu of all other benefits requires approval of agency	Average of annual net earnings for two years prior to year of relocation of \$1,000 min., \$20,000 max.
Or, Moving costs based upon schedule					



¿TIENE QUE MUDARSE A CAUSA DE LA CONSTRUCCION DE CARRETERAS O PROYECTOS PUBLICOS?

DESCRIPCION DEL PROGRAMA DE ASISTENCIA DE REUBICACION DEL DEPARTAMENTO DE TRANSPORTE

Los reglamentos del Departamento de Transporte establecen que no se puede obligar a ninguna familia o individuo a desalojar una residencia hasta que la persona desplazada haya encontrado o se le haya ofrecido una vivienda comparable para reemplazarla.

Toda vivienda de reemplazo ofrecida debe ser una vivienda justa, abierta a todas las personas sin consideración de raza, color, religión, sexo o nacio-nalidad.

No se puede usar fondos Federales para pagos de reubicación o servicios consultivos de reubicación a un extranjero que no esta legalmente en Los Estados Unidos, excepto en casos de extraordinario o extrema dificultad. Sin embargo, personas que no estan legalmente en Los Estados Unidos pueden ser elegibles para recibir beneficios de reubicación usando fondos del Estado solamente, excepto en casos de extrema dificultad. A personas desplazadas se va pedir que firmen un "Certificado de Residencia Legal en Los Estados Unidos".

La legislación de reubicación, por su amplio alcance, es algo complicada y difícil de leer y interpretar. Para la información de quienes se vean afectados por las compras de propiedad del Departamento de Transporte, este folleto resume las principales disposiciones sobre beneficios y servicios de reubicación. Sin embargo, quienes lean este folleto no deben formar opiniones adelantadas con respecto a los beneficios y cantidades que pueden tener derecho a recibir. El agente de derecho de paso asignado a la compra de una propiedad tendrá información detallada para las personas desplazadas.

DEPARTAMENTO DE TRANSPORTE DE OREGON

Ningún pago por reubicación recibido por una persona desplazada se considerará ingreso según el Internal Revenue Code de 1954, que ha sido redesignado como Internal Revenue Code de 1986, ni se usará para determinar la elegibilidad o el grado de elegibilidad de cualquier persona para recibir asistencia según el Acta de Seguridad Social o cualquier otra ley Federal, a excepción de toda ley Federal que provea asistencia para vivienda de bajos ingresos.

LOS SERVICIOS DE REUBICACION

El Departamento de Transporte mantiene oficinas de derecho de paso en los siguientes lugares:

Region 1: 123 NW Flanders, Portland, Oregon 97209
Nº de Teléfono: 503-731-8400
Fax: 503-731-8458

Region 2: 455 Airport Rd., SE, Building A
Salem, Oregon 97301
Nº de Teléfono: 503-986-2600
Fax: 503-986-2622

Region 3: 3500 NW Stewart Parkway, Suite 164
Roseburg, Oregon 97470
Nº de Teléfono: 541-957-3559
Fax: 541-957-3563

Region 4: 63085 N Hwy. 97, Suite 102, Bend, Oregon 97701
Nº de Teléfono: 541-388-6196
Fax: 541-388-6381

Region 5: 3012 Island Avenue, La Grande, Oregon 97850
Nº de Teléfono: 541-963-7552
Fax: 541-963-9079

Estas oficinas mantienen listas actualizadas de residencias, negocios, y granjas de reemplazo para personas desplazadas, como así también datos actualizados sobre los depósitos necesarios para servicios públicos, costos de cierre, entregas iniciales tipo, tipos de interés, y requisitos e información de FHA y VA. Las oficinas también tienen mapas que muestran la ubicación de escuelas, parques, lugares de juegos, y zonas comerciales. Hay información sobre rutas, horarios y precios del transporte público. Hay agentes de derecho de paso disponibles para prestar la máxima ayuda posible a las personas desplazadas. Los agentes de derecho de paso no esperan ni aceptan retribución alguna por los servicios que prestan.

ELEGIBILIDAD

Es importante notar que la elegibilidad para recibir cualquiera de los siguientes beneficios no está establecida hasta que Ud. haya recibido un aviso escrito de elegibilidad del Estado.

GASTOS GENERALES DE MUDANZA

Las tarifas de servicio para reconectar los servicios públicos son reembolsables excepto bajo el plan de mudanza fijo.

GASTOS DE MUDANZA PARA INDIVIDUOS Y FAMILIAS

Todo individuo o familia desplazada por un proyecto del Departamento de Transporte tiene derecho a recibir un pago por el gasto real y razonable de trasladar la propiedad personal a una distancia que no exceda un radio de 50 millas o al sitio disponible y adecuado más cercano.

Para obtener el pago por gastos de mudanza, la persona desplazada tiene 18 meses a partir de su fecha de desalojo para presentar un reclamo escrito ante el Departamento de Transporte en un formulario especial. En algunos casos, y si le conviene a la persona desplazada, se puede hacer un acuerdo escrito con el Departamento de Transporte que permita a la persona desplazada presentar una cuenta de mudanza comercial impaga, y el Departamento de Transporte hará el pago directamente a la compañía de mudanza. Si el desplazado residencial lo prefiere, los costos pueden reintegrarse según un plan de mudanza fija basado en el número de recámaras amuebladas que es necesario trasladar.

PLANILLA RESIDENCIAL DE MUDANZAS

Sin amueblar		
[El relocatario posee muebles]		
\$400 [1 recámara]	\$750 [3 recámaras]	
\$550 [2 recámaras]	\$950 [4 recámaras]	
\$1125 [5 recámaras]	\$1300 [6 recámaras]	\$1475 [7 recámaras]
\$1650 [8 recámaras]		
más \$175 por cada recámara adicional.		

Amueblada	
[el relocatario no posee muebles]	
\$300 por la primera recámara más	
\$50 por cada recámara adicional.	

PAGO DE REESTABLECIMIENTO

(sólo para negocios, granjas y organizaciones sin fines de lucro)
Los pequeños negocios, granjas y organizaciones sin fines de lucro desplazadas pueden recibir un pago no mayor de \$10,000 para gastos reales incurridos para su traslado y reinstalación en un sitio de reemplazo. Los gastos cubiertos pueden incluir arreglos y mejoras requeridas por ley, reemplazo de superficies manchadas y gastadas en el sitio de reemplazo y otras modificaciones, letreros exteriores, publicidad de la ubicación de reemplazo, y aumento estimado del costo de operación durante los dos primeros años.

GASTOS DE MUDANZA PARA NEGOCIOS, GRANJAS Y ORGANIZACIONES SIN FINES DE LUCRO

Los negocios, granjas y organizaciones sin fines de lucro desplazadas tienen derecho a recibir gastos de mudanza reales y

razonables para el traslado de propiedad personal a una distancia que no exceda un radio de 50 millas o al sitio disponible y adecuado más cercano. Puede reclamarse una cantidad de hasta \$1,000 por el costo real y razonable de buscar una ubicación de reemplazo para una granja, negocio u organización sin fines de lucro. Tales pagos deben estar documentados con recibos de cuentas pagadas u otra evidencia de los gastos incurridos.

Para procedimientos diferentes de mudanza, como por ejemplo si el traslado se hace por cuenta propia, los negocios, granjas u organizaciones sin fines de lucro pueden recibir un pago que no sobrepase el monto del menor de dos presupuestos que el Departamento de Transporte haya obtenido de compañías de mudanza calificadas.

Bajo ciertas condiciones, los negocios, granjas y organizaciones sin fines de lucro pueden recibir pagos por pérdidas directas de propiedad personal tangible que resulten de la necesidad de reubicarse.

Un negocio, granja u organización sin fines de lucro desplazada o en estado de discontinuidad, excepto los propietarios de letreros de publicidad, puede, en ciertas circunstancias, ser elegible para recibir un pago fijo en una cantidad igual a las ganancias netas anuales promedio del negocio o granja durante los dos últimos años inmediatamente anteriores al año en que fue desplazada. El pago no puede exceder los \$20,000 y ni será menor de \$1,000. Quienes eligen el pago fijo no son elegibles para recibir ningún otro pago de beneficios de reubicación.

ALMACENAJE DE LA PROPIEDAD PERSONAL

El almacenaje de propiedad personal requiere la aprobación escrita del Departamento de Transporte y no puede extenderse por más de doce meses, excepto en circunstancias especiales. Debe entenderse claramente que aquellos propietarios desplazados que aceptan el plan de mudanza fijo o el pago fijo no son elegibles para recibir beneficios por gastos de almacenaje.

VIVIENDA DE REEMPLAZO

Un propietario/ocupante desplazado de una residencia poseída y ocupada por 180 días o más inmediatamente antes del comienzo de la negociación para la compra de tal propiedad puede ser elegible para pagos adicionales cuyo total combinado no puede exceder los \$22,500.

El pago de la vivienda de reemplazo es la cantidad, si la hay, que agregada al monto por el cual el Estado adquirió la vivienda, es igual al costo real que el propietario tiene que pagar por una residencia de reemplazo decente, segura, e higiénica o la cantidad que el Estado determine necesaria para comprar una residencia comparable. Siempre se usa la menor de estas dos cantidades. Este pago incluye compensación por el aumento en los costos de interés para financiar la residencia de reemplazo y los costos reales de cierre de la compra de la vivienda de reemplazo.

Un propietario/ocupante desplazado de una residencia realmente poseída u ocupada por el dueño por 90 días o más, pero por menos de 180 días o un inquilino/ocupante por 90 días o más inmediatamente antes del comienzo de la negociación para la compra de tal propiedad, puede ser elegible para recibir pagos adicionales cuyo total combinado no puede exceder los \$5,250. Este pago es la cantidad necesaria para hacer la entrega inicial para la compra de una residencia de reemplazo y para reembolsar a la persona reubicada por los gastos reales de cierre de la compra de la residencia de reemplazo. Los depósitos necesarios para impuestos y seguros no se consideran gastos de cierre. En los casos en que un propietario/ocupante de 90 días o más, pero menos de 180 días o un inquilino/ocupante de 90 días o más decide alquilar en vez de comprar una residencia de reemplazo, él o ella puede, en ciertas circunstancias, ser elegible para el pago de hasta \$5,250 para alquilar una vivienda de reemplazo decente, segura e higiénica.

El pago de alquiler es el aumento en el alquiler necesario para alquilar una residencia comparable por 42 meses, o la cantidad que el Estado determine necesaria para alquilar una residencia comparable por 42 meses. Siempre se usa la menor de estas dos cantidades.

Para ser elegible para estos beneficios, el ocupante desplazado debe comprar o alquilar y ocupar una residencia de reemplazo decente, segura e higiénica en un período de un año a partir de la fecha requerida de desalojo o un año después de la fecha real de desalojo, cualquiera sea la más tardía.

Los reclamos por pagos diferenciados de la vivienda de reemplazo y suplementos de alquiler deben hacerse por escrito en un formulario que el Departamento de Transporte provee para este fin y deben presentarse ante el Departamento de Transporte a más tardar 18 meses después de la fecha de desalojo.

Antes de poder hacer cualquier pago de beneficios por residencia de reemplazo, la residencia de reemplazo debe ser inspeccionada por personal del Departamento de Transporte para comprobar que cumple con los requisitos de ser decente, segura e higiénica establecidos por el Departamento Federal de Transporte. Se recomienda que esta determinación se haga antes de que la persona se comprometa a alquilar o comprar. La inspección de la residencia de reemplazo por parte del personal de la agencia para determinar si es decente, segura e higiénica se hace con el único propósito de determinar la elegibilidad de la persona reubicada para recibir un pago de reubicación.

POSESION

Ninguna persona que esté ocupando legalmente una propiedad estará obligada a desalojar su hogar, granja, o negocio sin un aviso escrito entregado por lo menos con 90 días de anticipación. Un ocupante residencial desplazado no tendrá que mudarse hasta 90 días después de que se ponga a su disposición una vivienda de reemplazo comparable.

Se volverá a notificar a la persona desplazada con 30 días o más de anticipación a la fecha en que deba desalojar la propiedad. Dicho aviso de 30 días no se enviará hasta que el dueño(a) de la propiedad haya recibido el pago por su propiedad. Sin embargo, si se trata de una compra que no requiere que la persona se mude, el acuerdo para comprar la propiedad puede requerir que la persona dé posesión de su propiedad en el momento del pago.

APELACIONES

Toda persona reubicada que esté desconforme con alguna de las decisiones sobre su elegibilidad o su reclamo de pago de algún beneficio de reubicación tiene derecho de apelación. Los formularios de apelación se pueden obtener del agente de derecho de paso encargado de la compra de la propiedad. El Jefe Administrativo del Departamento de Transporte ha delegado su autoridad de revisión a un oficial de audiencias. Las apelaciones deben presentarse ante la mesa en un plazo de 60 días después de que el Estado actúe sobre un reclamo o niegue elegibilidad para un beneficio.

Toda persona que haga tal apelación tiene oportunidad de ser escuchada en una audiencia de apelación hecha para examinar su queja. Se provee luego una decisión con las razones en las que se basa el resultado alcanzado.

EL AGENTE DE DERECHO DE PASO

Las personas reubicadas recibirán información relacionada con su elegibilidad y posibles beneficios del agente de derecho de paso asignado para la compra de la propiedad.



Form 734-3772S (08-2008)
IMPRIMIDO EN PAPEL RECICLADO

RESUMEN GENERAL DE LOS BENEFICIOS DE REUBICACION

PARA RESIDENCIAS

PARA NEGOCIOS,

GRANJAS Y

ORGANIZACIONES S.F. de L.	Dueño ocupante por 90 días o más pero menos de 180 días e inquilino ocupante por 90 días o más antes de la iniciación de las negociaciones por la propiedad	Podría ser elegible para:
Podría ser elegible para:	Podría ser elegible para:	Costos reales razonables de mudanza Real
Propietario ocupante por 180 días o más antes de la iniciación de las negociaciones por la propiedad	Suplemento de renta \$5,250 máx.	O
Aditivo para la vivienda \$22,500 máx.	O	Pago negociado de los costos de mudanza no mayor que el más bajo de dos presupuestos obtenidos por la agencia No mayor que el presupuesto más bajo
Incluyendo	Beneficio de entrega inicial y costos incidentales a la compra de la propiedad de reemplazo \$5,250 máx.	Más
Costos incidentales a la compra de la propiedad de reemplazo	Más	Pérdida de propiedad personal tangible causada por la reubicación \$1,000 mínimo, \$20,000 máximo
E Incluyendo	Costos reales razonables de mudanza Real	O
Aumento en el costo de los intereses de la propiedad de reemplazo	O	Costos de mudanza basados en la tabla
O	O	Más
Suplemento de renta \$5,250 máx.	Almacenamiento de propiedad personal por hasta doce meses <u>con autorización previa</u> Real	Costo razonable de la búsqueda de un nuevo sitio \$1,000 máx.
Todas las personas desplazadas podrían ser elegible para:	Dueños ocupantes e inquilinos ocupantes con derecho a los mismos beneficios	Más
Costos reales razonables de mudanza Real		Almacenamiento de propiedad personal por hasta doce meses <u>con autorización previa</u> Real
Y		Más
Almacenamiento de propiedad personal, hasta doce meses <u>con autorización previa</u> Real		Gastos de reinstalación en el sitio de reemplazo \$10,000 máx.
Costos de mudanza basados en la tabla		O
		Pago fijo en lugar de todos los otros beneficios - requiere autorización de la
		Valor real o costo estimado para trasladarla, cualquiera sea el valor más bajo Promedio de las ganancias netas anuales de los dos agencia últimos años anteriores a la reubicación



Oregon Department of Transportation

Acquiring Land for Highways & Public Projects

A description of the
Department of Transportation
Land Acquisition Program



When improving highway facilities, the Department of Transportation has the task of acquiring right of way. It is the aim and desire of the Department to obtain right of way with fairness and equity.

The State is empowered to acquire private property for public use. With this power goes the obligation to protect the rights of the individual property owner. The Department thus has a dual responsibility. It is to recognize and protect the individuals who are affected by acquisition of land, as well as competent and efficient service to the public.

■ Public Hearings

Public hearings, when required, are held during the location and design stages of a project. Such hearings provide opportunities for public participation to ensure that highway locations and designs are consistent with Federal, State and Local goals and objectives.

The corridor hearing is held after preliminary studies have been made on several possible routes. During the course of this hearing, testimony is recorded for study by Department personnel and the Transportation Commission.

Upon selection of a corridor, a detailed survey within that corridor is made and a preliminary design plan developed for presentation at a "Design Hearing".

The "Design Hearing" provides an opportunity to present testimony about the final highway design.

In an instance where a choice of corridors is not involved, such as the case of an improvement to an existing highway, a single "Combination Corridor-Design Hearing" may be held.

After all data and testimony has been studied, a final design is adopted by the Transportation Commission and the acquisition of rights of way is authorized.

■ **Just Compensation**

Owners of property needed for a highway project will be offered Just Compensation for the required rights of way. Just Compensation includes the estimated value of all the land and improvements within the needed area. In addition, if only a part of a property is to be acquired, Just Compensation will also include any measurable loss in value to the remaining property due to the partial acquisition.

Just Compensation is based on the Department's valuation of the needed property and its estimation of any damages to the remaining property. Department procedures, guided by Federal Regulations, have been designed to protect both owners of properties needed for highway rights of way as well as other taxpayers. The valuation process will be conducted either by an experienced and qualified employee of the Department or by an independent fee appraiser under a contract with the Department. The value arrived at will be by comparison of similar properties in the market that have recently sold, by knowledge and consideration of costs and depreciation for any improvement(s) to be acquired, and when applicable, by the property's income potential. The final value determination will be based on this type of information from the local real estate market.

The property to be acquired is inspected by a qualified appraiser during the first part of the valuation process. With complex acquisitions involving large portions of the property, major buildings or improvements on the property, displacement of residents, and/or damages to the remaining part of the property not being acquired, property owners will be given 15 days to prepare the property, and will be given the opportunity to

accompany the appraiser during a detailed inspection of their property.

Any increase or decrease in the value of needed property brought about by public knowledge of the upcoming highway project, is disregarded in the valuation process.

The final value estimate is reviewed for completeness and accuracy, and Just Compensation is established by the Department's Review Appraiser. In addition to this estimate of Just Compensation, the Department will make an offer to purchase any remaining property determined to have no remaining economic value to the owner.

■ **Acquisition Procedure**

The Right of Way Agent who calls on you has studied the Department's valuation of the needed property and can illustrate with maps and other data how the acquisition will affect your property. The Department's offer will be confirmed in writing, together with an acquisition summary statement, and an appraisal, or evaluation sheet, which provides the basis for that amount. The Agent is authorized to obtain a deed from you to purchase your property, subject to the approval of the Transportation Commission. The Agent is unable, under Department procedures governing acquisitions, to engage in "horse trading"; rather the Agent is confined to those monetary values indicated by the appraisal process.

However, the Department is ready and willing to reconsider its position in light of any new evidence of value presented by you including a documented professional appraisal.

The Department may not take any action which would coerce you into accepting its offer. Prohibited actions include advancing the time of condemnation, deferring negotiations or condemnation or

postponing the deposit of funds in court for your use.

You need not accept the State's offer or enter an agreement felt to be unfair. Owner's have a minimum 40-day period to accept or reject the offer, unless an emergency has been declared. A refusal is simply a case of disagreement between the two parties on the value of the property.

In the event the parties are still unable to agree as to the compensation to be paid, or you cannot clear the title, mediation of differences between parties, conducted by an independent mediator, can be arranged by the Department in order to reach settlement prior to filing any condemnation action. Mediation is a non-binding process where all parties reach agreement.

In the event parties are still unable to agree as to compensation to be paid, or if title cannot be cleared, a condemnation action will be filed. Once condemnation is filed, a trial date will be determined. However, an owner can elect binding arbitration prior to trial, through the Court, for amounts of \$20,000 or less, and non-binding arbitration for amounts between \$20,000 and \$50,000. Arbitration is not available above \$50,000.

Discussions and mediation can, of course, continue even after a condemnation action is filed in an effort to resolve differences. The filing allows the State to proceed with the construction project.

■ Improvements

When the Department acquires an interest in your land, it must acquire an equal interest in your house or any other improvements located on the land acquired. If buildings are required to be removed, the Department may allow the owner to retain the improvements. If you are interested, this can be discussed with the Right of Way Agent.

■ Payment

If you sign a deed and any accompanying agreements, and the Transportation Commission approves it, then the transfer of title and payment may proceed. As in a private sale, you are responsible for clearing encumbrances to the title such as unpaid taxes, assessments, mortgages, outstanding leases and other liens against your property. The Right of Way Agent will assist you in clearing title. No payment can be made until a warranty deed conveying clear title to the Department has been recorded in the appropriate county records.

At the time the deed is available for recording, authorization is given to prepare a check for your property. Normally, when no cloud obscures the title, you will receive payment for your property about four weeks after you give the Department a deed to the property.

If the condemnation action has been filed, the amount established by the Department as Just Compensation will be deposited with the court for distribution in accordance with the order of the court.

You are entitled to be reimbursed for fair and reasonable costs you incur for expenses incidental to conveying your property to the Department. Such expenses could be, but are not necessarily limited to, penalty costs for prepayment of any pre-existing recorded mortgage encumbering your property, mortgage release fees, and the State's portion of real property taxes.

■ Possession

You are not required to surrender possession of your property until you have been paid the agreed purchase price or an amount equal to the Department's established estimate of just compensation has been deposited with the court for your benefit.

When negotiations begin, you, as well as any tenants occupying your property, will be notified in writing that it is the Department's intent to acquire the property. You will not be required to move from your home, farm, or business location earlier than 90 days following that notice or within 30 days after payment, whichever is later. However, if the purchase does not require you to move, the agreement to purchase your property may require you to surrender possession of your property upon payment.

The Department is aware of the need for a reasonable time for relocation. If your property is not needed for several months, your continued occupancy may be permitted on a short-term basis. The amount of rent the Department may charge you, or another tenant, may not exceed the fair rental value of the property to a short-term occupant.

■ Right of Way Offices

For your convenience the Department maintains Regional Right of Way Offices in the following locations:

Region 1 – Portland

123 NW Flanders
Portland, OR 97209
Voice: 503-731-8400
Fax: 503-731-8458
Toll Free: 888-769-7341

Region 2 – Salem

455 Airport Road SE Bldg. A
Salem, OR 97301-5397
Voice: 503-986-2601
Fax: 503-986-2622
Toll Free: 888-769-7342

Region 3 – Roseburg

3500 Stewart Parkway Suite 164
Roseburg, OR 97470
Voice: 541-957-3559
Fax: 541-957-3563
Toll Free: 888-769-7343

Region 4 – Bend

63085 N Highway 97 Suite 102
Bend, OR 97701-9901
Voice: 541-388-6196
Fax: 541-388-6381
Toll Free: 888-769-7344

Region 5 – LaGrande

3012 Island Avenue
LaGrande, OR 97850
Voice: 541-963-7552
Fax: 541-962-9819
Toll Free: 877-851-9097

734-3773 (11-2004)



Oregon Department of Transportation

Adquisición De Tierras Para Carreteras Y Proyectos Públicos

Descripción del programa de adquisición de tierras del
Departamento de Transporte

Cuando se hacen mejoras a las carreteras, el Departamento de Transporte tiene que adquirir el derecho de paso. El objetivo y deseo del Departamento es obtener el derecho de paso en forma justa e igualitaria.

El Estado está facultado para adquirir propiedades privadas para uso público. Pero este poder viene también con la obligación de proteger los derechos de los propietarios. De modo que el Departamento tiene una doble responsabilidad -- reconocer y proteger a los individuos afectados por la adquisición de la tierra, y servir al público en forma eficiente y competente.

Audiencias Públicas

Las audiencias públicas, cuando son necesarias, tienen lugar durante las etapas de ubicación y diseño de un proyecto. Tales audiencias permiten la participación del público para asegurar que la ubicación y diseño de la carretera estén de acuerdo con los objetivos y metas locales, federales y estatales.

La audiencia del corredor tiene lugar después de los estudios preliminares sobre las diferentes rutas posibles. Durante el curso de esta audiencia, se registran testimonios para su estudio por parte del personal del Departamento y de la Comisión de Transporte.

Una vez elegido el corredor, se hace un estudio detallado de ese corredor y se desarrolla un plan de diseño preliminar para su presentación en la "Audiencia de Diseño."

La "Audiencia de Diseño " es una oportunidad para prestar testimonio sobre el diseño final de la carretera.

Cuando el proceso de selección de corredor no es necesario, como en los casos de mejoras de carreteras ya existentes, es posible hacer una sola "Audiencia Combinada de Corredor- Diseño."

Después de estudiar todos los datos y testimonios, la Comisión de Transporte adopta un diseño final y se autoriza la adquisición de los derechos de paso.

Compensation Justa

A los propietarios de terrenos necesarios para un proyecto de carreteras se les ofrece una Compensación Justa por los derechos de paso requeridos. La Compensación Justa incluye el valor estimado de toda la tierra y de las mejoras dentro del área necesaria. Además, si se va a adquirir sólo una parte de la propiedad, la Compensación Justa también incluye cualquier pérdida notable en el valor del resto de la propiedad causada por la adquisición parcial.

El Departamento hace una Compensación Justa basada en la valoración de la propiedad necesaria y la estimación de cualquier daño al resto de la propiedad. Los procedimientos del Departamento, que se hacen de acuerdo con Regulaciones Federales, están diseñados para proteger tanto a los propietarios de los terrenos necesarios para el derecho de paso de las carreteras, como a los demás contribuyentes. El proceso de valoración está a cargo de un empleado calificado y experimentado del Departamento o de un evaluador independiente contratado por el Departamento. El valor se establece por comparación con propiedades similares vendidas recientemente en el mercado, por el conocimiento y consideración del costo y la depreciación para adquirir cualquier mejora, y si corresponde, por el potencial de la propiedad para producir ingresos. La determinación final del valor se basa en este tipo de información del mercado local de bienes raíces.

Durante la primera parte del proceso de valuación, un evaluador calificado inspecciona la propiedad a ser adquirida. Si se trata de adquisiciones complejas que involucran grandes porciones de propiedad, edificios o mejoras importantes de la propiedad, desplazamiento de residentes y/o daños a la parte de la propiedad que no va a ser adquirida, los propietarios tienen 15 días para preparar la propiedad y pueden acompañar al evaluador durante la inspección detallada de su propiedad.

En el proceso de valuación no se tiene en cuenta aumento o disminución alguna en el valor de la propiedad necesaria que ocurra como consecuencia del conocimiento público del proyecto de carretera próximo a construirse.

Procedimiento De Adquisición

El Revisor de Valoración del Departamento controla que la estimación final de valor esté completa y exacta y establece la Compensación Justa. Además de esta estimación de Compensación Justa, el Departamento hace una oferta de compra del resto de toda propiedad

si se determina que ésta no tiene valor económico restante para el propietario.

En el caso de que los partidos aun no lleguen a un acuerdo con respecto a la compensación a pagar, o si usted no puede librar el título de propiedad, el Departamento puede hacer arreglos para la mediación de las diferencias entre los partidarios, a cargo de un mediador independiente, para tratar de llegar a un acuerdo antes de iniciar una acción de expropiación. La mediación es un proceso no obligatorio donde todos los partidarios llegan a un acuerdo.

Usted no tiene que aceptar la oferta del Estado ni entrar en un acuerdo que Ud. no considere justo. Los propietarios tienen un período mínimo de 40 días para aceptar o rechazar la oferta, a menos que se declare una emergencia. Un rechazo es simplemente un caso de desacuerdo entre las dos partes sobre el valor de la propiedad.

En el caso de que los partidos aun no lleguen a un acuerdo con respecto a la compensación a pagar, o si usted no puede librar el título de propiedad, el Departamento puede hacer arreglos para la mediación de las diferencias entre los partidarios, a cargo de un mediador independiente, para tratar de llegar a un acuerdo antes de iniciar una acción de expropiación. La mediación es un proceso no obligatorio donde todos los partidarios llegan a un acuerdo.

En el caso de que los partidos aun no lleguen a un acuerdo con respecto a la compensación a pagar, o si usted no puede librar el título de propiedad, una acción de expropiación será llenada. Una vez presentada la acción de expropiación, se pone fecha para el juicio. Sin embargo, el propietario puede optar por arbitraje obligatorio previo al juicio, mediante el Tribunal, para cantidades de \$20,000 o menores, y por arbitraje no obligatorio para cantidades de \$20,000 a \$50,000. El arbitraje no se puede usar para cantidades mayores de \$50,000. Las conversaciones pueden continuar aún después de ser presentada la acción de expropiación, en un esfuerzo por resolver diferencias. La presentación permite al Estado proceder con el proyecto de construcción.

Mejoras

Cuando el Departamento adquiere un interés en su tierra, debe adquirir un interés igual en su casa o cualquier otra mejora ubicada en el terreno adquirido.

Si es necesario quitar edificios, el Departamento puede permitir que el propietario retenga las mejoras. Si Ud. está interesado, puede conversar sobre esto con el Agente de Derecho de Paso.

Pago

Si Ud. firma el acuerdo de opción y la transferencia, y la Comisión de Transporte los aprueba, se puede proceder entonces a la transferencia del título de propiedad y al pago. Como en cualquier venta privada, Ud. es responsable del pago de gravámenes sobre el título tales como impuestos sin pagar, tasas de impuestos, hipotecas, arrendamientos pendientes y otras prendas contra su propiedad. El Agente de Derecho de Paso le ayudará a remover los impedimentos de su título. No se puede hacer ningún pago hasta que se haya asentado en los registros apropiados del condado un documento que garantice la entrega al estado de un título carente de defectos, gravámenes o condicionamientos.

Cuando la transferencia está disponible para ser registrada, se da autorización para preparar el cheque por su propiedad. Normalmente, cuando no hay ningún problema con el título, Ud. recibe el pago por su propiedad alrededor de cuatro semanas después de haber transferido la propiedad al Departamento.

Si se ha iniciado una acción de expropiación, la cantidad establecida por el Departamento como compensación justa será depositada en la corte para su distribución de acuerdo con el orden de la corte.

Usted tiene derecho a ser reembolsado por los gastos justos y razonables en que incurra como consecuencia del traspaso de su propiedad al Departamento. Tales gastos pueden ser, entre otros, multas por pago adelantado de alguna hipoteca registrada pre-existente relacionada con su propiedad, gastos de terminación de hipoteca, y la parte de los impuestos a la propiedad que le corresponde pagar al estado.

Posesion

Ud. no tiene que renunciar a la posesión de su propiedad hasta que se le haya pagado el precio de compra acordado o hasta que se haya depositado en la corte para su beneficio una cantidad igual a la estimación de compensación justa establecida por el Departamento.

Al comienzo de las negociaciones, tanto Ud. como cualquier inquilino que esté ocupando su propiedad, recibirá(n) una notificación escrita de la intención del Departamento de adquirir la propiedad. No se le pedirá

que desaloje su hogar, granja, o negocio antes de 90 días a partir de la fecha de esa notificación o dentro de los 30 días siguientes a la fecha del pago, la fecha que resulte más tarde de las dos. Sin embargo, si la compra no requiere que Ud. se mude, el acuerdo de compra de su propiedad puede requerir que Ud. entregue posesión de su propiedad en el momento del pago.

El Departamento es consciente de la necesidad de un tiempo razonable para la reubicación. Si su propiedad no se necesita por varios meses, se le puede permitir que continúe ocupándola por un corto plazo. La cantidad que el Departamento le cobrará a Ud. o a otros inquilinos en concepto de renta no puede exceder el valor de renta justa de la propiedad a un ocupante por corto plazo.

Oficinas De Derecho De Paso

Para su conveniencia, el Departamento mantiene Oficinas Regionales de Derecho de Paso en las siguientes ubicaciones:

Región 1
123 NW Flanders
Pórtland, Oregon 97209
No. De Teléfono 503-731-8400
Fax 503-731-8458

Región 2
455 Aeropuerto Rd SE
Salem, Oregon 97301-5397
No. De Teléfono 503-986-2601
Fax 503-986-2622

Región 3
3500 Stewart Parkway #164
Roseburg, Oregon 97470
No. De Teléfono 541-957-3559
Fax 541-957-3563

Región 4
63085 N Hwy 97 #102
Bend, Oregon 97701-9901
No. De Teléfono 541-388-6196
Fax 541-388-6381

Región 5
3012 Island Avenue
La Grande, Oregon 97850
No. De Teléfono 541-963-7552
Fax 541-962-8919

Form 734-3773S (11-2004)

Appendix C

Civil Rights Act – Title VI Policy Statement

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Oregon

John A. Kitzhaber, M.D., Governor

Department of Transportation

Office of the Director

1158 Chemeketa Street NE

Salem, OR 97301

Phone: (503) 986-3289

Fax: (503) 986-3432

TITLE VI AND RELATED STATUTES NONDISCRIMINATION STATEMENT

November 2, 2011

It is the Oregon State Department of Transportation's (ODOT) policy to assure that no person shall, on the grounds of race, color, national origin, age, sex, or disability, as provided by Title VI of the Civil Rights Act of 1964 and related statutes, be excluded from participation in, be denied the benefits of, or be otherwise discriminated against under any of the programs or activities it administers.

Matthew L. Garrett, Director

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Appendix D

National Historic Preservation Act – Section 106 Documentation

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Introduction

Appendix D includes the following materials:

1. September 27, 2013, SHPO Concurrence on Finding of Adverse Effect, US 97 Bend North Corridor Project (project determination for archaeology and built environment)

Attachments:

 - Section 106 Determination of Eligibility, Finding of Effect (Nels and Lillian Andersen House)
 - Section 106 Determination of Eligibility, Finding of Effect (North Unit Main Canal)
 - Section 106 Determination of Eligibility, Finding of Effect (North/Pilot Butte Canal)
 - Section 106 Determination of Eligibility, Finding of Effect (Oregon Trunk Railway)
 - Section 106 Determination of Eligibility, Finding of Effect (Rock O' the Range)
 - Section 106 Determination of Eligibility, Finding of Effect (Swalley Main Canal & Associated Laterals)
2. June 11, 2014, Amended SHPO Concurrence on Section 106 Finding of No Adverse Effect (Swalley Main Canal & Associated Laterals)
3. March 25, 2014, Advisory Council on Historic Preservation (ACHP) letter declining to participate in the consultation to resolve adverse effects
4. June 9, 2014, Section 106 of the National Historic Preservation Act Memorandum of Agreement among the Federal Highway Administration (FHWA), Oregon State Historic Preservation Office (SHPO), Des Chutes County Historical Museum and the Oregon Department of Transportation (ODOT) for Resolution of the Adverse Effect to the Andersen House from the US 97 Bend North Corridor Project
5. June 10, 2014, FHWA letter transmitting the executed Memorandum of Agreement to ACHP
6. June 17, 2014, ACHP response regarding the project's completion of Section 106 responsibilities.

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SHPO Concurrence on Finding of Adverse Effect

Oregon

John A. Kitzhaber, M.D., Governor

September 20, 2013

Chrissy Curran
Associate Deputy State Historic Preservation Officer
Oregon State Historic Preservation Office
725 Summer Street NE, Suite C
Salem, OR 97310-1271

**SUBJECT: Request for Concurrence
Finding of Adverse Effect
US 97 Bend North Corridor
Deschutes County, Oregon
ODOT Key No. 14020
Federal-Aid No. S004(112)**

Department of Transportation
Highway Division/Technical Services
Geo-Environmental Section, MS#6
4040 Fairview Industrial Dr SE
Salem, OR 97302
Main Line: 503-986-3252
Fax: 503-986-3249

*Deschutes County**Bend, Tumalo Quads*

*T17S, R12E,
Sec 3, 4, 8-10, 16,
17, 20, 21, 28*

Dear Ms. Curran:

The Oregon Department of Transportation (ODOT) prepared the following letter in compliance with Section 106 of the National Historic Preservation Act. The letter includes a combined Finding of Adverse Effect for historic properties (built environment and archaeological resources) for The US 97 Bend North Corridor Project.

Project Description:

The proposed project would improve an approximately 6-mile corridor of US 97 between the Deschutes Market Road/Tumalo Junction interchange to the north and the Empire Avenue interchange to the south in Bend, Deschutes, County, Oregon. The purpose of the proposed action is to improve safety and freight mobility for trucks and automobiles on US 97 by implementing a practical design solution that is affordable within the potential 20-year funding opportunities and that meets the following medium-term and long-term performance objectives:

- Reduces delay, congestion, and the number and severity of crashes at the US 97/Cooley Road and US 97/Robal Road intersections with the medium-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 *Metropolitan Plan*, and
- Reduces delay, congestion, and improves safety on US 97 between the Deschutes Market Road/Tumalo Junction interchange and Empire Avenue interchange within the long-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 *Metropolitan Plan*.

The alternatives analyzed in detail include a No Build Alternative, and two build alternatives. In spring 2013, the Oregon Department of Transportation (ODOT) identified the East DS2 Modified Alternative as the preferred alternative. It is a modification to an earlier alternative and results in fewer impacts.

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SEP 23 2013

OR SHPO

SHPO CASE# 11-0151

Consulting Parties:

ODOT has consulted with the following parties during the development of this project:

- The City of Bend
- Deschutes County Historical Society
- Restore Oregon (formerly HPLO)
- Burns Paiute Tribe
- Confederated Tribes of the Warm Springs Reservation
- Klamath Tribes

Summary of Resources Present:**Historic Resources**

An extensive project area was originally surveyed by AINW through regular coordination with ODOT. These five resources were those which retained age and integrity, and met one of the four criteria for eligibility (the 1963 Rock o' the Range Bridge had already been determined eligible in 1979, per the Oregon's Covered Bridges Thematic Nomination). All five of these resources addressed were recommended to be eligible for listing in the National Register of Historic Places and your office concurred with those findings (see attachments). They are: the c. 1929 Nels Andersen House, the c. 1902 North Pilot Butte Canal, the c. 1938-46 North Unit Main Canal, the c.1911 Oregon Trunk Railway, and the c.1910 Swalley Canal. While the project will not directly impact any of these six NRHP-eligible historic resources within the project area, it will landlock the Nels Andersen House and create an adverse effect to this resource. Therefore, this will result in a Finding of Historic Properties Adversely Affected (Built-Environment).

Archaeological Resources

Archaeological investigations of the Area of Potential Impact (API) for the US97: Bend North Corridor project were conducted in 2009, 2010 and 2013 by Archaeological Investigations Northwest (AINW) (Fagan and Blazer 2013). These investigations involved pedestrian survey of non-paved areas, exploratory subsurface investigations of high probability areas and testing and evaluation of three historic refuse scatter sites (35DS1996, -2000, -2004). These investigations identified total of ten archaeological resources (35DS 1991, -1992, -2000, -2004; 08/1620-17, -27, -30, -32, -33, -34) within the footprint of the preferred alternative (East DS2 Modified) and one additional resource (35DS2005) which will be effectively landlocked as part of the project. Only site 35DS2005, an early 20th century refuse dump, was recommended by AINW as eligible to the National Register of Historic Places. Though the property it is sited on will be landlocked by project construction, the site will be avoided by direct project impacts. Since no NRHP-eligible sites will be impacted by project construction, the project will have a Finding of No Historic Properties Affected (Archaeology).

Approximately one and a half acres of the APE were not surveyed due to lack of rights of entry. These areas will be subject to cultural resources surveys upon acquisition of the individual properties prior to construction.

Request for Concurrence
 Finding of Adverse Effect
 US 97 Bend North Corridor
 Deschutes County, Oregon
 ODOT Key No. 14020
 Federal-Aid No. S004(112)
 Page 3 of 5

Finding of Effect:

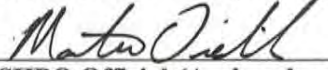
Application of Section 106 Criteria for Identification and Evaluation of Historic Properties [36 CFR 800.5(b)] indicates a finding of "Adverse Effect" for The US 97 Bend North Corridor project, based on the findings outlined above. ODOT, acting as an agent of the Federal Highway Administration, requests your concurrence with a FINDING OF ADVERSE EFFECT on historic properties (archaeology and built environment) for the project. All supporting documentation is attached.

If you have any questions, please contact Michelle Eraut, Environmental Program Manager with FHWA, at (503) 587-4716, or John A. Raasch, Environmental Resources Unit Manager with ODOT, at (503) 986-3370.

Sincerely,


 John A. Raasch
 Environmental Resources Unit Manager
 ODOT Geo-Environmental Section

The State Historic Preservation Office concurs that The US 97 Bend North Corridor project will have No Historic Properties Affected (Archaeology).


 SHPO Official (Archaeology)

9/27/13
 Date

The State Historic Preservation Office concurs that the US 97 Bend North Corridor project will have an Adverse Effect on Historic Properties (Built Environment).


 SHPO Official (Built Environment)

IAN JOHNSON
 503-986-0678
 ian.johnson@state.or.us

9/27/2013
 Date

Attachments:

- Fagan and Blaser 2013
- Section 106 Determination of Eligibility, Finding of Effect (Nels and Lillian Andersen House)
- Section 106 Determination of Eligibility, Finding of Effect & Revised Finding of Effect (North Unit Main Canal)
- Section 106 Determination of Eligibility, Finding of Effect & Revised Finding of Effect (North/Pilot Butte Canal)
- Section 106 Determination of Eligibility & Finding of Effect (Oregon Trunk Railway)
- Section 106 Finding of Effect (Rock O' the Range)
- Section 106 Determination of Eligibility & Finding of Effect (Swalley Canal & Associated Laterals)

Copies with attachments to:

Agnes Castronuevo, Burns Paiute Tribe
Perry Chocktoot, Klamath Tribes
Roberta Kirk, Confederated Tribes of Warm Springs Reservation of Oregon
Michelle Eraut, FHWA
Amy Pfeiffer, ODOT Region 4
Key No. 14020, File Type C

Copies without attachments:

Chris Bell, ODOT Historic Resources Program Coordinator
Tobin Bottman, ODOT Archaeologist
Larissa Rudnicki, ODOT Historic Resources Specialist


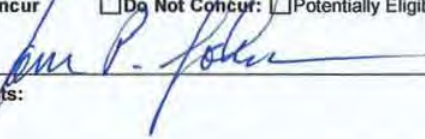
Request for Concurrence
Finding of Adverse Effect
US 97 Bend North Corridor
Deschutes County, Oregon
ODOT Key No. 14020
Federal-Aid No. S004(112)
Page 5 of 5

References Cited:

Fagan, John L. and Andrea Blaser

2013 US97 Bend North Corridor Solutions Final Archaeological Resources Technical Report.
Prepared for Oregon Department of Transportation, Region 4, Deschutes County,
Oregon.

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Nels and Lillian Andersen House	
Street Address: 63160 Nels Anderson Road	City, County: Bend, Deschutes
USGS Quad Name: Bend, OR 1962, photorevised 1981	Township: 17S Range: 12E Sections: 21
This property is part of a <input type="checkbox"/> District <input type="checkbox"/> Grouping/Ensemble (see instructions) Name of District or Grouping/Ensemble:	
Number and Type of Associated Resources in Grouping/Ensemble:	
Current Use: Commercial	Construction Date: Circa 1929
Architectural Classification / Resource Type: Tudor	Alterations & Dates: See Physical Description
Window Type & Material: First floor: modern six-over-six wooden double-hung windows Half story: original six-over-six wooden double-hung windows Roof Type & Material: Cross gable clad with asphalt shingles	Exterior Surface Materials: Primary: Stucco Secondary: N/A Decorative: Brick
Condition: <input type="checkbox"/> Excellent <input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	Integrity: <input type="checkbox"/> Excellent <input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor
	
The west elevation of the Nels and Lillian Andersen House. The view is towards the east-northeast.	
Preliminary National Register Findings: <input type="checkbox"/> National Register listed <input checked="" type="checkbox"/> Potentially Eligible: <input checked="" type="checkbox"/> Individually <input type="checkbox"/> As part of District <input type="checkbox"/> Not Eligible: <input type="checkbox"/> In current state <input type="checkbox"/> Irretrievable integrity loss <input type="checkbox"/> Lacks Distinction <input type="checkbox"/> Not 50 Years	
State Historic Preservation Office Comments: <input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur: <input type="checkbox"/> Potentially Eligible Individually <input type="checkbox"/> Potentially Eligible as part of District <input type="checkbox"/> Not Eligible Signed:  Date: 1/27/2011 Comments:	
IAN JOHNSON 503-986-0678 ian.johnson@state.or.us	

Surveyor/Agency: Andrea Blaser, M.S.
 Archaeological Investigations Northwest, Inc. Report No. 2558

ian.johnson@state.or.us 2010

Pg 1

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Nels and Lillian Andersen House			
Street Address: 63160 Nels Anderson Road		City, County: Bend, Deschutes	
Architect, Builder or Designer (if known): Unknown	Owner: <input checked="" type="checkbox"/> Private <input type="checkbox"/> Local Government <input type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> Other		
Description of Property (including exterior alterations & approximate dates), Significance Statement, and Sources. (Use continuation sheets if necessary): <p>Significance Statement</p> <p>The Nels and Lillian Andersen House is recommended to be eligible for listing in the National Register of Historic Places (NRHP) under Criterion C as a representative example of the English Tudor style of architecture in Bend, Oregon. While the house has incurred modifications since it was constructed circa 1929, it was restored to its historic appearance circa 2002 and has since been recognized by the local community as a significant resource. The Nels and Lillian Andersen House retains integrity of location and design, and to a lesser degree integrity of workmanship and materials, supporting its eligibility under Criterion C. The house no longer has integrity of historic setting, feeling, or association due to modern incursions on the landscape, weakening the house's association with Andersen's prominence within the community and his role as an immigrant farmer during Bend's Euroamerican settlement period of the twentieth century. Therefore, the house does not retain those aspects of integrity that would render it NRHP-eligible under Criterion A or B.</p> <p>One historic outbuilding and one modern outbuilding are associated with the house and are recommended to be non-contributing features to the resource. The historic outbuilding was likely moved to its current location after the house was constructed circa 1929; its style and form indicate a build date previous to that of the house, and historical maps do not account for a building at its current location until 1981 (United States Geological Survey [USGS] 1962). A stone stairway and retaining wall located to the east of the house along Swalley Canal retains integrity of location and materials, but have lost integrity of setting, feeling, and association due to the piping of the canal circa 2010. It is therefore recommended to be an associated but non-contributing feature to the resource.</p> <p>On July 15, 2009 the Nels and Lillian Andersen House was added to the Bend Urban Area General Plan Inventory of Historic Sites by a majority vote of the Bend City Council (City of Bend 2009). The house was nominated for inclusion by the Deschutes County Landmarks Commission, who completed an initial review of the property for historic integrity and significance in 2008 (Kennedy 2008). The commission noted in its review that the house was significant for its status as one of the few remaining examples of English Tudor architecture in the area, as well as for its association with Nels Andersen, a prominent citizen of the Bend community in the early twentieth century. This initial evaluation listed the property as the "Nels Anderson Dairy," a name which was later refined to the Nels and Lillian Andersen House after primary documents compiled by the current owner, as well as his personal communications with community members who knew the couple, confirmed that the surname ended with an "en". The misspelling of Scandinavian names on government documents was a common occurrence during the nineteenth and twentieth century. Both Andersen's first and last names are commonly misspelled on government records, and the road on which the house is located is named "Nels Anderson Road."</p> <p>Andersen, a Danish immigrant who came to the United States in 1906, owned hundreds of acres of land within the immediate vicinity of the house throughout the early- to mid-twentieth century (Metsker Maps 1935, 1944). He used a portion of his land holdings to operate a dairy farm, the Lilly Dairy, which he named after his wife, Lillian. Beyond operating the dairy and owning extensive land tracts, Andersen is also known for his work at the Deschutes Irrigation and Reclamation Company, where he served as president in 1921 and later became a board member (Kennedy 2008). The Swalley Canal, the largest and oldest canal that was managed by the Deschutes Irrigation and Reclamation Company, travels south to north along the eastern boundary of the subject parcel and was given consideration during the siting of the house and its associated features. The Swalley Canal was constructed circa 1910 and is now managed by the Swalley Irrigation District.</p> <p>Since the house was constructed, circa 1929, its setting has been significantly altered. The Dalles-California Highway (present-day US 97) was constructed through Andersen's land holdings during the 1930s, which prompted him to plat and sell the land that had been isolated between it and the McKenzie-Bend Highway (present-day US 20) to the west. Continued commercial development during the twentieth century, doubled with the construction of the Bend Parkway from 1996 to 2002, has reduced what was once over 300 acres of land holdings to just the 4.20 acres on which the house is currently located. The house now serves as an office for a landscaping company and is therefore surrounded by gravel, soils, and stones associated with the business. Due to this change of setting, the house is the only portion of the parcel that is considered a Historic Site in the Bend Urban Area General Plan.</p>			

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Nels and Lillian Andersen House	
Street Address: 63160 Nels Anderson Road	City, County: Bend, Deschutes
<p>Physical Description</p> <p>The circa 1929 house was constructed with an L-shaped footprint and rests on a foundation composed of lava stone. The walls were framed with locally-milled Brooks-Scanlon lumber and are capped with a cross-gable roof pierced by two chimneys composed of mortared Bend Brick. The exterior of the house was restored to its original appearance circa 2002 through the removal of siding that was added to the house circa 1945. A new coat of stucco was applied, and original six-over-six, double-hung wood windows were repaired. Original windows that could not be repaired were replaced in-kind with modern wood windows of a similar size and shape. Additional improvements were made at this time in anticipation of converting the building for use as a commercial office space. While the form of the house has largely remained intact, a half story on the south wing that reportedly housed a cistern was removed during the circa 2002 renovation.</p> <p>The house is situated on a 4.20-acre parcel located between the Bend Parkway (US 97) to the west and the Swalley Canal and Oregon Trunk Railway to the east. The siting of the house on the parcel was significant, as it was oriented towards the canal (now piped) and features a sitting area that was dug out along its banks. A lava rock retaining wall that was likely constructed in the 1930s created an embankment separating the sitting area from the yard; a stone stairway was constructed to access the sitting area below. It is shaded by mature deciduous trees that were planted on top and at the base of the retaining wall, which is mortared and stands approximately three to four feet tall. While the wall and stairway remain physically intact, their integrity of setting, feeling, and association was compromised when the canal was piped underground circa 2010. Due to this change in setting, the retaining wall and stone steps that comprise the sitting area are recommended to be non-contributing features to the significance of the house.</p> <p>Two outbuildings are currently associated with the house. The first, a circa 1915 general purpose building, is located to the south of the house. Resting on a concrete block foundation, the building, which was completed in the Craftsman style, was likely moved to its current location in the mid-twentieth century. The second outbuilding is a large general purpose building that was constructed in the modern era. Both outbuildings are recommended to be non-contributing features to the significance of the house.</p> <p>Outbuildings that were constructed in association with the house circa 1929 were likely moved or demolished as the Andersens began to sell off tracts of land in the mid-twentieth century. A circa 1940 Oregon State Highway Department Map depicts the house in its current location and an associated barn located to its immediate southwest (Oregon State Highway Department ca. 1940). Later maps do not depict the barn; its construction and demolition dates remain unknown. The circa 1915 Craftsman outbuilding was first mapped in its current location on the 1981 photorevised version of the 1962 USGS <i>Bend, Ore.</i> quadrangle map (USGS 1962).</p> <p>Sources</p> <p>City of Bend 2009 <i>City of Bend Historic and Cultural Resources Designated by the City Council</i>. Electronic document, http://www.ci.bend.or.us/depts/community_development/planning_division_2/docs/Bend_local_historic_and_cultural_resources_REVISED.pdf, accessed April 9, 2010.</p> <p>Kennedy, Heidi 2008 Deschutes County Landmarks Commission Evaluation of the Nels Anderson Dairy. On file, Deschutes County Landmarks Commission, Bend, Oregon.</p> <p>Metsker Maps 1935 <i>Metsker's Atlas of Deschutes County, Oregon</i>. Charles F. Metsker, Portland, Oregon, and Tacoma, Washington. 1944 <i>Metsker's Atlas of Deschutes County, Oregon</i>. Charles F. Metsker, Portland, Oregon, and Tacoma, Washington.</p> <p>Oregon State Highway Department ca. 1940 Township 17 South, Range 12 East, Deschutes County Drg. No. 1R-5-687. On file, Archaeological Investigations Northwest, Inc., Portland, Oregon.</p> <p>United States Geological Survey (USGS) 1962 <i>Bend, Ore.</i> 7.5-minute topographic map (Photorevised 1981). On file, Archaeological Investigations Northwest, Inc., Portland, Oregon.</p>	

Surveyor/Agency: Andrea Blaser, M.S.

Date Recorded: September 2010

Archaeological Investigations Northwest, Inc. Report No. 2558

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Nels and Lillian Andersen House	
Street Address: 63160 Nels Anderson Road	City, County: Bend, Deschutes



View: The eastern elevation of the house overlooked the Swalley Canal (now piped). The view is towards the west.



View: The north and west elevations of the house. The view is towards the southeast.

Surveyor/Agency: Andrea Blaser, M.S.
Archaeological Investigations Northwest, Inc. Report No. 2558

Date Recorded: September 2010

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Nels and Lillian Andersen House	
Street Address: 63160 Nels Andersen Road	City, County: Bend, Deschutes



View: The sitting area is located to the east of the house (visible at right) along the Swalley Canal (now piped). The view is towards the south.



View: The stone stairway and retaining wall were likely constructed in the 1930s. The view is towards the west.

Surveyor/Agency: Andrea Blaser, M.S.
Archaeological Investigations Northwest, Inc. Report No. 2558

Date Recorded: September 2010

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Nels and Lillian Andersen House	
Street Address: 63160 Nels Andersen Road	City, County: Bend, Deschutes



View: The circa 1915 outbuilding (left) and the circa 1929 house (right) as photographed in 2008 before the Swalley Canal was piped underground circa 2010. The view is towards the north.

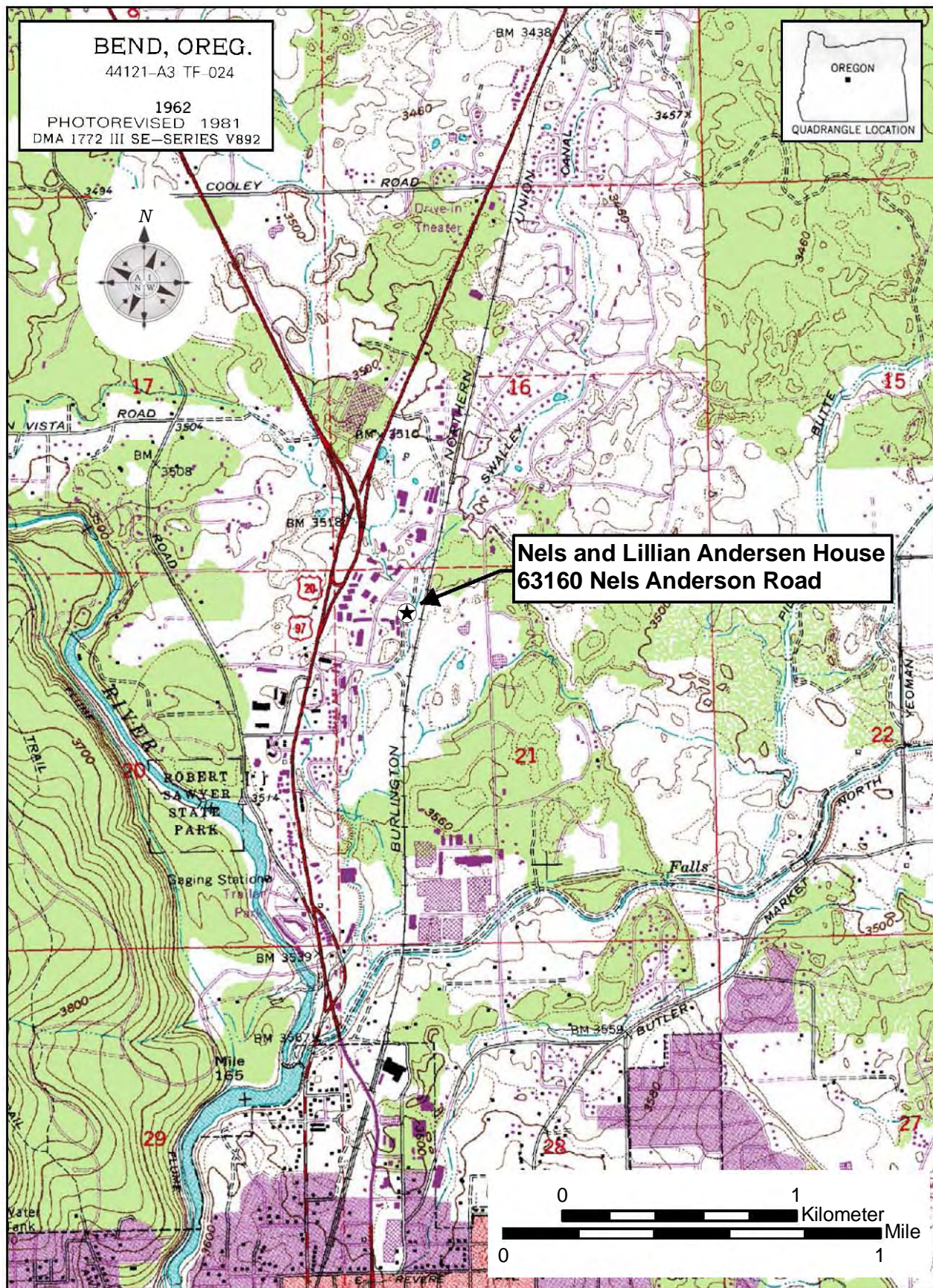


View: The south and east elevations of the circa 1915 outbuilding. The view is towards the northwest.

Surveyor/Agency: Andrea Blaser, M.S.
Archaeological Investigations Northwest, Inc. Report No. 2558

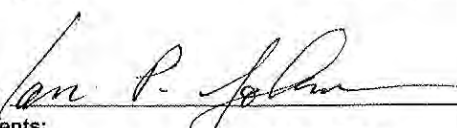
Date Recorded: September 2010

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OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Nels and Lillian Andersen House	
Street Address: 63160 Nels Anderson Road	City, County: Bend, Deschutes
Preliminary Finding of Effect: <input type="checkbox"/> No Historic Properties Affected <input type="checkbox"/> No Historic Properties Adversely Affected <input checked="" type="checkbox"/> Historic Properties Adversely Affected	
State Historic Preservation Office Comments: <input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur: <input type="checkbox"/> No Historic Properties Affected <input type="checkbox"/> No Historic Properties Adversely Affected <input checked="" type="checkbox"/> Historic Properties Adversely Affected	
Signed:  Comments:	Date: <u>5/23/2011</u>
IAN JOHNSON 503-986-0678 ian.johnson@state.or.us	
Provide written description of the project, and its potential effects on the subject property per 36 CFR 800. Include maps, drawings, and photographs as necessary to effectively describe and discuss the project. Use continuation sheets as needed.	
Introduction This statement of finding discusses the effects of the proposed US 97 Bend North Corridor project on the Nels and Lillian Andersen House (Figures 1 through 3). The house was determined to be eligible for listing in the National Register of Historic Places (NRHP) in 2011 by the Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) in concurrence with the State Historic Preservation Office (SHPO) (SHPO Case No. 11-0151). It is the finding of FHWA and ODOT, in concurrence with the SHPO, that the proposed project will have an adverse effect on the National Register-eligible Nels and Lillian Andersen House. This statement of finding is made pursuant to the requirements of the National Historic Preservation Act of 1966 (36 CFR 800), Executive Order 11593, and the National Environmental Policy Act.	
Project Description FHWA and ODOT propose to improve an approximately six-mile corridor of US 97 between the Deschutes Market Road/Tumalo Junction interchange to the north and the Empire Avenue interchange to the south in Bend, Deschutes County, Oregon. US 97 is currently classified as a statewide facility and freight route along its entire length, and is classified as an expressway along many sections, including the corridor proposed for improvement. It is a critical link in moving goods and people throughout Central Oregon, but steady population growth in Bend and anticipated increases in congestion will begin to threaten the efficiency of this corridor if action is not taken. Average daily traffic in the project area is anticipated to grow by over 40% by 2035, which would result in significant queuing and delays. The purpose of the proposed action is to improve safety and freight mobility for trucks and automobiles on US 97 by implementing a practical design solution that is affordable within the potential 20-year funding opportunities and that meets the following medium-term and long-term performance objectives: <ul style="list-style-type: none"> • Reduces delay, congestion, and the number and severity of crashes at the US 97/Cooley Road and US 97/Robal Road intersections within the medium-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Plan, and • Reduces delay, congestion, and improves safety on US 97 between the Deschutes Market Road/Tumalo Junction interchange and Empire Avenue interchange within the long-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Transportation Plan. One no build alternative and two build alternatives are currently being analyzed to determine which would best achieve the performance objectives outlined in the project purpose. Upon public review and comments on the analysis of the range of alternatives studied in the draft Environmental Impact Statement, ODOT and FHWA will also consider the following goals and objectives when identifying a preferred alternative (or solution) for the proposed action:	

OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Nels and Lillian Andersen House	
Street Address: 63160 Nels Anderson Road	City, County: Bend, Deschutes
<ul style="list-style-type: none"> Improve transportation linkage and operation; Provide local and regional access; Consider planned economic development opportunities; Develop a cost-effective and sustainable project that can be funded; Develop a project that fits into the context of the community; and Improve bicycle and pedestrian safety and connectivity. 	
<p>Identification and Description of the Historic Resource</p> <p>The Nels and Lillian Andersen House was constructed in the English Tudor style circa 1929 in Bend, Oregon. Nels Andersen was a Danish immigrant who came to the United States in 1906 and subsequently claimed over 300 acres of land within and around the project area. He used a portion of his land holdings to operate a dairy farm, the Lilly Dairy, which he named after his wife. Beyond gaining local recognition for running the dairy and, over time, developing his land tracts into early platted communities within the project area, Andersen was known for his work at the Deschutes Irrigation and Reclamation Company, where he served as president in 1921 and later became a board member (Kennedy 2008).</p> <p>The house was constructed in an L-shaped plan and rests on a foundation composed of lava stone. Local materials, such as Brooks-Scanlon lumber and bricks from the Bend Brick and Lumber Company, are used throughout the building as structural and decorative elements. The exterior of the house was restored to its original appearance circa 2002 through the removal of siding that was added to the house circa 1945. A new coat of stucco was applied, and original six-over-six, double-hung wood windows were repaired. Original windows that were found to be beyond repair were replaced in-kind with modern wood windows of a similar size and shape.</p> <p>In 2011, FHWA and ODOT, in concurrence with SHPO, determined that the house was eligible for listing in the NRHP under Criterion C as a representative example of the English Tudor style of architecture in Bend, Oregon. The house was found to retain integrity of location and design, and to a lesser degree, integrity of workmanship and materials. The house was determined to no longer retain integrity of historic setting, feeling, or association due to modern incursions on the landscape, leading the resource boundary to be drawn immediately around the house itself. All other portions of the parcel, including an associated outbuilding and a stone stairway and retaining wall located adjacent to the Swalley Canal, were determined to be historic but non-contributing features to the significance of the house. Prior to being determined eligible for listing in the NRHP in 2011, the house was added to the Bend Urban Area General Plan Inventory of Historic Sites by a majority vote of the Bend City Council in 2009 (City of Bend 2009).</p> <p>Avoidance Alternatives Considered</p> <p>One no build alternative and two build alternatives are currently being considered for the project. They are as follows:</p> <p><u>No Build Alternative:</u></p> <p>The No Build Alternative would not provide any improvements within the project area. This alternative would not meet the purpose and need for the proposed action, and thus would not reduce congestion, improve traffic flow, or enhance safety.</p> <p><u>East DS1 Alternative</u></p> <p>The East DS1 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become an extension of 3rd Street, a local arterial. The 3rd Street extension would continue north on the west side of the Deschutes Memorial Gardens and Chapel, and US 97 would have a full diamond interchange with 3rd Street just north of Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.</p>	

OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor
Key No. 14020, Federal ID No. S004(112)

Property Name: Nels and Lillian Andersen House

Street Address: 63160 Nels Anderson Road

City, County: Bend, Deschutes

Completing the East DS1 Alternative would involve the acquisition of the entire 4.2-acre parcel on which the NRHP-eligible house is located (Figures 2 and 4). Two highway ramps would be constructed across the northwest corner of the parcel, requiring the removal of various buildings and plantings. While the NRHP-eligible house would not be demolished to make room for the ramps, the parcel would nonetheless be landlocked and without access to roadways once project construction is completed. For safety and liability reasons, the house would likely be demolished or removed (pending outreach and discussion with the SHPO, FHWA, consulting parties, and the public), resulting in an adverse effect.

East DS2 Alternative

Like the East DS1 Alternative, the East DS2 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become a local arterial. Under this build alternative, however, the extension of 3rd Street would continue north on the east side of the Deschutes Memorial Gardens and Chapel, and would connect to US 97 through a directional interchange near Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, and enhance safety, and could be feasibly constructed within ODOT design standards.

Completing the East DS2 Alternative would involve the acquisition of the entire 4.2-acre parcel on which the NRHP-eligible house is located (Figures 3 and 4). Two highway ramps would be constructed across the northwest corner of the parcel, requiring the removal of various buildings and plantings. While the NRHP-eligible house would not be demolished to make room for the ramps, the parcel would nonetheless be landlocked and without access to roadways once project construction is completed. For safety and liability reasons, the house would likely be demolished or removed (pending outreach and discussion with the SHPO, FHWA, consulting parties, and the public), resulting in an adverse effect.

Evaluation of Effects

It has been determined by FHWA and ODOT that the proposed project would have an adverse effect on the National Register-eligible Nels and Lillian Andersen House. The construction of two highway ramps on the northwest corner of the parcel as proposed for the East DS1 and East DS2 alternatives would land-lock the house, necessitating its demolition or removal (pending outreach as cited above) due to safety and liability issues. This effect has been determined through the application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5.

Coordination and Public Output

ODOT has and will continue to use many methods to share information with the public and gather their input pertaining to the US 97 Bend North Corridor project. These methods include public meetings, a project website, focus group meetings, surveys, and project committees. ODOT has taken additional care to reach out to environmental justice populations, holding meetings for these groups to present the project alternatives, discuss the impacts and benefits of the alternatives, and to identify community concerns about the project. A Citizen Advisory Committee, consisting of community members with a direct interest in the outcome of the project, has met at least 25 times to share community-raised issues surrounding the project with ODOT, and Chris Bell, ODOT Cultural Resources Program Coordinator, presented the Deschutes County Historic Landmarks Commission (DCHLC) with information pertaining to NRHP-eligible properties within the project footprint and how they may be affected by proposed improvements on February 17, 2011. Specific information about meeting times and notifications are available upon request.

The DCHLC has requested to be a consulting party regarding the mitigation of adverse effects to the Nels and Lillian Andersen House, and ODOT has accepted this request. In addition to ODOT and the DCHLC, the City of Bend, SHPO, and concerned community residents will have continuing opportunities to voice ideas and concerns regarding the likely demolition and/or removal of the Nels and Lillian Andersen House and mitigation opportunities that would be meaningful to the community. The input generated from these meetings will be taken into account before a mitigation strategy is determined and a Memorandum of Agreement signed by FHWA, ODOT, SHPO, and consulting parties regarding the demolition and/or removal of the Nels and Lillian Andersen House from its current location.

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM**

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)

Property Name: Nels and Lillian Andersen House
--

Street Address: 63160 Nels Anderson Road	City, County: Bend, Deschutes
--	-------------------------------

Conclusion

It is the determination of FHWA and ODOT that the proposed project, which would include the demolition and/or removal of the Nels and Lillian Andersen House to construct a northbound on-ramp to US 97, would result in a finding of "Historic Properties Adversely Affected." The community has been informed, and mitigation measures are currently being considered in conjunction with consulting parties and the public that would adequately provide for the lost historical value of the Nels and Lillian Andersen House to the architectural landscape of Bend.

Sources

City of Bend

2009 *City of Bend Historic and Cultural Resources Designated by the City Council*. Electronic document, http://www.ci.bend.or.us/depts/community_development/planning_division_2/docs/Bend_local_historic_and_cultural_resources_REVISED.pdf, accessed April 9, 2010.

Kennedy, Heidi

2008 Deschutes County Landmarks Commission Evaluation of the Nels Anderson Dairy. On file, Deschutes County Landmarks Commission, Bend, Oregon.

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM
Continuation Sheet**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Nels and Lillian Andersen House	
Street Address: 63160 Nels Anderson Road	City, County: Bend, Deschutes



View: The Nels and Lillian Andersen House is now used as a commercial office space. The view is towards the southeast.



View: Because the historic setting of the Nels and Lillian Andersen House has been altered, only the house itself is eligible for listing in the NRHP. It would need to be demolished and/or removed to carry out the proposed project. The view is towards the north.

Surveyor/Agency: Andrea Blaser, M.S.
Archaeological Investigations Northwest, Inc. Report No. 2661

Date Recorded: February 2011
Pg 5

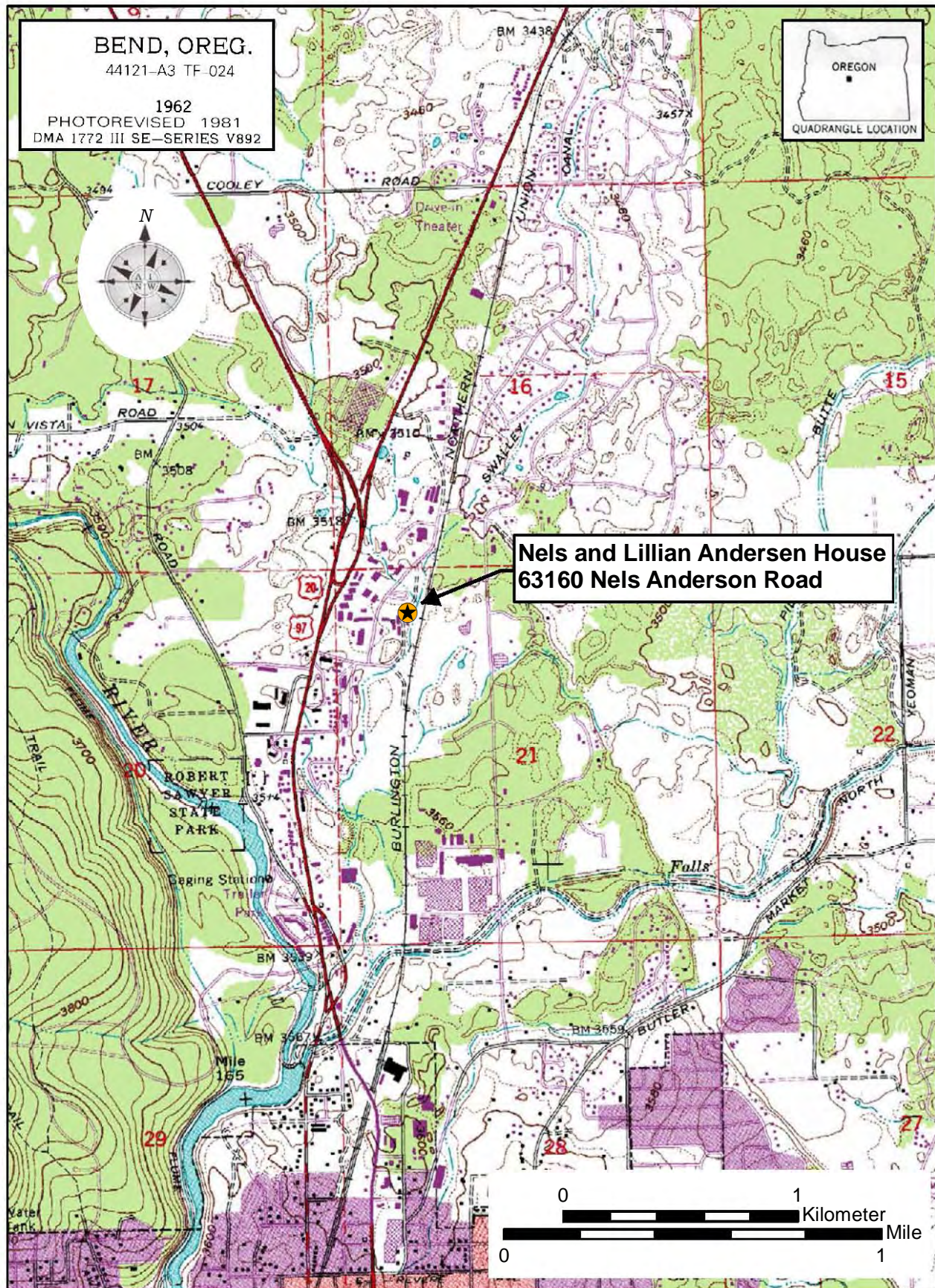


Figure 1. The location of the Nels and Lillian Andersen House in Bend, Oregon.

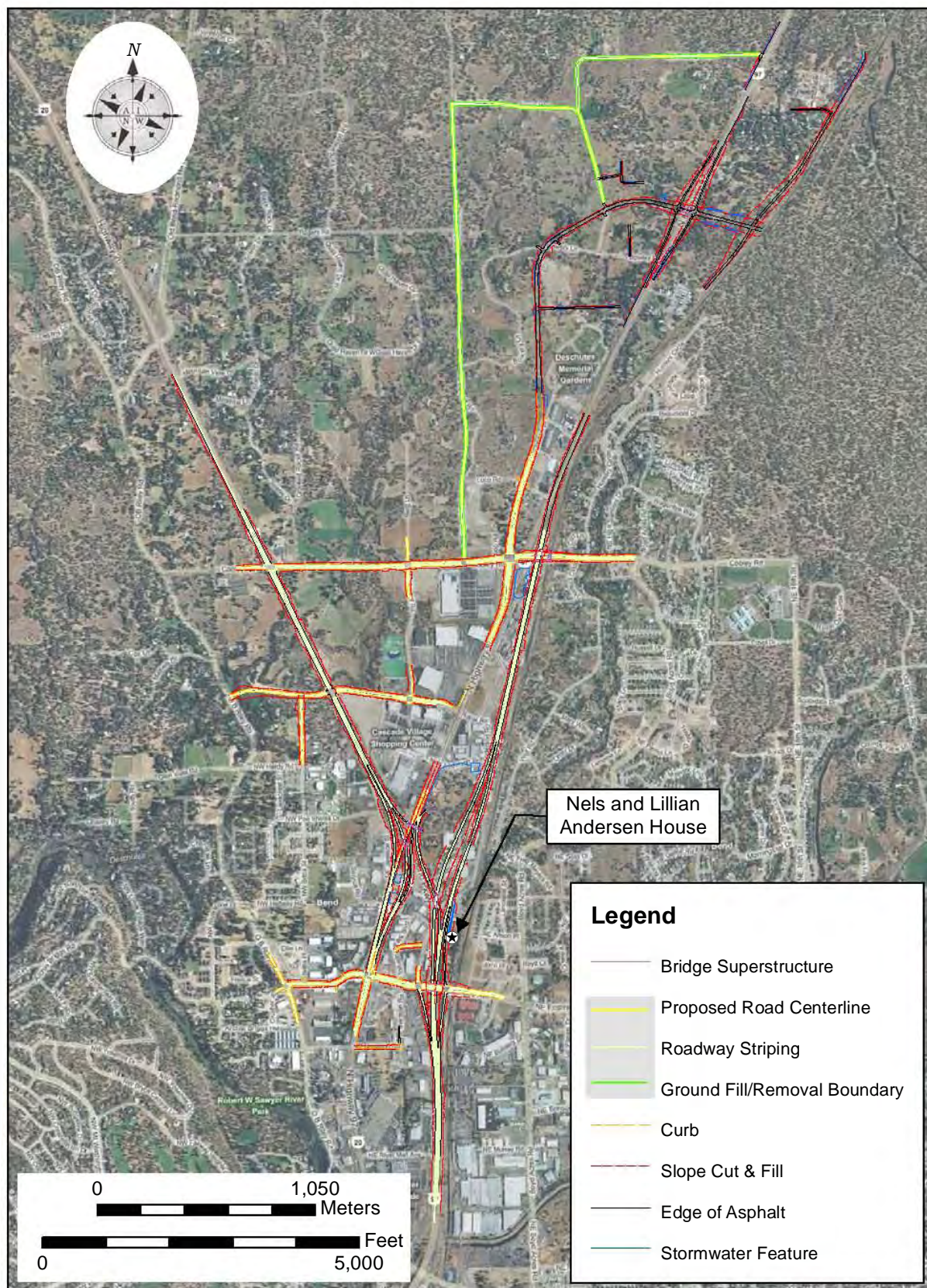


Figure 2. The location of the Nels and Lillian Andersen House in relation to the East DS1 Alternative.

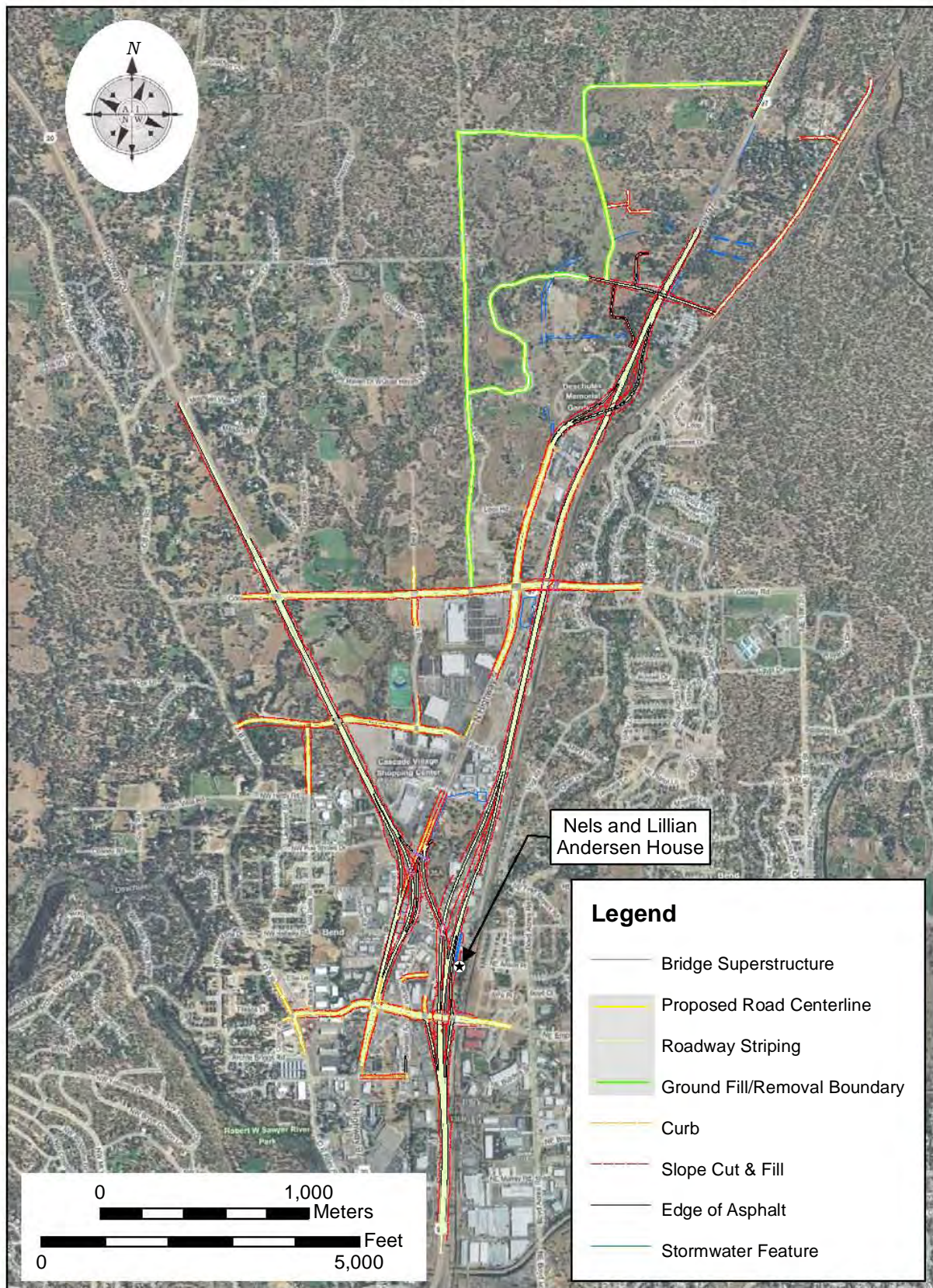


Figure 3. The location of the Nels and Lillian Andersen House in relation to the East DS2 Alternative.

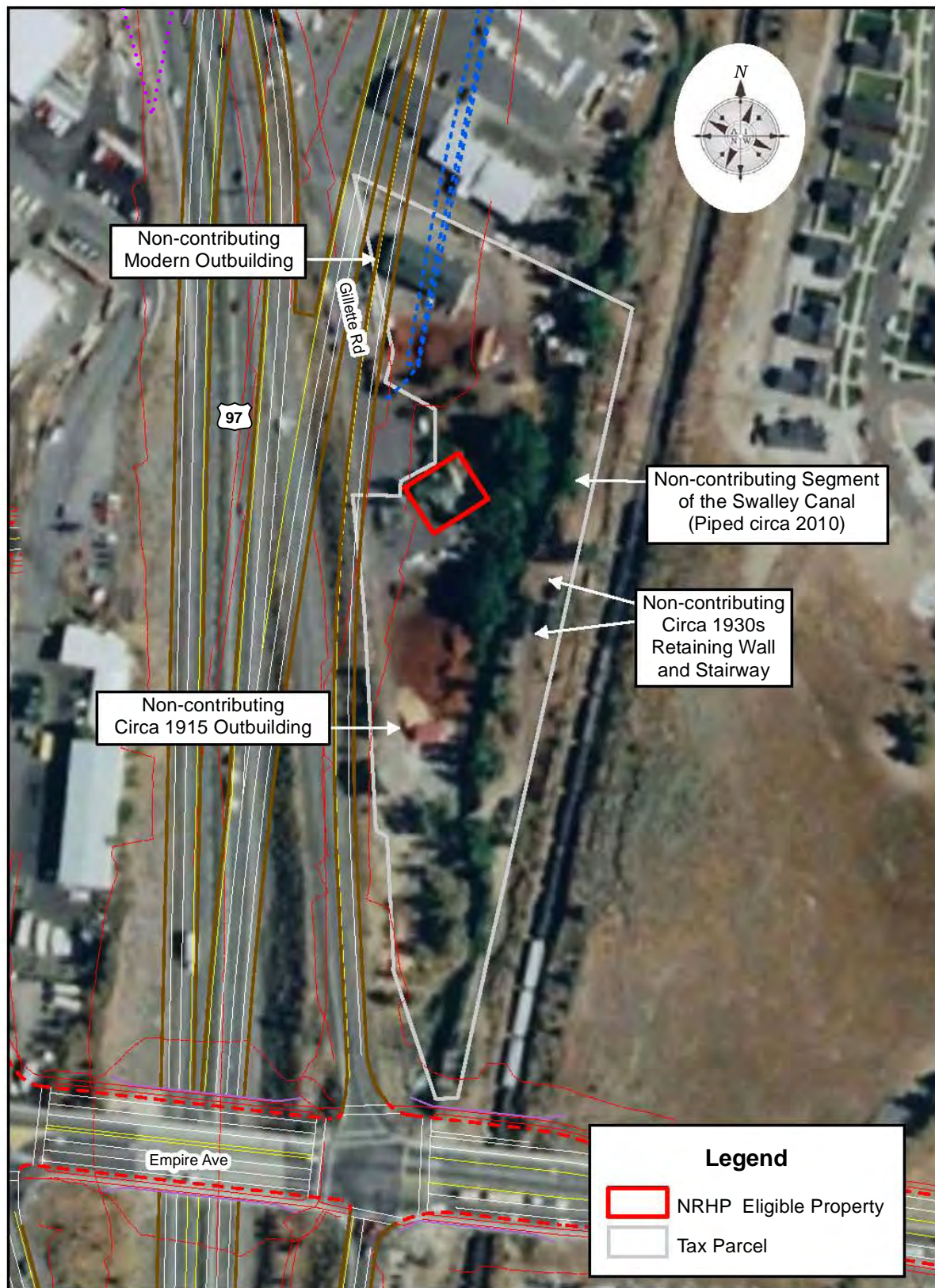

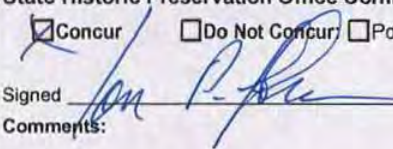


Figure 4. The East DS1 and East DS2 alternatives as proposed near the Nels and Lillian Andersen House. Proposed modifications would be identical at this location under the two alternatives.

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North Unit Main Canal	
Street Address: N/A	City, County: Bend, Deschutes
USGS Quad Name: Bend, OR 1962, photorevised 1981	Township: 17S Range: 12E Section: 28
This property is part of a <input type="checkbox"/> District <input type="checkbox"/> Grouping/Ensemble (see instructions)	
Name of District or Grouping/Ensemble:	
Number and Type of Associated Resources in Grouping/Ensemble:	
Current Use: Agriculture – Irrigation Facility	Construction Date: 1938-1946
Architectural Classification/Resource Type: Structure/Irrigation Canal	Alterations & Dates: Lined with concrete 1998-1999; piped under US 97/Bend Parkway circa 2000
Window Type & Material: N/A	Exterior Surface Materials: Primary: Concrete Secondary: N/A Decorative: N/A
Roof Type & Material: N/A	
Condition: <input type="checkbox"/> Excellent <input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	Integrity: <input type="checkbox"/> Excellent <input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor
	
The North Unit Main Canal at its crossing with the Oregon Trunk Railway. The view is towards the west.	
Preliminary National Register Findings: <input type="checkbox"/> National Register listed <input checked="" type="checkbox"/> Potentially Eligible: <input checked="" type="checkbox"/> Individually <input checked="" type="checkbox"/> As part of District <input type="checkbox"/> Not Eligible: <input type="checkbox"/> In current state <input type="checkbox"/> Irretrievable integrity loss <input type="checkbox"/> Lacks Distinction <input type="checkbox"/> Not 50 Years	
State Historic Preservation Office Comments: <input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Potentially Eligible Individually <input type="checkbox"/> Potentially Eligible as part of District <input type="checkbox"/> Not Eligible	
Signed: 	Date: 1/27/2011
Comments:	IAN JOHNSON 503-986-0678 ian.johnson@state.or.us

Surveyor/Agency: Elizabeth J. O'Brien, B. Architecture, and Jonathan Held, M.A.
Archaeological Investigations Northwest, Inc. Report No. 2555

ian.johnson@state.or.us

Date Recorded: September 2010

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: North Unit Main Canal			
Street Address: N/A		City, County: Bend, Deschutes	
Architect, Builder or Designer (if known): U.S. Bureau of Reclamation		Owner: <input type="checkbox"/> Private <input type="checkbox"/> Local Government <input type="checkbox"/> State <input type="checkbox"/> Federal <input checked="" type="checkbox"/> Other	
Description of Property (including exterior alterations & approximate dates), Significance Statement, and Sources. (Use continuation sheets if necessary):			
<p>Significance Statement</p> <p>The North Unit Main Canal is recommended to be eligible for listing in the National Register of Historic Places under Criterion A for its association with agricultural development in Central Oregon. The canal was the first system to convey irrigating waters to Jefferson County, Oregon, and it is associated with the growth and development of several Central Oregon cities including Madras, Culver, and Agency Plains (Oregon Department of Transportation [ODOT] 1998). Overall, the canal retains integrity of location, design, materials, workmanship, feeling, and association in segments that remain open as originally constructed. A small portion of the overall canal, which encompasses the surveyed segment, was piped underground for the construction of the US 97/Bend Parkway circa 2000. It is therefore recommended that piped segments of the canal, such as the segment surveyed for the project, be considered as non-contributing features to the overall significance of the recommended-eligible North Unit Main Canal. The resource boundary is limited to the banks of the canal.</p> <p>The canal, which is associated with population growth and economic and agricultural development in Central Oregon, is recommended to be significant both as an individual resource and as a contributing resource to two potential historic districts; the North Canal Dam Historic District and the Deschutes Project Historic District. The canal was previously documented by ODOT for a Determination of Eligibility in 1991 (Smith 1991) and for a Historic American Engineering Record report concerning the North Canal Dam and its associated diversion canals in 1998 (ODOT 1998). The canal is recorded as a historic resource in the Deschutes County Inventory of Historic Sites (No. 223).</p> <p>The North Unit Main Canal was first conceived in 1904 and was dedicated in May of 1946 following decades of planning, controversy, and construction delays due to bond issues and disagreements over water diversion locations. The canal takes its name from an early north-south division of the Deschutes River by the General Land Office. The South Unit, upstream of the Deschutes Canyon in present-day Deschutes County, was the first to be developed for irrigation infrastructure. The North Unit saw development in the 1940s once the U.S. Bureau of Reclamation initiated the Deschutes Project in 1936. The project took on the construction of the North Unit Main Canal and its system of laterals in addition to the Wickiup Dam and Reservoir, the Crane Prairie Dam and Reservoir, the Haystack Dam and Reservoir, and the Crooked River Pumping Plant in order to direct water from the Deschutes River to arid lands within Crook, Deschutes, and Jefferson counties (Autobee 1996:2). It was overseen at the regional level by engineer Chester C. Fisher. Dean C. Stuver took over his position in 1940. C. H. Spencer was the "resident" engineer (Autobee 1996:6).</p> <p>Civilian Conservation Corps workers stationed in Central Oregon initiated construction on the canal in 1938. The intervention of World War II caused additional delays until the War Food Administration recommended that work on the canal continue in order to increase the potential for food production in the region (<i>The Sunday Oregonian</i> 1948:19). The project was eventually completed using the labor of Mennonites and other conscientious objectors that were available to work during the war. The canal was officially dedicated in 1946, although several laterals and a canal segment from Haystack Butte to Willow Creek Canyon were constructed in 1947 by the Adler Company, a general contractor for the project (<i>The Sunday Oregonian</i> 1947:17).</p> <p>Once the canal was opened, approximately 50,000 acres of arid land was transformed into productive, irrigated farmland. Derelict farm parcels once devoted to dry wheat farming were subdivided into smaller productive farms, and the population of Jefferson County rose from 2,042 in 1940 to 5,505 in 1950.</p> <p>Physical Description</p> <p>The North Unit Main Canal is a 65 mile-long irrigation canal that diverts water from the Deschutes River at the North Canal Dam in Bend and conveys it to the vicinity of Madras in Jefferson County, Oregon. The surveyed portion of the canal is approximately 586 feet long, most of which has been piped underground as a result of the construction of the US 97/Bend Parkway circa 2000. The canal opens into a concrete-lined segment immediately east of the US 97/Bend Parkway and flows beneath the Oregon Trunk Railway through a poured concrete culvert. Concrete lining was added to the first 12 miles of the canal in 1998 and 1999 to reduce seepage (U.S. Bureau of Reclamation 2009).</p>			

Surveyor/Agency: Elizabeth J. O'Brien, B. Architecture, and Jonathan Held, M.A.
Archaeological Investigations Northwest, Inc. Report No. 2555

Date Recorded: September 2010

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: North Unit Main Canal	
Street Address: N/A	City, County: Bend, Deschutes
Sources	
<p>Autobee, Robert 1996 <i>The Deschutes Project</i>. Electronic document, http://www.usbr.gov/projects/ImageServer?imgName=Doc_1245091794977.pdf, accessed September 17, 2010.</p> <p>Oregon Department of Transportation (ODOT) 1998 Historic American Engineering Record Documentation of North Canal Dam and Diversion Canals. On file, Oregon State Historic Preservation Office, Salem.</p> <p>Smith, Dwight 1991 Cultural Property Inventory and Request for a Determination of Eligibility for the North Canal (Steidl and Tweet) Dam and Diversion Canals - Swalley, North/Pilot Butte, and North Unit Main - Irrigation Complex. Oregon Department of Transportation, Salem. On file, State Historic Preservation Office, Salem.</p> <p><i>The Sunday Oregonian</i> (Portland, Oregon) 1947 New Canal Link Due by October. 21 August:17. Portland, Oregon. 1948 Life-giving Water Welcomed: Thirsty Acres Transformed. 19 May:19. Portland, Oregon.</p> <p>U.S. Bureau of Reclamation 2009 <i>Deschutes Project</i>. Electronic document, http://www.usbr.gov/projects/Project.jsp?proj_Name=Deschutes+Project, accessed September 17, 2010.</p>	

Surveyor/Agency: Elizabeth J. O'Brien, B. Architecture, and Jonathan Held, M.A.
Archaeological Investigations Northwest, Inc. Report No. 2555

Date Recorded: September 2010

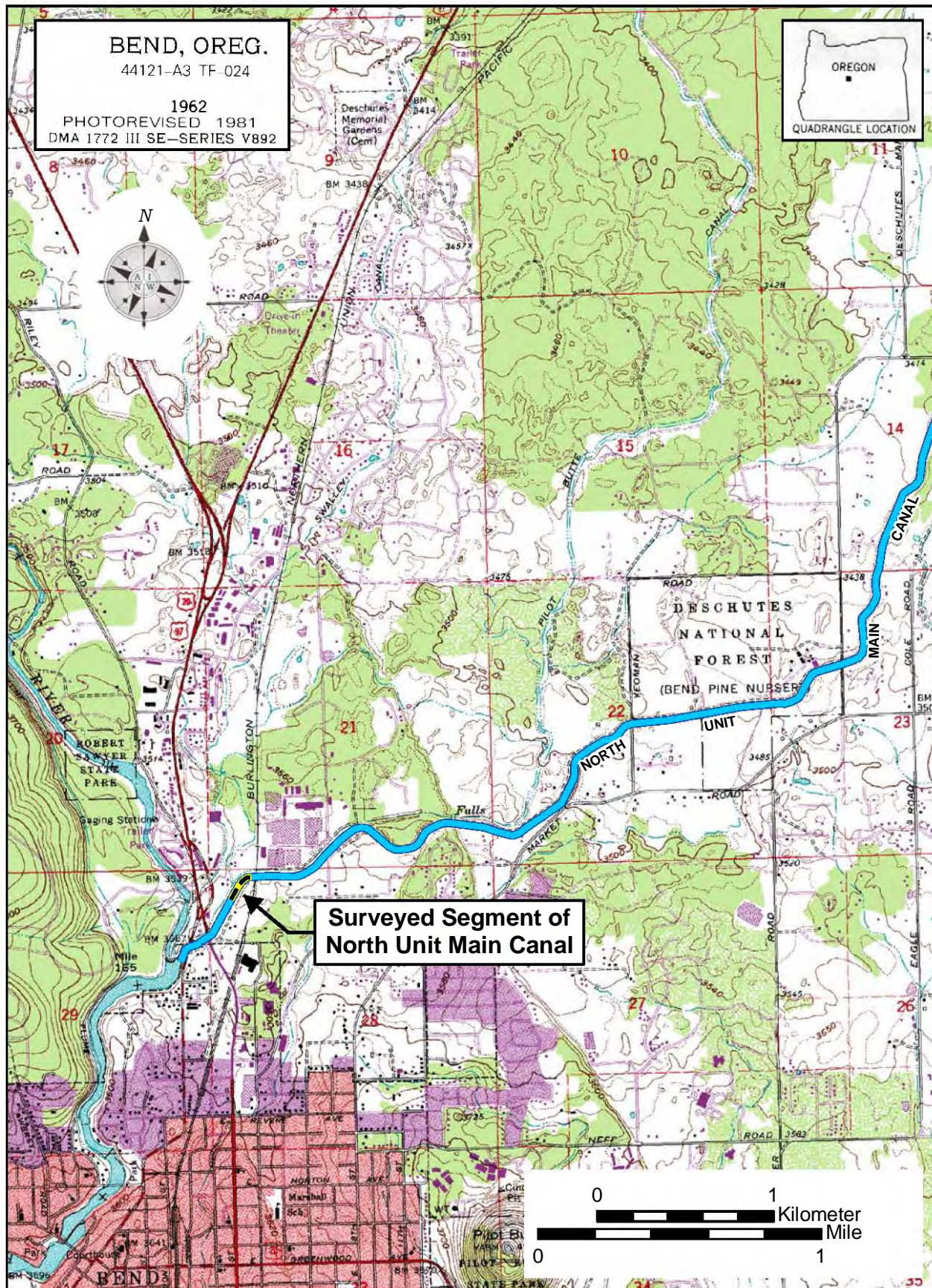
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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

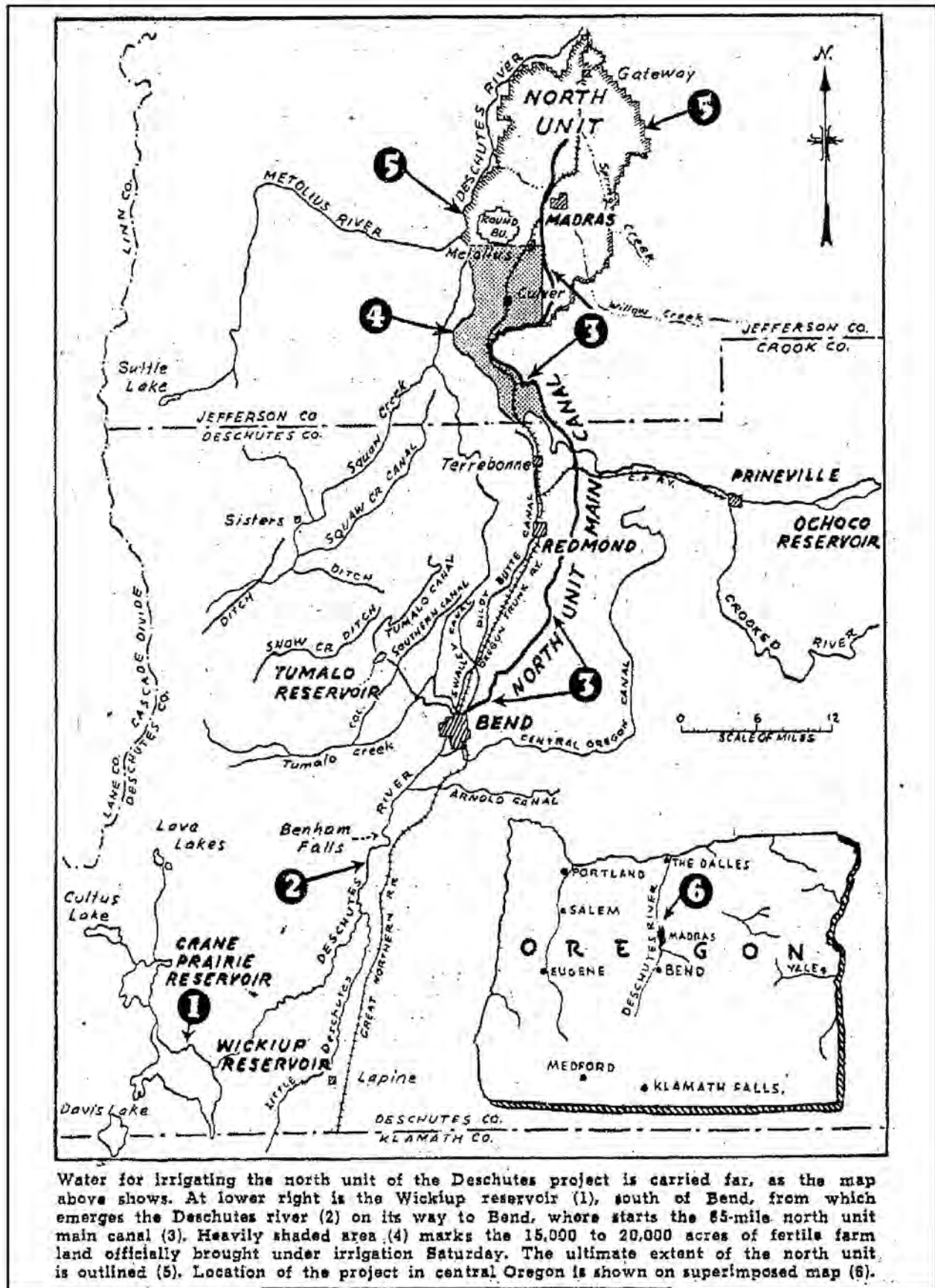
Property Name: North Unit Main Canal	
Street Address: N/A	City, County: Bend, Deschutes



View: The North Unit Main Canal east of its undercrossing at the Oregon Trunk Railroad. The view is towards the east-southeast.







Map of the North Unit Main Canal in 1946.

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor
Key No. 14020, Federal ID No. S004(112)

Property Name: North Unit Main Canal

Street Address: N/A

City, County: Bend, Deschutes

Preliminary Finding of Effect:

☐ No Historic Properties Affected

☒ No Historic Properties Adversely Affected

☐ Historic Properties Adversely Affected

State Historic Preservation Office Comments:

☒ Concur

☐ Do Not Concur:

☐ No Historic Properties Affected

☒ No Historic Properties Adversely Affected

☐ Historic Properties Adversely Affected

Signed

Comments:

Date

IAN JOHNSON
503-986-0678

ian.johnson@state.or.us

Provide written description of the project, and its potential effects on the subject property per 36 CFR 800.

Introduction

This statement of finding discusses the effects of the proposed US 97 Bend North Corridor project on the North Unit Main Canal (Figures 1 through 3). The canal was determined to be eligible for listing in the National Register of Historic Places (NRHP) in 2011 by the Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) in concurrence with the State Historic Preservation Office (SHPO) (SHPO Case No. 11-0151).

It is the finding of FHWA and ODOT, in concurrence with the SHPO, that the proposed project will have an effect on the National Register-eligible North Unit Main Canal, but the effect will not be adverse. This statement of finding is made pursuant to the requirements of the National Historic Preservation Act of 1966 (36 CFR 800), Executive Order 11593, and the National Environmental Policy Act.

Project Description

FHWA and ODOT propose to improve an approximately six-mile corridor of US 97 between the Deschutes Market Road/Tumalo Junction interchange to the north and the Empire Avenue interchange to the south in Bend, Deschutes County, Oregon. US 97 is currently classified as a statewide facility and freight route along its entire length, and is classified as an expressway along many sections, including the corridor proposed for improvement. It is a critical link in moving goods and people throughout Central Oregon, but steady population growth in Bend and anticipated increases in congestion will begin to threaten the efficiency of this corridor if action is not taken. Average daily traffic in the project area is anticipated to grow by over 40% by 2035, which would result in significant queuing and delays.

The purpose of the proposed action is to improve safety and freight mobility for trucks and automobiles on US 97 by implementing a practical design solution that is affordable within the potential 20-year funding opportunities and that meets the following medium-term and long-term performance objectives:

- Reduces delay, congestion, and the number and severity of crashes at the US 97/Cooley Road and US 97/Robal Road intersections within the medium-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Plan, and
- Reduces delay, congestion, and improves safety on US 97 between the Deschutes Market Road/Tumalo Junction interchange and Empire Avenue interchange within the long-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Transportation Plan.

One no build alternative and two build alternatives are currently being analyzed to determine which would best achieve the performance objectives outlined in the project purpose. Upon public review and comments on the analysis of the range of alternatives studied in the draft Environmental Impact Statement, ODOT and FHWA will also consider the following goals and objectives when identifying a preferred alternative (or solution) for the proposed action:

Surveyor/Agency: Andrea Blaser, M.S.
Archaeological Investigations Northwest, Inc. Report No. 2663

Date Recorded: February 2011
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OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North Unit Main Canal	
Street Address: N/A	City, County: Bend, Deschutes
<ul style="list-style-type: none"> Improve transportation linkage and operation; Provide local and regional access; Consider planned economic development opportunities; Develop a cost-effective and sustainable project that can be funded; Develop a project that fits into the context of the community; and Improve bicycle and pedestrian safety and connectivity. 	
<p>Identification and Description of the Historic Resource</p> <p>The North Unit Main Canal was first conceived in 1904 but was not fully completed until 1947 due to labor shortages, bond issues, and disagreements over diversion locations. The canal was developed as part of the Deschutes Project, which was initiated by the U.S. Bureau of Reclamation in 1936. The project oversaw the completion of the North Unit Main Canal in addition to the Wickiup Dam and Reservoir, the Crane Prairie Dam and Reservoir, the Haystack Dam and Reservoir, and the Crooked River Pumping Plant in an attempt to divert water from the Deschutes River to arid lands within Crook, Deschutes, and Jefferson counties (Autabee 1996:2).</p> <p>Civilian Conservation Corps workers started construction on the canal in 1938, but work stoppages would soon follow as the dawning of World War II in 1939, the institution of the Selective Training and Service Act (STSA) of 1940, the initiation of American involvement in World War II after the bombing of Pearl Harbor in 1941, and subsequent amendments to the STSA in 1941 resulted in labor shortages as millions of American men were drafted into military service. Construction was eventually reconvened on the canal once the War Food Administration recommended that its completion would increase the potential for food production in the region (<i>The Sunday Oregonian</i> 1948). A workforce consisting of Mennonites and other conscientious objectors were assembled during the war to complete the job, and by 1947 the 65 mile-long canal was completed in its entirety. The North Unit Main Canal was piped below the US 97/Bend Parkway circa 2000. It now emerges from a pipe into an original and open canal section east of the US 97/Bend Parkway, where it flows adjacent to and south of the North/Pilot Butte Canal.</p> <p>The North Unit Main Canal was determined to be eligible for listing in the NRHP by FHWA and ODOT in concurrence with SHPO in 2011 under Criterion A for its association with agricultural development in Central Oregon. Open segments of the canal are considered to be contributing to its significance, as they retain integrity of location, design, materials, workmanship, feeling, and association. Piped segments were determined to be non-contributing to the significance of the canal, and the resource boundary was limited to the banks of the canal. Prior to this 2011 determination made by FHWA and ODOT and concurred by SHPO, the canal was documented by ODOT for a Determination of Eligibility in 1991 (Smith 1991) and for a Historic American Engineering Record report concerning the North Canal Dam and its associated diversion canals in 1998 (ODOT 1998). The canal is a historic resource listed in the Deschutes County Inventory of Historic Sites (No. 223).</p> <p>Avoidance Alternatives Considered</p> <p>One no build alternative and two build alternatives are currently being considered for the project. They are as follows:</p> <p><u>No Build Alternative:</u></p> <p>The No Build Alternative would not provide any improvements within the project area. This alternative would not meet the purpose and need for the proposed action, and thus would not reduce congestion, improve traffic flow, or enhance safety.</p> <p><u>East DS1 Alternative</u></p> <p>The East DS1 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become an extension of 3rd Street, a local arterial. The 3rd Street extension would continue north on the west side of the Deschutes Memorial Gardens and Chapel, and US 97 would have a full diamond interchange with 3rd Street just north of Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve</p>	

Surveyor/Agency: Andrea Blaser, M.S.
Archaeological Investigations Northwest, Inc. Report No. 2663

Date Recorded: February 2011
Pg 2

OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North Unit Main Canal	
Street Address: N/A	City, County: Bend, Deschutes
<p>traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.</p> <p>Completing the East DS1 Alternative would involve improving the US 97/Bend Parkway near its crossing with the North Unit Main Canal north of NE Butler Market Road (Figures 2 and 4). The canal is piped underground at this location, but improvements would be made immediately northwest of open, and therefore significant, sections of the canal that are east of the US 97/Bend Parkway near the Oregon Trunk Railway. No direct impacts would be incurred by contributing sections of the NRHP-eligible resource and no indirect impacts would be anticipated, as integrity of setting was not determined to be a character-defining feature of the resource in the 2011 Determination of Eligibility that received SHPO concurrence.</p> <p><u>East DS2 Alternative</u></p> <p>Like the East DS1 Alternative, the East DS2 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become a local arterial. Under this build alternative, however, the extension of 3rd Street would continue north on the east side of the Deschutes Memorial Gardens and Chapel, and would connect to US 97 through a directional interchange near Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.</p> <p>Completing the East DS2 Alternative would involve improving the US 97/Bend Parkway near its crossing with the North Unit Main Canal north of NE Butler Market Road (Figures 3 and 4). The canal is piped underground at this location, but improvements would be made immediately northwest of open, and therefore significant, sections of the canal that are east of the US 97/Bend Parkway near the Oregon Trunk Railway. No direct impacts would be incurred by contributing sections of the NRHP-eligible resource and no indirect impacts would be anticipated, as integrity of setting was not determined to be a character-defining feature of the resource in the 2011 Determination of Eligibility that received SHPO concurrence. Therefore, the resource would not be affected by this alternative.</p> <p>Evaluation of Effects</p> <p>It has been determined by FHWA and ODOT that the proposed project will have no effect on the NRHP-eligible North Unit Main Canal under the East DS1 and East DS2 alternatives. No direct or indirect effects will be incurred to the open, and therefore significant, segments of the canal that are located near proposed work areas under the East DS1 and East DS2 alternatives. This effect has been determined through the application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5.</p> <p>Coordination and Public Output</p> <p>ODOT has and will continue to use many methods to share information with the public and gather their input pertaining to the US 97 Bend North Corridor project. These methods include public meetings, a project website, focus group meetings, surveys, and project committees. ODOT has taken additional care to reach out to environmental justice populations, holding meetings for these groups to present the project alternatives, discuss the impacts and benefits of the alternatives, and to identify community concerns about the project. A Citizen Advisory Committee, consisting of community members with a direct interest in the outcome of the project, has met at least 25 times to share community-raised issues surrounding the project with ODOT, and Chris Bell, ODOT Cultural Resources Program Coordinator, presented the Deschutes County Historic Landmarks Commission with information pertaining to NRHP-eligible properties within the project footprint and how they may be affected by proposed improvements on February 17, 2011. Specific information about meeting times and notifications are available upon request.</p> <p>Conclusion</p> <p>It is the determination of FHWA and ODOT that proposed modifications to the US 97/Bend Parkway near its crossing of the North Unit Main Canal will result in a finding of "No Historic Properties Affected."</p>	

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North Unit Main Canal	
Street Address: N/A	City, County: Bend, Deschutes
<p>Sources</p> <p>Autobee, Robert 1996 <i>The Deschutes Project</i>. Electronic document, http://www.usbr.gov/projects/ImageServer?imgName=Doc_1245091794977.pdf, accessed September 17, 2010.</p> <p>Oregon Department of Transportation (ODOT) 1998 Historic American Engineering Record Documentation of North Canal Dam and Diversion Canals. On file, Oregon State Historic Preservation Office, Salem.</p> <p>Smith, Dwight 1991 Cultural Property Inventory and Request for a Determination for Eligibility for the North Canal (Steidl and Tweet) Dam and Diversion Canals – Swalley, North/Pilot Butte, and North Unit Main – Irrigation Complex. Oregon Department of Transportation, Salem. On file, State Historic Preservation Office, Salem.</p> <p><i>The Sunday Oregonian</i> (Portland, Oregon) 1948 Life-giving Water Welcomed: Thirsty Acres Transformed. 19 May:19. Portland, Oregon.</p>	

Surveyor/Agency: Andrea Blaser, M.S.
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OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North Unit Main Canal	
Street Address: N/A	City, County: Bend, Deschutes



View: The North Unit Main Canal east of the US 97/Bend Parkway at the Oregon Trunk Railway. The view is towards the west.



View: The North Unit Main Canal flowing east of the project area, before heading north towards Madras in Jefferson County. The view is towards the east-southeast.

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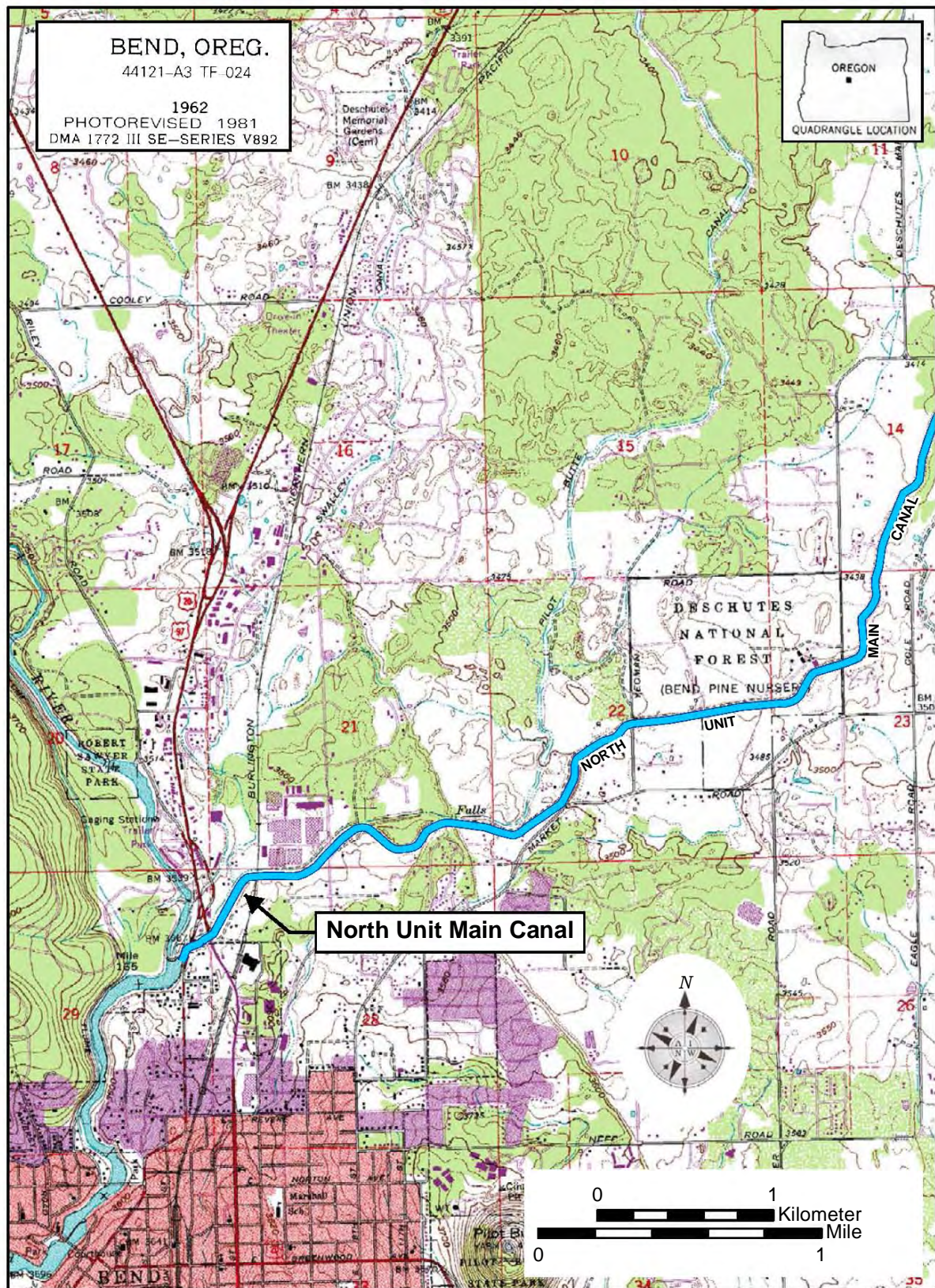


Figure 1. The location of the North Unit Main Canal in Bend, Oregon.

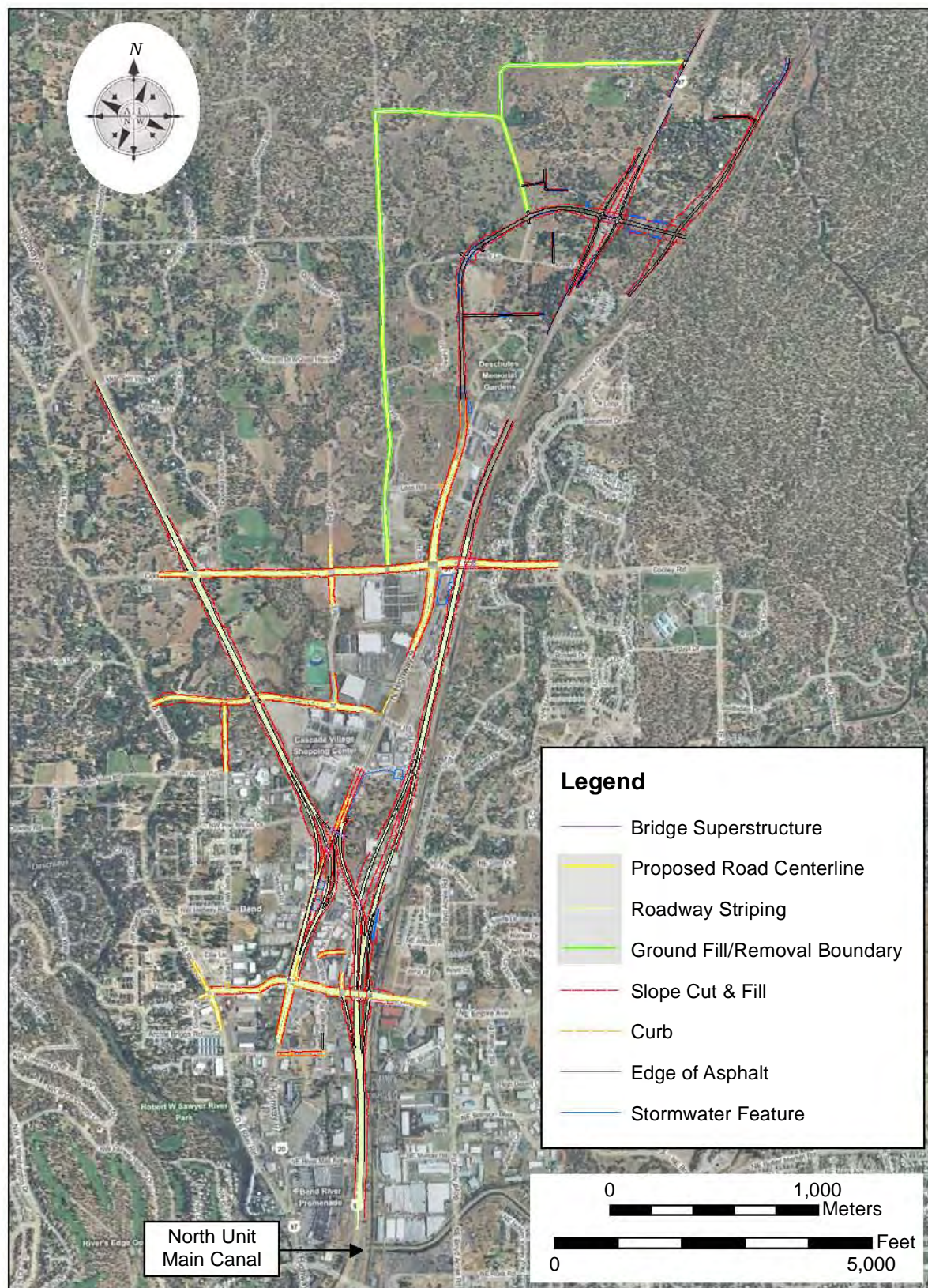


Figure 2. The location of the North Unit Main Canal in relation to the East DS1 Alternative.

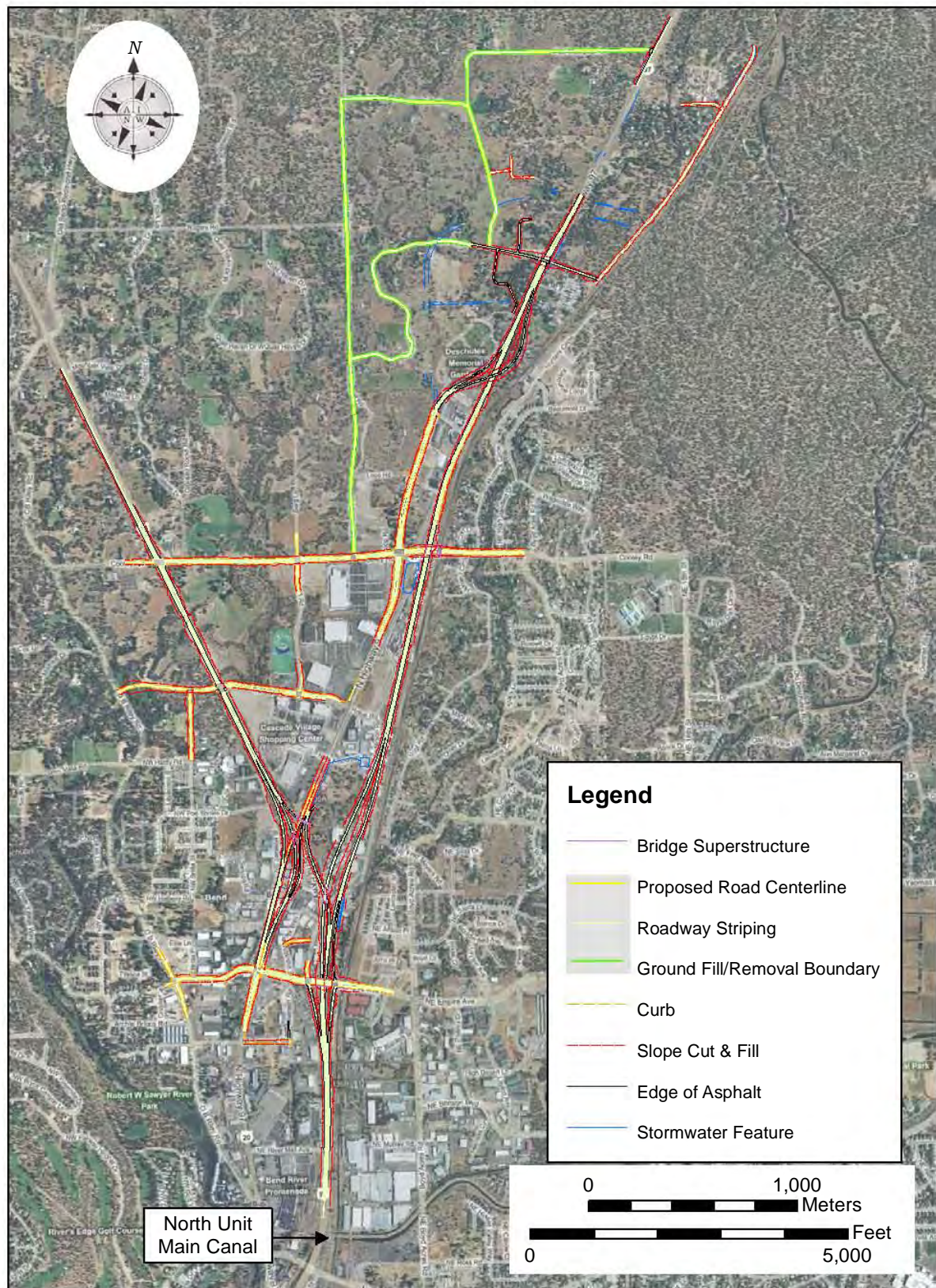


Figure 3. The location of the North Unit Main Canal in relation to the East DS2 Alternative.



Figure 4. The East DS1 and East DS2 alternatives as proposed near the North Unit Main Canal. Proposed modifications would be identical at this location under the two alternatives.



Oregon

John A. Kitzhaber, MD, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE, Ste C

Salem, OR 97301-1266

(503) 986-0671

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June 29, 2011

Mr. James Norman
ODOT Environmental
355 Capitol NE Rm 314
Salem, OR 97301

RE: SHPO Case No. 11-0151
ODOT Proj 14020 US 97 Bend N Corridor

Dear Mr. Norman:

We have reviewed the materials submitted on the project referenced above, and we reaffirm our concurrence that the North/Pilot Butte Canal and North Unit Canal are eligible for listing in the National Register of Historic Places. We also concur with the revised finding of effect submitted by your agency by email on June 28th, 2011 that the project will have of no adverse effect on either resource.

Unless there are changes to the project, this concludes the requirement for consultation with our office under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800) for above-ground historic resources. Please feel free to contact me if you have any questions, comments, or need additional assistance.

Sincerely,


Ian P. Johnson

Historian

(503) 986-0678

ian.johnson@state.or.us

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North/Pilot Butte Canal	
Street Address: N/A	City, County: Bend, Deschutes
USGS Quad Name: Bend, OR 1962, photorevised 1981	Township: 17S Range: 12E Sections: 28 and 29
This property is part of a <input type="checkbox"/> District <input type="checkbox"/> Grouping/Ensemble (see instructions) Name of District or Grouping/Ensemble:	
Number and Type of Associated Resources in Grouping/Ensemble:	
Current Use: Agriculture- Irrigation Facility	Construction Date: 1902-1905; 1910-1913
Architectural Classification / Resource Type: Structure/Irrigation Canal	Alterations & Dates: Segment piped under US 97/Bend Parkway circa 2000
Window Type & Material: N/A	Exterior Surface Materials: Primary: Wood Secondary: Earth Decorative: N/A
Roof Type & Material: N/A	
Condition: <input type="checkbox"/> Excellent <input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	Integrity: <input type="checkbox"/> Excellent <input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor
	
The North/Pilot Butte Canal east of the Oregon Trunk Railway. The view is towards the west.	
Preliminary National Register Findings: <input type="checkbox"/> National Register listed <input checked="" type="checkbox"/> Potentially Eligible: <input checked="" type="checkbox"/> Individually <input checked="" type="checkbox"/> As part of District <input type="checkbox"/> Not Eligible: <input type="checkbox"/> In current state <input type="checkbox"/> Irretrievable integrity loss <input type="checkbox"/> Lacks Distinction <input type="checkbox"/> Not 50 Years	
State Historic Preservation Office Comments: <input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur; <input type="checkbox"/> Potentially Eligible Individually <input type="checkbox"/> Potentially Eligible as part of District <input type="checkbox"/> Not Eligible Signed: <u><i>Ian P. Johnson</i></u> Date: <u>1/27/2011</u> Comments:	
IAN JOHNSON 503-986-0678 ian.johnson@state.or.us	

Surveyor/Agency: Elizabeth J. O'Brien, B. Architecture
 Archaeological Investigations Northwest, Inc. Report No. 2556

Date Recorded: September 2010

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: North/Pilot Butte Canal	
Street Address: N/A	City, County: Bend, Deschutes
Architect, Builder or Designer (if known): Pilot Butte Development Company and the Oregon Irrigation Company	Owner: <input type="checkbox"/> Private <input type="checkbox"/> Local Government <input type="checkbox"/> State <input type="checkbox"/> Federal <input checked="" type="checkbox"/> Other
Description of Property (including exterior alterations & approximate dates), Significance Statement, and Sources. (Use continuation sheets if necessary):	
<p>Significance Statement</p> <p>The North/Pilot Butte Canal is recommended to be eligible for listing in the National Register of Historic Places under Criterion A for its significance as one of the first irrigation systems to convey water from the Deschutes River north to Redmond, Oregon, promoting the development of that city and general agricultural development in Central Oregon during the early twentieth century. The oldest section of this two-part canal, the Pilot Butte Canal, was completed in 1905. The North Canal segment, which was completed by 1913, allowed the Pilot Butte Canal to divert water from the North Canal Dam on the Deschutes River. The North/Pilot Butte Canal retains integrity of location, design, materials, workmanship, feeling, and association in segments that remain open as originally constructed. A small portion of the overall canal, which encompasses most of the surveyed segment, was piped under the US 97/Bend Parkway circa 2000. It is therefore recommended that piped segments of the canal, such as those sections surveyed for the project, be considered non-contributing features to the overall significance of the canal. The resource boundary is limited to the banks of the canal.</p> <p>The North/Pilot Butte Canal, which enabled the establishment of irrigated farms on previously arid lands, is recommended to be significant both as an individual resource and as a contributing resource to a potential North Canal Dam Historic District. The canal was previously documented by the Oregon Department of Transportation (ODOT) for a Determination of Eligibility in 1991 (Smith 1991) and for a Historic American Engineering Record report concerning the North Canal Dam and its associated diversion canals in 1998 (ODOT 1998). The canal was recorded as a historic resource in the Deschutes County Inventory of Historic Sites (No. 1243).</p> <p>The Pilot Butte Canal, the oldest portion of the subject canal, has served the communities of Bend, Redmond, and Terrebonne since 1905. The canal was developed under the provisions of the Carey Act of 1894, which was adopted by the State of Oregon in 1901 (Hall 1994:12). A. M. Drake, the founder of Bend, secured a contract for the Pilot Butte Development Company to construct the Pilot Butte Canal in 1902. After disputes with competing developer Charles C. Hutchinson, Drake was able to continue the project, although it moved slowly. Sections of the Pilot Butte Canal were excavated, but natural landforms were taken advantage of wherever possible to convey the water. This gave the canal a unique appearance; one Bend resident likened it to a "chain of ponds" (Dubuis 1914:28).</p> <p>Drake's company was purchased by the Deschutes Irrigation and Power Company in 1904 before he could complete the canal (<i>The Sunday Oregonian</i> 1904:6). A former Port of Portland superintendent, J.G. Kelley, took over the construction of the canal and tripled the workforce to push the canal towards completion (<i>The Morning Oregonian</i> 1904:6). The Pilot Butte Canal was eventually completed in February of 1905 as an unlined canal extending approximately 30 miles from the Deschutes River via the Pilot Butte Flume.</p> <p>The North Canal was built in conjunction with North Canal Dam in 1913 to divert water to the Pilot Butte Canal. This was done in an attempt to avoid water rights issues along the Deschutes River. One-third of the canal was lined with concrete while the remaining sections were lined with riprap. The North Canal became the main water source for the Pilot Butte Canal by 1914 (Dubuis 1914:10-13; 15).</p> <p>Physical Description</p> <p>The North/Pilot Butte Canal is one of three canals that divert water from North Canal Dam on the Deschutes River. The North/Pilot Butte Canal is a combination of two canals; the North Canal originates at the North Canal Dam, drawing water from the east bank of the Deschutes River, and extends 1.4 miles to a juncture with the Pilot Butte Canal. Before the North Canal connects to the Pilot Butte Canal, it traverses through a pipe and culvert beneath the US 97/Bend Parkway and a small, modern bridge supporting the Oregon Trunk Railway, then flows in an open concrete and riprap-lined canal. One section of the canal located immediately east of the Oregon Trunk Railway undercrossing consists of an uncovered wooden flume. The canal roughly parallels the Oregon Trunk Railway and US 97 as it travels north through Redmond and eventually branches out into numerous laterals near Terrebonne, Oregon in Township 14 South, Range 13 East, Willamette Meridian. Overall, the canal varies in width from about 15 feet to 25 feet and is about 10 feet deep (Smith 1991).</p>	

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: North/Pilot Butte Canal	
Street Address: N/A	City, County: Bend, Deschutes
Sources <p>Dubuis, John 1914 <i>Report to Desert Land Board on Central Oregon Project With Special Reference to Seepage Losses and Canal Capacities</i>. State Printing Department, Salem, Oregon.</p> <p>Hall, Michael 1994 <i>Irrigation Development in Oregon's Upper Deschutes River Basin 1971-1957: A Historic Context Statement</i>. Deschutes County Historical Landmarks Commission, Bend, Oregon. Prepared for Deschutes County, the Cities of Bend, Redmond, and Sisters, and the State Historic Preservation Office, Salem, Oregon.</p> <p>Oregon Department of Transportation (ODOT) 1998 Historic American Engineering Record Documentation of North Canal Dam and Diversion Canals. On file, Oregon State Historic Preservation Office, Salem.</p> <p>Scobey, Fred C. 1915 <i>The Flow of Water in Irrigation Channels</i>. U.S. Department of Agriculture Bulletin No. 194. Government Printing Office, Washington, D.C.</p> <p>Smith, Dwight 1991 Cultural Property Inventory and Request for a Determination of Eligibility for the North Canal (Steidl and Tweet) Dam and Diversion Canals - Swalley, North/Pilot Butte, and North Unit Main - Irrigation Complex. Oregon Department of Transportation, Salem. On file, State Historic Preservation Office, Salem.</p> <p><i>The Morning Oregonian</i> (Portland, Oregon) 1904 Bend Postoffice Keeps Name. 24 March:6. Portland, Oregon.</p> <p><i>The Sunday Oregonian</i> (Portland, Oregon) 1904 Water In Sixty Days. 14 February:6. Portland, Oregon.</p>	

Surveyor/Agency: Elizabeth J. O'Brien, B. Architecture
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Date Recorded: September 2010

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: North/Pilot Butte Canal	
Street Address: N/A	City, County: Bend, Deschutes



View: An open portion of the North/Pilot Butte Canal, located immediately east of the surveyed segment. The view is towards the east.

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: North/Pilot Butte Canal	
Street Address: N/A	City, County: Bend, Deschutes

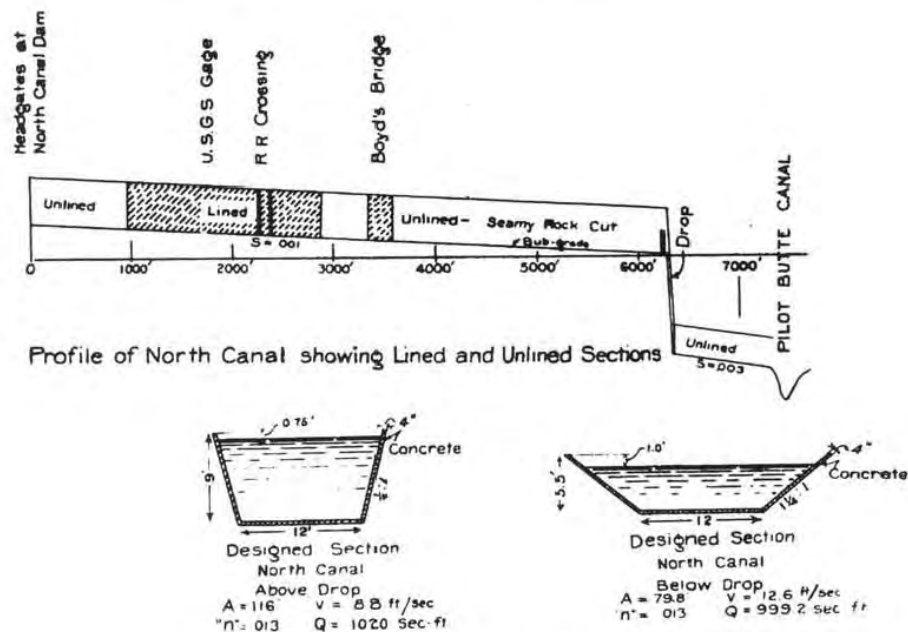


Fig. 1. CONDITION OF NORTH CANAL, 1914

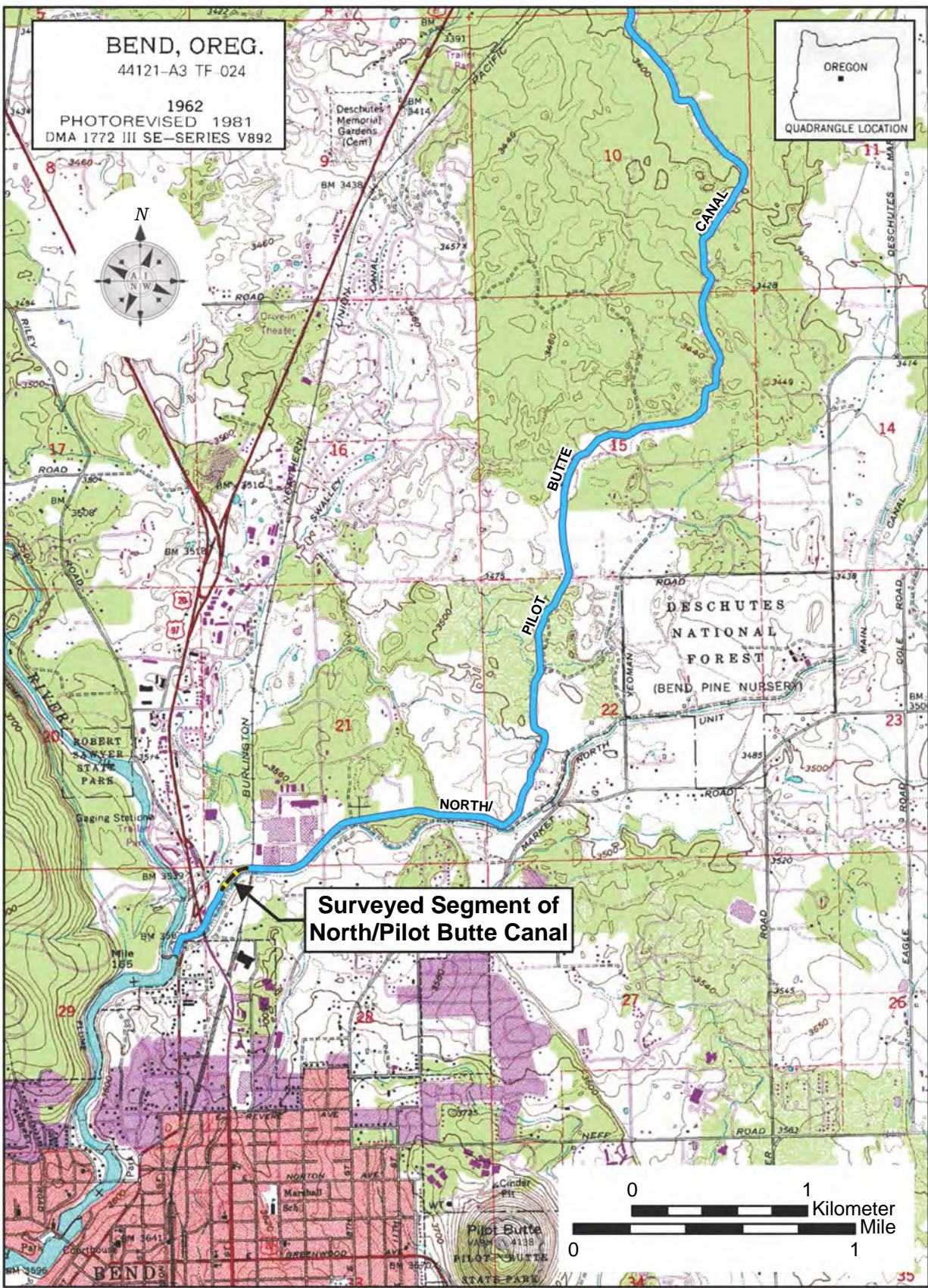
View: A section drawing of the North Canal at its juncture with the Pilot Butte Canal in 1914 (Dubuis 1914).



FIG. 2.—NORTH CANAL, BEND, OREG.

(Nos. 46, 48, and 50—Downstream from Station 5. Meter station in distance.)

View: A concrete-lined section of the North Canal circa 1914 (Scobey 1915).






**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North/Pilot Butte Canal	
Street Address: N/A	City, County: Bend, Deschutes

Preliminary Finding of Effect:	
<input type="checkbox"/> No Historic Properties Affected	<input checked="" type="checkbox"/> No Historic Properties Adversely Affected
<input type="checkbox"/> Historic Properties Adversely Affected	

State Historic Preservation Office Comments:	
<input checked="" type="checkbox"/> Concur	<input type="checkbox"/> Do Not Concur:
	<input type="checkbox"/> No Historic Properties Affected
	<input checked="" type="checkbox"/> No Historic Properties Adversely Affected
	<input type="checkbox"/> Historic Properties Adversely Affected

Signed:  Comments: <i>See letter dated 6/29/2011</i>	Date: <u>6/29/2011</u> IAN JOHNSON 503-986-0678 ian.johnson@state.or.us
--	---

Provide written description of the project, and its potential effects on the subject property per 36 CFR 800.

Introduction

This statement of finding discusses the effects of the proposed US 97 Bend North Corridor project on the North/Pilot Butte Canal (Figures 1 through 3). The canal was determined to be eligible for listing in the National Register of Historic Places (NRHP) in 2011 by the Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) in concurrence with the State Historic Preservation Office (SHPO) (SHPO Case No. 11-0151).

It is the finding of FHWA and ODOT, in concurrence with the SHPO, that the proposed project will have an effect on the National Register-eligible North/Pilot Butte Canal, but the effect will not be adverse. This statement of finding is made pursuant to the requirements of the National Historic Preservation Act of 1966 (36 CFR 800), Executive Order 11593, and the National Environmental Policy Act.

Project Description

FHWA and ODOT propose to improve an approximately six-mile corridor of US 97 between the Deschutes Market Road/Tumalo Junction interchange to the north and the Empire Avenue interchange to the south in Bend, Deschutes County, Oregon. US 97 is currently classified as a statewide facility and freight route along its entire length, and is classified as an expressway along many sections, including the corridor proposed for improvement. It is a critical link in moving goods and people throughout Central Oregon, but steady population growth in Bend and anticipated increases in congestion will begin to threaten the efficiency of this corridor if action is not taken. Average daily traffic in the project area is anticipated to grow by over 40% by 2035, which would result in significant queuing and delays.

The purpose of the proposed action is to improve safety and freight mobility for trucks and automobiles on US 97 by implementing a practical design solution that is affordable within the potential 20-year funding opportunities and that meets the following medium-term and long-term performance objectives:

- Reduces delay, congestion, and the number and severity of crashes at the US 97/Cooley Road and US 97/Robal Road intersections within the medium-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Plan, and
- Reduces delay, congestion, and improves safety on US 97 between the Deschutes Market Road/Tumalo Junction interchange and Empire Avenue interchange within the long-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Transportation Plan.

One no build alternative and two build alternatives are currently being analyzed to determine which would best achieve the performance objectives outlined in the project purpose. Upon public review and comments on the analysis of the range of alternatives studied in the draft Environmental Impact Statement, ODOT and FHWA will also consider the following goals and objectives when identifying a preferred alternative (or solution) for the proposed action:

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM
Continuation Sheet**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North/Pilot Butte Canal	
Street Address: N/A	City, County: Bend, Deschutes
<ul style="list-style-type: none"> Improve transportation linkage and operation; Provide local and regional access; Consider planned economic development opportunities; Develop a cost-effective and sustainable project that can be funded; Develop a project that fits into the context of the community; and Improve bicycle and pedestrian safety and connectivity. 	
<p>Identification and Description of the Historic Resource</p> <p>The North/Pilot Butte Canal is a two-part canal that diverts water from the Deschutes River at the North Canal Dam. The first segment to be constructed was the Pilot Butte Canal, which was completed from 1902-1905 by the Pilot Butte Development Company and the Deschutes Irrigation and Power Company. Taking advantage of natural landforms to create the canal, local residents often likened it to a chain of ponds, although many sections were also excavated by hand (Dubuis 1914:28). The 30-mile canal diverted water from the Deschutes River via the Pilot Butte Flume.</p> <p>The North Canal was constructed in conjunction with the North Canal Dam in 1913, and quickly replaced the Pilot Butte Flume as the main water source to the Pilot Butte Canal. Not only would the dam and canal be a more efficient way to convey water from the Deschutes River to the Pilot Butte Canal, but its construction also avoided water rights issues for the project developer along the river. Because the canals were integrated into one another, the canal became known as the North/Pilot Butte Canal over time within the community. The North/Pilot Butte Canal was piped below the US 97/Bend Parkway circa 2000. It now emerges from a pipe into an original and open canal section east of the US 97/Bend Parkway, where it flows adjacent to and north of the North Unit Main Canal.</p> <p>The North/Pilot Butte Canal was determined to be eligible for listing in the NRHP by FHWA and ODOT in concurrence with SHPO in 2011 under Criterion A for its significance as one of the first irrigation systems to convey water from the Deschutes River north to Redmond, Oregon. Open portions of the canal were determined to retain integrity of location, design, materials, workmanship, feeling, and association, and are therefore contributing to the significance of the resource. Closed portions of the canal were determined to be non-contributing, as they no longer retain historic integrity. The resource boundary was determined to be limited to the banks of the canal. Prior to this 2011 determination made by FHWA and ODOT and concurred by SHPO, the canal was documented by ODOT for a Determination of Eligibility in 1991 (Smith 1991) and for a Historic American Engineering Record report concerning the North Canal Dam and its associated diversion canals in 1998 (ODOT 1998). The canal is recorded as a historic resource in the Deschutes County Inventory of Historic Sites (No. 1243).</p> <p>Avoidance Alternatives Considered</p> <p>One no build alternative and two build alternatives are currently being considered for the project. They are as follows:</p> <p><u>No Build Alternative:</u> The No Build Alternative would not provide any improvements within the project area. This alternative would not meet the purpose and need for the proposed action, and thus would not reduce congestion, improve traffic flow, or enhance safety.</p> <p><u>East DS1 Alternative</u> The East DS1 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become an extension of 3rd Street, a local arterial. The 3rd Street extension would continue north on the west side of the Deschutes Memorial Gardens and Chapel, and US 97 would have a full diamond interchange with 3rd Street just north of Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.</p> <p>Completing the East DS1 Alternative would involve improving US 97/Bend Parkway near its crossing with the North/Pilot Butte Canal north of NE Butler Market Road (Figures 2 and 4). Improvements would be made immediately northwest of open, and therefore significant, sections of the canal that are located immediately east of US 97 and the Oregon Trunk Railway. No direct impacts would be incurred by contributing sections of this NRHP-eligible resource, and no indirect</p>	

OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North/Pilot Butte Canal	
Street Address: N/A	City, County: Bend, Deschutes
<p>impacts would be anticipated, as integrity of setting was not determined to be a character-defining feature of the resource in the 2011 Determination of Eligibility that received SHPO concurrence. Therefore, the resource would not be affected by this alternative.</p> <p><u>East DS2 Alternative</u></p> <p>Like the East DS1 Alternative, the East DS2 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become a local arterial. Under this build alternative, however, the extension of 3rd Street would continue north on the east side of the Deschutes Memorial Gardens and Chapel, and would connect to US 97 through a directional interchange near Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.</p> <p>Completing the East DS2 Alternative would involve improving US 97/Bend Parkway near its crossing with the North/Pilot Butte Canal north of NE Butler Market Road (Figures 3 and 4). Improvements would be made immediately northwest of open, and therefore significant, sections of the canal that are located immediately east of US 97 and the Oregon Trunk Railway. No direct impacts would be incurred by contributing sections of this NRHP-eligible resource, and no indirect impacts would be anticipated, as integrity of setting was not determined to be a character-defining feature of the resource in the 2011 Determination of Eligibility that received SHPO concurrence. Therefore, the resource would not be affected by this alternative.</p> <p>Evaluation of Effects</p> <p>It has been determined by FHWA and ODOT that the proposed project will have no effect on the NRHP-eligible North/Pilot Butte Canal. No direct or indirect effects will be incurred by the open, and therefore significant, segments of the canal that are located near the proposed work areas under the East DS1 and East DS2 alternatives. This effect has been determined through the application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5.</p> <p>Coordination and Public Output</p> <p>ODOT has and will continue to use many methods to share information with the public and gather their input pertaining to the US 97 Bend North Corridor project. These methods include public meetings, a project website, focus group meetings, surveys, and project committees. ODOT has taken additional care to reach out to environmental justice populations, holding meetings for these groups to present the project alternatives, discuss the impacts and benefits of the alternatives, and to identify community concerns about the project. A Citizen Advisory Committee, consisting of community members with a direct interest in the outcome of the project, has met at least 25 times to share community-raised issues surrounding the project with ODOT, and Chris Bell, ODOT Cultural Resources Program Coordinator, presented the Deschutes County Historic Landmarks Commission with information pertaining to NRHP-eligible properties within the project footprint and how they may be affected by proposed improvements on February 17, 2011. Specific information about meeting times and notifications are available upon request.</p> <p>Conclusion</p> <p>It is the determination of FHWA and ODOT that proposed modifications to US 97 near its crossing with the North/Pilot Butte Canal will result in a finding of "No Historic Properties Affected."</p> <p>Sources</p> <p>Dubuis, John 1914 <i>Report to Desert Land Board on Central Oregon Project with Special Reference to Seepage Losses and Canal Capacities</i>. State Printing Department, Salem, Oregon.</p> <p>Oregon Department of Transportation (ODOT) 1998 Historic American Engineering Record Documentation of North Canal Dam and Diversion Canals. On file, Oregon State Historic Preservation Office, Salem.</p>	

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Date Recorded: February 2011
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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM**

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North/Pilot Butte Canal	
Street Address: N/A	City, County: Bend, Deschutes
<p>Smith, Dwight</p> <p>1991 Cultural Property Inventory and Request for a Determination for Eligibility for the North Canal (Steidl and Tweet) Dam and Diversion Canals – Swalley, North/Pilot Butte, and North Unit Main – Irrigation Complex. Oregon Department of Transportation, Salem. On file, State Historic Preservation Office, Salem.</p>	

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Archaeological Investigations Northwest, Inc. Report No. 2664

Date Recorded: February 2011
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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM****Continuation Sheet**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: North/Pilot Butte Canal	
Street Address: N/A	City, County: Bend, Deschutes



View: The North/Pilot Butte Canal east of its undercrossing at US 97 and the Oregon Trunk Railway. The view is towards the west.

Surveyor/Agency: Andrea Blaser, M.S.
Archaeological Investigations Northwest, Inc. Report No. 2664

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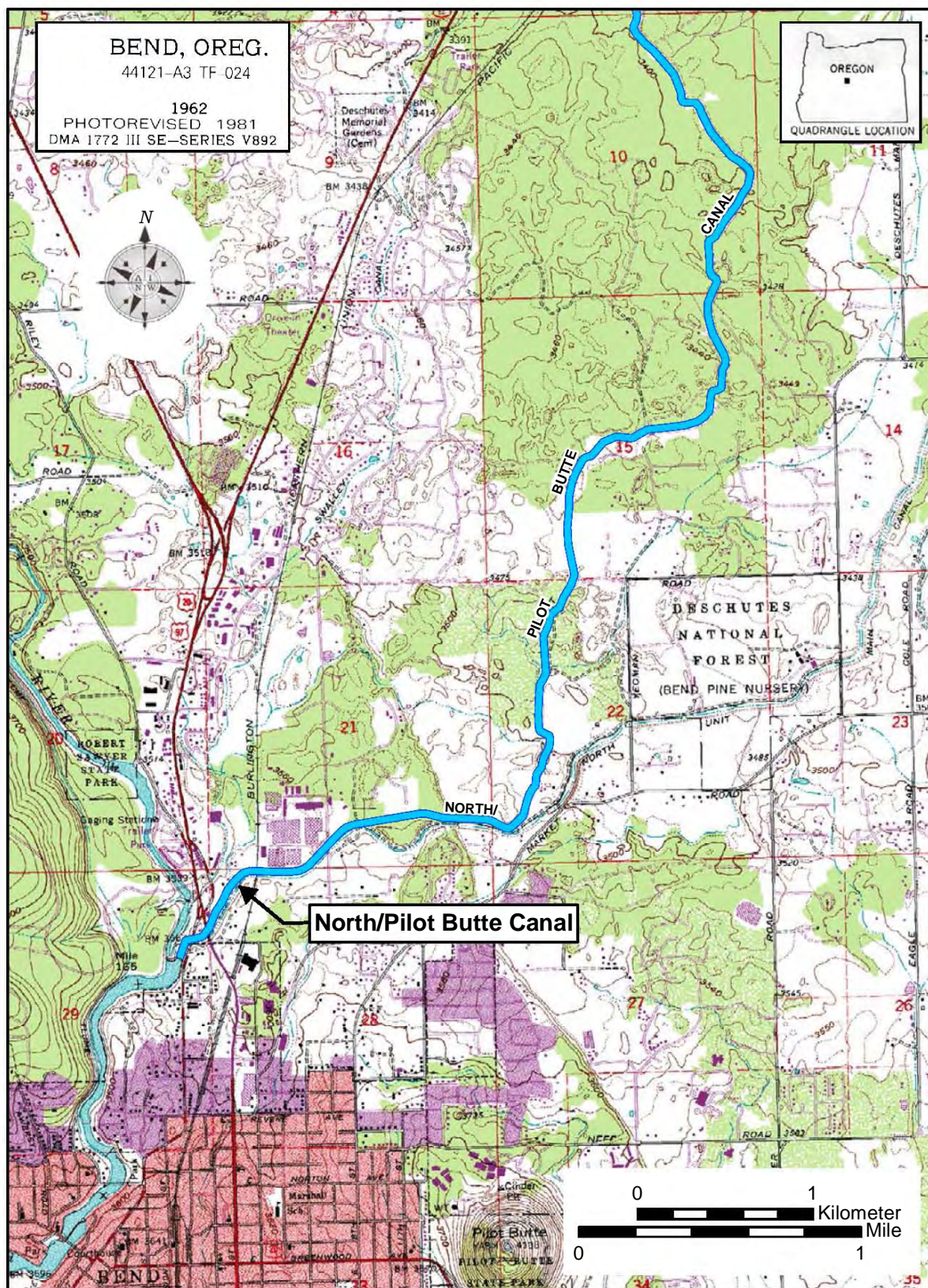


Figure 1. The location of the North/Pilot Butte Canal in Bend, Oregon.

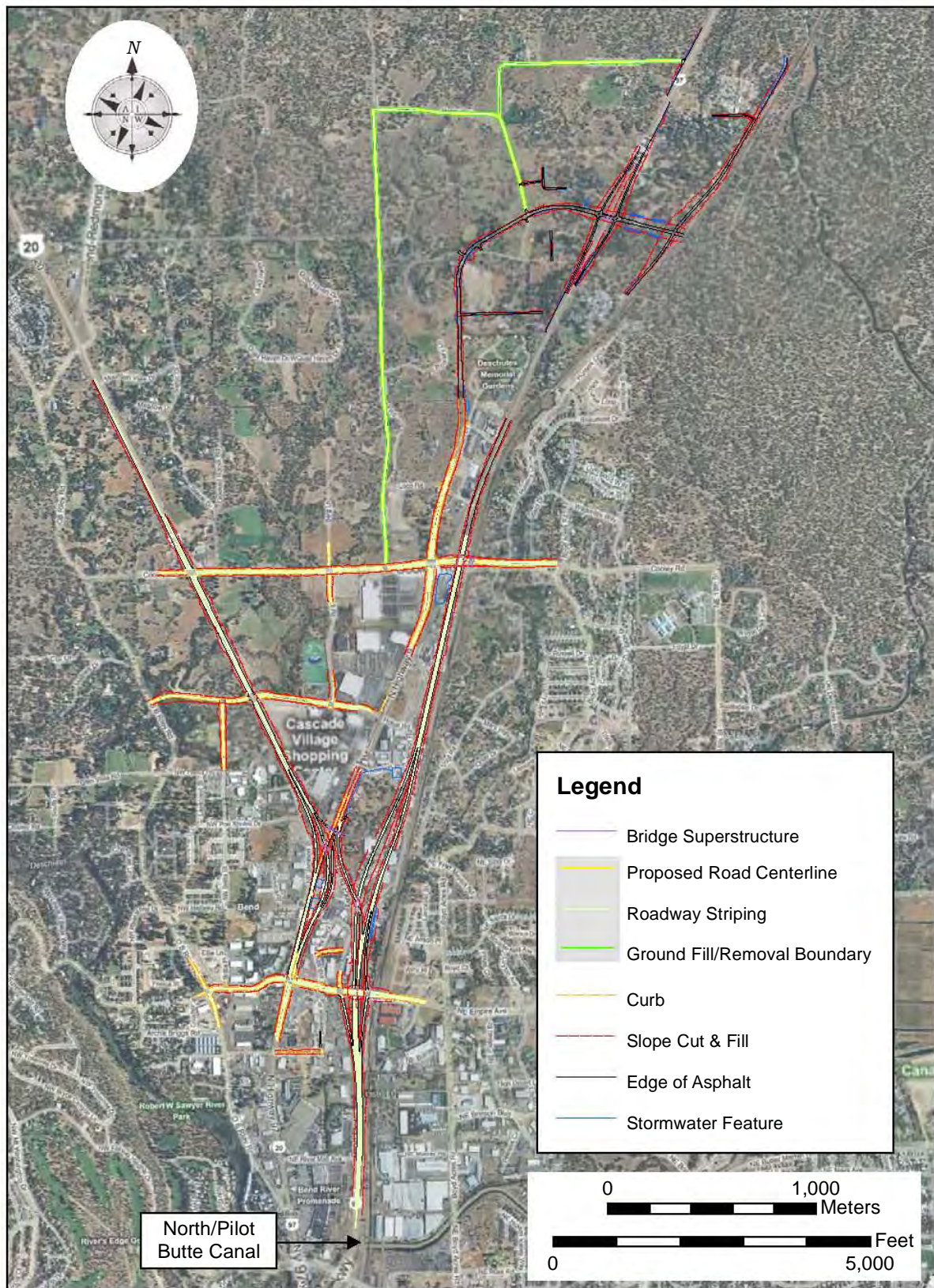


Figure 2. The location of the North/Pilot Butte Canal in relation to the East DS1 Alternative.

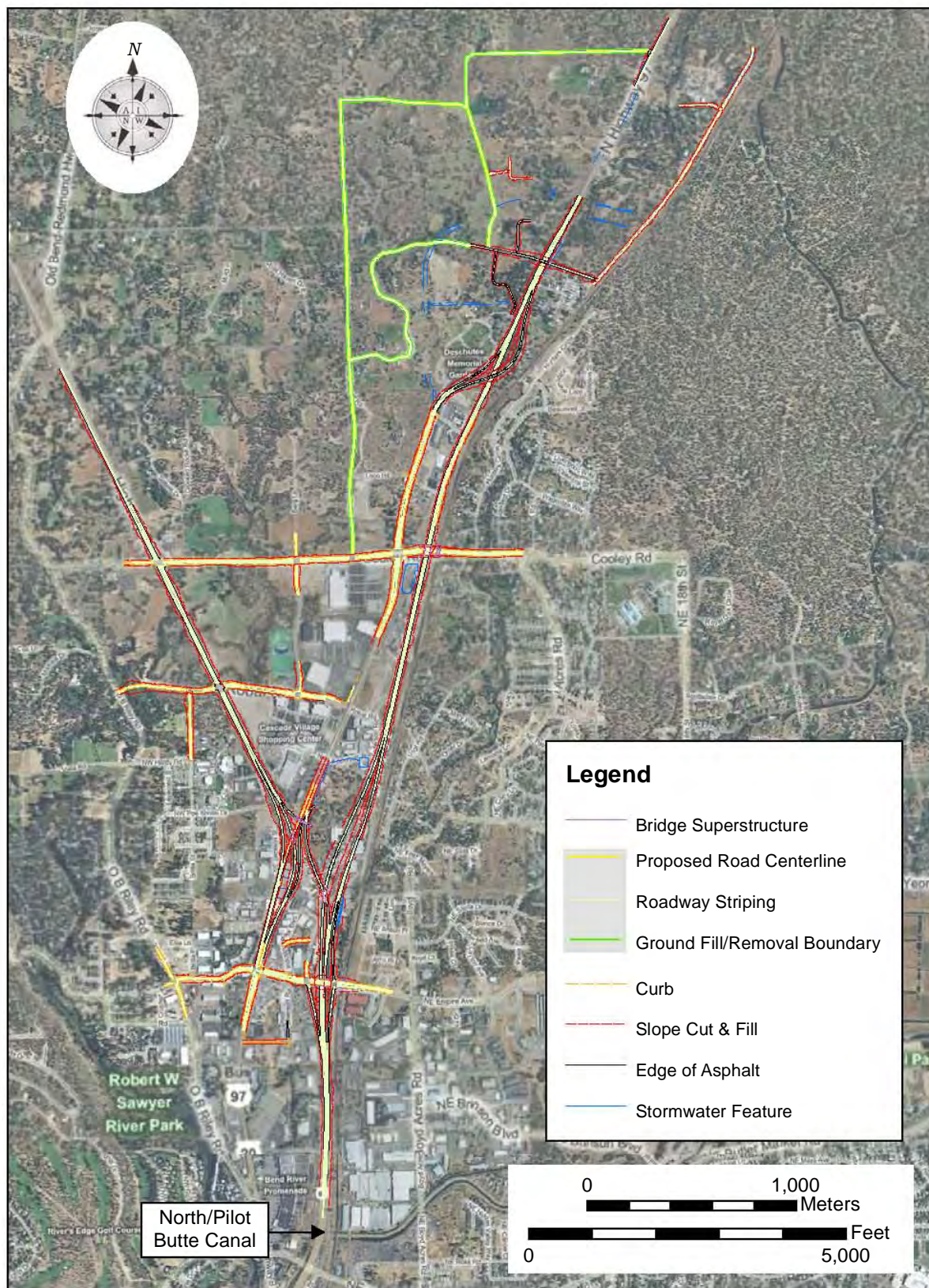


Figure 3. The location of the North/Pilot Butte Canal in relation to the East DS2 Alternative.



Figure 4. The East DS1 and East DS2 alternatives as proposed near the North/Pilot Butte Canal. Proposed modifications would be identical at this location under the two alternatives.



Oregon

John A. Kitzhaber, MD, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE, Ste C

Salem, OR 97301-1266

(503) 986-0671

Fax (503) 986-0793

www.oregonheritage.org



June 29, 2011

Mr. James Norman
ODOT Environmental
355 Capitol NE Rm 314
Salem, OR 97301

RE: SHPO Case No. 11-0151
ODOT Proj 14020 US 97 Bend N Corridor

Dear Mr. Norman:

We have reviewed the materials submitted on the project referenced above, and we reaffirm our concurrence that the North/Pilot Butte Canal and North Unit Canal are eligible for listing in the National Register of Historic Places. We also concur with the revised finding of effect submitted by your agency by email on June 28th, 2011 that the project will have of no adverse effect on either resource.

Unless there are changes to the project, this concludes the requirement for consultation with our office under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800) for above-ground historic resources. Please feel free to contact me if you have any questions, comments, or need additional assistance.

Sincerely,


Ian P. Johnson

Historian

(503) 986-0678

ian.johnson@state.or.us

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Oregon Trunk Railway	
Street Address: N/A	City, County: Bend, Deschutes
USGS Quad Name: <i>Bend, Ore. 1962, photorevised 1981; Tumalo, Ore. 1962</i>	Township: 17 S Range: 12 E Sections: 3, 9, 10, 16, 21, 28
This property is part of a <input type="checkbox"/> District <input type="checkbox"/> Grouping/Ensemble (see instructions) Name of District or Grouping/Ensemble:	
Number and Type of Associated Resources in Grouping/Ensemble:	
Current Use: Transportation – Rail Related	Construction Date: 1908-1911
Architectural Classification/Resource Type: Railroad/Structure	Alterations & Dates: Replacement of rails and ties in-kind as needed
Window Type & Material: N/A	Exterior Surface Materials: Primary: N/A Secondary: N/A Decorative: N/A
Roof Type & Material: N/A	
Condition: <input type="checkbox"/> Excellent <input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	Integrity: <input type="checkbox"/> Excellent <input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor
 <p align="center">Oregon Trunk Railway tracks at Cooley Road. The view is towards the north.</p>	
Preliminary National Register Findings: <input type="checkbox"/> National Register listed <input checked="" type="checkbox"/> Potentially Eligible: <input type="checkbox"/> Individually <input checked="" type="checkbox"/> As part of District <input type="checkbox"/> Not Eligible: <input type="checkbox"/> In current state <input type="checkbox"/> Irretrievable integrity loss <input type="checkbox"/> Lacks Distinction <input type="checkbox"/> Not 50 Years	
State Historic Preservation Office Comments: <input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Potentially Eligible Individually <input type="checkbox"/> Potentially Eligible as part of District <input type="checkbox"/> Not Eligible Signed <u><i>Ian Johnson</i></u> Date <u>11/27/2011</u> Comments: <u></u>	

Surveyor/Agency: Jonathan Held, M.A.
Archaeological Investigations Northwest, Inc. Report No. 2554

IAN JOHNSON
503-986-0678
ian.johnson@state.or.us

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Oregon Trunk Railway			
Street Address: N/A		City, County: Bend, Deschutes	
Architect, Builder or Designer (if known): Oregon Trunk Railway		Owner: <input checked="" type="checkbox"/> Private <input type="checkbox"/> Local Government <input type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> Other	
Description of Property (including exterior alterations & approximate dates), Significance Statement, and Sources. (Use continuation sheets if necessary):			
<p>Significance Statement</p> <p>The surveyed segment of the Oregon Trunk Railway (OTR) is recommended to be eligible for listing in the National Register of Historic Places (NRHP) under Criterion A as a contributing feature to a potential OTR linear historic district for its association with community planning, development, and commerce in Central Oregon. The railroad retains integrity of location, design, feeling, and association, but no longer retains integrity of setting, materials, and workmanship. The extent of the railroad right-of-way defines the resource boundary.</p> <p>The OTR line expanded shipping capabilities for stock ranchers in the region while creating new opportunities for large-scale producers of wood products to operate in Bend during the early twentieth century. The Shevlin-Hixon Lumber Company and the Brooks-Scanlon Lumber Company constructed facilities along the Deschutes River in 1916, lured by affordable land, extensive ponderosa pine forests, a major waterway, and the OTR, which accessed existing supply lines along the Columbia River Gorge. By the 1920s, the two companies were able to mill a combined 400 million board-feet of lumber each year, attracting thousands of new residents to Bend to meet their increasing demand for laborers (Deschutes County Historical Society 1985; Tucker 2002). The OTR is also notable for its association with the notorious rivalry between James J. Hill of the Great Northern and Edward H. Harriman of the Union Pacific Railroad. It was previously determined eligible for listing in the NRHP as a potential historic district in 2001 (Carter 2001).</p> <p>Physical Description</p> <p>The subject segment of the OTR roughly parallels US 97 in Bend, Oregon, beginning in Section 28 of Township 17 South, Range 12 East, Willamette Meridian, and ending near the North/Pilot Butte Canal in Section 3 of Township 17 South, Range 12 East, Willamette Meridian (see attached map). As part of the proposed project, Cooley Road will become an undercrossing on the railway alignment. The overall line, which is now operated by BNSF Railway, extends from Wishram, Washington in the north to Keddle, California in the south.</p> <p>The Wishram to Bend segment is the oldest portion of the railway. It was constructed between 1908 and 1911 using 90-pound rails and had a maximum grade of 1% (Robertson 1995:121-2). Spanning 157-miles, the line was constructed over flat, arid lands and through the winding canyons of the Deschutes River. It was later extended through southern Oregon and into northern California in the late 1920s. Only the original segment between Wishram and Bend provided passenger service; later segments provided freight service only.</p> <p>The historic alignment and rock ballast of the OTR remains intact. Maintenance activities over the years have likely replaced features such as steel rails and wooden ties in-kind, while newer railroad warning devices and related infrastructure have been installed along the line. Modern transportation improvements have necessitated new street crossings at various points along the historic alignment.</p> <p>Sources</p> <p>Carter, Liz 2001 <i>Proposed Cellular Installation, Mountain View Mall – Qwest, 63990 Nels Anderson Road, Bend, Deschutes County, Oregon</i>. On file, Oregon State Historic Preservation Office, Salem.</p> <p>Deschutes County Historical Society 1985 <i>A History of the Deschutes Country in Oregon</i>. Midstate Printing, Redmond, Oregon.</p> <p>Robertson, Donald B. 1995 <i>Encyclopedia of Western Railroad History, Volume III Oregon Washington</i>. The Caxton Printers, Ltd., Caldwell, Idaho.</p> <p>Tucker, Kathy 2002 <i>Shevlin-Hixon Mill, Bend, Oregon</i>. Electronic document, http://www.ohs.org/education/oregonhistory/historical_records/dspDocument.cfm?doc_ID=0001D6C4-FC0B-1DD3-A2AF80B05272FE9F, accessed August 31, 2010.</p>			

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Oregon Trunk Railway	
Street Address: N/A	City, County: Bend, Deschutes



View: The Oregon Trunk Railway tracks north of Cooley Road. The view is towards the north.



View: Newer signals and an at-grade crossing at Cooley Road. The view is towards the east.

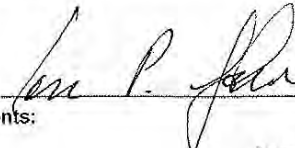
Surveyor/Agency: Jonathan Held, M.A.
Archaeological Investigations Northwest, Inc. Report No. 2554

Date Recorded: September 2010

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No: 14020, Federal ID No. S004(112)	
Property Name: Oregon Trunk Railway	
Street Address: N/A	City, County: Bend, Deschutes

Preliminary Finding of Effect: <input type="checkbox"/> No Historic Properties Affected <input checked="" type="checkbox"/> No Historic Properties Adversely Affected <input type="checkbox"/> Historic Properties Adversely Affected	
State Historic Preservation Office Comments: <input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur: <input type="checkbox"/> No Historic Properties Affected <input checked="" type="checkbox"/> No Historic Properties Adversely Affected <input type="checkbox"/> Historic Properties Adversely Affected	
Signed:  IAN JOHNSON Comments: 503-986-0678 ian.johnson@state.or.us	Date: <u>5/23/2011</u>

Provide written description of the project, and its potential effects on the subject property per 36 CFR 800. Include maps, drawings, and photographs as necessary to effectively describe and discuss the project. Use continuation sheets as needed.

Introduction

This statement of finding discusses the effects of the proposed US 97 Bend North Corridor project on the Oregon Trunk Railway (Figures 1 through 3). The railroad was determined to be eligible for listing in the National Register of Historic Places (NRHP) in 2011 by the Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) in concurrence with the State Historic Preservation Office (SHPO) (SHPO Case No. 11-0151).

It is the finding of FHWA and ODOT, in concurrence with the SHPO, that the proposed project will have an effect on the National Register-eligible Oregon Trunk Railway, but it will not be adverse. This statement of finding is made pursuant to the requirements of the National Historic Preservation Act of 1966 (36 CFR 800), Executive Order 11593, and the National Environmental Policy Act.

Project Description

FHWA and ODOT propose to improve an approximately six-mile corridor of US 97 between the Deschutes Market Road/Tumalo Junction interchange to the north and the Empire Avenue interchange to the south in Bend, Deschutes County, Oregon. US 97 is currently classified as a statewide facility and freight route along its entire length, and is classified as an expressway along many sections, including the corridor proposed for improvement. It is a critical link in moving goods and people throughout Central Oregon, but steady population growth in Bend and anticipated increases in congestion will begin to threaten the efficiency of this corridor if action is not taken. Average daily traffic in the project area is anticipated to grow by over 40% by 2035, which would result in significant queuing and delays.

The purpose of the proposed action is to improve safety and freight mobility for trucks and automobiles on US 97 by implementing a practical design solution that is affordable within the potential 20-year funding opportunities and that meets the following medium-term and long-term performance objectives:

- Reduces delay, congestion, and the number and severity of crashes at the US 97/Cooley Road and US 97/Robaf Road intersections within the medium-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Plan, and
- Reduces delay, congestion, and improves safety on US 97 between the Deschutes Market Road/Tumalo Junction interchange and Empire Avenue interchange within the long-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Transportation Plan.

One no build alternative and two build alternatives are currently being analyzed to determine which would best achieve the performance objectives outlined in the project purpose. Upon public review and comments on the analysis of the range of alternatives studied in the draft Environmental Impact Statement, ODOT and FHWA will also consider the following goals and objectives when identifying a preferred alternative (or solution) for the proposed action:

Surveyor/Agency: Andrea Blaser, M.S.
 Archaeological Investigations Northwest, Inc. Report No. 2660

Date Recorded: February 2011
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OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor
Key No. 14020, Federal ID No. S004(112)

Property Name: Oregon Trunk Railway

Street Address: N/A

City, County: Bend, Deschutes

- Improve transportation linkage and operation;
- Provide local and regional access;
- Consider planned economic development opportunities;
- Develop a cost-effective and sustainable project that can be funded;
- Develop a project that fits into the context of the community; and
- Improve bicycle and pedestrian safety and connectivity.

Identification and Description of the Historic Resource

The Oregon Trunk Railway was constructed between 1908 and 1911 from Wishram, Washington to the north, and Keddie, California to the south. Spanning 157 miles, the line was constructed over flat, arid lands and through the winding canyons of the Deschutes River using 90-pound rails laid at a maximum grade of 1% (Robertson 1995). The railroad was completed amidst a great rivalry between James J. Hill of the Great Northern and Edward H. Harriman of the Union Pacific Railroad as they battled to see who could complete the first north-to-south railroad through Central Oregon.

In providing a direct line to established transportation resources along the Columbia River to the north and California to the south, the Oregon Trunk Railway helped to accelerate the industrial development of Bend in the early twentieth century. Acres of arid lands filled with ponderosa pine could now be deforested; the raw materials were transported to the Shevlin-Hixon Lumber Company and the Brooks-Scanlon Lumber Company along the Deschutes River, and finished materials were carried by freight car to markets throughout the Pacific Northwest and California via the railway. Ranchers and farmers also benefitted due to the mass dissemination of their goods by this significant transportation link.

The Oregon Trunk Railway was initially determined eligible for listing in the NRHP by SHPO in 2001 as part of a linear historic district. The railroad was determined eligible for listing in the NRHP in 2011 by FHWA and ODOT in concurrence with SHPO under Criterion A as a contributing feature to a potential Oregon Trunk Railway linear historic district for its association with community planning, development, and commerce in Central Oregon. The resource retains integrity of location, design, feeling, and association, but no longer retains integrity of setting, materials, and workmanship.

Avoidance Alternatives Considered

One no build alternative and two build alternatives are currently being considered for the project. They are as follows:

No Build Alternative:

The No Build Alternative would not provide any improvements within the project area. This alternative would not meet the purpose and need for the proposed action, and thus would not reduce congestion, improve traffic flow, or enhance safety.

East DS1 Alternative

The East DS1 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become an extension of 3rd Street, a local arterial. The 3rd Street extension would continue north on the west side of the Deschutes Memorial Gardens and Chapel, and US 97 would have a full diamond interchange with 3rd Street just north of Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.

Completing the East DS1 Alternative would involve rerouting Cooley Road beneath the Oregon Trunk Railway by constructing a new underpass at this location (Figures 2 and 4). A permanent easement would be acquired from the BNSF Railway Company for the underpass. While this action would directly affect the NRHP-eligible resource, the effect would not be adverse, as only a small portion of the original rock ballast would be impacted. The remaining materials used to construct the railway at this location have previously been replaced in-kind, and no longer retain historic integrity. The character-defining features that make the railway significant (integrity of location, design, feeling, and association) would remain intact.

OREGON INVENTORY OF HISTORIC PROPERTIES

SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Oregon Trunk Railway	
Street Address: N/A	City, County: Bend, Deschutes
<p><u>East DS2 Alternative</u></p> <p>Like the East DS1 Alternative, the East DS2 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become a local arterial. Under this build alternative, however, the extension of 3rd Street would continue north on the east side of the Deschutes Memorial Gardens and Chapel, and would connect to US 97 through a directional interchange near Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.</p> <p>Completing the East DS2 Alternative would involve rerouting Cooley Road beneath the Oregon Trunk Railway by constructing a new underpass at this location (Figures 3 and 4). A permanent easement would be acquired from the BNSF Railway Company for the underpass. While this action would directly affect the NRHP-eligible resource, the effect would not be adverse, as only a small portion of the original rock ballast would be impacted. The remaining materials used to construct the railway at this location have previously been replaced in-kind, and no longer retain historic integrity. The character-defining features that make the railway significant (integrity of location, design, feeling, and association) would remain intact.</p> <p>Evaluation of Effects</p> <p>It has been determined by FHWA and ODOT that the proposed project will have no adverse effect on the National Register-eligible Oregon Trunk Railway under the East DS1 and East DS2 alternatives. The construction of an underpass below the current railway grade will not impact the character-defining features of the resource that make it significant under Criterion A of the National Register Criteria for Evaluation. This effect has been determined through the application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5.</p> <p>Coordination and Public Output</p> <p>ODOT has and will continue to use many methods to share information with the public and gather their input pertaining to the US 97 Bend North Corridor project. These methods include public meetings, a project website, focus group meetings, surveys, and project committees. ODOT has taken additional care to reach out to environmental justice populations, holding meetings for these groups to present the project alternatives, discuss the impacts and benefits of the alternatives, and to identify community concerns about the project. A Citizen Advisory Committee, consisting of community members with a direct interest in the outcome of the project, has met at least 25 times to share community-raised issues surrounding the project with ODOT, and Chris Bell, ODOT Cultural Resources Program Coordinator, presented the Deschutes County Historic Landmarks Commission with information pertaining to NRHP-eligible properties within the project footprint and how they may be affected by proposed improvements on February 17, 2011. Specific information about meeting times and notifications are available upon request.</p> <p>Conclusion</p> <p>It is the determination of FHWA and ODOT that the construction of an underpass below the National Register-eligible Oregon Trunk Railway at Cooley Road will result in a finding of "No Historic Properties Adversely Affected." This determination of "No Historic Properties Adversely Affected" is intended to be used by the FHWA in reaching a Section 4(f) <i>de minimis</i> finding consistent with the US Department of Transportation's <i>Guidance for Determining De Minimis Impact to Section 4(f) Resources</i> (December 12, 2005) and SAFETEA-LU, Section 6009(a). A <i>de minimis</i> finding specifies that an avoidance alternative analysis is not required.</p> <p>Sources</p> <p>Robertson, Donald B. 1995 <i>Encyclopedia of Western Railroad History, Volume III Oregon and Washington</i>. The Caxton Printers, Ltd., Caldwell, Idaho.</p>	

Surveyor/Agency: Andrea Blaser, M.S.
Archaeological Investigations Northwest, Inc. Report No. 2660

Date Recorded: February 2011
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OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Oregon Trunk Railway	
Street Address: N/A	City, County: Bend, Deschutes



View: The Oregon Trunk Railway immediately north of its intersection with Cooley Road. The view is towards the north.



View: The Oregon Trunk Railway at its intersection with Cooley Road. The project proposes to construct an underpass beneath the current grade of the railroad. The view is towards the east.

Surveyor/Agency: Andrea Blaser, M.S.
Archaeological Investigations Northwest, Inc. Report No. 2660

Date Recorded: February 2011
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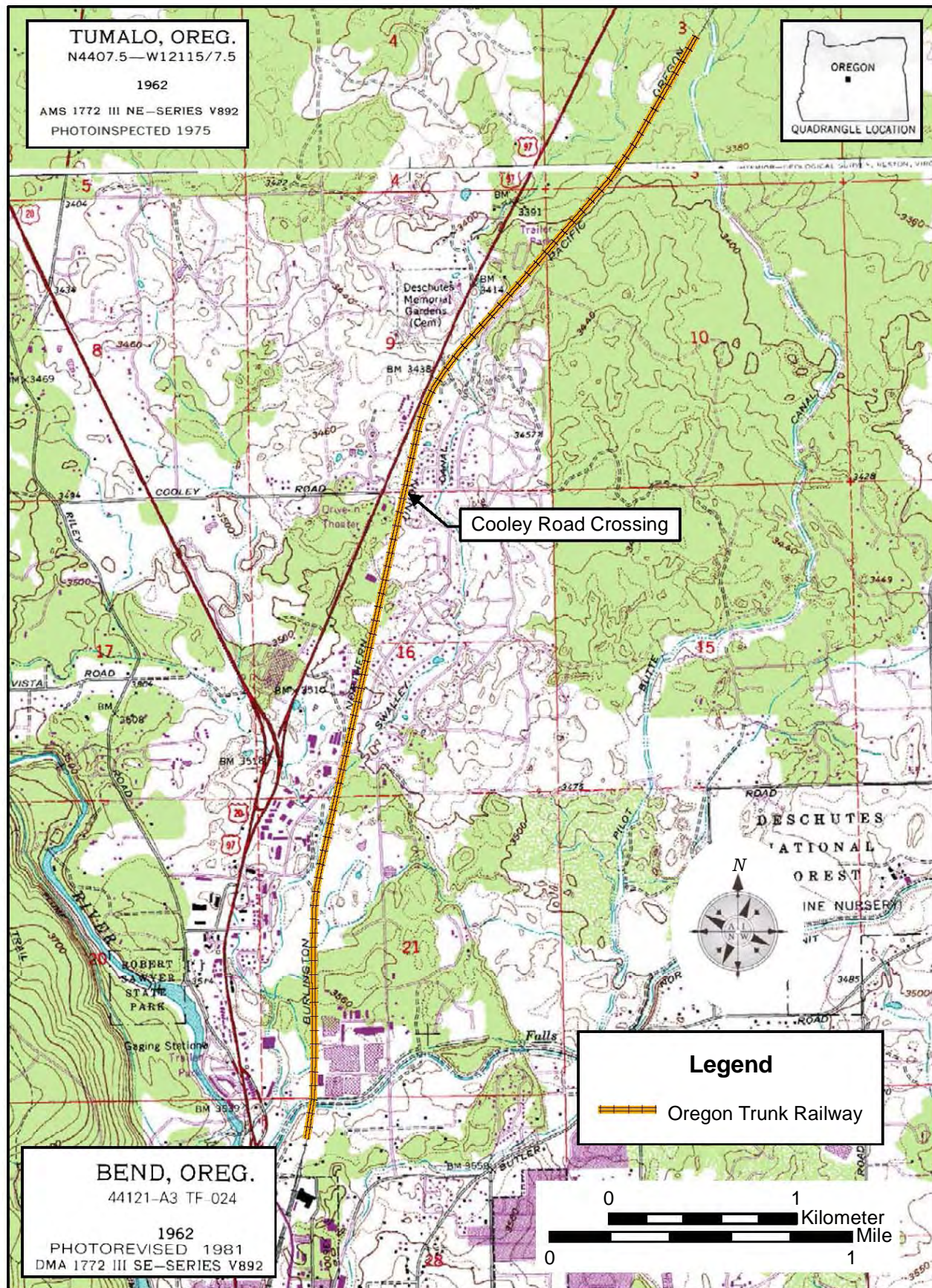


Figure 1. The location of the Oregon Trunk Railway in Bend, Oregon.

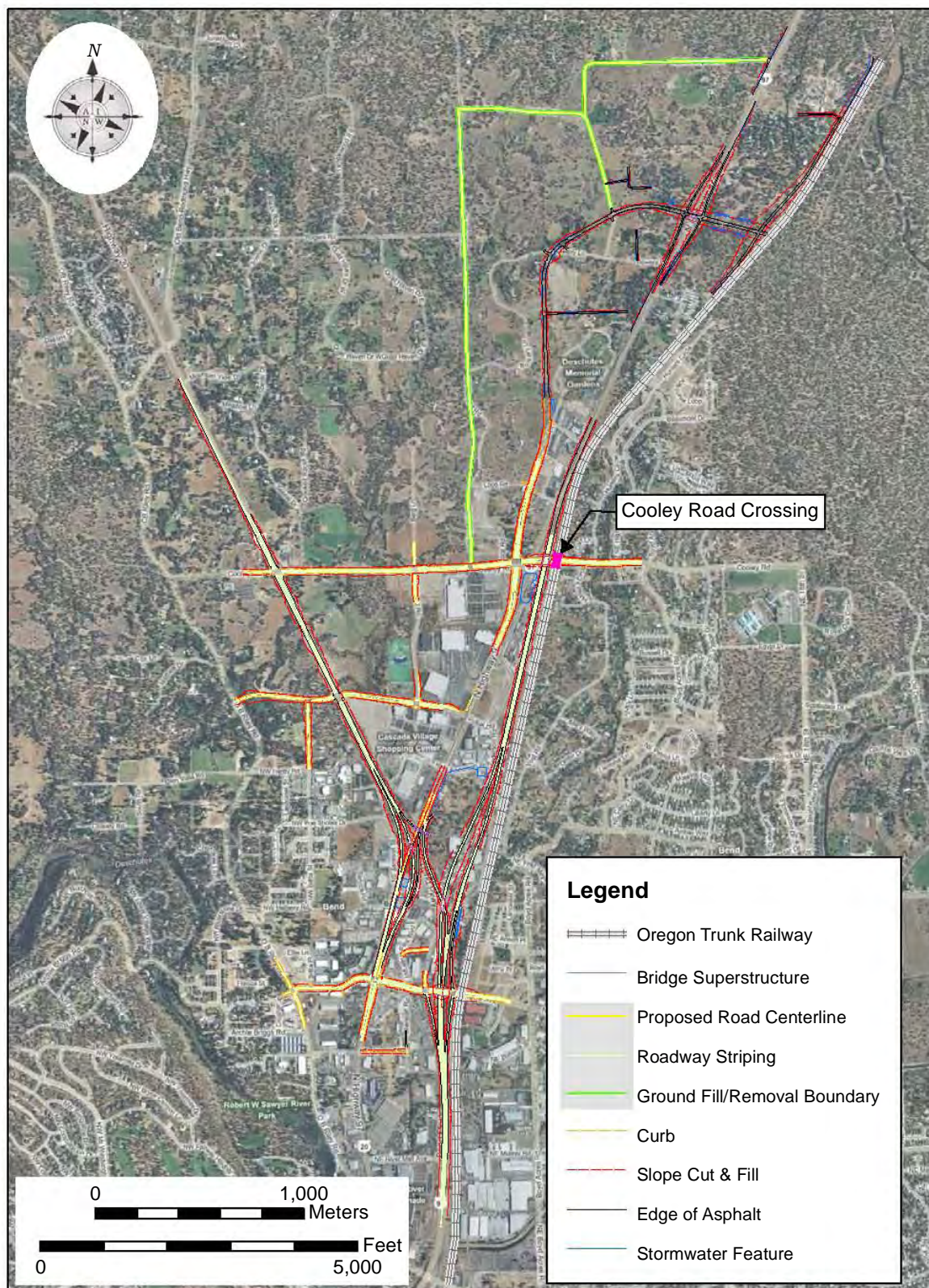


Figure 2. The location of proposed modifications to the Oregon Trunk Railway in relation to the East DS1 Alternative.

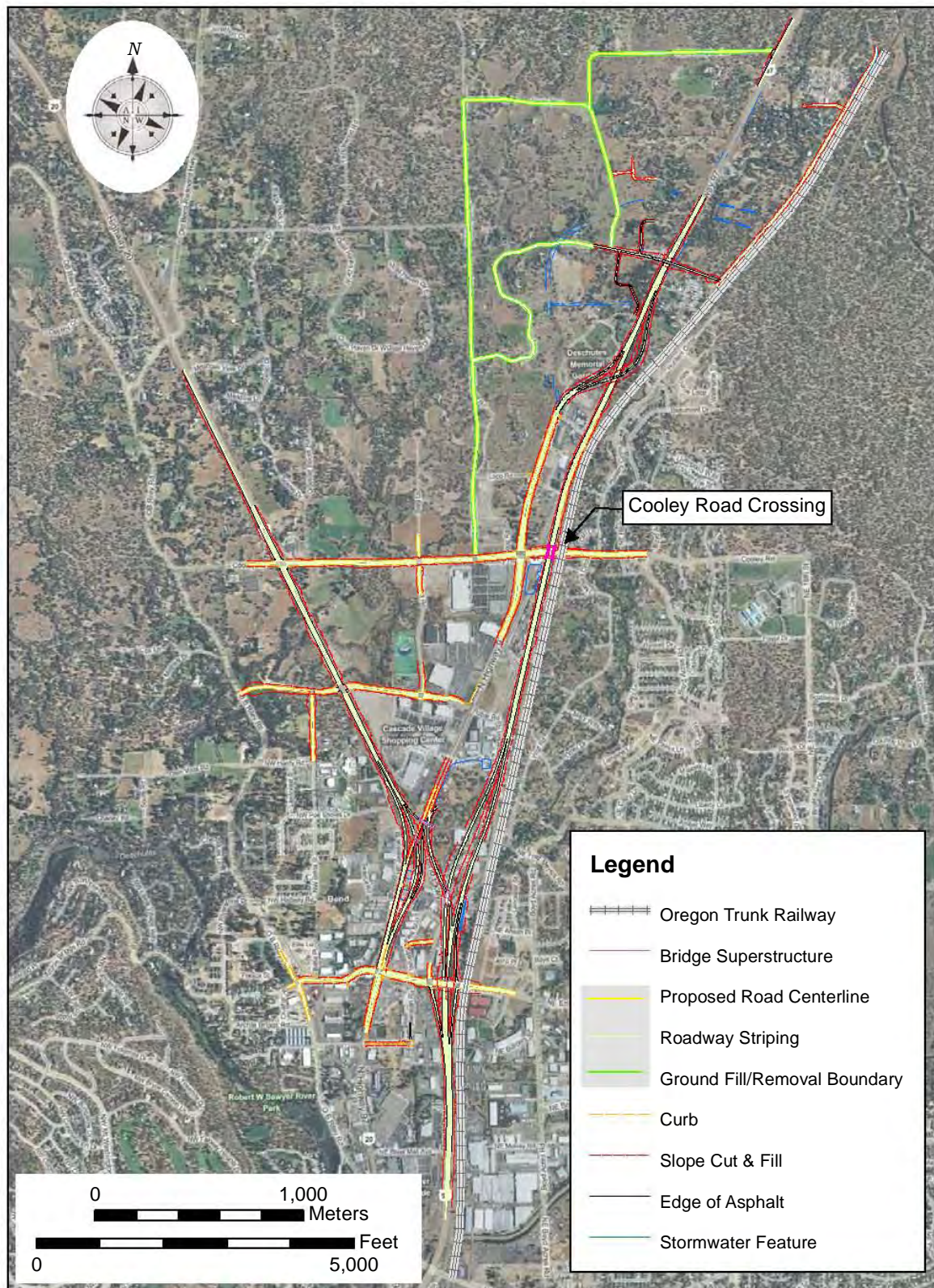


Figure 3. The location of proposed modifications to the Oregon Trunk Railway in relation to the East DS2 Alternative.

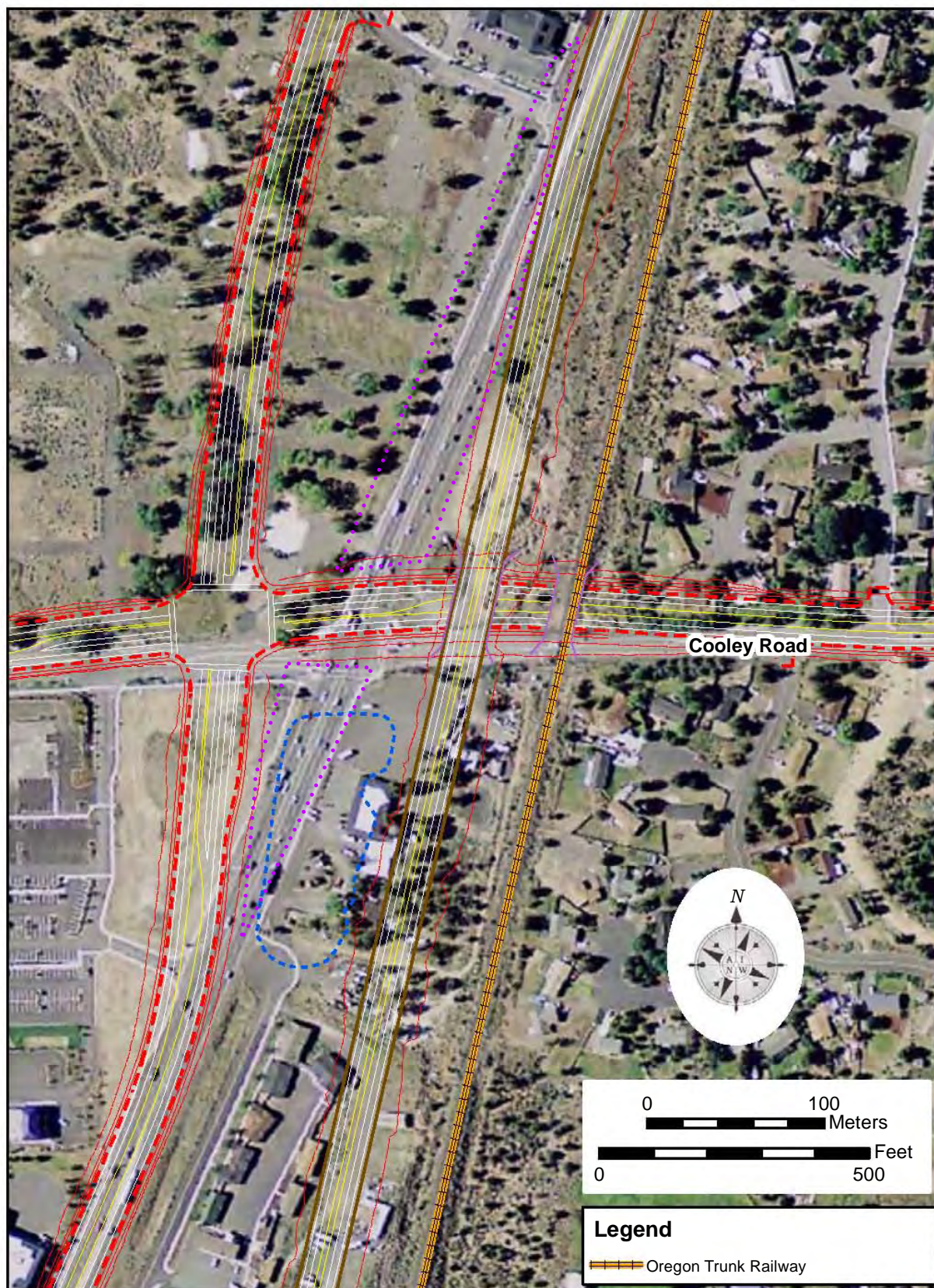
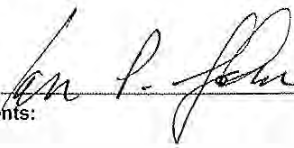


Figure 4. The East DS1 and East DS2 alternatives propose the construction of an underpass beneath the Oregon Trunk Railway at Cooley Road. Proposed modifications would be identical at this location under the two alternatives.

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Rock O' the Range Bridge	
Street Address: N/A	City, County: Bend, Deschutes

Preliminary Finding of Effect: <input type="checkbox"/> No Historic Properties Affected <input checked="" type="checkbox"/> No Historic Properties Adversely Affected <input type="checkbox"/> Historic Properties Adversely Affected	
State Historic Preservation Office Comments: <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur: </div> <div> <input type="checkbox"/> No Historic Properties Affected <input checked="" type="checkbox"/> No Historic Properties Adversely Affected <input type="checkbox"/> Historic Properties Adversely Affected </div> </div> <div style="display: flex; justify-content: space-between;"> <div> Signed:  Comments: </div> <div> Date: <u>5/23/2011</u> </div> </div> <div style="text-align: center; margin-top: 10px;"> IAN JOHNSON 503-986-0678 ian.johnson@state.or.us </div>	

Provide written description of the project, and its potential effects on the subject property per 36 CFR 800.

Introduction

This statement of finding discusses the effects of the proposed US 97 Bend North Corridor project on the Rock O' the Range Bridge (Figure 1). The bridge was listed in the National Register of Historic Places (NRHP) in 1979 as part of a thematic nomination for covered bridges in Oregon.

It is the finding of the Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT), in concurrence with the State Historic Preservation Office (SHPO), that the proposed project will have an effect on the NRHP-listed Rock O' the Range Bridge, but it will not be adverse. This statement of finding is made pursuant to the requirements of the National Historic Preservation Act of 1966 (36 CFR 800), Executive Order 11593, and the National Environmental Policy Act.

Project Description

FHWA and ODOT propose to improve an approximately six-mile corridor of US 97 between the Deschutes Market Road/Tumalo Junction interchange to the north and the Empire Avenue interchange to the south in Bend, Deschutes County, Oregon. US 97 is currently classified as a statewide facility and freight route along its entire length, and is classified as an expressway along many sections, including the corridor proposed for improvement. It is a critical link in moving goods and people throughout Central Oregon, but steady population growth in Bend and anticipated increases in congestion will begin to threaten the efficiency of this corridor if action is not taken. Average daily traffic in the project area is anticipated to grow by over 40% by 2035, which would result in significant queuing and delays.

The purpose of the proposed action is to improve safety and freight mobility for trucks and automobiles on US 97 by implementing a practical design solution that is affordable within the potential 20-year funding opportunities and that meets the following medium-term and long-term performance objectives:

- Reduces delay, congestion, and the number and severity of crashes at the US 97/Cooley Road and US 97/Robal Road intersections within the medium-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Plan, and
- Reduces delay, congestion, and improves safety on US 97 between the Deschutes Market Road/Tumalo Junction interchange and Empire Avenue interchange within the long-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Transportation Plan.

One no build alternative and two build alternatives are currently being analyzed to determine which would best achieve the performance objectives outlined in the project purpose. Upon public review and comments on the analysis of the range of alternatives studied in the draft Environmental Impact Statement, ODOT and FHWA will also consider the following goals and objectives when identifying a preferred alternative (or solution) for the proposed action:

Surveyor/Agency: Andrea Blaser, M.S.
 Archaeological Investigations Northwest, Inc. Report No. 2665

Date Recorded: March 2011
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OREGON INVENTORY OF HISTORIC PROPERTIES

SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Rock O' the Range Bridge	
Street Address: N/A	City, County: Bend, Deschutes
<ul style="list-style-type: none"> • Improve transportation linkage and operation; • Provide local and regional access; • Consider planned economic development opportunities; • Develop a cost-effective and sustainable project that can be funded; • Develop a project that fits into the context of the community; and • Improve bicycle and pedestrian safety and connectivity. 	
<p>Identification and Description of the Historic Resource</p> <p>The Rock O' the Range Bridge was constructed in 1963 in conjunction with Bowery Lane to access the Rock O' the Range subdivision. Platted by William Bowers, the Rock O' the Range neighborhood is located between US 97 to the east, and US 20 to the west. The Swalley Canal runs adjacent to and west of US 97 at this location, thus necessitating the construction of a bridge along Bowery Lane. Bowers commissioned builder Maurice Olsen to construct the bridge in 1963, after which owners of parcels within the subdivision assumed maintenance and repair responsibilities for the bridge. The bridge continues to be privately maintained, but is open for public use, as Bowery Lane is a publicly-owned road. In 2008, Swalley Canal was piped underground at this location.</p> <p>The Rock O' the Range Bridge was listed in the NRHP in 1979 as part of a thematic nomination for covered bridges in Oregon. The nomination describes the bridge as being unconventional because of its late build date and method of construction, which does not use a standard truss design (Potter 1977). Upon being listed in the NRHP, the bridge was automatically added to the Deschutes County Inventory of Historic Sites.</p> <p>When the 1963 bridge was listed in the NRHP in 1979, it did not meet the requirement outlined in the National Register Criteria for Evaluation that significant properties be at least 50 years old. No analysis of exceptional significance was undertaken to prove that the resource met the requirements of Criteria Consideration G that qualify properties under 50 years of age to be listed in the NRHP, nor were the seven aspects of integrity addressed for this resource. One could argue that at the time of listing, the Rock O' the Range Bridge retained all of the seven aspects of integrity (location, design, setting, materials, workmanship, feeling, and association), as only 16 years had passed since it was constructed. It is harder to discern what would have been considered character-defining features of the resource at that time. While the location, setting, feeling, and association of the bridge would have been significant to its nomination, the resource seems to have been listed despite its unconventional design and construction, which were de-emphasized in 1979 thematic nomination.</p> <p>With these limiting factors in mind, ODOT, acting as an agent of FHWA and in consultation with the SHPO, concluded that the physical integrity of the bridge and its ability to be used by the public as a bridge should be considered as character-defining features of the resource in order to conduct this assessment of project effects. As the proposed build alternatives would not affect the physical integrity of the bridge, a thorough assessment of issues pertaining to public access to the resource was undertaken to determine if the realignment of Bowery Lane and the closure of its historic access point to US 97 would adversely affect the NRHP-listed Rock O' the Range Bridge, or if the effect would not be adverse.</p> <p>Avoidance Alternatives Considered</p> <p>One no build alternative and two build alternatives are currently being considered for the project. They are as follows:</p> <p><u>No Build Alternative:</u></p> <p>The No Build Alternative would not provide any improvements within the project area. This alternative would not meet the purpose and need for the proposed action, and thus would not reduce congestion, improve traffic flow, or enhance safety.</p>	

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OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Rock O' the Range Bridge	
Street Address: N/A	City, County: Bend, Deschutes
<p><u>East DS1 Alternative</u></p> <p>The East DS1 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become an extension of 3rd Street, a local arterial. The 3rd Street extension would continue north on the west side of the Deschutes Memorial Gardens and Chapel, and US 97 would have a full diamond interchange with 3rd Street just north of Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.</p> <p>The East DS1 Alternative would close access to US 97 from Bowery Lane. The public would still be able to use Bowery Lane and cross the bridge by vehicle, but the road would terminate on private property (Figures 2 and 3). The bridge would not be moved or altered, and the ownership would not change. Considering that the bridge was specifically constructed to access US 97, the East DS1 Alternative would affect an NRHP-listed resource, but the effect would not be adverse, as the bridge could still be accessed and would not be physically impacted by the proposed action.</p> <p><u>East DS2 Alternative</u></p> <p>Like the East DS1 Alternative, the East DS2 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become a local arterial. Under this build alternative, however, the extension of 3rd Street would continue north on the east side of the Deschutes Memorial Gardens and Chapel, and would connect to US 97 through a directional interchange near Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.</p> <p>The East DS2 Alternative would realign Bowery Lane south of its current location. The portion of the current roadway that contains the Rock O' the Range Bridge would become a public road or driveway leading to parcels in the vicinity, and would no longer provide access to US 97 (Figures 4 and 5). The bridge would not be moved or altered, and the ownership would not change. Considering that the bridge was specifically constructed to access US 97, the East DS2 Alternative would affect an NRHP-listed resource, but the effect would not be adverse, as the bridge could still be accessed and would not be physically impacted by the proposed action.</p> <p>Evaluation of Effects</p> <p>It has been determined by FHWA and ODOT in concurrence with the SHPO that the proposed project would affect the NRHP-listed Rock O' the Range Bridge, but the effect will not be adverse. Proposed actions under the East DS1 and East DS2 alternatives would realign Bowery Lane and close its historic access point to US 97, but would not alter the function of the bridge as a public vehicular right-of-way. The bridge would not be physically moved or altered, and the ownership would not change. This effect has been determined through the application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5.</p> <p>Coordination and Public Output</p> <p>ODOT has and will continue to use many methods to share information with the public and gather their input pertaining to the US 97 Bend North Corridor project. These methods include public meetings, a project website, focus group meetings, surveys, and project committees. ODOT has taken additional care to reach out to environmental justice populations, holding meetings for these groups to present the project alternatives, discuss the impacts and benefits of the alternatives, and to identify community concerns about the project. A Citizen Advisory Committee, consisting of community members with a direct interest in the outcome of the project, has met at least 25 times to share community-raised issues surrounding the project with ODOT, and Chris Bell, ODOT Cultural Resources Program Coordinator, presented the Deschutes County Historic Landmarks Commission with information pertaining to NRHP-eligible properties within the project footprint and how they may be affected by proposed improvements on February 17, 2011. Specific information about meeting times and notifications are available upon request.</p>	

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM**

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)

Property Name: Rock O' the Range Bridge

Street Address: N/A

City, County: Bend, Deschutes

Conclusion

It is the determination of FHWA and ODOT that the proposed realignment of Bowery Lane will result in a finding of "No Historic Properties Adversely Affected" for the Rock O' the Range Bridge.

Sources

Potter, Elisabeth Walton

1977 National Register of Historic Places nomination form for Oregon Covered Bridges. On file, State Historic Preservation Office, Salem, Oregon.

OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM
Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Rock O' the Range Bridge	
Street Address: N/A	City, County: Bend, Deschutes



View: The Rock O' the Range Bridge spans the Swalley Canal, which was piped below ground at this location in 2008. The view is towards the north.



View: The Rock O' the Range Bridge is located immediately west of US 97 on Bowery Lane. The view is towards the east.

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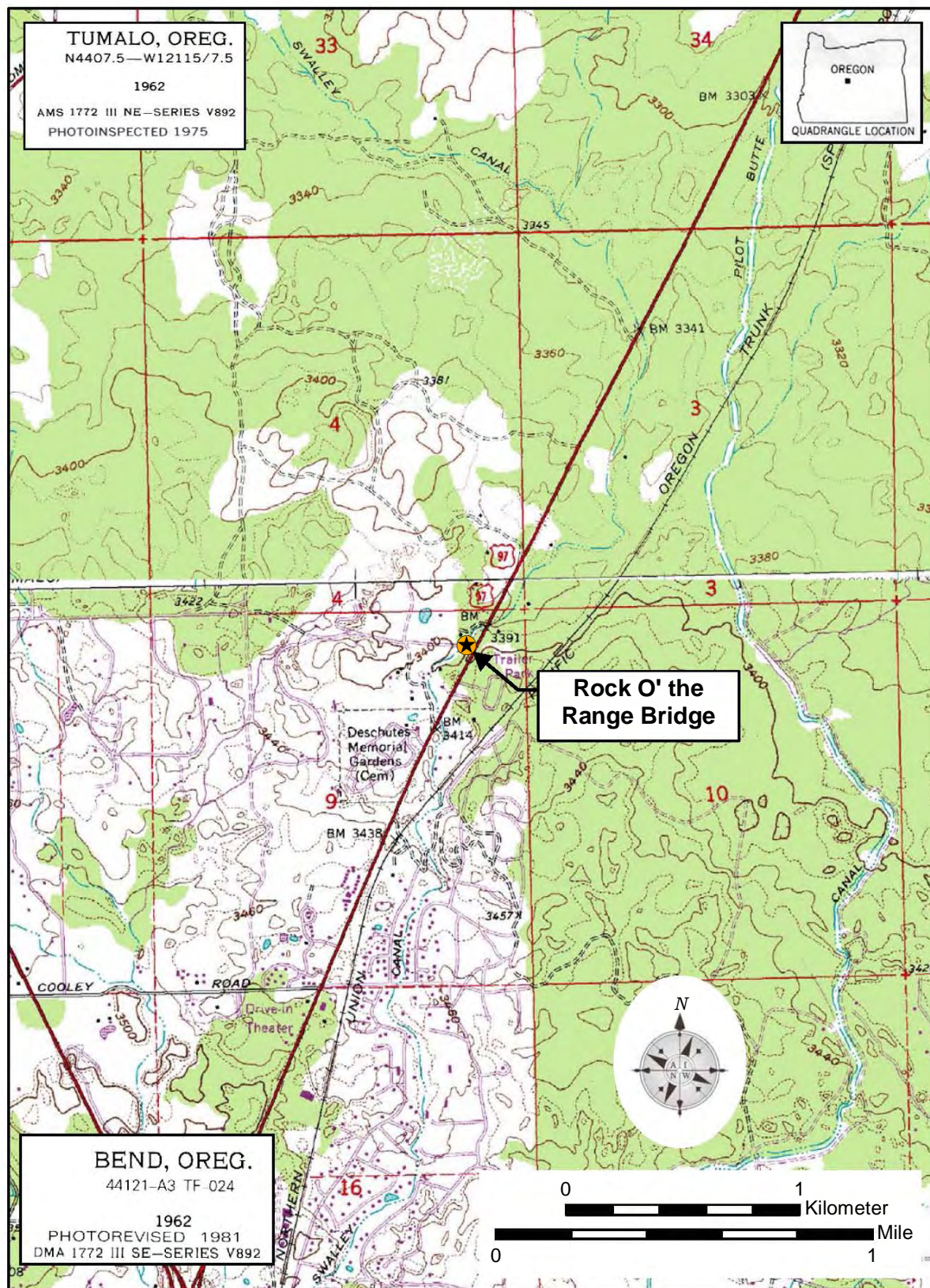


Figure 1. The Rock O' the Range Bridge location in Bend, Oregon.

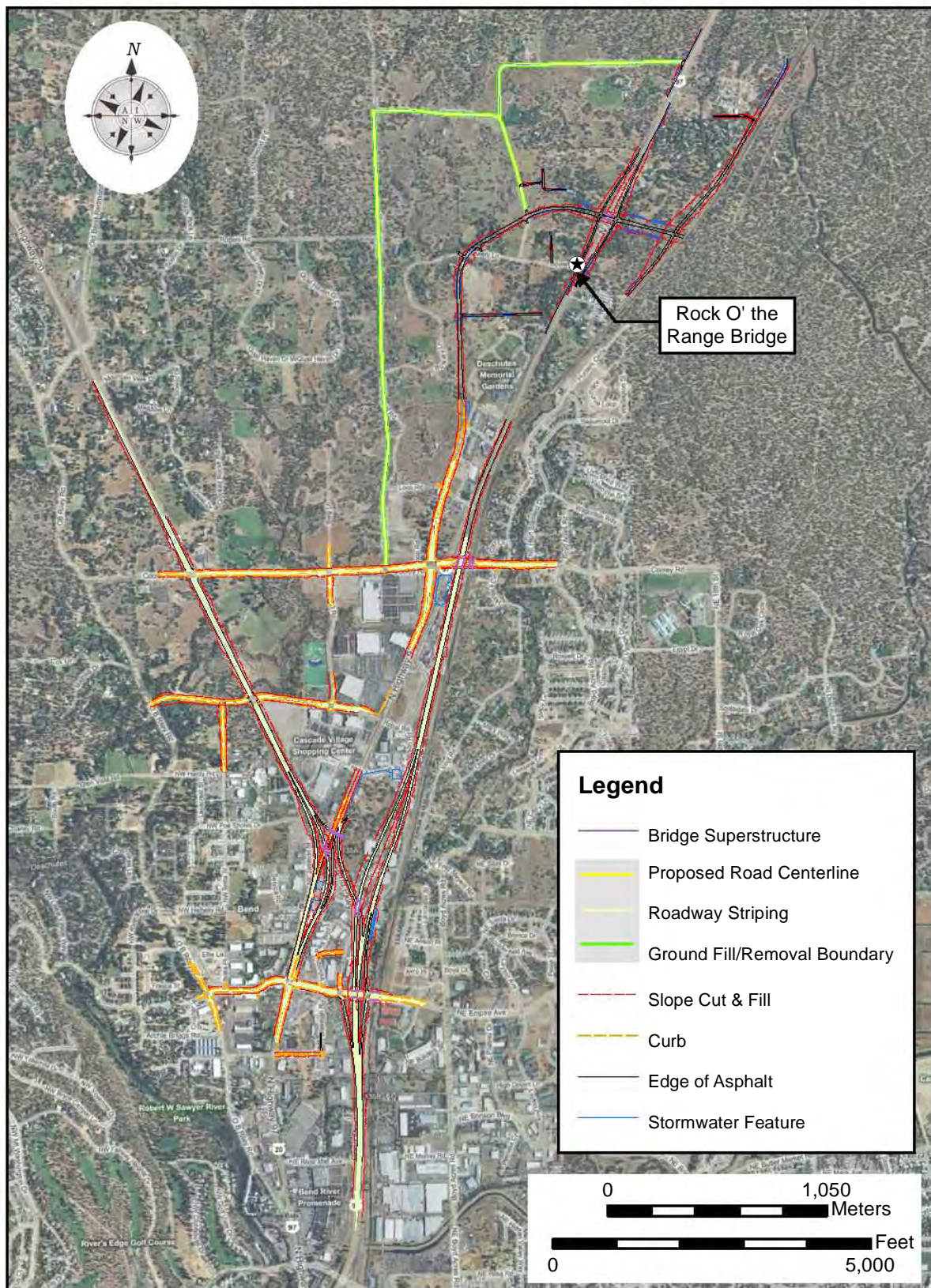


Figure 2. The location of the Rock O' the Range Bridge in relation to the East DS1 Alternative.

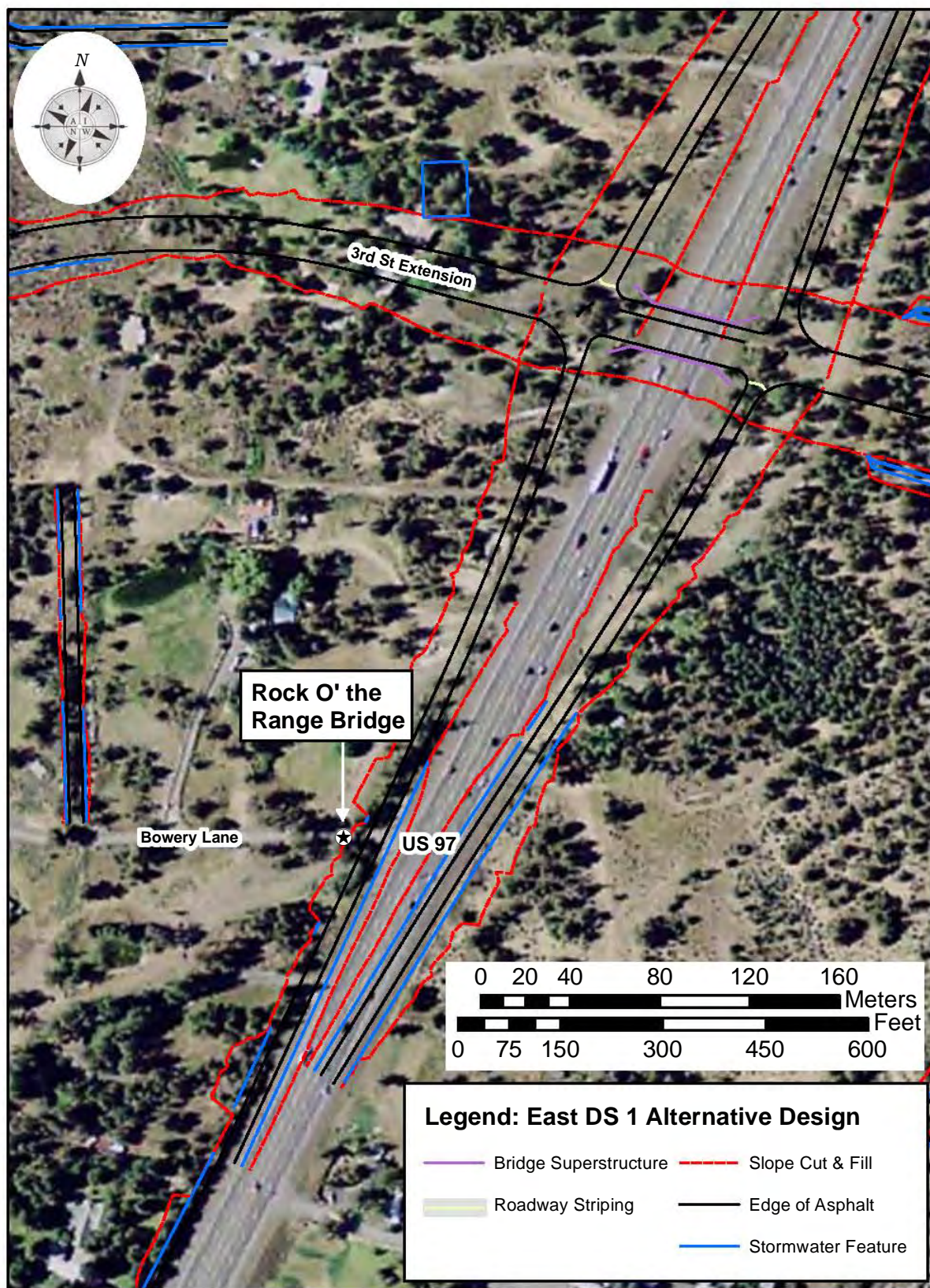


Figure 3. The East DS1 alternative as proposed at the Rock O' the Range Bridge.

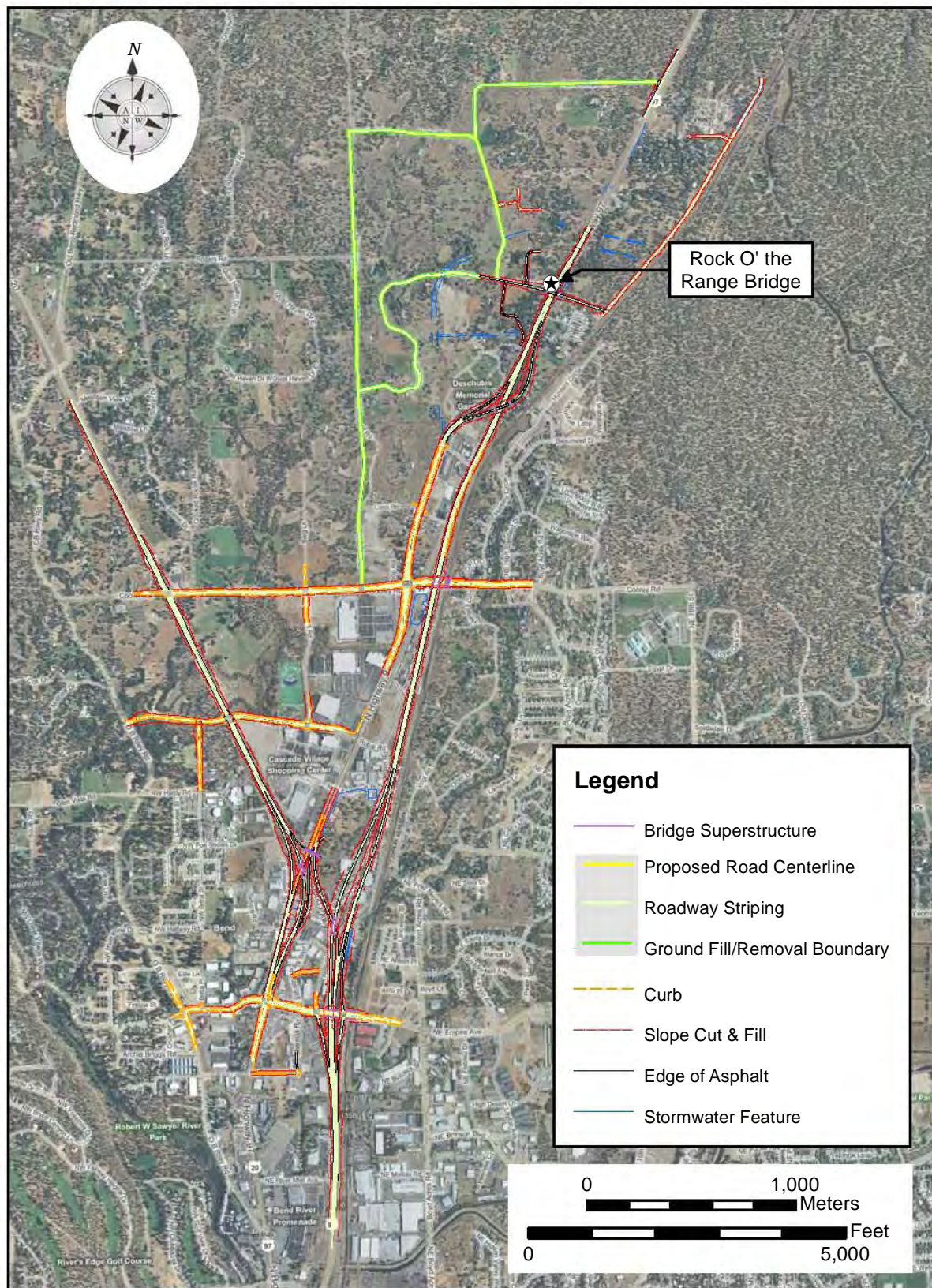


Figure 4. The location of the Rock O' the Range Bridge in relation to the East DS2 Alternative.

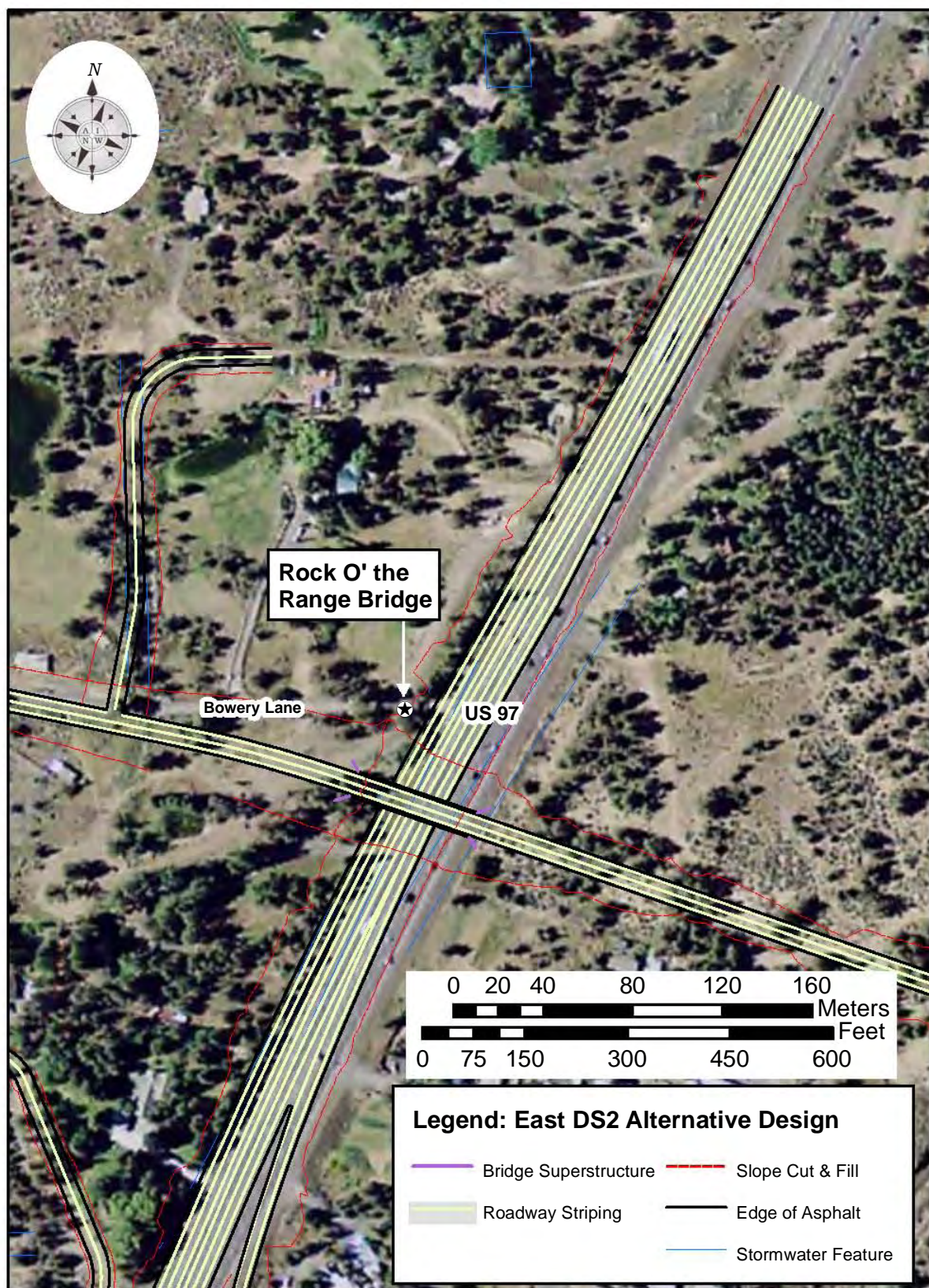



Figure 5. The East DS2 alternative as proposed at the Rock O' the Range Bridge.

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Swalley Canal	
Street Address: N/A	City, County: Bend, Deschutes
USGS Quad Name: <i>Bend, Ore. 1962, photorevised 1981</i>	Township: Range: Sections: <i>See Page 3</i>
This property is part of a <input type="checkbox"/> District <input type="checkbox"/> Grouping/Ensemble (see instructions) Name of District or Grouping/Ensemble:	
Number and Type of Associated Resources in Grouping/Ensemble:	
Current Use: Irrigation Facility	Construction Date: Circa 1910
Architectural Classification/Resource Type: Utilitarian structure	Alterations & Dates: Five miles of canal piped underground circa 2010
Window Type & Material: N/A	Exterior Surface Materials: Primary: Earth Secondary: N/A Decorative: N/A
Roof Type & Material: N/A	
Condition: <input type="checkbox"/> Excellent <input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	Integrity: <input type="checkbox"/> Excellent <input type="checkbox"/> Good <input checked="" type="checkbox"/> Fair <input type="checkbox"/> Poor
	
Over five miles of the Swalley Canal has been piped underground. The view is towards the southwest.	
Preliminary National Register Findings: <input type="checkbox"/> National Register listed <input checked="" type="checkbox"/> Potentially Eligible: <input checked="" type="checkbox"/> Individually <input checked="" type="checkbox"/> As part of District <input type="checkbox"/> Not Eligible: <input type="checkbox"/> In current state <input type="checkbox"/> Irretrievable integrity loss <input type="checkbox"/> Lacks Distinction <input type="checkbox"/> Not 50 Years	
State Historic Preservation Office Comments: <input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur: <input type="checkbox"/> Potentially Eligible Individually <input type="checkbox"/> Potentially Eligible as part of District <input type="checkbox"/> Not Eligible Signed: <u><i>Ian Johnson</i></u> Date: <u>1/27/2011</u> Comments: <u>IAN JOHNSON</u> <u>503-986-0678</u> <u>ian.johnson@state.or.us</u>	

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Date Recorded: September 2010

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Swalley Canal			
Street Address: N/A		City, County: Bend, Deschutes	
Architect, Builder or Designer (if known): N/A		Owner: <input type="checkbox"/> Private <input type="checkbox"/> Local Government <input type="checkbox"/> State <input type="checkbox"/> Federal <input checked="" type="checkbox"/> Other	
<p>Description of Property (including exterior alterations & approximate dates), Significance Statement, and Sources. (Use continuation sheets if necessary):</p> <p>Significance Statement</p> <p>Open portions of the Swalley Canal and the associated Rogers and Riley lateral canals are recommended to be eligible for listing in the National Register of Historic Places (NRHP) under Criterion A for their association with the development of irrigation infrastructure in Bend, Oregon. Swalley Canal is one of the oldest canals in Deschutes County and it played a significant role in the rapid development of Bend in the twentieth century. Open portions of the Swalley Canal and its associated laterals retain integrity of location, design, materials, workmanship, feeling, and association. Portions that have been piped underground have incurred an overall loss of integrity and do not contribute to the significance of the resource. Maps attached to this Determination of Eligibility show the location of piped and open sections of the Swalley Canal, the Rogers Canal, and Riley Canal within and adjacent to canal segments surveyed for this project. The resource boundary is defined by the right-of-way of the three canals.</p> <p>Although the overall integrity of the Swalley Canal has been degraded through recent modernization efforts, portions of the canal remain open, as do most portions of the associated Rogers and Riley lateral canals. The alignment of the canal has not been altered despite continuous development in the immediate area. Within the surveyed area many portions of the canal have been piped underground and therefore lack an adequate level of integrity to communicate historic significance. Sections of the canal that extend beyond the project area continue to remain largely unaltered and open, reflecting the historic appearance of the resource.</p> <p>The Swalley Canal is widely considered to be one of the earliest known private irrigation projects completed in Central Oregon after the passage of the Carey Act of 1894 (Smith 1991; Vaughan 1981). The canal was constructed by the Deschutes Reclamation and Irrigation Company that was incorporated in 1899 by G. W. Swalley, C. R. Swalley, and six area landowners. G. W. and C. R. Swalley initially filed for the right to divert water from the Deschutes River in 1892 to irrigate their ranches north of Bend (Hall 1994). This filing was one of the first to be submitted for the Deschutes River, and was later used as the basis for an 1899 claim filed by the Deschutes Reclamation and Irrigation Company to divert "5,000 miners (sic) inches" of water from the river (Hall 1994; Smith 1991). This 1899 claim, now held by the Swalley Irrigation Company, is the second oldest active claim within the Deschutes Basin (Deschutes Basin Board of Control 2008). Construction began on the Swalley Canal at the turn of the twentieth century and was completed circa 1910.</p> <p>In the early- to mid-twentieth century two main laterals, the Rogers Canal and Riley Canal, were constructed to the west of the Swalley Canal. Both laterals appear on the 1935 Metsker Map of Township 17 South, Range 12 East, Willamette Meridian, but were not yet constructed to their full, modern extent (Metsker Maps 1935). Metsker Maps from 1944 depict both laterals in their modern-day location and alignment (Metsker Maps 1944). Dwight Smith (1991) noted in his Determination of Eligibility for the Swalley Canal that under the leadership of president Nels Andersen, the Deschutes Reclamation and Irrigation Company took on several laterals as company responsibility. The Rogers and Riley lateral canals were likely constructed in the late 1920s during this era of expansion.</p> <p>Recent projects that were undertaken to improve safety and prevent water loss along the canal corridor have diminished the historic integrity of the resource. A project completed in 2010 piped five miles of the 12-mile long canal underground, and a 0.75 Megawatt hydropower plant was constructed along its alignment. Previous to these modifications the canal had been determined eligible for listing in the NRHP in 2001 (Carter 2001), had been recommended eligible for listing in the NRHP by the Oregon Department of Transportation in 1991 (Smith 1991), and had been inventoried in the Deschutes County Inventory of Historic Sites (No. 222).</p> <p>Physical Description</p> <p>Beginning at its diversion from the Deschutes River at the North Canal Dam, the Swalley Canal trends north between US 97 and US 20 for approximately 12 miles before terminating north of Long Butte in Section 10 of Township 16 South, Range 12 East, Willamette Meridian. The canal was excavated in the early twentieth century but segments have since been piped underground to accommodate development, improve safety, and decrease seepage. The canal traverses through both public and private lands on an easement owned by the Swalley Irrigation District.</p>			

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Swalley Canal	
Street Address: N/A	City, County: Bend, Deschutes

The Rogers Canal and Riley Canal provided water to areas near present-day US 20 and were likely constructed during the late 1920s. The laterals originate in Section 17 of Township 17 South, Range 12 East, Willamette Meridian, where an arm of the Swalley Canal splits to form the two laterals. The Riley Canal travels westward from its headgate, eventually terminating in Section 18 of Township 17 South, Range 12 East, Willamette Meridian. A sub-lateral diverts water northward from the Riley Canal in Section 17 of Township 17 South, Range 12 East, Willamette Meridian.

The Rogers Canal diverts water northward from its headgate in Section 17 of Township 17 South, Range 12 East, Willamette Meridian. A small sub-lateral diverts water from the Rogers Canal in Section 8 of Township 17 South, Range 12 East before the canal terminates in Section 32 of Township 16 South, Range 12 East, Willamette Meridian.

Segments of canals that have not been piped underground are lined with earth and rocks and vary in depth and width. Most headgates along the canals appear to be historic and are composed of poured concrete and metal components. Historic culverts utilize a mixture of stone, poured concrete, and corrugated metal piping to convey the water below roadways. Segments of the Swalley Canal that have been piped underground appear only as linear mounds of dirt in the project area that are abutted by modern concrete culverts at major roadways.

Surveyed Canal Segment Locations

Swalley Canal:
 Township: 16 South Range: 12 East Sections: 33 and 34
 Township: 17 South Range: 12 East Sections: 3, 4, 9, 16, 21, 28, 29

Riley Canal:
 Township: 17 South Range: 12 East Sections: 8, 16, 17, 21

Rodgers Canal:
 Township: 17 South Range: 12 East Sections: 8, 16, 17

Sources

Carter, Liz
 2001 *Proposed Cellular Installation, Mountain View Mall – Qwest, 63990 Nels Anderson Road, Bend, Deschutes County, Oregon.* On file, Oregon State Historic Preservation Office, Salem.

Hall, Michael
 1994 *Irrigation Development in Oregon's Upper Deschutes River Basin 1971-1957: A Historic Context Statement.* Deschutes County Historical Landmarks Commission, Bend, Oregon. Prepared for Deschutes County, the Cities of Bend, Redmond, and Sisters, and the State Historic Preservation Office, Salem, Oregon.

Metsker Maps
 1935 *Metsker's Atlas of Deschutes County, Oregon.* On file, map collection, Oregon Historical Society Regional Research Library, Portland.
 1944 *Metsker's Atlas of Deschutes County, Oregon.* On file, map collection, Oregon Historical Society Regional Research Library, Portland.

Smith, Dwight A.
 1991 Cultural Property Inventory and Request for a Determination of Eligibility for the Deschutes Reclamation and Irrigation Company Canal (Swalley Canal). Oregon Department of Transportation, Salem. On file, Oregon State Historic Preservation Office, Salem.

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OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties

Property Name: Swalley Canal	
Street Address: N/A	City, County: Bend, Deschutes
<p>Deschutes Basin Board of Control</p> <p>2008 Deschutes Basin Board of Control: Overview Map and Member Service Areas. Prepared by Geo-Spatial Solutions, Inc., Bend, Oregon. Electronic document, http://www.swalley.com/districts.pdf, accessed September 7, 2010.</p> <p>Vaughan, Thomas (editor)</p> <p>1981 <i>High and Mighty: Select Sketches about Deschutes County</i>. Oregon Historical Society, Portland, Oregon.</p>	

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Swalley Canal	
Street Address: N/A	City, County: Bend, Deschutes



View: The Swalley Canal as viewed in 2008 before being piped underground. The canal became a significant landscape feature for many home owners who took advantage of its scenic qualities when designing their home. The view is towards the north.



View: Representative view of the Swalley Canal in 2008 before being piped circa 2010. The view is towards the south.

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Individual Properties

Property Name: Swalley Canal	
Street Address: N/A	City, County: Bend, Deschutes



View: Representative view of a piped canal segment in the project area. The view is towards the south from Cooley Road.



View: New culverts have been constructed at major roadways during recent piping activities. The view is towards the southeast.

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**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 DOCUMENTATION FORM
Individual Properties**

Property Name: Swalley Canal	
Street Address: N/A	City, County: Bend, Deschutes



View: The headgates of the Rogers Canal (left) and the Riley Canal (right) are located south of Poe Sholes Drive. The view is towards the south.



View: Corrugated metal pipes were commonly used as culverts for the Rogers and Riley canals, as was observed at the crossing of the Rogers Canal at Cooley Road. The view is towards the north.

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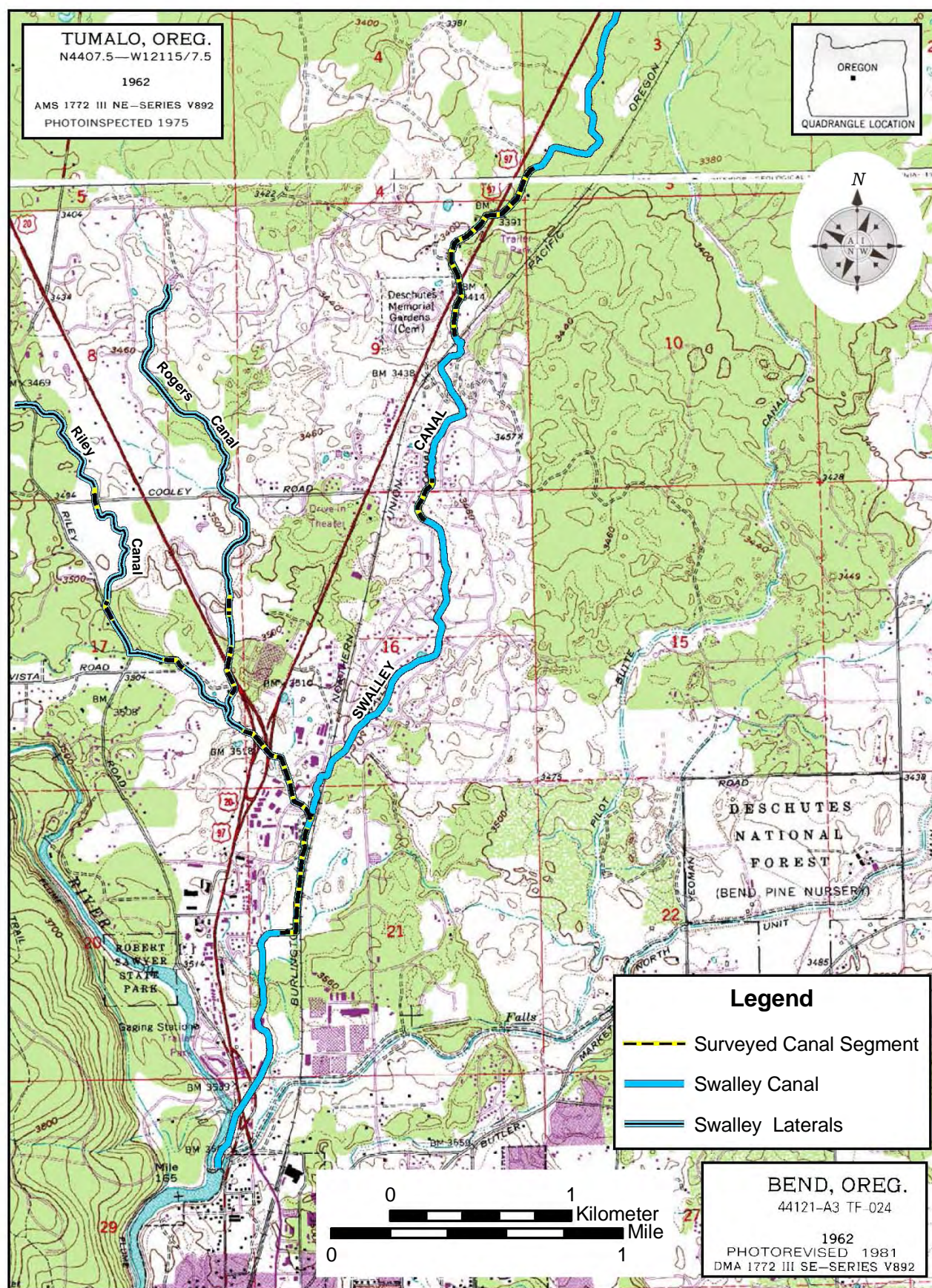


Figure 1. Surveyed segments of the Swalley Canal and its associated laterals.

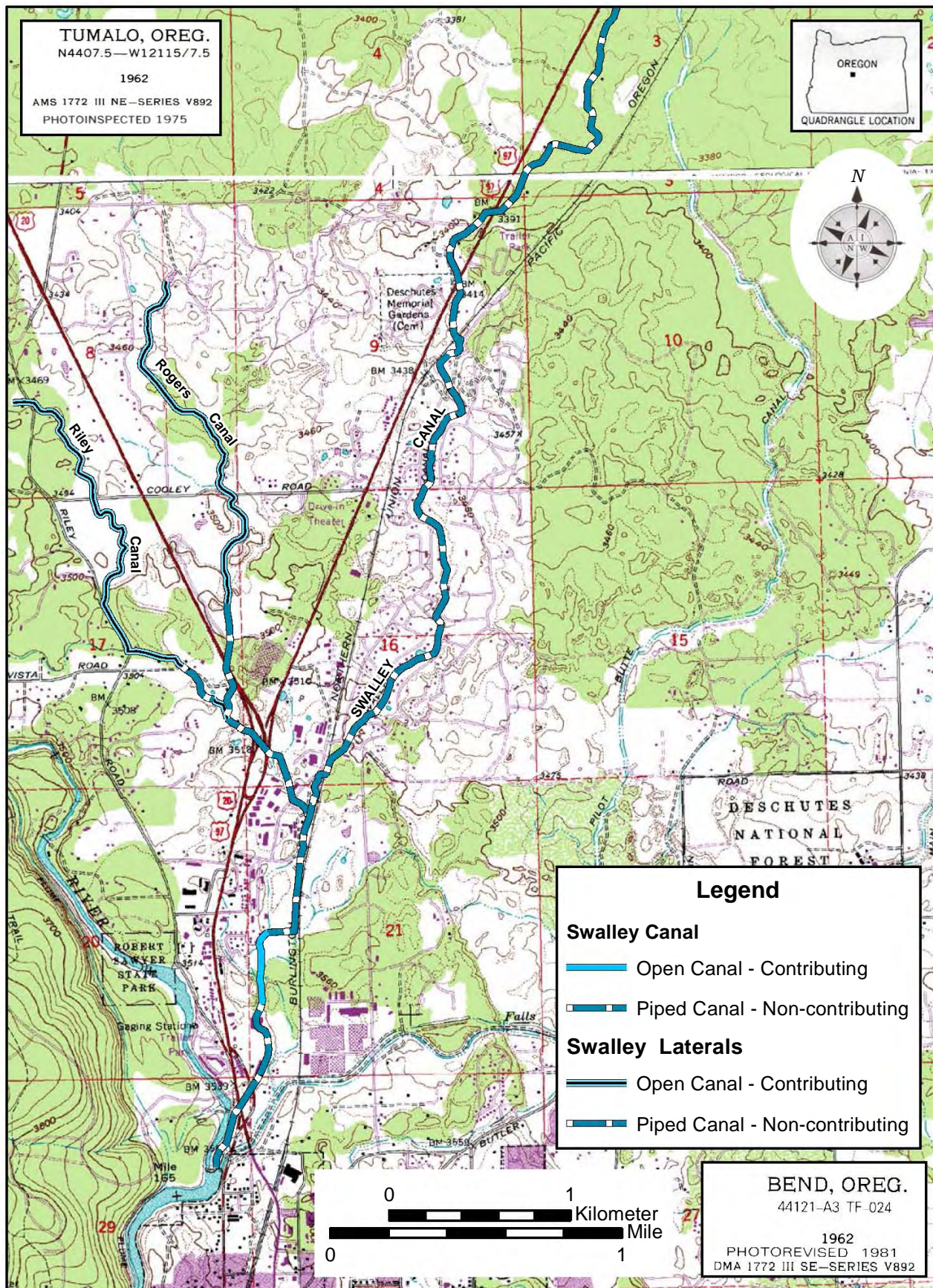
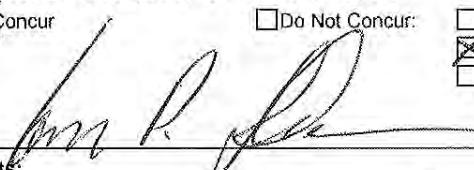


Figure 2. Open and piped segments of the Swalley Canal and its associated laterals.

**OREGON INVENTORY OF HISTORIC PROPERTIES
SECTION 106 FINDING OF EFFECT FORM**

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Swalley Canal	
Street Address: N/A	City, County: Bend, Deschutes

Preliminary Finding of Effect: <input type="checkbox"/> No Historic Properties Affected <input checked="" type="checkbox"/> No Historic Properties Adversely Affected <input type="checkbox"/> Historic Properties Adversely Affected	
State Historic Preservation Office Comments: <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur: </div> <div style="width: 45%;"> <input type="checkbox"/> No Historic Properties Affected <input checked="" type="checkbox"/> No Historic Properties Adversely Affected <input type="checkbox"/> Historic Properties Adversely Affected </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> Signed:  Comments: <i>See letter dated 6/17/2011</i> </div> <div style="width: 45%; text-align: right;"> Date: <u>6/17/2011</u> IAN JOHNSON 503-986-0678 ian.johnson@state.or.us </div> </div>	

Provide written description of the project, and its potential effects on the subject property per 36 CFR 800.

Introduction

This statement of finding discusses the effects of the proposed US 97 Bend North Corridor project on the Swalley Canal and its associated lateral canals (Figure 1). The canal was determined to be eligible for listing in the National Register of Historic Places (NRHP) in 2011 by the Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) in concurrence with the State Historic Preservation Office (SHPO) (SHPO Case No. 11-0151) (Figure 2).

It is the finding of FHWA and ODOT, in concurrence with the SHPO, that the proposed project will have an effect on the National Register-eligible Swalley Canal, but the effect will not be adverse. This statement of finding is made pursuant to the requirements of the National Historic Preservation Act of 1966 (36 CFR 800), Executive Order 11593, and the National Environmental Policy Act.

Project Description

FHWA and ODOT propose to improve an approximately six-mile corridor of US 97 between the Deschutes Market Road/Tumalo Junction interchange to the north and the Empire Avenue interchange to the south in Bend, Deschutes County, Oregon. US 97 is currently classified as a statewide facility and freight route along its entire length, and is classified as an expressway along many sections, including the corridor proposed for improvement. It is a critical link in moving goods and people throughout Central Oregon, but steady population growth in Bend and anticipated increases in congestion will begin to threaten the efficiency of this corridor if action is not taken. Average daily traffic in the project area is anticipated to grow by over 40% by 2035, which would result in significant queuing and delays.

The purpose of the proposed action is to improve safety and freight mobility for trucks and automobiles on US 97 by implementing a practical design solution that is affordable within the potential 20-year funding opportunities and that meets the following medium-term and long-term performance objectives:

- Reduces delay, congestion, and the number and severity of crashes at the US 97/Cooley Road and US 97/Robal Road intersections within the medium-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Plan, and
- Reduces delay, congestion, and improves safety on US 97 between the Deschutes Market Road/Tumalo Junction interchange and Empire Avenue interchange within the long-term planning period as defined by the Bend Metropolitan Planning Organization's 2007-2030 Metropolitan Transportation Plan.

One no build alternative and two build alternatives are currently being analyzed to determine which would best achieve the performance objectives outlined in the project purpose. Upon public review and comments on the analysis of the range of alternatives studied in the draft Environmental Impact Statement, ODOT and FHWA will also consider the following goals and objectives when identifying a preferred alternative (or solution) for the proposed action:

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OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Swalley Canal	
Street Address: N/A	City, County: Bend, Deschutes
<ul style="list-style-type: none"> Improve transportation linkage and operation; Provide local and regional access; Consider planned economic development opportunities; Develop a cost-effective and sustainable project that can be funded; Develop a project that fits into the context of the community; and Improve bicycle and pedestrian safety and connectivity. 	
<p>Identification and Description of the Historic Resource</p> <p>The Swalley Canal is widely considered to be one of the earliest known private irrigation projects to be completed in Central Oregon after the passage of the Carey Act of 1894 (Smith 1991; Vaughan 1981). The canal was constructed by the Deschutes Reclamation and Irrigation Company, which was incorporated in 1899 by G.W. Swalley, C.R. Swalley, and six additional land owners north of Bend. G.W. and C.R. Swalley initially filed for the right to irrigate their ranches located north of Bend with water from the Deschutes River in 1892; this was one of the first filings to be submitted for the Deschutes River, and was the basis for the 1899 claim filed by the Deschutes Reclamation and Irrigation Company to divert “5,000 miners [sic] inches” of water from the river (Hall 1994; Smith 1991). This 1899 claim, now held by the Swalley Irrigation Company, is the second oldest active claim within the Deschutes Basin (Deschutes Basin Board of Control 2008).</p> <p>Construction began on the canal at the turn of the twentieth century; it was eventually completed circa 1910. Soon after, construction began on the Rogers Canal and Riley Canal to irrigate lands to the west of Swalley Canal. Both lateral canals are depicted in the 1935 <i>Metker's Atlas of Deschutes County, Oregon</i>, but neither is shown as being constructed to their full, modern extent (Metker Maps 1935). The Swalley Canal, Rogers Canal, and Riley Canal pass through public and private lands on an easement owned by the Swalley Irrigation District; this right-of-way of the three canals defines the resource boundary. While these canals were initially constructed as open-air, earth-lined canals, modern demands for efficiency and safety have led to continuing efforts to pipe segments of the Swalley Canal and its associated lateral canals underground.</p> <p>In 2011, FHWA and ODOT, with concurrence from SHPO, determined that open portions of the Swalley Canal and the associated Rogers and Riley lateral canals were eligible for listing in the NRHP under Criterion A for their association with the development of irrigation infrastructure in Bend, Oregon. Open canal segments were determined to retain integrity of location, design, materials, workmanship, feeling, and association, and are therefore contributing to the significance of the resource. Piped segments of this canal system were determined to lack historic integrity, and are therefore considered to be non-contributing to the significance of the resource. Previous to this determination, the Swalley Canal was determined eligible for listing in the NRHP by ODOT in 1991 (Smith 1991), and was again determined to be eligible in 2001 by SHPO (Carter 2001). The canal is listed as a historic resource the Deschutes County Inventory of Historic Sites (No. 222).</p>	
<p>Avoidance Alternatives Considered</p> <p>One no build alternative and two build alternatives are currently being considered for the project. They are as follows:</p> <p><u>No Build Alternative:</u></p> <p>The No Build Alternative would not provide any improvements within the project area. This alternative would not meet the purpose and need for the proposed action, and thus would not reduce congestion, improve traffic flow, or enhance safety.</p> <p><u>East DS1 Alternative</u></p> <p>The East DS1 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become an extension of 3rd Street, a local arterial. The 3rd Street extension would continue north on the west side of the Deschutes Memorial Gardens and Chapel, and US 97 would have a full diamond interchange with 3rd Street just north of Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.</p>	

Surveyor/Agency: Andrea Blaser, M.S.
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Date Recorded: February 2011
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OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Swalley Canal	
Street Address: N/A	City, County: Bend, Deschutes
<p>Completing the East DS1 Alternative would involve realigning and reinforcing non-contributing portions of the Swalley Canal and its associated laterals that have previously been piped underground. Two existing crossings of the Rogers Canal, one at Cooley Road and another at Robal Road between US 20 and US 97, would be widened, necessitating either the construction of a new structure below the widened roadway or the piping of currently open segments of the canal below ground (Figure 3). Similarly, an open segment of the Riley Canal immediately north of Britta Street would be piped or diverted through a structure beneath a new roadway (Figure 3).</p> <p>The piping or diversion of these contributing portions of the Rogers and Riley lateral canals below ground will affect the integrity of design, materials, workmanship, feeling, and association of the canal resource at these specific locations, but will not detract from the overall integrity of location, design, materials, workmanship, feeling, and association of the canal system, which extends well outside of the project footprint. Therefore, while the project would affect small portions of contributing canal segments, this effect would not be adverse, as the canal system as a whole would continue to retain a sufficient level of integrity to convey its historic significance under Criterion A.</p> <p><u>East DS2 Alternative</u></p> <p>Like the East DS1 Alternative, the East DS2 Alternative would reroute US 97 east of its current alignment, and the current US 97 roadway would become a local arterial. Under this build alternative, however, the extension of 3rd Street would continue north on the east side of the Deschutes Memorial Gardens and Chapel, and would connect to US 97 through a directional interchange near Bowery Lane. This alternative would meet the purpose and need for the proposed action, and thus would reduce congestion, improve traffic flow, enhance safety, and could be feasibly constructed within ODOT design standards.</p> <p>Completing the East DS2 Alternative would involve realigning and reinforcing non-contributing portions of the Swalley Canal and its associated laterals that have previously been piped underground. Two existing crossings of the Rogers Canal, one at Cooley Road and another at Robal Road between US 20 and US 97, would be widened, necessitating either the construction of a new structure below the widened roadway or the piping of currently open segments of the canal below ground (Figure 4). Similarly, an open segment of the Riley Canal immediately north of Britta Street would be piped or diverted through a structure beneath a new roadway (Figure 4).</p> <p>The piping or diversion of these contributing portions of the Rogers and Riley lateral canals below ground will affect the integrity of design, materials, workmanship, feeling, and association of the canal resource at these specific locations, but will not detract from the overall integrity of location, design, materials, workmanship, feeling, and association of the canal system, which extends well outside of the project footprint. Therefore, while the project would affect small portions of contributing canal segments, this effect would not be adverse, as the canal system as a whole would continue to retain a sufficient level of integrity to convey its historic significance under Criterion A.</p> <p>Evaluation of Effects</p> <p>It has been determined by FHWA and ODOT that the proposed project will have an effect on the NRHP-eligible Swalley Canal, but the effect will not be adverse. Within the project area, most segments of the Swalley Canal have recently been piped underground, and are therefore considered to be non-contributing to the significance of the resource. Piping small segments of lateral canals within the project area will not detract from the character-defining features displayed by canal segments that remain largely open and unmodified outside of the project area. This effect has been determined through the application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5.</p> <p>Coordination and Public Output</p> <p>ODOT has and will continue to use many methods to share information with the public and gather their input pertaining to the US 97 Bend North Corridor project. These methods include public meetings, a project website, focus group meetings, surveys, and project committees. ODOT has taken additional care to reach out to environmental justice populations, holding meetings for these groups to present the project alternatives, discuss the impacts and benefits of the alternatives, and to identify community concerns about the project. A Citizen Advisory Committee, consisting of community members with a direct interest in the outcome of the project, has met at least 25 times to share community-raised issues surrounding</p>	

OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor
Key No. 14020, Federal ID No. S004(112)

Property Name: Swalley Canal

Street Address: N/A

City, County: Bend, Deschutes

the project with ODOT, and Chris Bell, ODOT Cultural Resources Program Coordinator, presented the Deschutes County Historic Landmarks Commission with information pertaining to NRHP-eligible properties within the project footprint and how they may be affected by proposed improvements on February 17, 2011. Specific information about meeting times and notifications are available upon request.

Conclusion

It is the determination of FHWA and ODOT that proposed modifications to the NRHP-eligible Swalley Canal will result in a finding of "No Historic Properties Adversely Affected." This determination of "No Historic Properties Adversely Affected" is intended to be used by FHWA in reaching a Section 4(f) *de minimis* finding consistent with the US Department of Transportation's *Guidance for Determining De Minimis Impact to Section 4(f) Resources* (December 12, 2005) and the 2005 Safe, Accountable, Flexible, Efficient, Transportation Equity Act A Legacy for Users (SAFETEA-LU), Section 6009(a). A *de minimis* finding specifies that an avoidance alternative analysis is not required.

Sources

Carter, Liz

2001 *Proposed Cellular Installation, Mountain View Mall – Qwest, 63990 Nels Anderson Road, Bend, Deschutes County, Oregon.* On file, Oregon State Historic Preservation Office, Salem.

Deschutes Basin Board of Control

2008 Deschutes Basin Board of Control: Overview Map and Member Service Areas. Prepared by Geo-Spatial Solutions, Inc., Bend, Oregon. Electronic document, <http://www.swalley.com/districts.pdf>, accessed September 7, 2010. Hall, Michael

1994 *Irrigation Development in Oregon's Upper Deschutes River Basin 1971-1957: A Historic Context Statement.* Deschutes County Historical Landmarks Commission, Bend, Oregon. Prepared for Deschutes County, the Cities of Bend, Redmond, and Sisters, and the State Historic Preservation Office, Salem, Oregon.

Metsker Maps

1935 *Metsker's Atlas of Deschutes County, Oregon.* On file, map collection, Oregon Historical Society Regional Research Library, Portland.

Smith, Dwight A.

1991 Cultural Property Inventory and Request for a Determination of Eligibility for the Deschutes Reclamation and Irrigation Company Canal (Swalley Canal). Oregon Department of Transportation, Salem. On file, Oregon State Historic Preservation Office, Salem.

Vaughan, Thomas

1981 *High and Mighty: Selected Sketches about Deschutes County.* Oregon Historical Society, Portland, Oregon.

OREGON INVENTORY OF HISTORIC PROPERTIES SECTION 106 FINDING OF EFFECT FORM

Continuation Sheet

Agency/Project: Federal Highway Administration/Oregon Department of Transportation/US 97 Bend North Corridor Key No. 14020, Federal ID No. S004(112)	
Property Name: Swalley Canal	
Street Address: N/A	City, County: Bend, Deschutes



View: All segments of the Swalley Canal within the project area have been piped underground. The view is towards the south.



View: Headgates for the Rogers Canal (left) and Riley Canal (right) are located south of Poe Sholes Drive. The view is towards the south.

Surveyor/Agency: Andrea Blaser, M.S.
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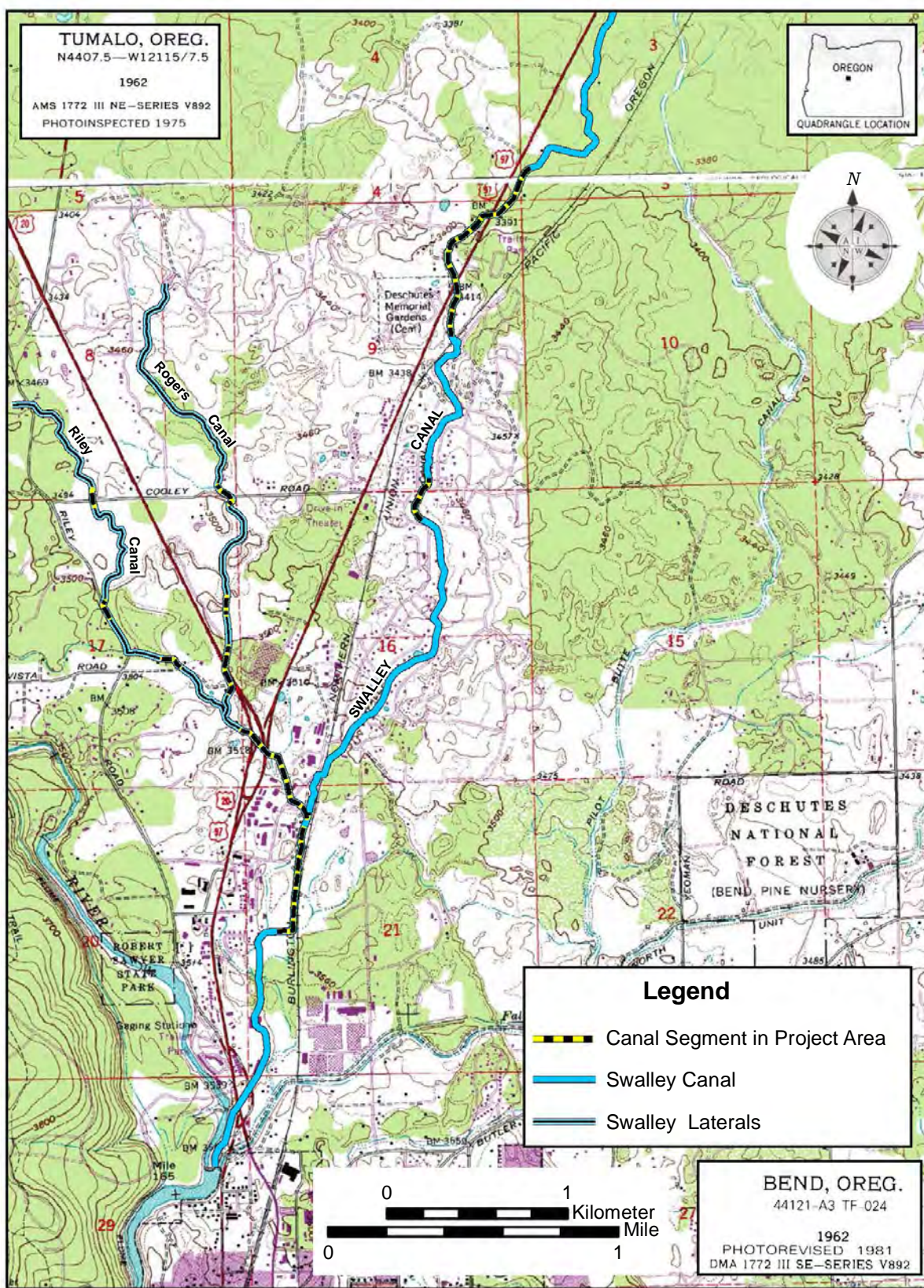


Figure 1. The Swalley Canal and its associated laterals within the US 97 Bend North Corridor project area.

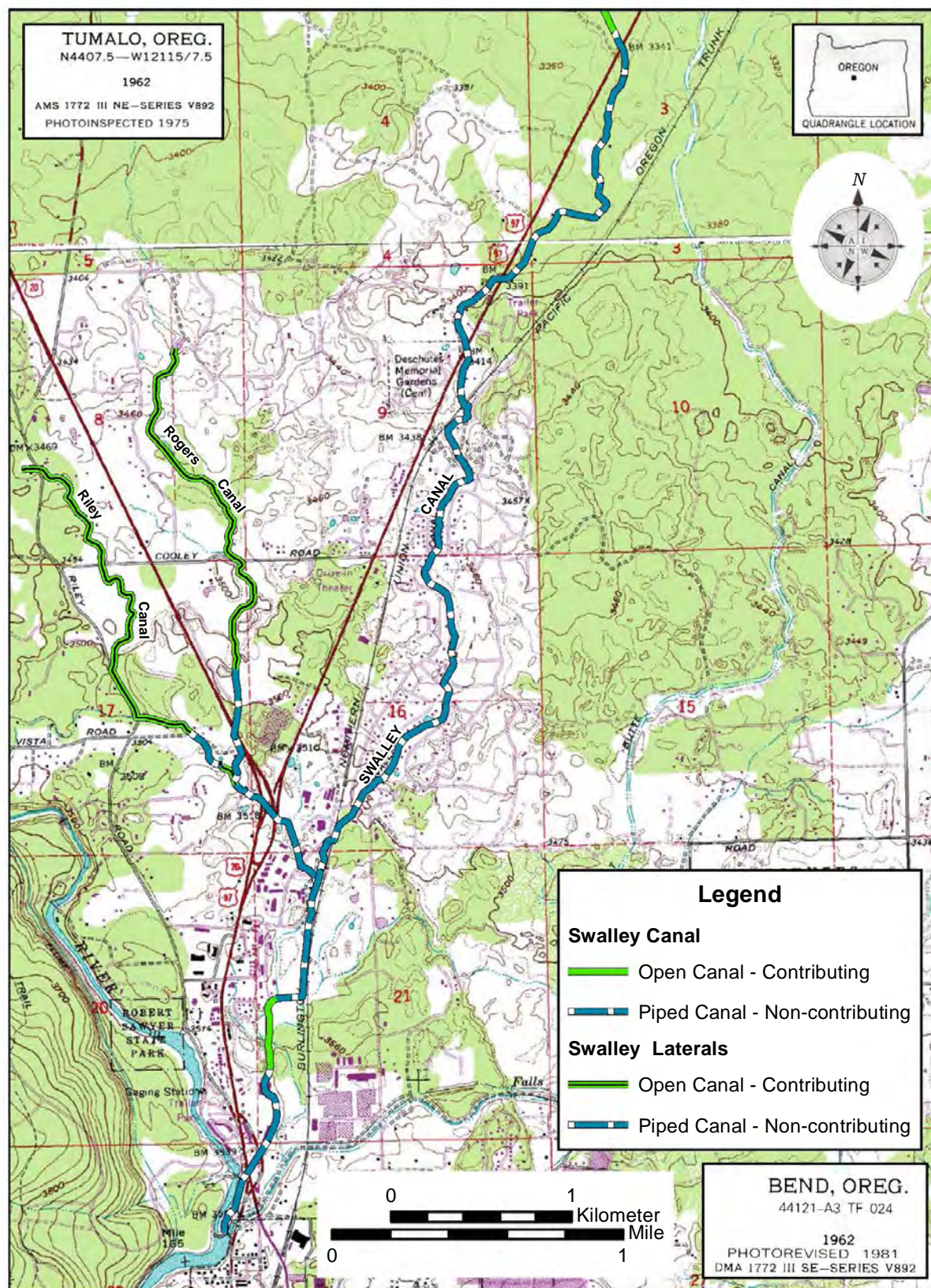


Figure 2. Open and piped segments of the Swalley Canal and its associated laterals. Open segments were determined eligible for listing in the NRHP in 2011 by FHWA and ODOT in concurrence with SHPO.

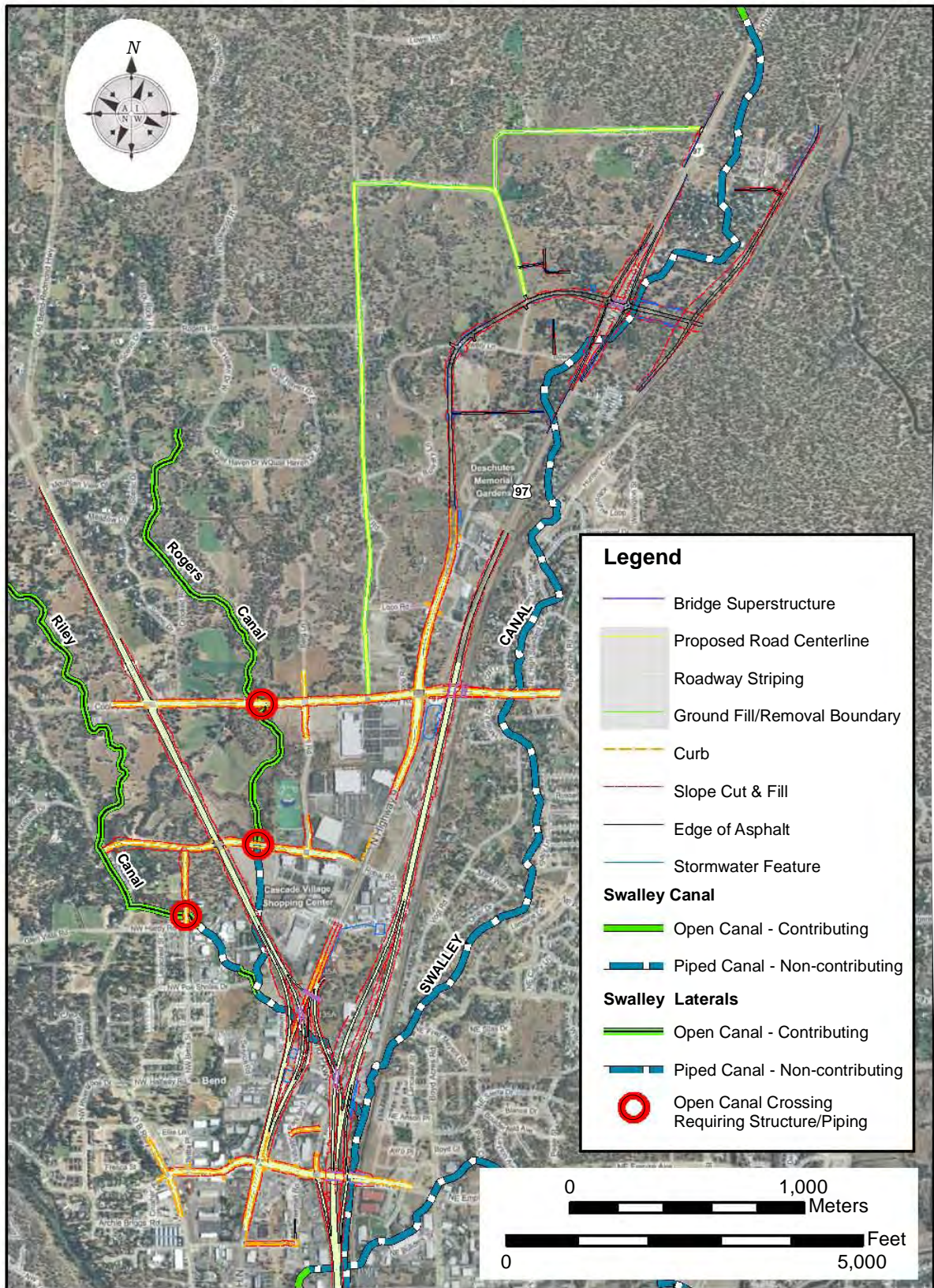


Figure 3. Open segments of lateral canals associated with the Swalley Canal would be affected under the East DS1 alternative.

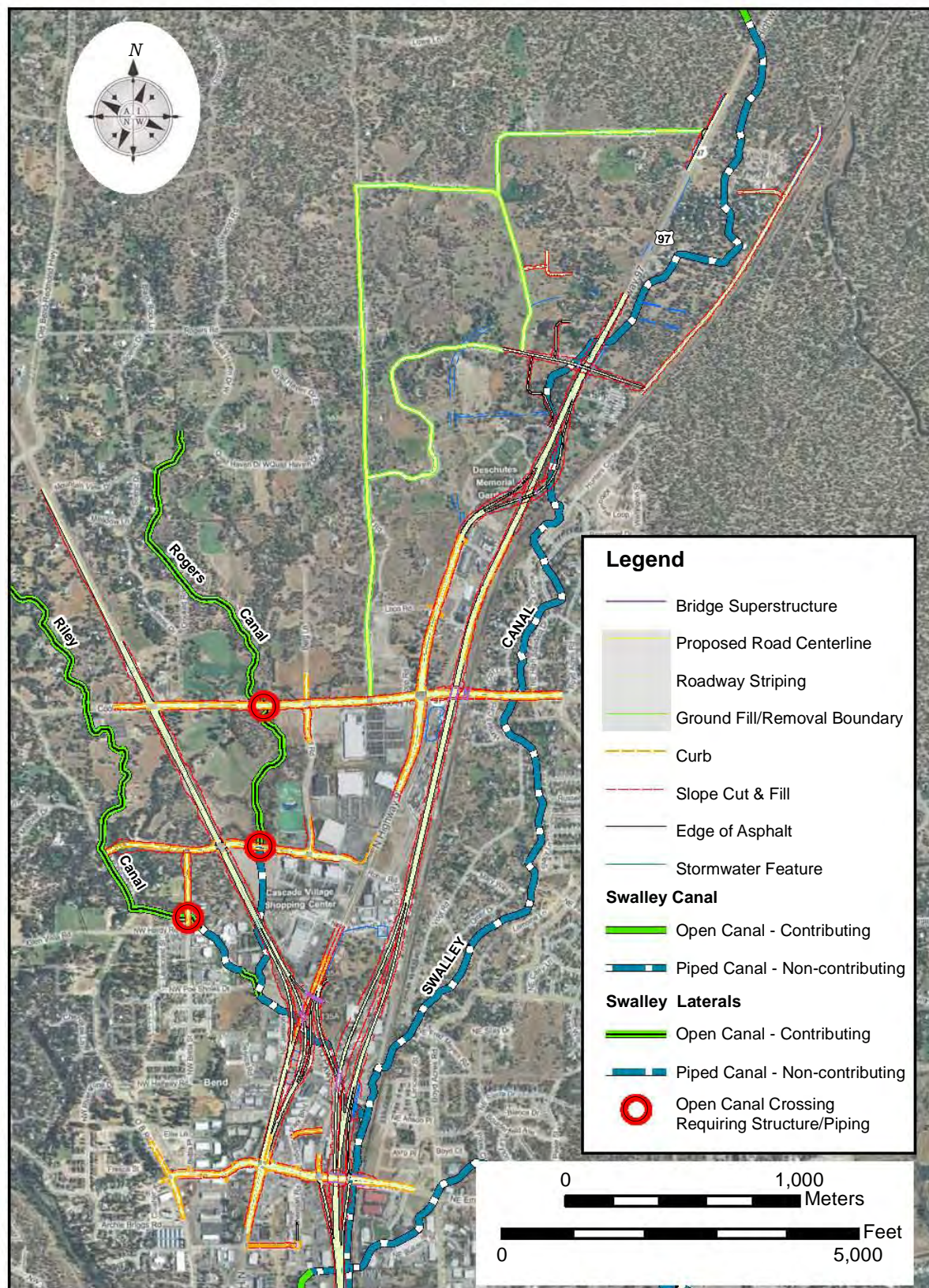


Figure 4. Open segments of lateral canals associated with the Swalley Canal would be affected under the East DS2 alternative.



Oregon

John A. Kitzhaber, MD, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE, Ste C

Salem, OR 97301-1266

(503) 986-0671

Fax (503) 986-0793

www.oregonheritage.org



June 20, 2011

Mr. James Norman
ODOT Environmental
355 Capitol NE Rm 314
Salem, OR 97301

RE: SHPO Case No. 11-0151

ODOT Proj 14020 US 97 Bend N Corridor

Dear Mr. Norman:

We have reviewed the materials submitted on the project referenced above, and we concur with the determination that the property is eligible for listing in the National Register of Historic Places. We also concur with the finding that the undertaking will have no adverse effect on the Swalley Canal.

Please be aware that a sufficient portion of the Swalley Canal and its related laterals have been piped and/or altered that the Oregon SHPO is increasingly concerned that further incompatible work may render the canal or one of its laterals ineligible for listing. Please consult with our office early in the 106 process when working with this resource in the future.

This letter refers to above-ground historic resources only. Comments pursuant to a review for archaeological resources, if applicable, will be sent separately.

Unless there are changes to the project, this concludes the requirement for consultation with our office under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800) for above-ground historic resources. Please feel free to contact me if you have any questions, comments or need additional assistance.

Sincerely,

Ian P. Johnson

Historian

(503) 986-0678

ian.johnson@state.or.us



Amended SHPO Concurrence on Section 106 Finding of No Adverse Effect



Oregon

John A. Kitzhaber, MD, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE, Ste C

Salem, OR 97301-1266

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Fax (503) 986-0793

www.oregonheritage.org



June 12, 2014

Mr. John Raasch
ODOT Environmental
4040 Fairview Industrial Dr SE
Salem, OR 97302-1142

RE: SHPO Case No. 11-0151
ODOT Proj 14020 US 97 Bend N Corridor

Dear Mr. Raasch:

We have reviewed the materials submitted on the project referenced above, and we concur with the determination that piping the isolated segments of the Swalley Canal surrounding the Highway 97 interchange in Bend, OR will not adversely affect the National Register-eligible canal. These few altered segments are isolated from the remainder of the canal, and the transportation network in the vicinity severely diminishes the segment's integrity of setting, feeling, and association. It is our determination that these segments are non-contributing to the Swalley Canal Historic District.

This letter refers to above-ground historic resources only. Comments pursuant to a review for archaeological resources, if applicable, will be sent separately.

This concludes the requirement for consultation with our office under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800) for above-ground historic properties. Please feel free to contact me if you have any questions, comments or need additional assistance.

Sincerely,

Ian P. Johnson, M.A.

Historian

(503) 986-0678

ian.johnson@oregon.gov

RECEIVED

JUN 17 2014

**ODOT
GEO-ENVIRONMENTAL**





Oregon

John A. Kitzhaber, M.D., Governor

US 97 Bend North Corridor Project

Deschutes County, Oregon

Department of Transportation

Highway Division/Technical Services

Geo-Environmental Section, MS#6

4040 Fairview Industrial Dr SE

Salem, OR 97302

Main Line: 503-986-3252

Fax: 503-986-3249

June 3, 2014

Chrissy Curran
Associate Deputy State Historic Preservation Officer
Oregon State Historic Preservation Office
725 Summer Street NE, Suite C
Salem, OR 97301

Subject: Request for Concurrence
AMENDED Section 106 Finding of No Adverse Effect (Swalley Canal)
US 97 Bend North Corridor Project
Deschutes County, Oregon
ODOT Key No. 14020
Federal Aid No. S004(112)
SHPO Case No. 11-0151

Dear Ms. Curran,

We are submitting this letter to amend the content for our original Finding of Effect on the Swalley Canal and its laterals, for the US 97 Bend North Corridor Project. The subject property, the Swalley Canal, had been previously submitted to your office and approved on June 17th, of 2011. This submission contained a mapping error that only came to light during a review of proposed piping in the project area and coordination with the Swalley Irrigation District. The primary issue at hand is that the original Determination of Eligibility failed to accurately portray open vs. piped sections of the Canal's laterals. As the graphics attached show, portions of the Swalley Rogers Lateral that we had said were piped (Figure 1 and 2), were, in fact, not piped (Figures 3-7).

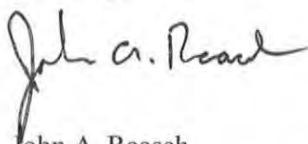
It appears now, however, that we will be piping these segments (Figure 8), which will, based on our rough estimate, consist of approximately 310 feet of piping. After a field survey and conversation with your office (Johnson, 5/16/14), these lateral segments are non-contributing. These sections of lateral do not retain any features or characteristics whose loss would adversely affect the Canal, especially since these sections have lost integrity of setting and feeling, given their location adjacent to highway interchanges.

We believe the previous finding of "no adverse effect" for the Swalley Canal is still consistent with this proposed change, and that piping these segments of the Swalley Rogers Lateral will not affect the project-level finding of "adverse effect", based on the effects to the Andersen House. ODOT, acting as an agent of the Federal Highway Administration, requests your signature below to indicate concurrence with these findings and conclusions.

Section 106 Coordination
US 97 Bend North Corridor Project
Deschutes County, Oregon
ODOT Key No. 14020
Federal-Aid No. S004(112)
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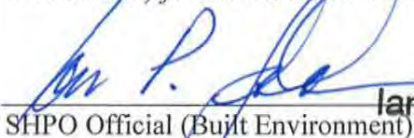
Your attention to this coordination request is appreciated. If you have any questions, or need further information, please contact Chris Bell, at 503.986.3853.

Sincerely,



John A. Raasch
Environmental Resources Unit Manager
ODOT Geo-Environmental Section

The State Historic Preservation Office concurs that the piping of approximately 310 feet of the Swalley Rogers Lateral remains consistent with the finding of "no adverse effect" (built environment) for the Swalley Canal, and that the project-level finding of "adverse effect" (built environment) for the US 97 Bend North Corridor project also remains the same.


SHPO Official (Built Environment)

IAN JOHNSON
503-986-0678

ian.johnson@oregon.gov

6/11/2014
Date

Copies to:

Chris Bell, ODOT Cultural Resource Program Coordinator
Jon Heacock, ODOT Region 4 Tech Center Manager
Amy Pfeiffer, ODOT Region 4 Environmental Project Manager
Key No. 14020, File Type E: Cultural Resources



Section 106 Coordination
 US 97 Bend North Corridor Project
 Deschutes County, Oregon
 ODOT Key No. 14020
 Federal-Aid No. S004(112)
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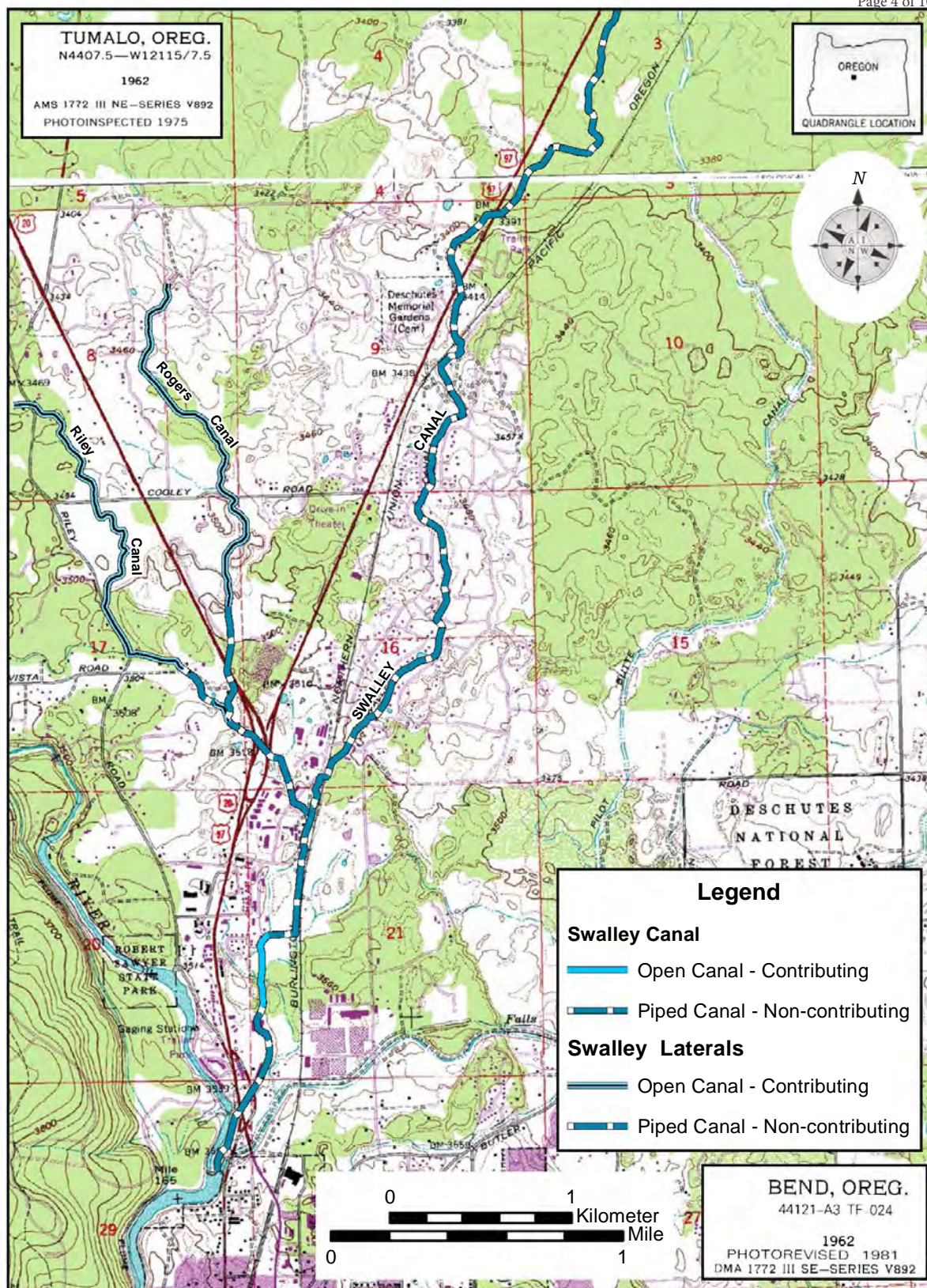


Figure 2. Open and piped segments of the Swalley Canal and its associated laterals.

Section 106 Coordination
US 97 Bend North Corridor Project
Deschutes County, Oregon
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Figure 3: Swalley Rogers Lateral at Xanthippe Lane (to be piped) looking east. No historic features were found that reflected early construction, or detailing – this lateral has been subject to more recent corrugated metal piping (CMP) under adjacent roads (May 15, 2014).



Figure 4: Swalley Rogers Lateral: US97 – US20 Segment A (to be piped) looking east. No historic features were found – the grate is of relatively recent origin – that reflected early construction, or detailing and this lateral has been subject to more recent corrugated metal piping (CMP) under the adjacent roads (May 15, 2014).

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Deschutes County, Oregon
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Figure 5: Swalley Rogers Lateral: US97 – US20 Segment B (to be piped) looking to the northwest. No historic features – the concrete retaining wall in foreground is of relatively recent origin – were found that reflected early construction, or detailing and the lateral has been subject to more recent corrugated metal piping (CMP) under the adjacent roads. (May 15, 2014)

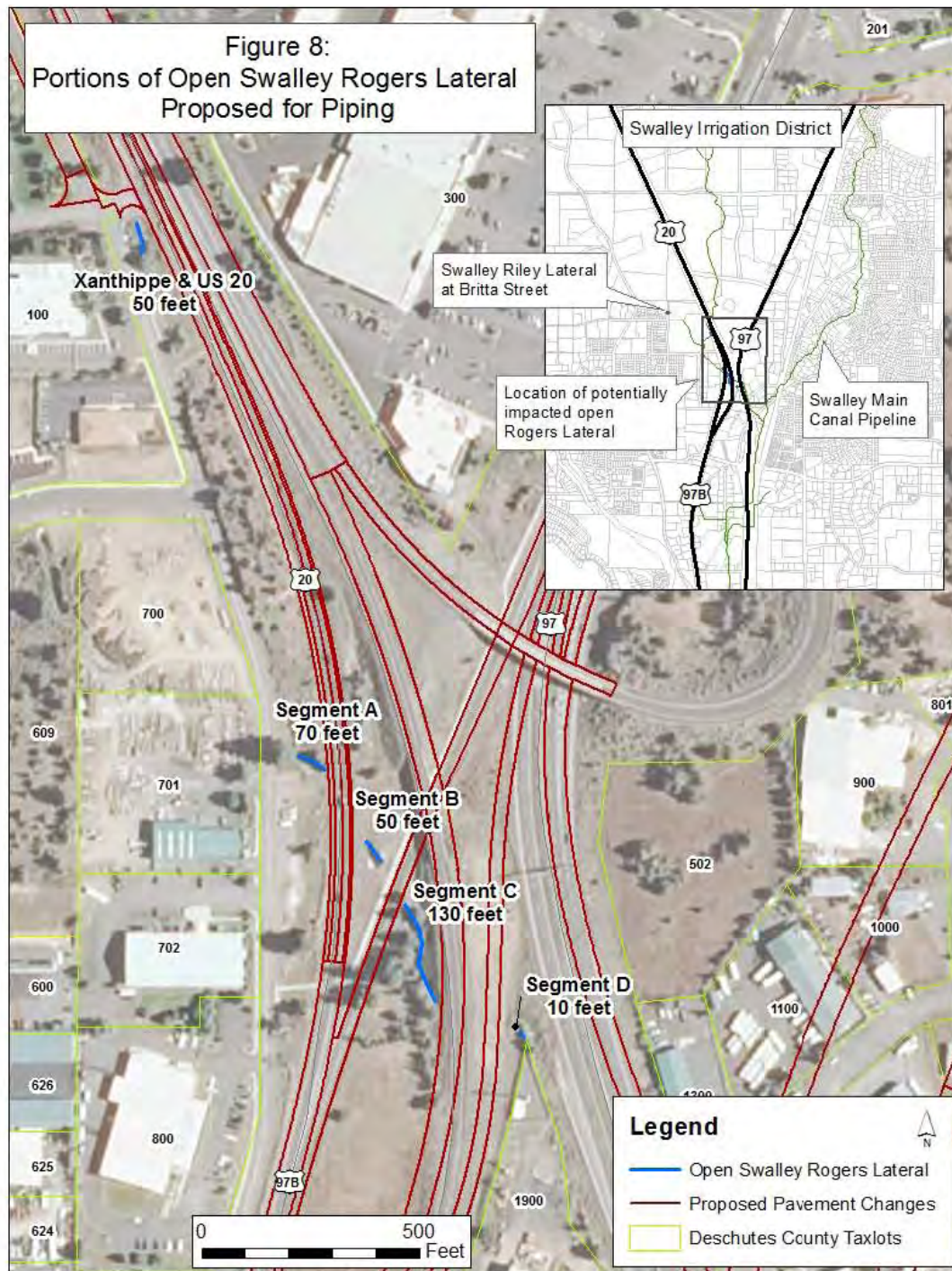


Figure 6: Swalley Rogers Lateral: US97 – US20 Segment C (to be piped) looking to the northwest. No notable historic features were found– the concrete check damn in the background dates from c. 1960, not one that reflects the early construction or the principal period of significance (May 15, 2014).

Section 106 Coordination
US 97 Bend North Corridor Project
Deschutes County, Oregon
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Figure 7: Swalley Rogers Lateral: US97 – US20 Segment D (to be piped) view to the west. No historic features were found that reflect early canal construction, or detailing and the lateral has been subject to more recent corrugated metal piping (CMP) under the adjacent roads. (May 15, 2014)



ACHP Declining Participation in the Consultation to Resolve Adverse Effects

March 25, 2014

Ms. Michelle Eraut
Environmental Program Manager
Federal Highway Administration
Oregon Division
530 Center Street NE, Suite 420
Salem, OR 97301

Ref: *Proposed US 97 Bend North Corridor Project*
Deschutes County, Oregon

Dear Ms. Eraut:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Oregon State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Ms. Najah Duvall-Gabriel at 202-606-8585 or at ngabriel@achp.gov.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone: 202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov

Signed Memorandum of Agreement (MOA)

Misc. Contracts & Agreements
No. 29978

**SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
MEMORANDUM OF AGREEMENT
AMONG THE
FEDERAL HIGHWAY ADMINISTRATION (FHWA),
OREGON STATE HISTORIC PRESERVATION OFFICE (SHPO),
AND THE
OREGON DEPARTMENT OF TRANSPORTATION (ODOT)
FOR RESOLUTION OF THE
ADVERSE EFFECT TO THE ANDERSEN HOUSE FROM THE
US 97 BEND NORTH CORRIDOR PROJECT
BEND, DESCHUTES COUNTY, OREGON
ODOT KEY NO. 14020
FEDERAL AID NO. S004(122)**

RECITALS:

By the authority granted in ORS 190.110 and 283.110, state agencies may enter into agreements with units of local government or other state agencies for the performance of any or all functions and activities that a party to the agreement, its officers, or agents have the authority to perform.

By the authority granted in ORS 366.558, the State of Oregon may enter into cooperative agreements with the United States Federal Government for the performance of work on improvement projects with the allocation of costs on terms and conditions mutually agreeable to the contracting parties.

WHEREAS, the Oregon State Department of Transportation (ODOT), plans to improve a six-mile segment of US 97 in Deschutes County, Oregon, between the Deschutes Market Road/Tumalo Junction interchange and the Empire Avenue interchange, as part of the US 97 Bend North Corridor Project (hereinafter referred to as "Project"); and

WHEREAS, the Federal Highway Administration (FHWA) is the lead federal agency for the Project; and

WHEREAS, FHWA has determined that the Project is an undertaking, as defined in 36 CFR § 800.16(y), subject to review under Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f and its implementing regulations 36 CFR § 800; and

WHEREAS, FHWA has requested that ODOT initiate consultation with the Oregon State Historic Preservation Office (SHPO), interested and affected Indian tribes, and other interested parties pursuant to 36 CFR § 800.14, on behalf of FHWA; and

WHEREAS, the Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT), in consultation with the Oregon State Historic Preservation Office (SHPO), has determined that the Nels and Lillian Andersen House (hereafter referred to as "Andersen House") is eligible for inclusion in the National Register of Historic Places (NRHP) as documented in the SHPO concurrence dated May 31, 2011, Determination of Eligibility; and

Key No. 14020

Misc. Contracts & Agreements
 No. 29978
 Memorandum of Agreement
 For Resolution of the Adverse Effect From The
 US 97 Bend North Corridor Project,
 Bend, Deschutes County, Oregon
 Key No. 14020

WHEREAS, FHWA and ODOT in consultation with the Oregon SHPO, has determined that the US 97 Bend North Corridor Project will have an adverse effect on the Andersen House under Section 106 of the National Historic Preservation Act as documented in the SHPO concurrence dated May 23, 2011, Finding of Effect; and

WHEREAS, the consulting parties agree that it is in the public interest to expend funds for appropriate mitigation for the loss of historic resources; and

WHEREAS, the consulting parties to resolve the adverse effect to the Andersen House during the Section 106 review included the Oregon State Historic Preservation Office, the City of Bend Historic Landmarks Commission, the Des Chutes County Historical Museum, Deschutes County Historic Landmark Commission, and the Oregon Department of Transportation; and,

WHEREAS, FHWA has notified the Advisory Council on Historic Preservation (ACHP) of FHWA's adverse effect determination and the ACHP has chosen not to participate in the resolution of the adverse effect; and

WHEREAS, the FHWA, through the Oregon Department of Transportation (ODOT), and in consultation with the SHPO, shall ensure that the following terms and conditions, will be implemented in a timely manner and with adequate resources in compliance with the National Historic Preservation Act of 1966 (16 U.S.C. 470); and

WHEREAS, full funding for construction of this Project has not been identified; and

WHEREAS, this Project will likely be constructed in phases; and

WHEREAS, the right-of-way acquisition process is likely to begin only when construction funding is identified; and

WHEREAS, the right-of-way acquisition process for the Project may result in either: (1) ODOT possession of the entire property upon which the Andersen House is located, including ODOT possession of the Andersen House itself; or (2) ODOT possession of only a portion of the property upon which the Andersen House is located, resulting in private party possession of the Andersen House, but elimination of vehicular access to the parcel upon which the Andersen House is located.

NOW THEREFORE, the premises being in general as stated in the foregoing recitals, it is agreed by and between the parties hereto as follows:

Misc. Contracts & Agreements
 No. 29978
 Memorandum of Agreement
 For Resolution of the Adverse Effect From The
 US 97 Bend North Corridor Project,
 Bend, Deschutes County, Oregon
 Key No. 14020

ODOT OBLIGATIONS

- I. ODOT shall complete one of three Options (1, 2 or 3) by fulfilling the stipulations listed therein to resolve adverse effects to the Andersen House. The final determination about which of the three Options will be used will be made by ODOT, FHWA and SHPO, and documented in the Project file. ODOT will contribute no more than \$30,000 in State or Federal funds toward Option 1, 2 or 3.

Option 1: Removal and Relocation of the Andersen House. (Preferred Option when ODOT possesses the Andersen House and a qualified party is selected to relocate the Andersen House)

1. If ODOT possesses the Andersen House, ODOT will take steps to identify a qualified party to relocate the Andersen House, in accordance with ORS 270.100.
2. If the Andersen House is not transferred or sold to an interested public agency or non-profit, then the Andersen House will be offered to the general public, following the relevant processes and procedures outlined in ORS 270.100, 270.130 and 270.140. The qualification for ownership will be made by SHPO and ODOT based on the qualified party's capacity to meet both the financial requirements and Secretary of the Interior's Standards for Treatment of Historic Properties (see Attachment 1, Criteria for Relocation of Historic Resources).
3. ODOT will publicize on the ODOT website, coordinate with the City of Bend Historic Landmarks Commission, and advertise bi-weekly in local newspapers for a total of six (6) months (three [3] months first for a public or non-profit, and then three [3] months for a private entity) in an effort to find a qualified party that agrees to the stipulations placed on the Andersen House to preserve its historic integrity and agrees to relocate the Andersen House to a SHPO-approved new location.
4. The stipulations will include requirements that the buyer records a protective covenant on the deed for the SHPO-approved new location. This covenant will protect the Andersen House and ensure continued stewardship in perpetuity. The costs of maintaining the Andersen House are the responsibility of the selected qualified party.
5. If a qualified party is selected to relocate the Andersen House, ODOT will enact measures to protect the Andersen House from vandalism or damage until the Andersen House is prepared for the relocation.
6. If a qualified party is selected, ODOT will coordinate with the qualified party to identify and obtain bids from contractors qualified to move historic structures. This will include preparing an estimate for the cost of relocating the Andersen House and coordination with the qualified party to take ownership of the house.
7. SHPO and ODOT will be afforded the opportunity to review all rehabilitation documents and to monitor the Andersen House and site until the relocation is completed by the qualified party.

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8. The qualified party will relocate the Andersen House in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The qualified party will consult with SHPO, ODOT and the Bend Landmarks Commission at least twice within three (3) months prior to the move of the Andersen House.
9. Upon completion of the requirements as stated in Attachment 1, Criteria for Relocation of Historic Resources, ODOT shall reimburse the qualified party for no more than \$30,000 of their properly documented moving expenses.

Option 2: Provide Content and Funding for Des Chutes County Historical Museum's Architectural Walking Tour Mobile Application and Demolition of the Andersen House.
 (Option when ODOT possesses the Andersen House and a qualified party is not identified that completes relocation of the Andersen House)

1. If ODOT possesses the Andersen House and no qualified party is selected to relocate the house under Option 1, ODOT will advertise in the local newspaper on a weekly basis for one (1) month seeking an interested party for historic salvage. Prior to demolition of the Andersen House, ODOT will provide a copy of the May 31, 2011, Determination of Eligibility to the City of Bend Landmarks Commission and Des Chutes Historical Museum for their records. After the salvage efforts are complete the Andersen House will be demolished.
2. ODOT shall provide information to the Des Chutes Historical Museum to assist development of a Des Chutes Historical Museum mobile application that will guide participants along walking tours of the architecture and historic sites in Bend. These efforts will be coordinated with SHPO and the Bend Landmarks Commission prior to any salvage efforts and demolition.
3. The mobile application component will be developed to mitigate for the loss of the Andersen House, a late 1920s European Romantic style residence, built of Brooks-Scanlon lumber, by a Scandinavian dairyman. The mobile application will describe the experience of Northern European immigrants, such as dairyman Nels Andersen that settled in the Bend area during the early twentieth century as well as the development of local dairying industries during that same time period. The mobile application will also highlight the architecture of Bend, citing the expression of European romanticism that occurred in the late 1920s, which stills exists in many residences. The mobile application will also highlight residences which were constructed of Brooks-Scanlon lumber and the Brooks-Scanlon Mill's legacy in Bend.

Option 3: Provide Content and Funding for Des Chutes County Historical Museum's Architectural Walking Tour Mobile Application. (Option when ODOT does not possess the Andersen House, but removes vehicular access from the parcel upon which the Andersen House is located)

1. ODOT shall carry out the stipulations as proposed in Option 2, Stipulations 2 and 3.

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GENERAL PROVISIONS

I. Mitigation Initiation and Completion Date

1. This Memorandum of Agreement (MOA) will be initiated before any construction activities occur in this area. When all stipulations in this Memorandum of Agreement are completed, ODOT will provide a notification letter to SHPO and FHWA.

II. Dispute Resolution

1. Should any signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FHWA shall consult with the objecting party(ies) to resolve the objection. If FHWA determines, within 30 days, that such objections(s) cannot be resolved, FHWA will:
 - A. Forward all documentation relevant to the dispute to the ACHP in accordance with 36 CFR 800.2(b)(2). Upon receipt of adequate documentation, the ACHP shall review and advise FHWA on the resolution of the objection within 30 days. Any comments provided by the ACHP, and all comments from the parties of the MOA, will be taken into account by FHWA in reaching a final decision regarding the dispute.
 - B. If the ACHP does not provide comments regarding the dispute within 30 days after receipt of adequate documentation, FHWA may render a decision regarding the dispute. FHWA will transmit information specific to the dispute to all signatories of the MOA. In reaching its decision, FHWA will take into account all comments received from the signatories regarding the dispute.
 - C. FHWA's responsibility to carry out all other actions subject to the terms of the MOA that are not the subject of the dispute remain unchanged. FHWA will notify all parties of its decision in writing before implementing that portion of the undertaking subject to dispute under this stipulation. FHWA's decision will be final.

III. Amendments and Noncompliance

1. If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to develop an amendment to this MOA pursuant to 36 CFR 800.6(c)(7) and 800.6(c)(8). The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP. If the signatories cannot agree to appropriate terms to amend the MOA, any signatory may terminate the MOA in accordance with General Provision IV, below.

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IV. Termination

1. If the MOA is not amended following the consultation set out in General Provision III above, it may be terminated by any signatory. Within 30 days following termination, the FHWA shall notify the signatories if it will initiate consultation to execute a MOA with the signatories under 36 CFR 800.6(c)(1) or request the comments of the ACHP under 36 CFR 800.7(a) and proceed accordingly.

V. Duration

1. This MOA shall become effective upon execution of this MOA by all parties and shall remain in effect until the Project is complete, or for five (5) years whichever occurs first, unless the signatories agree in writing to an amendment of this MOA as outlined in General Provision III.
 2. Execution of this MOA by FHWA, ODOT, and the Oregon SHPO, and implementation of its terms, evidences that FHWA has afforded the ACHP and SHPO an opportunity to comment on this Project and its effects upon historic properties.
- VI. This Memorandum of Agreement may be executed in several counterparts [facsimile or otherwise] all of which when taken together shall constitute one agreement binding on all parties, notwithstanding that all parties are not signatories to the same counterpart. Each copy of this Memorandum of Agreement so executed shall constitute an original.
- VII. This MOA constitutes the entire agreement among the parties on the subject matter hereof. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this agreement. No waiver, consent, modification or change of terms of this MOA shall bind either part unless in writing and signed by all parties and all necessary approvals have been obtained. Such waiver, consent, modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. The failure of ODOT to enforce any provision of this MOA shall not constitute a waiver by ODOT of that or any other provision.

IN WITNESS WHEREOF, the parties hereto have set their hands and affixed their seals as of the day and year hereinafter written.

This Project is in the amended 2012-2015 Statewide Transportation Improvement Program (Key No. 14020) that was approved by the Oregon Transportation Commission.

SIGNATURE PAGE TO FOLLOW

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FEDERAL HIGHWAY ADMINISTRATION

By: Phillip A. Ditzler
Phillip A. Ditzler
Division Administrator

Date: 6/9/2014

OREGON STATE HISTORIC PRESERVATION OFFICE

By: Roger Roper
Roger Roper
Deputy Historic Preservation Officer

Date: 5-22-14

**STATE OF OREGON, by and through OREGON DEPARTMENT OF
TRANSPORTATION**

By: Johnson
Technical Services Manager/Chief Engineer

Date: 5-28-14

RECOMMENDED APPROVAL

By: [Signature]
Region 4 Manager

Date: 05.20.14

By: [Signature]
ODOT Geo-Environmental Section Manager

Date: 5-8-14

ODOT Contact:
Chris Bell, Cultural Resources Program Coordinator
Geo-Environmental Section
ODOT
4040 Fairview Industrial Drive SE, MS #6
Salem, OR 97302
503-986-3853
Christopher.s.bell@odot.state.or.us

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ATTACHMENT 1

CRITERIA FOR RELOCATION OF HISTORIC RESOURCES

The following criteria are pertinent in planning for the potential relocation of the Andersen House. These criteria are based on the guidance furnished by SHPO and ACHP.

Ownership: First priority for the new ownership and use would be a local government or public agency, such as Deschutes County, City of Bend, Bend School District, Central Oregon Community College, etc. Second priority would be educational or charitable non-profit organizations such as Des Chutes County Historic Society/Museum, or the High Desert Museum. Lowest priority would be private individuals, companies, or corporations. A marketing and advertising campaign will be instituted for six (6) months to elicit preservation proposals.

Relocation Site: The best site would be one closest to the existing location, in a residential area, with some connection to the Swalley Canal. This would restore some of the lost integrity of feeling, setting and association.

Adaptive Reuse: The best reuse is one which does not require major exterior architectural changes to the building. While the Andersen House served as a residence, its conversion to a business would make it suitable for a variety of commercial uses and, if necessary, the return to a residential use.

Move: The Andersen House should be moved intact with limited, if any, disassembly. The disassembly of buildings frequently results in loss of historic fabric, detailing and workmanship. An experienced house mover is requisite for the move.

Timing: The relocation and reuse plan should result in the immediate action that preserves the Andersen House. Placing the Andersen House in storage for later action may not result in preservation. Damage due to lack of maintenance and vandalism, as well as the reduction in interest in its preservation, should be avoided.

National Register Eligibility: The proposal that retains the historic qualities of the Andersen House should have the highest priority. Any proposal which would result in the building losing its National Register eligibility status should be avoided.

Funding: The assistance that can be offered by ODOT is limited to no more \$30,000 upon provision of proper financial documentation.

Transmittal of Executed MOA to ACHP



U.S. Department
of Transportation
**Federal Highway
Administration**

Oregon Division

June 10, 2014

530 Center Street NE, Suite 420
Salem, Oregon 97301
503-399-5749
503-399-5838 (fax)
www.fhwa.dot.gov/ordiv

In Reply Refer To:
HPL-OR
File:
S004(112)

LaShavio Johnson
Historic Preservation Technician
Federal Permitting, Licensing and Assistance Section
Office of Federal Agency Programs
Advisory Council on Historic Preservation
401 F Street NW, Suite 308
Washington, DC 20001-2637

RE: US 97 Bend North Corridor Project, Federal-aid #S004(112)
Deschutes County, Oregon

Dear L. Johnson:

Enclosed please find a copy of the Memorandum of Agreement executed for the subject project, pursuant to 36 CFR 800.6(b)(1)(iv). Please let me know if you need additional information. I can be reached via e-mail at Michelle.Eraut@dot.gov or telephone at 503-316-2559.

Sincerely,

A handwritten signature in blue ink that reads "Michelle Eraut".

Michelle Eraut
Program Development Team Leader

Enclosure

cc, electronic w/o encl.:
ODOT (Amy Pfeiffer, Environmental Project Manager)
(Chris Bell, Historian)
SHPO (Roger Roper, Assistant Director, Heritage Programs)
FHWA (Maryann Naber, Federal Preservation Officer)

ACHP Response Regarding Completion of Section 106 Responsibilities



June 17, 2014

Ms. Michelle Eraut
Program Development Team Leader
Federal Highway Administration
Oregon Division
530 Center Street, NE, Suite 420
Salem, OR 97301

Ref: *Proposed US 97 Bend North Corridor Project*
Deschutes County, Oregon

Dear Ms. Eraut:

The Advisory Council on Historic Preservation (ACHP) has received the Memorandum of Agreement (MOA) for the above referenced project. In accordance with Section 800.6(b)(1)(iv) of the ACHP's regulations, the ACHP acknowledges receipt of the MOA. The filing of the MOA, and execution of its terms, completes the requirements of Section 106 of the National Historic Preservation Act and the ACHP's regulations.

We appreciate your providing us with a copy of the MOA and will retain it for inclusion in our records regarding this project. Should you have any questions or require additional assistance, please contact Ms. Najah Duvall-Gabriel at (202) 517- 0210 or via e-mail at ngabriel@achp.gov.

Sincerely,

A handwritten signature in black ink that reads 'LaShavio Johnson'. The signature is written in a cursive, flowing style.

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

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Appendix E

FHWA National and ODOT Statewide Efforts Related to Climate Change

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USDOT and FHWA Climate Change Efforts

FHWA Activities

FHWA supports transportation and climate change research and disseminates the results, provides technical assistance to stakeholders, and coordinates its activities within US Department of Transportation and with other federal agencies.

Technical Assistance

- *Modeling Assistance* – The FHWA Resource Center Air Quality Technical Services Team can provide assistance with the use of existing and new models and tools to analyze greenhouse gas emissions, including a workshop on the US Environmental Protection Agency’s MOVES Model. For more information and contacts please refer to the FHWA Resource Center Air Quality Team web site at: <http://www.fhwa.dot.gov/resourcecenter/teams/airquality>.

Outreach/Education:

- *American Association of State Highway and Transportation Officials (AASHTO) Center for Environmental Excellence Climate Change Webinars* – FHWA is partnering with AASHTO’s Center for Environmental Excellence to conduct a series of webinars on Climate Change in 2010. For more information, contact Diane Turchetta (Diane.Turchetta@dot.gov or 202-493-0158).
- *Department of Transportation’s Transportation and Climate Change Clearinghouse* is a “one-stop” source of information for the transportation community on transportation and climate change issues. For more information, contact Diane Turchetta (Diane.Turchetta@dot.gov or 202-493-0158) or Kathy Daniel (Kathy.Daniel@dot.gov or 202-366-6276).
- *Summary Report: FHWA/AASHTO Peer Workshop on Climate Change Adaptation (December 2008)* – FHWA, in partnership with AASHTO, conducted a Peer Exchange on Climate Change Adaptation in Washington, DC. The peer exchange was an opportunity for senior representatives of selected state Department of Transportations to share experiences and learn from one another regarding adaptation issues. For more information, contact Rob Ritter (Robert.Ritter@dot.gov or 202-493-2139).
- *Transportation and Climate Change News* is a monthly newsletter that provides transportation stakeholders with up-to-date information on transportation and climate change milestones. For more information, contact Becky Lupes (Rebecca.Lupes@dot.gov or 202-366-7808).

Intra-agency and Interagency Coordination:

- *FHWA Working Group on Adaptation of Transportation Infrastructure to Climate Change Effects* – FHWA has formed an internal working group to begin coordinating, leading and implementing agency activities on adaptation to address the various program, policy and technical challenges that the impacts of climate change will present to the transportation industry. For more information, contact Mike Culp (Michael.Culp@dot.gov or 202-366-9229).
- *Interagency Working Group on Transportation, Land Use, and Climate Change* – The Working Group, which is comprised of over 10 Federal agencies, was formed as a result of an interagency meeting of senior managers hosted by FHWA's Office of Planning, Environment, and Realty in June 2008. The senior managers explored partnership opportunities to address greenhouse gas emissions from transportation sources. A staff working group is expanding the discussion to include how greenhouse gases can be reduced through better land use planning and travel demand management that would result in lower vehicle-miles traveled. FHWA hosted a second senior manager meeting in December 2008. For more information, contact Diane Turchetta (Diane.Turchetta@dot.gov or 202-493-0158).
- *USDOT Center for Climate Change and Environmental Forecasting* – FHWA is a member of this multi-modal effort to research and evaluate transportation strategies to reduce greenhouse gases and to prepare for the potential effects of climate change on transportation systems.

Ongoing/Current Research:

- *Adaptation Conceptual Model Pilots* – This project will fund pilots for Departments of Transportation and Metropolitan Planning Organizations to implement a conceptual model to use in conducting vulnerability and risk assessments of infrastructure to the projected impacts of global climate change. The purpose of the pilots is twofold; 1) to assist State Departments of Transportation and Metropolitan Planning Organizations more quickly advance existing adaptation assessment activities and 2) to assist FHWA in “test-driving” the model. Based on the feedback received through the pilots, FHWA will revise and finalize the model for national application.
- *Evaluate How Land Use, Transportation Infrastructure, and Policy Changes Affect Travel Activity and Greenhouse Gas Emissions* – The objective of this research is to develop analysis tools that will allow planners and policy makers in small to medium metropolitan

areas evaluate how land use, transportation infrastructure, and policy changes affect travel activity and greenhouse gas emissions. The work is expected to be completed in the early to mid 2010 timeframe. For more information contact Supin Yoder (Supin.Yoder@dot.gov or 708-283-3554).

- *Reducing Energy Usage through Transportation Planning for Megaregions* – This research will produce tools to help transportation planners reduce the transportation system’s energy consumption. Transportation and land use will be considered as a system with respect to energy consumption. The research will identify and refine organizational tools that can build planning capacity and enable planners from numerous Metropolitan Planning Organizations to plan as a unit – a megaregion – and will produce a sketch planning computer tool to help planners implement the capacity-building and megaregion tools. The research results will help create a roadmap for implementing strategies to reduce transportation’s energy demand on a megaregion scale. For more information, contact Rob Kafalenos (Robert.Kafalenos@dot.gov or 202-366-2079).
- *Sustainability Evaluation and Planning Guidance for Transportation Systems* – This research will focus on how to incorporate sustainability in transportation planning to address challenges facing the nation’s transportation infrastructure including nonrenewable fuel depletion and the resulting energy insecurity, greenhouse gas emissions, global climate change, local air quality, fatalities and injuries, congestion, noise pollution, low mobility, ecosystem damage and lack of equity. For more information, contact Diane Turchetta (Diane.Turchetta@dot.gov or 202-493-0158).
- *Travel Demand and Climate Change – Developing Effective Policy Approaches for Slowing Vehicle-Miles Traveled Growth* – Through research and dialogue with pivotal stakeholders this project will help determine the extent to which new energy/greenhouse gas performance goals may complement or conflict with fundamental transportation system performance and inform the development of effective policy frameworks for slowing vehicle-miles traveled growth and reducing greenhouse gas emissions. For more information, contact Diane Turchetta (Diane.Turchetta@dot.gov or 202-493-0158).

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Updates to USDOT and FHWA Climate Change Efforts

Climate change and related effects are complex; there is no single, ‘one-size-fits-all’ approach to addressing these issues. Acknowledging this complexity, FHWA focuses its resources on supporting transportation and climate change research and disseminating the results, providing technical assistance to stakeholders, and coordinating its activities within U.S. DOT and with other Federal agencies in the following areas: mitigation, adaptation, sustainability, and energy. FHWA’s Climate Change website, http://www.fhwa.dot.gov/environment/climate_change/, provides the most up-to-date information on climate change activities.

The following list of activities was taken from FHWA’s Climate Change website in spring 2014.

Technical Assistance

- *Reference Sourcebook for Reducing Greenhouse Gas Emissions from Transportation Sources (January 2012)*—This document describes various transportation-related greenhouse gas mitigation strategies, estimates the potential range of greenhouse gas reductions, estimates costs, identifies barriers to implementation, identifies example projects, and describes any associated co-benefits or disadvantages. The report was developed for FHWA by the Rand Corporation, and it is meant to complement FHWA’s Energy and Emissions Reduction Policy Analysis Tool.

Ongoing/Current Research

- *Central New Mexico Climate Change Scenario Planning Project*—The project will inform transportation and land use decision-making in the Albuquerque metropolitan area by using scenario planning to analyze strategies to reduce greenhouse gas emissions and adapt to climate change impacts. The goals of the project are to 1) advance climate analysis in scenario planning; 2) develop a transferrable process; 3) build partnerships; and 4) impact decision-making. The project will utilize lessons learned from an earlier study that focused on Cape Cod, Massachusetts.
- *Climate Resilience Pilots*—This project funds pilots for departments of transportations (DOTs), metropolitan planning organizations (MPOs), and Federal Land Management Agencies (FLMAs) to implement a framework to use in conducting vulnerability and risk assessments of infrastructure to the projected impacts of climate change and extreme weather events and to develop adaptation options.

- *Gulf Coast Study*—This research comprises a comprehensive, multi-phase study of climate change impacts in the Central Gulf Coast region. Phase 1 (completed in 2008) examined the impacts of climate change on transportation infrastructure at a regional scale, while Phase 2 (ongoing, with expected completion in 2013) is focusing on a smaller region, enhancing regional decision makers' ability to understand potential impacts on specific critical components of infrastructure and to evaluate adaptation options.
- *HEC-25 – Highways in the Coastal Environment*—The FHWA Office of Infrastructure is developing a second volume of FHWA's existing Hydraulics Engineering Circular 25 (HEC-25), "Highways in the Coastal Environment." This second volume (HEC-25b) will provide technical guidance and methodologies on how to incorporate extreme event and climate change considerations when addressing highway planning and design in the coastal environment. HEC-25b has a national scope, focusing on the different issues associated with Gulf Coast, Atlantic Coast, Great Lakes, West Coast, and Pacific areas of the U.S. transportation system. The FHWA anticipates that there will be multiple uses for this information, including risk and vulnerability assessments, design procedures, and planning activities.
- *Hurricane Sandy Follow-up and Vulnerability Assessment and Adaptation Analysis*—The objective of this project is to assess the impacts of October 2012's Hurricane Sandy, (and to a lesser extent, Hurricane Irene, Tropical Storm Lee, and the Halloween Nor'easter in 2011) on the transportation assets within the greater NY- NJ - CT metropolitan region, assess the vulnerability of those assets to the impacts of extreme weather events and the possible future impacts of climate change, and identify adaptation strategies to increase the resilience of the transportation system.
- *Integration of Federal Lands Management Agency Transportation Data, Planning and Practices with Climate Change Scenarios to Develop a Transportation Management Tool*—This project seeks to identify Parks and Refuges having potential to be impacted by climate change; develop best practices; and identify potential strategies appropriate for consideration in addressing such impacts. The project will provide important information and resources for State DOTs and MPOs that would like to integrate climate change considerations into their long-range transportation plans.
- *Operations Strategies*—This study will further investigate the GHG reduction potential of highway operation and management strategies, building on information developed for the Moving Cooler report, US DOT's Report to Congress, National

Cooperative Highway Research Program (NCHRP) Report 535 and others. In particular, the project will address the relationship between traffic improvements and traveler behavior, travel demand and emissions. The project is expected to be completed in late 2013.

- *Planning-Level Assessment of Construction and Maintenance Emissions*—FHWA is developing a sketch calculator to estimate energy use and greenhouse gas emissions due to the construction and maintenance of transportation facilities, along with the potential energy and emissions savings due to sustainable practices. The tool is intended to support metropolitan- and statewide plans, NEPA assessments of transportation projects, and the transportation programming process. Pilot testing of the tool is scheduled for fall of 2013, and it is expected to be publicly available by early 2014.
- *Transportation Engineering Approaches to Address Adaptation and Resiliency*—The objective of this project is to develop recommended engineering practices for identifying and evaluating project-level vulnerabilities from future extreme weather events and climate change, and designing solutions to respond and adapt to those vulnerabilities. Engineering analyses of a diverse set of transportation assets around the country will be performed in order to identify best practices for improving the resiliency of the transportation system to extreme weather and climate change. The result will be a cross-cutting set of recommendations for engineering practice to cover a wide range of facility types and locations.
- The FHWA has recently initiated a study to evaluate the prospects and expectations for short and long-term deployment of electric vehicles (EVs) and analyze the potential impact of this deployment on the mission of the FHWA. The FHWA has undertaken this study for the following reasons: (1) to provide information on the expected market penetration and viability of EVs in both the short and long-term; (2) analyze the implications for FHWA's mission; (3) analyze the potential financial implications for available highway revenues; and (4) to assist State and local transportation agencies in understanding if, and how, transportation infrastructure may have to change to facilitate, support, and/or provide emergency response to EVs.

Summary of FHWA Climate Mitigation Initiatives

With over a fourth of the greenhouse gas emissions in the U.S. coming from the transportation sector, FHWA is committed to reducing emissions from vehicles traveling on our nation's highways. This is in line with the Administration's greenhouse gas emissions reduction goal

of 17 percent below 2005 levels by 2020 and working towards the 50 to 85 percent reductions needed by 2050 to avoid the more severe climate impacts associated with global average temperature increase above 4°F.¹

Through peer exchanges and workshops, FHWA found that state DOTs and MPOs needed technical assistance in developing effective greenhouse gas emissions reduction strategies. As such, FHWA developed a tool and supporting resources for analyzing strategies ranging from parking pricing and high occupancy vehicle (HOV) lanes to compact development and public transportation. FHWA is also finishing work on a spreadsheet tool to calculate greenhouse gas emissions from construction and maintenance of highway and transit infrastructure. Finally, FHWA is researching the implications of increased electric vehicle deployment as well as actions FHWA and stakeholders can take to support this deployment, such as providing public charging stations. More specific information on each of these projects appears below.

FHWA continues to emphasize the importance of greenhouse gas emissions analysis at the system planning level, where the largest potential for greenhouse gas impact lies. FHWA works within existing authority to assist and encourage states and MPOs to reduce greenhouse gas emissions at the planning and program level. In November 2008, FHWA and the Federal Transit Administration (FTA) jointly issued a memo clarifying that planning program funds can be used to support the integration of transportation, land use, and climate change.

FHWA has developed a series of tools and resources for developing effective greenhouse gas emissions reduction strategies:

- The *Energy and Emissions Reduction Policy Analysis Tool (EERPAT)*, is a downloadable model for evaluating statewide greenhouse gas emissions reduction scenarios and alternatives for use in transportation planning, climate action plans, scenario planning exercises, and in meeting state greenhouse gas reduction targets and goals.
- The *Reference Sourcebook for Reducing Greenhouse Gas Emissions from Transportation Sources* describes various greenhouse gas emissions mitigation strategies, estimates the potential range of greenhouse gas emissions reductions, estimates costs, identifies barriers to implementation, identifies example projects, and describes any associated co-benefits or disadvantages.
- The *Handbook for Estimating Transportation Greenhouse Gas Emissions for Integration into the Planning Process* presents

¹ Intergovernmental Panel on Climate Change, Synthesis Report: Summary for Policy-makers, 2007.

good practices for the evaluation of greenhouse gas emissions at the transportation program level, and demonstrates how such evaluation may be integrated into the transportation planning process.

- *A Framework for Considering Climate Change in Transportation and Land Use Scenario Planning*, based on experiences from a project on Cape Cod, is a guide for a multi-agency approach to reduce greenhouse gas emissions and plan for climate change impacts through integrated transportation and land use scenario planning. FHWA will update the guide based on results from a similar project currently underway in Albuquerque, NM.

Through workshops, peer exchanges, demonstration pilots, webinars, newsletters, and day-to-day working relationships, FHWA has encouraged State DOT and MPO partners to use these resources and others to analyze and address greenhouse gas emissions from their transportation programs.

FHWA has several resources under development to further integrate GHG emissions consideration into the overall highway program:

- FHWA's forthcoming "Construction and Maintenance Greenhouse Gas Emissions Calculator" is a spreadsheet tool to help planners and project analysts evaluate emissions from transportation infrastructure, including roads, bridges, transit facilities and bike/pedestrian infrastructure. The tool is also intended to help evaluate the emissions benefits of alternative construction and maintenance practices.
- The handbook, *A Performance-Based Approach to Addressing Greenhouse Gas Emissions in Transportation Planning* will serve as a resource for State DOTs and MPOs interested in addressing greenhouse gas emissions through performance-based planning and programming.
- A new study, *Feasibility and Implications of Electric Vehicle (EV) Deployment and Infrastructure Development*, aims to assist state and local transportation agencies in understanding changes that may be needed to support EV deployment.

Summary of FHWA Climate Adaptation Initiatives

FHWA began to address the impacts of climate change near the beginning of the George W. Bush administration. Climate change impacts, such as more frequent and intense heat waves and flooding, threaten the considerable federal investment in transportation infrastructure. FHWA is partnering with state and local transportation agencies to increase the resilience of the transportation system to these impacts.

Initial Efforts

FHWA's initial efforts focused on understanding the scope and scale of climate change impacts on transportation. DOT (with FHWA support) commissioned a series of short papers by researchers across government and convened a conference in 2002. FHWA then led the Impacts of Climate Variability and Change on Transportation Systems and Infrastructure: Gulf Coast Study. Issued in March 2008, the report concluded that many critical transportation assets were extremely vulnerable. For example 19% of major roads and 5% of rail lines in the central Gulf Coast region could be affected if sea levels rise by just 2 feet, a conservative estimate of projected sea level rise in the region over the next 50 to 100 years. Hurricane Katrina further underscored this conclusion. FHWA's Potential Impacts of Global Sea Level Rise on Transportation Infrastructure - Atlantic Coast Study followed in October 2008. The impacts of climate change also began to arise as issues on a few highway projects, such as the Bonner Bridge replacement project along the Outer Banks of North Carolina.

From the initial projects, we learned that climate change impacts threaten key FHWA goals of safety, system reliability, asset management, and financial stewardship. More frequent heat waves stress materials while heavier rainfall, rising sea levels, and stronger hurricanes cause flooding that damages roadways and disrupts traffic. We also learned that, due to the global nature of climate models, the resulting climate projections were not well suited for making design decisions at the project-level. We needed climate projections at a fine enough scale to develop effective strategies to adapt to climate change at the project and systems level.

Next Steps

- FHWA then embarked on a series of efforts designed to gain experience applying climate information and to develop capacity in state DOTs and MPOs (our main stakeholders).
- FHWA produced the report *Regional Climate Change Effects: Useful Information for Transportation Agencies* in May 2010. This report provided projections of temperature, sea level rise and precipitation over three different time periods out to 2100.
- To raise awareness of climate adaptation and resiliency, FHWA held several practitioner peer exchanges and conducted numerous webinars.
- To help DOTs and MPOs better understand their vulnerabilities to climate change, FHWA produced a conceptual framework in 2009. Piloted in five locations in 2010 and 2011, FHWA updated it with feedback and examples from the pilots and released it in 2012.

as the FHWA Climate Change & Extreme Weather Vulnerability Assessment Framework.

- The updated Framework is being used by a second round of demonstration projects at 19 different agencies across the nation, including inland areas facing more severe droughts and flooding from heavier downpours. Many of these are analyzing adaptation options in addition to vulnerabilities. FHWA will update the framework again upon completion of the 19 pilots in 2015.
- To date, 23 state DOTs and 28 MPOs are assessing their vulnerability to climate change, as tracked in the FHWA Strategic Implementation Plan.

Recent Efforts

FHWA's most recent efforts include research to help areas analyze adaptation strategies to increase resiliency. FHWA is conducting engineering analyses of adaptation options such as enlarging culverts, raising bridges, or using more heat resistant materials as part of three projects discussed below.

- To be completed in Summer 2014, the Gulf Coast Phase 2 project is assessing vulnerability and risk to multi-modal assets in Mobile, AL. The project is also producing transferable tools for using climate projections at the local level, assessing vulnerabilities, and analyzing adaptation options.
- As short term recovery to Superstorm Sandy wrapped up, FHWA began working with the region to build long-term resilience to future storms. FHWA is now working with MPOs, DOTs and other owner/operators in the NY-NJ-CT region on the Hurricane Sandy Follow-up, Vulnerability Assessment and Adaptation Analysis.
- The Engineering Strategic Initiative Adaptation Study will develop recommended engineering solutions to adapt to climate vulnerabilities for specific highway facilities around the country. Three additional Strategic Initiatives projects newly funded for 2014 will develop methods to incorporate changes in precipitation patterns in the highway design process, research climate impacts on geohazards, and conduct a watershed sensitivity study to help owners identify drainage assets at high risk.

Integrating Climate Resilience into FHWA Programs

FHWA is integrating climate resilience considerations into the agency's programs, guidance, and policies, consistent with existing transportation law², the Secretary's 2011 policy statement on climate

² Transportation law charges FHWA with extending the useful life of highways, promoting highway safety, and serving as a wise steward of Federal funds (see 23 U.S.C. 109, 116, and 134 among others).

adaptation, and the President's Executive Order 13653 on climate preparedness.

- FHWA issued a memo in 2012 clarifying that climate adaptation activities are eligible for FHWA funding, including vulnerability assessments and design and construction of projects or features to protect assets from damage associated with climate change.
- FHWA updated the Emergency Relief Manual to reflect concerns tied to resilience.
- FHWA is developing a rule to implement the legislative requirement that state DOTs develop risk-based asset management plans. Climate change is one of multiple risks that impact asset management. The legislation also includes requirements to consider alternatives for facilities repeatedly needing repair or replacement using federal funding.³
- FHWA is updating multiple engineering circulars with climate resiliency considerations: Hydraulic Engineering Circular (HEC) 25 Highways in the Coastal Environment, HEC-17 Highways in the River Environment, and Hydraulic Design Series (HDS) 2 Highway Hydrology.

The actions outlined above assist FHWA and stakeholders in responsibly managing the risks posed by a changing climate. Managing these risks is critical to FHWA's core mission to improve highway system performance-particularly its safety, reliability, effectiveness, and sustainability.

Sustainability and Climate Change

Addressing climate change is an important component of FHWA's efforts to ensure the sustainability of the nation's highways and transportation system. FHWA views sustainable highways as an integral part of the broader context of sustainable development. A sustainable highway should satisfy the functional requirements of societal development and economic growth while striving to enhance the natural environment and reduce consumption of natural resources. For more information on FHWA's broader sustainability efforts, visit the Sustainable Highways Program web site and the INVEST sustainable highways self-evaluation tool.

Energy Efficiency and Vehicle Technology

There are significant economic, national security, and environmental costs of the fuel currently used in our transportation system.

³ Moving Ahead for Progress in the 21st Century (MAP-21) Section 1315b

For example:

- More than half of the total U.S trade deficit in 2009 was oil-related (\$204 billion out of \$380.7 billion). Moreover, as the world's largest oil importer, the U.S. is economically vulnerable to supply disruptions, resulting in the need for military operations to ensure that foreign oil fields and overseas shipping lanes remain secure;
- Highway vehicles were responsible for 82.5% of all transportation energy use in 2009;
- Most US transportation sector carbon dioxide emissions come from petroleum fuels (98%);
- Motor gasoline has been responsible for about 60% of US carbon dioxide emissions over the last twenty years;

Significant advances have been made recently to improve the overall efficiency of the sector, particularly with regards to fuel economy. However, further fuel savings is needed. The traveling public is increasingly investing in alternative fuels, plug-in hybrid and other electric vehicle (EV) technologies. The increased use of these fuels and vehicle technologies promises to yield multiple benefits, including reducing our reliance on foreign sources of oil, lower localized and regional on-road emissions, and reduced energy consumption for the transportation sector. States and localities in the U.S. are beginning to build the necessary infrastructure to support the use of these fuels and vehicle technologies.

ODOT Climate Change Efforts

ODOT Sustainability Program Facts

Sustainable Transportation System and Climate Change

Introduction

The Oregon Department of Transportation recognizes that the transportation sector in Oregon generates significant greenhouse gases (GHG) and contributes to climate change. In Oregon, transportation accounts for an estimated 38 percent of Oregon's carbon dioxide emissions, with vehicle carbon dioxide emissions predicted to increase by 33 percent by 2035 due to increased driving. The purpose of this fact sheet is to provide a topical listing of ODOT's current climate change efforts in the area of the sustainable transportation system.



Land Use and Planning

- The 2006 [Oregon Transportation Plan](#) provides a vision for the state's transportation system and lays out the policy foundations for addressing climate change. The Plan includes a sustainability goal which has policy statements relating to environmental responsibility, energy, and creation of communities. Some of the strategies related to these policy statements relate directly to climate change.
- Under the **Transportation Planning Rule** (TRP) and the Statewide Planning Goal 12, ODOT provides financial and technical support to local governments and Metropolitan Planning Organizations (MPO). Oregon's TRP requires reduced reliance on Single Occupant Vehicles (SOV) and local actions to encourage the use of alternative modes of transportation.
- **Transportation and Growth Management** (TGM) Program supports community efforts to expand transportation choices for people. By linking land use and transportation planning, TGM works in partnership with local governments to create vibrant, livable communities in which people can walk, bike, take transit, or drive where they want to go.
- ODOT's Transportation Planning Analysis Unit is developing the **GreenSTEP** model, a planning tool to estimate GHG emissions from the surface portions of the transportation sector and to assist in determining how the transportation sector can meet the statewide emissions targets in the future.
- **"Least cost planning"** methods currently in progress will lead toward better consideration of transportation demand management, system management, and non-highway mode alternatives in the planning process.

Multi-Modal System

- ODOT's [Public Transit Division](#) assists communities with the development of alternative transportation options including transit, rideshare programs, walking, bicycling, and other alternatives to driving alone:

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ODOT Sustainability Program Facts

- Over the last several years, ODOT has worked with local jurisdictions on a number of innovative **Transportation Demand Management** (TDM) projects that promote the use of alternative modes of transportation. A few of the programs include: TravelSmart, The Drive Less/ Save More Campaign, Commuter Solutions Group, and the Central Oregon Commute Options program.
 - In 2004 ODOT Public Transit Division used flexible federal funds to initiate a program to assist urban transit providers in replacing older and less efficient mass transit vehicles.
- **ConnectOregon** is a lottery bond based initiative to invest in air, rail, marine, and transit infrastructure to ensure Oregon's multi-modal transportation system is strong, diverse, and efficient.
 - *ConnectOregon* I funded 38 projects, all of which are underway, with many completed. *ConnectOregon* II, building off the success of *ConnectOregon* I funded an additional 30 projects which will continue to improve the flow of commerce, remove delays and improve safety. The 2009 Oregon Legislature has approved a *ConnectOregon* III, with projects currently in the application process. All three *ConnectOregon* projects are improving the connections between the highway system and other modes of transportation.
- The **ODOT Rail Division** represents and advocates for customers of railroads, both passenger and freight, to ensure a safe, efficient and reliable rail transportation system.
 - Oregon was awarded \$8 million from the 2009 American Recovery and Reinvestment Act for a high-speed rail line from Eugene to Portland. While this is not enough money to complete a project it has helped fund research into the project and project alternatives.
- The **ODOT Bicycle and Pedestrian Program** provides direction to ODOT in establishing pedestrian and bicycle facilities on state highways and provides support to local governments, governmental and non-governmental organizations, and private citizens, in planning, designing and constructing pedestrian and bicycle facilities.
 - The **Transportation Enhancements** program pays for millions of dollars of sidewalk and streetscape improvements, bicycle lanes, and multi-use pathways projects each year.
 - The **Safe Routes to School program** funds Oregon schools and school districts with over \$3 million for education and enforcement projects designed to encourage and enable easier and healthier ways for children to walk and bike to and from school safely, reducing the need to drive.
- The **Congestion Mitigation and Air Quality Improvement Program** provides approximately \$14 million per year of funds across Oregon for TDM, transit, and bicycle/pedestrian facilities projects in designated urban centers.
- ODOT is a key partner with other public agencies in financing transit expansions in the Portland metro area:
 - ODOT allocated \$7 million of federal Surface Transportation Program funds and provided right-of-way at a significant below-market value to support the expansion of TriMet light rail along the I-205 corridor.



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ODOT Sustainability Program Facts

Freight

- ODOT's [Freight Mobility Unit](#) commissioned a **Climate Change Study** to analyze GHG emissions, potential mitigation strategies, and impacts to freight from climate change.
- ODOT [Motor Carrier's Green Light program](#) helps truckers save time and money and reduce emissions by "preclearing" trucks so they do not have to stop at Oregon weigh stations. A DEQ study found that in 2008 this preclearance system will allow trucks to avoid 1.5 million weigh station stops and thus will result in 1,300 metric tons less carbon dioxide emitted into the air.
- ODOT participated in a 2005 Oregon Solutions project to promote truck stop electrification, and a number of truck plazas in Oregon have invested in electrified hookups. These are used to power refrigeration trucks, cab heat, and air conditioning systems so that truck operators do not have to idle their diesel engines overnight.

Innovative Pilot Projects

- [The Oregon Solar Highway Initiative](#) – In 2008, ODOT completed the nation's first solar photovoltaic project in the highway right-of-way. The first demonstration project is located at the interchange of I-5 and I-205. The 594 solar panels produce nearly 112,000 kilowatt hours annually and use the utility grid as a battery, supplying energy during the day to light the interchange at night.
- [Electric Vehicles](#) – The US Department of Energy announced in August 2009 that Oregon was selected as one of the five test markets for the largest deployment of electric vehicles (EVs) and the associated charging infrastructure. Nissan North America, partnering with the Electric Transportation Engineering Corporation (eTec) will deploy approximately 1,000 Nissan electric cars (the "Leaf") in Oregon and as many as 2,500 charging stations to be installed at homes and businesses. Deployment of Nissan's EVs is scheduled for fall of 2010 and charging infrastructure installations are expected to begin in summer 2010.
- **ODOT Alternative Fuels Corridor** – The Department is leading an effort with Washington and California to incubate the distribution of alternative fuels and/or solar powered charging stations for plug-in electric hybrid vehicles along the I-5 corridor to help increase the market demand for alternative fuel vehicles.



Highway Construction Projects

- Various aspects of ODOT's innovative [Context Sensitive and Sustainable Solutions](#) (CS³) approach to the **OTIA III Bridge Program** to support GHG reductions:
 - The OTIA III **Access/Staging Performance Standard** limits truck idling to five minutes, except in extreme cold weather or when needed for other reasons.
 - The OTIA III **Materials Procurement and Use Performance Standard** requires contractors to use ultra-low sulfur fuel, bio-diesel, or EPA-verified fuel additives in vehicles and equipment where possible and available, or minimum of highway grade fuel where alternative fuels are not possible.
- The [Columbia River Crossing](#) (CRC) project, located in a five-mile area between Portland and Vancouver, Washington, undertook an analysis of GHG impacts as part of

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ODOT Sustainability Program Facts

a Cumulative Effects analysis in the Draft Environmental Impact Statement (DEIS). The CRC project worked with Washington Department of Transportation, the Federal Highway Administration, and the Federal Transit Authority to analyze potential cumulative impacts of the construction and operation of the project. The DEIS also discussed potential adaptation measures to be taken to prepare for effects of climate change, such as a rise in river level.

- **Greenroads** – ODOT is currently in the process of evaluating three pilot projects, in various levels of completion, based on the Greenroads sustainability performance metric. Greenroads was developed out of the University of Washington in consultation with CH2M HILL. The Greenroads performance metric awards points for more sustainable practices during the design and construction phases of roadway projects and awards a certification level based on the number of points earned, much like the LEED program does for buildings.

Through the efforts of **ODOT's Climate Change Executive Group and Technical Advisory Committee**, ODOT will continue to play an important role in the avoidance of future climate change through development of mitigation actions related to Oregon's transportation system as well as actions that will adapt the transportation system to climate change already anticipated.



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ODOT Sustainability Program Facts

Appendix 1: Policy Mandates Related to the Transportation System

OTP¹ Policy 1.1 – It is the policy of the State of Oregon to plan and develop a balanced, integrated transportation system with modal choices for the movement of people and goods.

OTP Policy 2.1 – It is the policy of the State of Oregon to manage the transportation system to improve its capacity and operational efficiency for the long term benefit of people and goods movement.

OTP Policy 4.2 – It is the policy of the State of Oregon to support efforts to move to diversified and cleaner energy supply, promote fuel efficiencies and prepare for possible fuel shortages.

OHP² Policy 4B – It is the policy of the State of Oregon to advance and support alternative passenger transportation systems where travel demand, land use, and other factors indicate the potential for successful and effective development of alternative passenger modes.

OHP Policy 4D – It is the policy of the State of Oregon to support the efficient use of the state transportation system through investment in transportation demand management strategies.

ORS 469.010 states that “It is the goal of Oregon to promote the efficient use of energy resources and to develop permanently sustainable energy resources” and includes the following policy: “energy-efficient modes of transportation for people and goods shall be encouraged, while energy-inefficient modes of transportation shall be discouraged.”

House Bill 3543 (Climate Change Integration Act) created specific greenhouse gas emissions reduction goals for the state:

- 1) By 2010, arrest the growth of Oregon’s greenhouse gas emissions and begin to reduce them.
- 2) By 2020, achieve greenhouse gas levels that are 10 percent below 1990 levels.
- 3) By 2050, achieve greenhouse gas levels that are at least 75 percent below 1990 levels.

House Bill 2001 (Oregon Jobs and Transportation Act) is the transportation funding plan adopted by the 2009 Legislature. Three core themes emerged from the legislation:

- 1) accountability, innovation, and environmental stewardship
- 2) highway, road, and street funding
- 3) multimodal funding

House Bill 2186 is wide-ranging legislation that seeks to reduce Oregon’s greenhouse gas emissions. Section 10 requires the creation of a Metropolitan Planning Organization (MPO) Greenhouse Gas Emissions Task Force to evaluate alternative land use and transportation scenarios that would meet community growth needs, while reducing greenhouse gas emissions and recommend future legislative action to support such efforts.

ORS 366.514 requires that wherever highways, roads, or streets are being constructed, reconstructed, or relocated, footpaths and bicycle trails will be built as part of these projects. The amount expended by ODOT shall never in any one fiscal year be less than one percent of the funds received from the Highway Fund.

¹ Oregon Transportation Plan, 2006

² Oregon Highway Plan, 1999

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ODOT Sustainability Program Facts

ODOT's Internal Efforts on Climate Change

Introduction

The Oregon Department of Transportation is actively working toward reducing the amount of greenhouse gases (GHG) emitted by our operations and the transportation sector. By collaborating with others to develop innovative responses we are minimizing energy use in facilities, increasing fuel efficiency and use of low carbon fuels in the fleet, and encouraging employees to reduce their commuting energy use. ODOT is striving to operate sustainably; to be responsible for the impacts of our transportation operations and activities on our workforce, the environment, and the planet. Although ODOT may not achieve every emissions reduction goal, simply by focusing attention on GHG reductions and climate change, ODOT will move beyond what would have been achieved in a business-as-usual scenario.



Process of Internal Climate Change Related Efforts

- ODOT was the first state agency in Oregon to have a comprehensive Sustainability Program and the first to develop a sustainability plan.
- ODOT has a Sustainability Program manager, who reports to ODOT's chief of staff and interacts regularly with ODOT staff. Climate change is one of the many topics within the scope of [ODOT's Sustainability Program](#).¹
- ODOT has a **Climate Change Executive Group** comprised of senior executive staff, the purpose of which is to provide overall direction within ODOT regarding the interrelationship of GHG production, climate change and the planning and operation of Oregon's transportation systems.
- ODOT has a **Climate Change Technical Advisory Committee (TAC)**, the purpose of which is to develop an understanding of the implications of climate change initiatives to the agency and its work. This group also provides credible technical advice regarding the interrelationship of GHG production, climate change, and the planning and operation of Oregon's transportation systems.
- ODOT representatives participate in a number of key groups:
 - Department of Environmental Quality Mandatory Greenhouse Gas Reporting Rulemaking
 - The Oregon Global Warming Commission (OGWC)
 - The Transportation and Land Use Committee of the OGWC
 - Oregon Sustainability Board
 - Low Carbon Fuel Advisory Committee
 - Truck Efficiency and Idle Reduction Committee

¹ ODOT has a Sustainability Council, comprised of mid- to senior-level managers representing a variety of functional and geographic backgrounds. The Council provides high-level direction, approves and monitors sustainability work items, and recommends policy and practice changes to ODOT's Director.



ODOT Sustainability Program Facts

Internal Operations

- **ODOT Sustainability Volume II:**
 - The ODOT Sustainability Program is developing a Sustainability Plan comprised of three volumes covering the vision of sustainability at ODOT, ODOT's internal operations, and ODOT's sustainable management of the statewide transportation system.
 - **Volume II: *Sustainability Management Framework for ODOT's Internal Operations*** sets goals, strategies and performance measures for ODOT's internal operations, such as its facilities and fleet. There are seven focus areas in Volume II:
 - energy/fuel use and climate change
 - material resource flows
 - environmental stewardship
 - land use and infrastructure
 - economic health
 - social responsibility/ workforce well-being and development
 - health and safety
 - The goals and strategies in these seven focus areas will act as a roadmap for implementing sustainability within ODOT and its operations.
- **Conservation and Alternative Resource Teams (CART)** are small "green teams" of interested employees at major ODOT offices who help educate employees about work-related conservation efforts such as recycling, energy saving, and commuting options.
- ODOT undertakes annual reporting of its own GHG emissions to the Department of Administrative Services (DAS) and the Governor's office.
 - ODOT actively participated in the State of Oregon Greenhouse Gas Tracking Interagency Team to develop the methodology for agencies to track their own emissions.
 - Three sources are included: building energy use, fleet fuel use, and solid waste generation.
 - Internal processes are being updated to enable more accurate and efficient data tracking and reporting.
- **ODOT's Facilities Section** is a leader in state government.
 - Facilities Services is installing energy-efficient lighting, windows, insulation, thermostats, and white roofs to reduce energy costs in certain buildings when a replacement is needed. Through these actions ODOT is actively working to meet the Governor's energy goals.
 - The recommended project plans for the Transportation Building renovation meets Leadership in Energy and Environmental Design (LEED) Gold certification. This is justified by a cost-benefit study which showed that when lifecycle impacts are considered, a high performance environmentally friendly renovation of the Transportation Building would



ODOT Sustainability Program Facts

save about \$90 million over 20 years (compared to a market-rate renovation).

- **ODOT's Fleet Section** is a leader in state government.
 - As of 2009, there were 164 E85 (85% ethanol and 15% gasoline) vehicles in ODOT's fleet.
 - ODOT is replacing its older fleet with increased use of hybrid and all Electric Vehicles (EV) technology in sedans; including two 100 mpg Plug-in Hybrid Electric Vehicles (PHEV). Additionally, ODOT is exploring the feasibility of expanding electric plug-in facilities beyond the two located in Portland and Salem.
 - The Fleet Section updated the policy and fleet manual on proper tire inflation and maintenance to reduce tire wear and fuel consumption and improve safety.
 - ODOT successfully tested the Autotherm energy recovery system to reduce idling to conserve fuel and lower emissions in the heavy equipment fleet.
 - ODOT highway plans to meet and sustain a 30% B-20 biodiesel use by summer of 2010.
- ODOT strives to reduce energy consumption by its highway lighting systems.
 - For example, ODOT's Region 1 annual electric bill was over \$1.2 million of which 50 percent came from signals and flashers. Region 1 has retrofitted 95% of its signals and flashers with power-saving LEDs resulting in energy consumption reductions equivalent to the annual power needed for over 140 Oregon homes. This has saved ODOT \$110,000 per year on its electric bill.
 - ODOT continues to research and test innovative highway lighting technology that will reduce energy use, but still serve the essential purpose of lighting Oregon's highways.
- ODOT encourages alternative employee commute practices.
 - Employees who work outside Region 1 headquarters or the Capitol Mall, but within mass transit districts have the ability to purchase transit passes on a pre-tax basis via payroll deduction.
 - ODOT encourages participation in the Bike Commute Challenge, a competition between businesses to increase bicycle use, and the "Governor's Commute Challenge", which is aimed at reducing drive-alone trips.
 - ODOT employs technology solutions such as video conferencing, teleconferencing, and web casts (I-link) to allow employees to participate remotely in meetings and conferences and avoid excessive travel.

The Department is already reducing emissions throughout the agency in its fleet and facilities. ODOT will need to continue this work and create new programs to both mitigate future emissions from its internal operations and adapt its facilities to potential climate change.



ODOT Sustainability Program Facts

Appendix 1: Policy Mandates Related to Internal Operations

ORS 276.900 states that “It is the policy of the State of Oregon that facilities to be constructed or purchased by authorized state agencies be designed, constructed, renovated and operated so as to minimize the use of nonrenewable energy resources and to serve as models of energy efficiency.”

OTP Policy 4.2.2 supports the conversion of fleets to more fuel-efficient and alternative fuel vehicles, especially those using renewable and cleaner fuels.

A goal of 20% energy reduction by state agencies by 2010 (over a 2000 baseline) is mandated by Executive Order 06-02; energy savings are required to come from both new and existing buildings and other metered electricity use.

When siting state office locations, Executive Order 94-07 “Siting State Offices in Oregon’s Community Centers” requires preferential consideration be given to locations within central business districts and conveniently close to transit in communities that have transit service. Other areas of mixed use development that are highly accessible to the public, have a fully developed pedestrian circulation system, have high quality transit service (in those communities with transit service), and are designated as urban centers in the applicable comprehensive plan may also be given priority consideration.

OAR 330-130 prescribes procedures to minimize energy use in new and renovated facilities designed and constructed by state agencies; guidelines for implementing these procedures are given in the State Energy Efficient Design (SEED) Program Guidelines.

Governor Kulongoski has stated his desire for state agencies to purchase 100% of their energy from renewable sources by 2010.

Oregon’s Renewable Energy Action Plan (REAP) mandates the following use of biofuels: 10% of the gasoline used by the state government’s fleet vehicles will be E85 by 2010, increasing to 25% by 2025; 10% of the diesel used by state government’s fleet vehicles will be B-20 by July 2007, increasing to 25% by July 2010 and 100% by 2025.

DAS Policy 125-6-010 “Sustainable Facilities Standards and Guidelines” requires:

- Building decisions must consider the full life of materials. The review must include life cycle assessment and life cycle cost factors.
- New state-owned buildings shall be designed to meet the point equivalent of a Leadership in Energy and Environmental Design (LEED) Silver rating.
- Renovations of state-owned or build-to-suit leased buildings shall be designed to meet the point equivalent of a LEED Certified rating.

DAS Policy 107-009-0050 “Sustainable Acquisition and Disposal of Electronic Equipment” requires the use of Electronic Products and Acquisition Technology (EPEAT) environmental and energy criteria for the purchase of computer equipment such as desktops, computer laptops, computer monitors, and input or output devices.



Appendix F

Air Quality Supporting Documentation

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Introduction

As noted in Section 3.15 of this document project level conformity is not required because the Area of Potential Impact is located in an area that is in attainment. This appendix includes general information on mobile source air toxic **emissions** not necessarily related to transportation conformity. This appendix contains Appendix C of the Council on Environmental Quality's regulations regarding incomplete or unavailable information (40 CFR 1502.22) as provided in the FHWA's *Interim Guidance Update on Air Toxic Analysis in NEPA Documents* (September 2009). The purpose of the interim guidance is to advise on when and how to analyze mobile source air toxic **emissions** in the National Environmental Policy Act process.

Since the publication of the Draft EIS, FHWA updated their interim guidance, *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents*, on December 6, 2012. This appendix has been updated to include the updated guidance.

Below is Appendix C from the Council on Environmental Quality's regulations regarding incomplete or unavailable information (40 CFR 1502.22) as provided in the FHWA's Interim Guidance Update on Air Toxic Analysis in NEPA documents (September 2009).

APPENDIX C – CEQ Provisions Covering Incomplete or Unavailable Information (40 CFR 1502.22)

Sec. 1502.22 INCOMPLETE OR UNAVAILABLE INFORMATION

When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.

- (a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.
- (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement:
 - 1. a statement that such information is incomplete or unavailable;
 - 2. a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;
 - 3. a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and
 - 4. the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts that have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.
- (c) The amended regulation will be applicable to all environmental impact statements for which a Notice to Intent (40 CFR 1508.22) is published in the Federal Register on or after May 27, 1986. For environmental impact statements in progress, agencies may choose to comply with the requirements of either the original or amended regulation.

***INCOMPLETE OR UNAVAILABLE
INFORMATION FOR PROJECT-SPECIFIC
MSAT HEALTH IMPACTS ANALYSIS***

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather

than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects” (EPA, <https://www.epa.gov/iris/>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA’s Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, <http://pubs.healtheffects.org/view.php?id=282>) or in the future as vehicle emissions substantially decrease (HEI, <http://pubs.healtheffects.org/view.php?id=306>).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable. The results produced by the EPA’s MOBILE6.2 model, the California EPA’s Emfac2007 model, and the EPA’s DraftMOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 significantly underestimates diesel particulate matter (PM) emissions and significantly overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of EPA’s guideline CAL3QHC model was conducted in an NCHRP study (http://www.epa.gov/scram001/dispersion_alt.htm#hyroad), which documents poor model performance at ten sites across the country – three where intensive monitoring was conducted plus an additional seven with less intensive monitoring. The study indicates a bias of the CAL3QHC model to overestimate concentrations near highly congested intersections and underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with National Ambient Air Quality Standards for relatively short time frames than it is for forecasting

individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast MSAT exposure near roadways, and to determine the portion of time that people are actually exposed at a specific location.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (<http://pubs.healtheffects.org/view.php?id=282>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (<http://www.epa.gov/risk/basicinformation.htm#g>) and the HEI (<http://pubs.healtheffects.org/getfile.php?u=395>) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine a “safe” or “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA’s approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Due to the limitations cited, a discussion such as the example provided in this Appendix (reflecting any local and project-specific circumstances), should be included regarding incomplete or unavailable information in accordance with Council on Environmental Quality (CEQ) regulations [40 CFR 1502.22(b)]. The FHWA Headquarters and Resource Center staff Victoria Martinez (787) 766-5600 X231, Shari Schaftlein (202) 366-5570, and Michael Claggett (505) 820-2047, are available to provide guidance and technical assistance and support.



Memorandum

SENT VIA ELECTRONIC MAIL

Subject: **INFORMATION:** Interim Guidance
Update on Mobile Source Air Toxic
Analysis in NEPA Documents
/S/Original signed by

Date: December 6, 2012

From: April Marchese
Director, Office of Natural Environment

In Reply Refer To:
HEPN-10

To: Division Administrators
Federal Lands Highway Division Engineers

PURPOSE

The purpose of this memorandum is to update the September 2009 interim guidance that advised Federal Highway (FHWA) Division offices on when and how to analyze Mobile Source Air Toxics (MSAT) under the National Environmental Policy Act (NEPA) review process for highway projects.

This update reflects recent changes in methodology for conducting emissions analysis and updates of research in the MSAT arena. The U.S. Environmental Protection Agency (EPA) released the latest emission model, the Motor Vehicle Emissions Simulator (MOVES) in 2010, and started a 2-year grace period to phase in the requirement of using MOVES for transportation conformity analysis. On February 8, 2011, EPA issued guidance on [Using the MOVES and Emission FACTors \(EMFAC\) Models in NEPA Evaluation](#) that recommended the same grace period be applied to project-level emissions analysis for NEPA purposes. At the end of this grace period, i.e. beginning December 20, 2012, project sponsors should use MOVES to conduct emissions analysis for NEPA purposes. To prepare for this transition, FHWA is updating the September 2009 Interim Guidance to incorporate the analysis conducted using MOVES. Based on FHWA's analysis using MOVES2010b, the latest version of MOVES, diesel particulate matter (diesel PM) has become the dominant MSAT of concern. We have also provided an update on the status of scientific research on air toxics. The update supersedes the September 2009 Interim Guidance and should be referenced as a whole in NEPA documentation.

BACKGROUND

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air

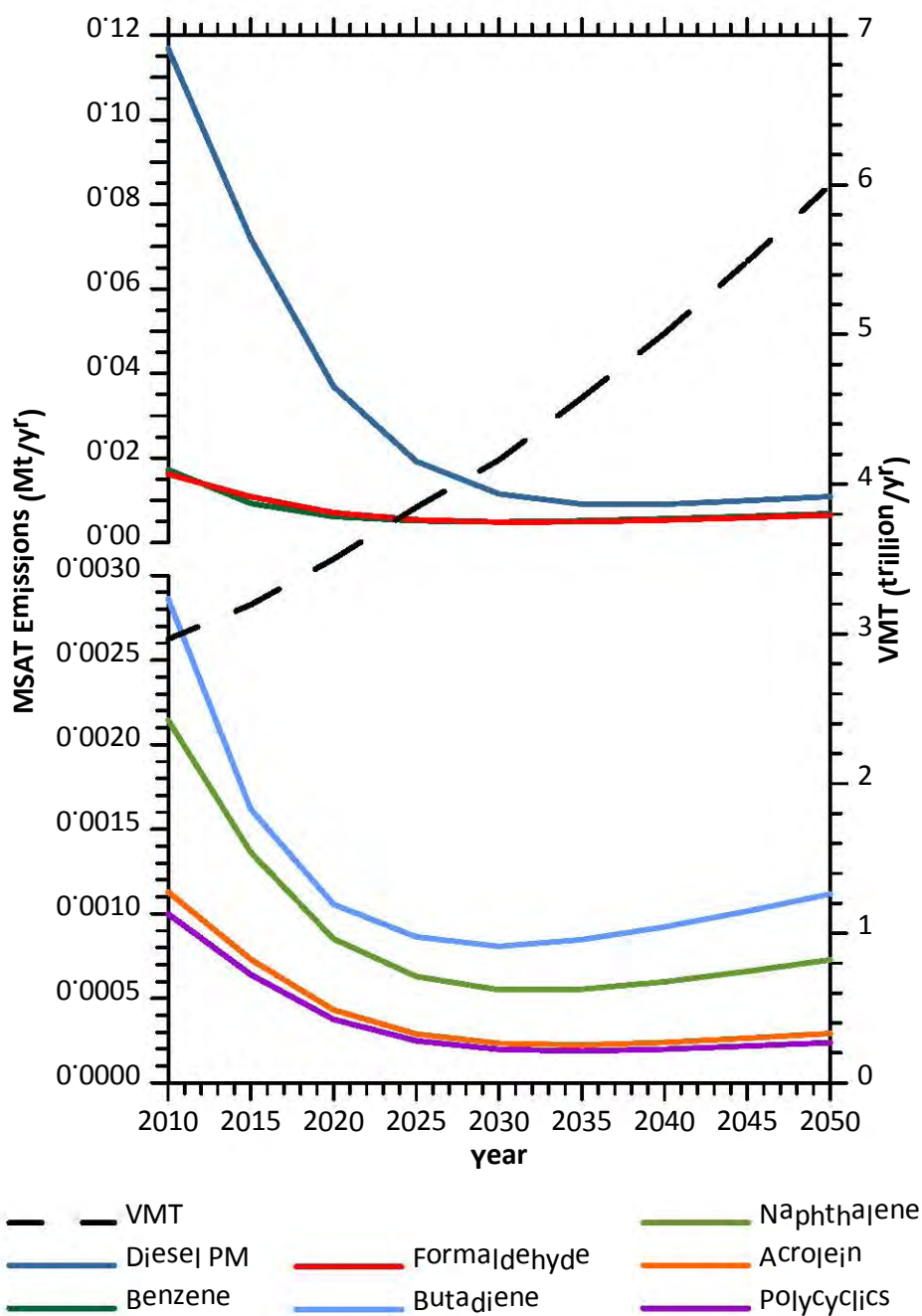
Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://cfcpub.epa.gov/ncea/iris/index.cfm>). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (<http://www.epa.gov/ttn/atw/nata1999/>). These are *acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter*. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

Motor Vehicle Emissions Simulator (MOVES)

According to EPA, MOVES improves upon the previous MOBILE model in several key aspects: MOVES is based on a vast amount of in-use vehicle data collected and analyzed since the latest release of MOBILE, including millions of emissions measurements from light-duty vehicles. Analysis of this data enhanced EPA's understanding of how mobile sources contribute to emissions inventories and the relative effectiveness of various control strategies. In addition, MOVES accounts for the significant effects that vehicle speed and temperature have on PM emissions estimates, whereas MOBILE did not. MOVES2010b includes all air toxic pollutants in NATA that are emitted by mobile sources. EPA has incorporated more recent data into MOVES2010b to update and enhance the quality of MSAT emission estimates. These data reflect advanced emission control technology and modern fuels, plus additional data for older technology vehicles.

Based on an FHWA analysis using EPA's MOVES2010b model, as shown in Figure 1, even if vehicle-miles travelled (VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Figure 1:
PROJECTED NATIONAL MSAT EMISSION TRENDS 2010 – 2050
FOR VEHICLES OPERATING ON ROADWAYS
USING EPA’S MOVES2010b MODEL



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

Source: EPA MOVES2010b model runs conducted during May – June 2012 by FHWA.

The implications of MOVES on MSAT emissions estimates compared to MOBILE are: lower estimates of total MSAT emissions; significantly lower benzene emissions; significantly higher diesel PM emissions, especially for lower speeds. Consequently, diesel PM is projected to be the dominant component of the emissions total.

MSAT Research

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, we are duly expected by the public and other agencies to address MSAT impacts in our environmental documents. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this field.

NEPA CONTEXT

The NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the Federal Government be interpreted and administered in accordance with its environmental protection goals. The NEPA also requires Federal agencies to use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment. The NEPA requires and FHWA is committed to the examination and avoidance of potential impacts to the natural and human environment when considering approval of proposed transportation projects. In addition to evaluating the potential environmental effects, we must also take into account the need for safe and efficient transportation in reaching a decision that is in the best overall public interest. The FHWA policies and procedures for implementing NEPA are contained in regulation at 23 CFR Part 771.

CONSIDERATION OF MSAT IN NEPA DOCUMENTS

The FHWA developed a tiered approach with three categories for analyzing MSAT in NEPA documents, depending on specific project circumstances:

- (1) No analysis for projects with no potential for meaningful MSAT effects;
- (2) Qualitative analysis for projects with low potential MSAT effects; or

(3) Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

For projects warranting MSAT analysis, the seven priority MSAT should be analyzed.

(1) Projects with No Meaningful Potential MSAT Effects, or Exempt Projects.

The types of projects included in this category are:

- Projects qualifying as a categorical exclusion under 23 CFR 771.117(c) (subject to consideration whether unusual circumstances exist under 23 CFR 771.117(b));
- Projects exempt under the Clean Air Act conformity rule under 40 CFR 93.126; or
- Other projects with no meaningful impacts on traffic volumes or vehicle mix.

For projects that are categorically excluded under 23 CFR 771.117(c), or are exempt from conformity requirements under the Clean Air Act pursuant to 40 CFR 93.126, no analysis or discussion of MSAT is necessary. Documentation sufficient to demonstrate that the project qualifies as a categorical exclusion and/or exempt project will suffice. For other projects with no or negligible traffic impacts, regardless of the class of NEPA environmental document, no MSAT analysis is recommended.¹ However, the project record should document the basis for the determination of “no meaningful potential impacts” with a brief description of the factors considered. Example language, which must be modified to correspond with local and project-specific circumstances, is provided in Appendix A.

(2) Projects with Low Potential MSAT Effects

The types of projects included in this category are those that serve to improve operations of highway, transit, or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase MSAT emissions. This category covers a broad range of projects.

We anticipate that most highway projects that need an MSAT assessment will fall into this category. Any projects not meeting the criteria in category (1) or category (3) below should be included in this category. Examples of these types of projects are minor widening projects; new interchanges, replacing a signalized intersection on a surface street; or projects where design year traffic is projected to be less than 140,000 to 150,000 annual average daily traffic (AADT).

For these projects, a qualitative assessment of emissions projections should be conducted. This qualitative assessment would compare, in narrative form, the expected effect of the project on traffic volumes, vehicle mix, or routing of traffic and the associated changes in MSAT for the project alternatives, including no-build, based on VMT, vehicle mix, and speed. It would also

¹ The types of projects categorically excluded under 23 CFR 771.117(d) or exempt from certain conformity requirements under 40 CFR 93.127 does not warrant an automatic exemption from an MSAT analysis, but they usually will have no meaningful impact.

discuss national trend data projecting substantial overall reductions in emissions due to stricter engine and fuel regulations issued by EPA. Because the emission effects of these projects typically are low, we expect there would be no appreciable difference in overall MSAT emissions among the various alternatives.

Appendix B includes example language for a qualitative assessment, with specific examples for four types of projects: (1) a minor widening project; (2) a new interchange connecting an existing roadway with a new roadway; (3) a new interchange connecting new roadways; and (4) minor improvements or expansions to intermodal centers or other projects that affect truck traffic. The information provided in Appendix B must be modified to reflect the local and project-specific situation.

In addition to the qualitative assessment, a NEPA document for this category of projects must include a discussion of information that is incomplete or unavailable for a project specific assessment of MSAT impacts, in compliance with the Council on Environmental Quality (CEQ) regulations (40 CFR 1502.22(b)). This discussion should explain how current scientific techniques, tools, and data are not sufficient to accurately estimate human health impacts that could result from a transportation project in a way that would be useful to decision-makers. Also in compliance with 40 CFR 150.22(b), it should contain information regarding the health impacts of MSAT. See Appendix C.

(3) Projects with Higher Potential MSAT Effects

This category includes projects that have the potential for meaningful differences in MSAT emissions among project alternatives. We expect a limited number of projects to meet this two-pronged test. To fall into this category, a project should:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location, involving a significant number of diesel vehicles for new projects or accommodating with a significant increase in the number of diesel vehicles for expansion projects; or
- Create new capacity or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000² or greater by the design year;

And also

- Proposed to be located in proximity to populated areas.

Projects falling within this category should be more rigorously assessed for impacts. If a project falls within this category, you should contact the Office of Natural Environment (HEPN) and the

² Using EPA's MOVES2010b emissions model, FHWA staff determined that this range of AADT would result in emissions significantly lower than the Clean Air Act definition of a major hazardous air pollutant (HAP) source, i.e., 25 tons/yr. for all HAPs or 10 tons/yr. for any single HAP. Variations in conditions such as congestion or vehicle mix could warrant a different range for AADT; if this range does not seem appropriate for your project, please consult with the contacts from HEPN and HEPE identified in this memorandum.

Office of Project Development and Environmental Review (HEPE) in FHWA Headquarters for assistance in developing a specific approach for assessing impacts. This approach would include a quantitative analysis to forecast local-specific emission trends of the priority MSAT for each alternative, to use as a basis of comparison. This analysis also may address the potential for cumulative impacts, where appropriate, based on local conditions. How and when cumulative impacts should be considered would be addressed as part of the assistance outlined above. The NEPA document for this project should also include relevant language on unavailable information described in Appendix C.

If the analysis for a project in this category indicates meaningful differences in levels of MSAT emissions among alternatives, mitigation options should be identified and considered. See Appendix E for information on mitigation strategies.

You should also consult with HEPN and HEPE if you have a project that does not fall within any of the types of projects listed above, but you think has the potential to substantially increase future MSAT emissions.

CONCLUSION

What we know about mobile source air toxics is still evolving. As the science progresses FHWA will continue to revise and update this guidance. FHWA is working with Stakeholders, EPA and others to better understand the strengths and weaknesses of developing analysis tools and the applicability on the project level decision documentation process. FHWA wanted to make project sponsors aware of the implications of the transition to the MOVES model and that we will be issuing updates to this interim guidance when necessary. Additional background information on MSAT-related research is provided in Appendix D.

The FHWA Headquarters and Resource Center staff Victoria Martinez (787) 766-5600 X231, Bruce Bender (202) 366-2851, and Michael Claggett (505) 820-2047, are available to provide information and technical assistance, support any necessary analysis, and limit project delays. All MSAT analysis beginning on or after December 20, 2012, should use the MOVES model. Any MSAT analysis initiated prior to that date may continue to operate under the previous guidance and utilize MOBILE6.2. We are available to answer questions from project sponsors as we transition to MOVES.

APPENDICES

Appendix A – Prototype Language for Exempt Projects

Appendix B – Prototype Language for Qualitative Project Level MSAT Analysis

Appendix C – The Council on Environmental Quality (CEQ) Provisions Covering Incomplete or Unavailable Information (40 CFR 1502.22) including a discussion of unavailable information for project-specific MSAT Health Impacts Analysis

Appendix D – FHWA Sponsored Mobile Source Air Toxics Research Efforts

Appendix E – MSAT Mitigation Strategies

APPENDIX A – Prototype Language for Exempt Projects

The purpose of this project is to (*insert major deficiency that the project is meant to address*) by constructing (*insert major elements of the project*). This project has been determined to generate minimal air quality impacts for CAAA criteria pollutants and has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 100 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

APPENDIX B – Examples of Prototype Language for Qualitative Project-Level MSAT Analysis

The information in this Appendix is for projects with low potential MSAT effects – any non-exempt project that does not meet the threshold criteria for higher potential effects, as described in the interim guidance, should be considered for treatment provided here. The types of projects that fall into this category are those that improve operations of highways, or freight facilities without adding substantial new capacity. Examples include minor widening projects or new interchanges replacing signalized intersection on surface streets.

The following are some examples of qualitative MSAT analyses for different types of projects. Each project is different, and some projects may contain elements covered in more than one of the examples below. Analysts can use the example language as a starting point, but should tailor it to reflect the unique circumstances of the project being considered. The following factors should be considered when crafting a qualitative analysis:

- For projects on an existing alignment, MSAT are expected to decline due to the effect of new EPA engine and fuel standards.
- Projects that result in increased travel speeds will reduce MSAT emissions per VMT basis, although previously, the effect of speed changes on diesel particulate matter was not accounted for in the MOBILE6.2 model, however, MOVES does provide this estimation and should be accounted for accordingly. This speed benefit may be offset somewhat by increased VMT if the more efficient facility attracts additional vehicle trips.
- Projects that facilitate new development may generate additional MSAT emissions from new trips, truck deliveries, and parked vehicles (due to evaporative emissions). However, these may also be activities that are attracted from elsewhere in the metro region; thus, on a regional scale there may be no net change in emissions.
- Projects that create new travel lanes, relocate lanes, or relocate economic activity closer to homes, schools, businesses, and other populated areas may increase concentrations of MSAT at those locations relative to No Action.

Other elements related to a qualitative analysis are a discussion of information that is incomplete or unavailable for a project specific assessment of MSAT impacts and a discussion of any MSAT mitigation measures that may be associated with the project.

INTODUCTORY LANGUAGE FOR QUALITATIVE ANALYSIS FOR ALL PROJECTS

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at:

www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm

(1) Minor Widening Project

(For purposes of this scenario, minor highway widening projects are those in which the design year traffic is predicted to be less than 140,000 – 150,000 AADT. Widening projects that surpass these criteria are subject to a quantitative analysis.)

For each alternative in this EIS/EA (*specify*), the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the Build Alternatives is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. Refer to Table ____ (*specify*). This increase in VMT would lead to higher MSAT emissions for the preferred action alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOVES2010b model, emissions of all of the priority MSAT decrease as speed increases. Because the estimated VMT under each of the Alternatives are nearly the same, varying by less than ____ (*specify*) percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

(The following paragraph may apply if the project includes plans to construct travel lanes closer to populated areas.)

The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be higher under certain Build Alternatives than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along

the expanded roadway sections that would be built at _____ (*specify location*), under Alternatives _____ (*specify*), and along _____ (*specify route*) under Alternatives _____ (*specify*). However, the magnitude and the duration of these potential increases compared to the No-Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

(2) New Interchange Connecting an Existing Roadway with a New Roadway

(This scenario is oriented toward projects where a new roadway segment connects to an existing limited access highway. The purpose of the roadway is primarily to meet regional travel needs, e.g., by providing a more direct route between locations.)

For each alternative in this EIS/EA (*specify*), the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. Because the VMT estimated for the No Build Alternative is higher than for any of the Build Alternatives, higher levels of MSAT are not expected from any of the Build Alternatives compared to the No Build. Refer to Table ____ (*specify*). In addition, because the estimated VMT under each of the Build Alternatives are nearly the same, varying by less than ____ (*specify*) percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Under each alternative there may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emissions would likely be most pronounced along the new roadway sections that would be built at _____ (*specify location*), under Alternatives _____ (*specify*), and along _____ (*specify route*) under Alternatives _____ (*specify*). However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations.

In sum, under all Build Alternatives in the design year it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No Build

Alternative, due to the reduced VMT associated with more direct routing, and due to EPA's MSAT reduction programs.

(3) New Interchange Connecting New Roadways

(This scenario is oriented toward interchange projects developed in response to or in anticipation of economic development, e.g., a new interchange to serve a new shopping/residential development. Projects from the previous example may also have economic development associated with them, so some of this language may also apply.)

For each alternative in this EIS/EA (*specify*), the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the Build Alternatives is slightly higher than that for the No Build Alternative, because the interchange facilitates new development that attracts trips that would not otherwise occur in the area. Refer to Table ____ (*specify*). This increase in VMT means MSAT under the Build Alternatives would probably be higher than the No Build Alternative in the study area. There could also be localized differences in MSAT from indirect effects of the project such as associated access traffic, emissions of evaporative MSAT (e.g., benzene) from parked cars, and emissions of diesel particulate matter from delivery trucks (*modify depending on the type and extent of the associated development*). Travel to other destinations would be reduced with subsequent decreases in emissions at those locations.

Because the estimated VMT under each of the Build Alternatives are nearly the same, varying by less than ____ (*specify*) percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various Build Alternatives. For all Alternatives, emissions are virtually certain to be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future than they are today.

(The following discussion would apply to new interchanges in areas already developed to some degree. For new construction in anticipation of economic development in rural or largely undeveloped areas, this discussion would be applicable only to populated areas, such as residences, schools, and businesses.)

The travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT would be higher under certain Alternatives than others. The localized differences in MSAT concentrations would likely be most pronounced along the new/expanded roadway sections that would be built at ____ (*specify location*), under Alternatives ____ (*specify*), and along ____ (*specify route*) under Alternatives ____ (*specify*).

However, the magnitude and the duration of these potential increases cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. Further, under all Alternatives, overall future MSAT are expected to be substantially lower than today due to implementation of EPA's vehicle and fuel regulations.

In sum, under all Build Alternatives in the design year it is expected there would be slightly higher MSAT emissions in the study area relative to the No Build Alternative due to increased VMT. There also could be increases in MSAT levels in a few localized areas where VMT increases. However, EPA's vehicle and fuel regulations will bring about significantly lower MSAT levels for the area in the future than today.

(4) Minor Improvements or Expansions to Intermodal Centers or Other Projects that Affect Truck Traffic

(The description for these types of projects depends on the nature of the project. The key factor from an MSAT standpoint is the change in truck and rail activity and the resulting change in MSAT emissions patterns.)

For each alternative in this EIS/EA (*specify*), the amount of MSAT emitted would be proportional to the amount of truck vehicle miles traveled (VMT) and rail activity, assuming that other variables (such as travel not associated with the intermodal center) are the same for each alternative. The truck VMT and rail activity estimated for each of the Build Alternatives are higher than that for the No Build Alternative, because of the additional activity associated with the expanded intermodal center. Refer to Table ____ (*specify*). This increase in truck VMT and rail activity associated with the Build Alternatives would lead to higher MSAT emissions (particularly diesel particulate matter) in the vicinity of the intermodal center. The higher emissions could be offset somewhat by two factors: 1) the decrease in regional truck traffic due to increased use of rail for inbound and outbound freight; and 2) increased speeds on area highways due to the decrease in truck traffic. The extent to which these emissions decreases will offset intermodal center-related emissions increases is not known.

Because the estimated truck VMT and rail activity under each of the Build Alternatives are nearly the same, varying by less than ____ (*specify*) percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the EPA-projected reductions are so significant (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future as well.

(The following discussion may apply if the intermodal center is close to other development.)

The additional freight activity contemplated as part of the project alternatives will have the effect of increasing diesel emissions in the vicinity of nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT would be higher than under the No Build alternative. The localized differences in MSAT concentrations would likely be most pronounced under Alternatives _____ (*specify*). However, as discussed above, the magnitude and the duration of these potential differences cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific health impacts. Even though there may be differences among the Alternatives, on a region-wide basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will cause substantial reductions over time that in almost all cases the MSAT levels in the future will be significantly lower than today.

(Insert a description of any emissions-reduction activities that are associated with the project, such as truck and train idling limitations or technologies, such as auxiliary power units; alternative fuels or engine retrofits for container-handling equipment, etc.)

In sum, all Build Alternatives in the design year are expected to be associated with higher levels of MSAT emissions in the study area, relative to the No Build Alternative, along with some benefit from improvements in speeds and reductions in region-wide truck traffic. There also could be slightly higher differences in MSAT levels among Alternatives in a few localized areas where freight activity occurs closer to homes, schools, and businesses. Under all alternatives, MSAT levels are likely to decrease over time due to nationally mandated cleaner vehicles and fuels.

MSAT MITIGATION STRATEGIES

Although there is no obligation to identify and consider MSAT mitigation strategies as part of a qualitative analysis, such strategies may be part of a project's design. Refer to the examples provided in (4) Minor Improvements or Expansions to Intermodal Centers or Other Projects that Affect Truck Traffic, or Appendix E. For these and similar circumstances, MSAT mitigation strategies should be discussed as part of a qualitative analysis.

CEQ PROVISIONS COVERING INCOMPLETE OR UNAVAILABLE INFORMATION (40 CFR 1502.22)

The introductory language for qualitative analysis should be followed by a 40 CFR 1502 assessment of incomplete or unavailable information. Refer to Appendix C for details.

APPENDIX C – CEQ Provisions Covering Incomplete or Unavailable Information (40 CFR 1502.22)

Sec. 1502.22 INCOMPLETE OR UNAVAILABLE INFORMATION

When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.

- (a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.
- (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement:
 - 1. a statement that such information is incomplete or unavailable;
 - 2. a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;
 - 3. a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and
 - 4. the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts that have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.
- (c) The amended regulation will be applicable to all environmental impact statements for which a Notice to Intent (40 CFR 1508.22) is published in the Federal Register on or after May 27, 1986. For environmental impact statements in progress, agencies may choose to comply with the requirements of either the original or amended regulation.

INCOMPLETE OR UNAVAILABLE INFORMATION FOR PROJECT-SPECIFIC MSAT HEALTH IMPACTS ANALYSIS

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not,

would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects” (EPA, <https://www.epa.gov/iris/>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA’s Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, <http://pubs.healtheffects.org/view.php?id=282>) or in the future as vehicle emissions substantially decrease (HEI, <http://pubs.healtheffects.org/view.php?id=306>).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (<http://pubs.healtheffects.org/view.php?id=282>). As a result, there is no national

consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (<http://www.epa.gov/risk/basicinformation.htm#g>) and the HEI (<http://pubs.healtheffects.org/getfile.php?u=395>) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA’s approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Due to the limitations cited, a discussion such as the example provided in this Appendix (reflecting any local and project-specific circumstances), should be included regarding incomplete or unavailable information in accordance with Council on Environmental Quality (CEQ) regulations [40 CFR 1502.22(b)]. The FHWA Headquarters and Resource Center staff Victoria Martinez (787) 766-5600 X231, Bruce Bender (202) 366-2851, and Michael Claggett (505) 820-2047, are available to provide guidance and technical assistance and support.

APPENDIX D – FHWA Sponsored Mobile Source Air Toxics Research Efforts

Human epidemiology and animal toxicology experiments indicate that many chemicals or mixtures termed air toxics have the potential to impact human health. As toxicology, epidemiology and air contaminant measurement techniques have improved over the decades, scientists and regulators have increased their focus on the levels of each chemical or material in the air in an effort to link potential exposures with potential health effects. The EPA's list of 21 mobile source toxics represents their prioritization of these chemicals or materials for further study and evaluation. The EPA's strategy for evaluating air toxic compounds effects is focused on both national trends and local impacts. The FHWA has embarked on an air toxics research program with the intent of understanding the mobile source contribution and its impact on local and national air quality. Several of studies either initiated or supported by FHWA are described below¹.

Air toxics emissions from mobile sources have the potential to impact human health and often represent a regulatory agency concern. The FHWA has responded to this concern by developing an integrated research program to answer the most important transportation community questions related to air toxics, human health, and the NEPA process. To this end, FHWA has performed, funded or is currently managing several research projects. Many of these projects are based on an Air Toxics Research Workplan that provides a roadmap for agency research efforts². These efforts include:

THE NATIONAL NEAR ROADWAY MSAT STUDY

The FHWA, in conjunction with the EPA and a consortium of State departments of transportation, studied the concentration and physical behavior of MSAT and mobile source PM 2.5 in Las Vegas, Nevada and Detroit, Michigan. The study criteria dictated that the study site be open to traffic and have 150,000 Annual Average Daily Traffic or more. These studies were intended to provide knowledge about the dispersion of MSAT emissions with the ultimate goal of enabling more informed transportation and environmental decisions at the project-level. These studies are unique in that the monitored data was collected for the entire year. The Las Vegas, NV report revealed there are a large number of influences in this urban setting and researchers must look beyond the roadway to find all the sources in the near road environment. Additionally, in Las Vegas, meteorology played a large role in the concentrations measured in the near road study area. More information is available at

<http://www.fhwa.dot.gov/environment/airtoxicmsat/index.htm>.

¹ The information provided here is an update to research work discussed in the 2009 release of this interim guidance. The current title of each research activity is followed by the title used to describe the activity previously.

² Available at <http://www.fhwa.dot.gov/environment/airtoxic/workplan/index.htm>

TRAFFIC-RELATED AIR POLLUTION

Going One Step Beyond: A Neighborhood Scale Air Toxics Assessment in North Denver (The Good Neighbor Project)

In 2007, the Denver Department of Environmental Health (DDEH) issued a technical report entitled *Going One Step Beyond: A Neighborhood Scale Air Toxics Assessment in North Denver (The Good Neighbor Project)*. This research project was funded by FHWA. In this study, DDEH conducted a neighborhood-scale air toxics assessment in North Denver, which includes a portion of the proposed I-70 East project area. Residents in this area have been very concerned about both existing health effects in their neighborhoods (from industrial activities, hazardous waste sites, and traffic) and potential health impacts from changes to I-70.

The study was designed to compare modeled levels of the six priority MSATs identified in FHWA's 2006 guidance with measurements at existing MSAT monitoring sites in the study area. MOBILE6.2 emissions factors and the ISC3ST dispersion model were used (some limited testing of the CALPUFF model was also performed). Key findings include: 1) modeled mean annual concentrations from highways were well below estimated Integrated Risk Information System (IRIS) cancer and non-cancer risk values for all six MSAT; 2) modeled concentrations dropped off sharply within 50 meters of roadways; 3) modeled MSAT concentrations tended to be higher along highways near the Denver Central Business District (CBD) than along the I-70 East corridor (in some cases, they were higher within the CBD itself, as were the monitored values); and 4) dispersion model results were generally lower than monitored concentrations but within a factor of two at all locations.

Mobile Source Air Toxic Hot Spot

Given concerns about the possibility of MSAT exposure in the near road environment, The Health Effects Institute (HEI) dedicated a number of research efforts at trying to find a MSAT "hotspot." In 2011 three studies were published that tested this hypothesis. In general the authors confirm that while highways are a source of air toxics, they were unable to find that highways were the only source of these pollutants and determined that near road exposures were often no different or no higher than background or ambient levels of exposure, and hence no true hot spots were identified. These links provide additional information <http://pubs.healtheffects.org/getfile.php?u=659> page 137, <http://pubs.healtheffects.org/getfile.php?u=656> page 143, and <http://pubs.healtheffects.org/getfile.php?u=617> page 87, where monitored on-road emissions were higher than emission levels monitored near road residences, but the issue of hot spot was not ultimately discussed.

Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects

In January 2010, HEI released Special Report #17, investigating the health effects of traffic related air pollution. The goal of the research was to synthesize available information on the effects of traffic on health. Researchers looked at linkages between: (1) traffic emissions (at the tailpipe) with ambient air pollution in general, (2) concentrations of ambient pollutants with human exposure to pollutants from traffic, (3) exposure to pollutants from traffic with human-health effects and toxicologic data, and (4) toxicologic data with epidemiological associations. Challenges in making exposure assessments, such as quality and quantity of emissions data and models, were investigated, as was the appropriateness of the use of proximity as an exposure-assessment model. Overall, researchers felt that there was “sufficient” evidence for causality for the exacerbation of asthma. Evidence was “suggestive but not sufficient” for other health outcomes such as cardiovascular mortality and others. Study authors also note that past epidemiologic studies may not provide an appropriate assessment of future health associations as vehicle emissions are decreasing overtime. The report is available from HEI’s website at <http://www.healtheffects.org/>. The FHWA provides financial support to HEI’s research work.

HEI SPECIAL REPORT #16

In November 2007, the HEI published Special Report #16: Mobile-Source Air Toxics: A Critical Review of the Literature on Exposure and Health Effects. The purpose of this Report was to accomplish the following tasks:

- Use information from the peer-reviewed literature to summarize the health effects of exposure to the 21 MSATs defined by the EPA in 2001;
- Critically analyze the literature for a subset of priority MSAT; and
- Identify and summarize key gaps in existing research and unresolved questions about the priority MSAT.

The HEI chose to review literature for acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, naphthalene, and polycyclic organic matter (POM). Diesel exhaust was included, but not reviewed in this study since it had been reviewed by HEI and EPA recently. In general, the Report concluded that the cancer health effects due to mobile sources are difficult to discern since the majority of quantitative assessments are derived from occupational cohorts with high concentration exposures and some cancer potency estimates are derived from animal models. The Report suggested that substantial improvements in analytical sensitivity and specificity of biomarkers would provide better linkages between exposure and health effects. Noncancer endpoints were not a central focus of most research, and therefore require further investigation. Subpopulation susceptibility also requires additional evaluation. The study is available from HEI’s website at <http://www.healtheffects.org/>.

KANSAS CITY PM CHARACTERIZATION STUDY (KANSAS CITY STUDY)

This study was initiated by EPA to conduct exhaust emissions testing on 480 light-duty, gasoline vehicles in the Kansas City Metropolitan Area (KCMA). Major goals of the study included characterizing PM emissions distributions of a sample of gasoline vehicles in Kansas City; characterizing gaseous and PM toxics exhaust emissions; and characterizing the fraction of high emitters in the fleet. In the process, sampling methodologies were evaluated. Overall, results from the study were used to populate databases for the MOVES emissions model. The FHWA was one of the research sponsors. This study is available on EPA's website at: <http://www.epa.gov/otaq/emission-factors-research/420r08009.pdf>

ESTIMATING THE TRANSPORTATION CONTRIBUTION TO PARTICULATE MATTER POLLUTION (AIR TOXICS SUPERSITE STUDY)

The purpose of this study was to improve understanding of the role of highway transportation sources in particulate matter (PM) pollution. In particular, it was important to examine uncertainties, such as the effects of the spatial and temporal distribution of travel patterns, consequences of vehicle fleet mix and fuel type, the contribution of vehicle speed and operating characteristics, and influences of geography and weather. The fundamental methodology of the study was to combine EPA research-grade air quality monitoring data in a representative sample of metropolitan areas with traffic data collected by State departments of transportation (DOTs) and local governments.

Phase I of the study, the planning and data evaluation stage, assessed the characteristics of EPA's ambient PM monitoring initiatives and recruited State DOTs and local government to participate in the research. After evaluating and selecting potential metropolitan areas based on the quality of PM and traffic monitoring data, nine cities were selected to participate in Phase II. The goal of Phase II was to determine whether correlations could be observed between traffic on highway facilities and ambient PM concentrations. The Phase I report was published in September 2002. Phase II included the collection of traffic and air quality data and data analysis. Ultimately, six cities participated: New York City (Queens), Baltimore, Pittsburgh, Atlanta, Detroit and Los Angeles.

In Phase II, air quality and traffic data were collected. The air quality data was obtained from EPA AIRS AQS system, Supersite personnel, and NARSTO data archive site. Traffic data included ITS (roadway surveillance), Coverage Counts (routine traffic monitoring) and Supplemental Counts (specifically for research project). Analyses resulted in the conclusion that only a weak correlation existed between PM_{2.5} concentrations and traffic activity for several of the sites. The existence of general trends indicates a relationship, which however is primarily unquantifiable. Limitations of the study include the assumption that traffic sources are close enough to ambient monitors to provide sufficiently strong source strength, that vehicle activity is an appropriate surrogate for mobile emissions, and lack of knowledge of other factors such as non-traffic

sources of PM and its precursors. A paper documenting the work of Phase II was presented at the 2004 Emissions Inventory Conference and is available at <http://www.epa.gov/ttn/chief/conference/ei13/mobile/black.pdf>.

APPENDIX E – MSAT Mitigation Strategies

Lessening the effects of mobile source air toxics should be considered for projects with substantial construction-related MSAT emissions that are likely to occur over an extended building period, and for post-construction scenarios where the NEPA analysis indicates potentially meaningful MSAT levels. Such mitigation efforts should be evaluated based on the circumstances associated with individual projects, and they may not be appropriate in all cases. However, there are a number of available mitigation strategies and solutions for countering the effects of MSAT emissions.

Mitigating for Construction MSAT Emissions

Construction activity may generate a temporary increase in MSAT emissions. Project-level assessments that render a decision to pursue construction emission mitigation will benefit from a number of technologies and operational practices that should help lower short-term MSAT. In addition, the Federal Highway Administration has supported a host of diesel retrofit technologies in the Congestion Mitigation and Air Quality Improvement (CMAQ) Program provisions – technologies that are designed to lessen a number of MSATs.¹

Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time, such as reducing the numbers of trips and extended idling. Operational agreements that reduce or redirect work or shift times to avoid community exposures can have positive benefits when sites are near populated areas. For example, agreements that stress work activity outside normal hours of an adjacent school campus would be operations-oriented mitigation. Verified emissions control technology retrofits or fleet modernization of engines for construction equipment could be appropriate mitigation strategies. Technology retrofits could include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. Implementing maintenance programs per manufacturers' specifications to ensure engines perform at EPA certification levels, as applicable, and to ensure retrofit technologies perform at verified standards, as applicable, could also be deemed appropriate. The use of clean fuels, such as ultra-low sulfur diesel, biodiesel, or natural gas also can be a very cost-beneficial strategy.

The EPA has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction. This listing can be found at: www.epa.gov/otaq/retrofit/index.htm.

Post-Construction Mitigation for Projects with Potentially Significant MSAT Levels

Travel demand management strategies and techniques that reduce overall vehicle-mile of travel; reduce a particular type of travel, such as long-haul freight or commuter travel; or improve the transportation system's efficiency will mitigate MSAT emissions. Examples of such strategies include congestion pricing, commuter incentive programs, and increases in truck weight or length limits. Operational strategies that focus on speed limit

enforcement or traffic management policies may help reduce MSAT emissions even beyond the benefits of fleet turnover. Well-traveled highways with high proportions of heavy-duty diesel truck activity may benefit from active Intelligent Transportation System programs, such as traffic management centers or incident management systems. Similarly, anti-idling strategies, such as truck-stop electrification can complement projects that focus on new or increased freight activity.

Planners also may want to consider the benefits of establishing buffer zones between new or expanded highway alignments and populated areas. Modifications of local zoning or the development of guidelines that are more protective also may be useful in separating emissions and receptors.

The initial decision to pursue MSAT emissions mitigation should be the result of interagency consultation at the earliest juncture. Options available to project sponsors should be identified through careful information gathering and the required level of deliberation to assure an effective course of action. Such options may include local programs, whether voluntary or with incentives, to replace or rebuild older diesel engines with updated emissions controls. Information on EPA diesel collaborative around the country can be found at <http://www.epa.gov/otaq/diesel/whereyoulive.htm>.

¹

http://www.fhwa.dot.gov/environment/air_quality/cmaq/policy_and_guidance/2008_guidance/index.cfm

Appendix G

Endangered Species Act Documentation

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October 1, 2010

Mr. Phillip Ditzler
Division Administrator
Federal Highway Administration
530 Center Street N.E.
Salem, OR 97301

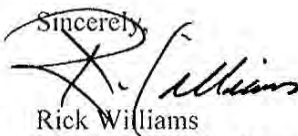
SUBJECT: NO EFFECT DOCUMENT
US 97 Bend North Corridor Project, Key No. 14020
US 97 between MP 130.18 and MP 136.33;
Deschutes County

Dear Mr. Ditzler,

Enclosed is a No Effect document for the US 97 Bend North Corridor project, Key No. 14020. After evaluating the potential effects, Oregon Department of Transportation (ODOT) Environmental Services concludes that the proposed action described herein will have no effect to the Columbia River distinct population segment (DPS) of bull trout and the northern spotted owl due to the absence of these species and suitable habitat in the area of potential impact (API). Therefore, we have made a determination of **no effect** for bull trout, Columbia River DPS and the northern spotted owl.

Please provide comments within one week of receipt of this document. If ODOT does not receive comments within one week, it will be presumed that FHWA concurs with the no effect determination.

If you need further assistance or additional information, please contact me at (541) 388-6458 or by email at Richard.L.WILLIAMS@ODOT.state.or.us

Sincerely,


Rick Williams
Assistant District Manager D-10
Environmental Project Manager

Enclosure: ESA Determination of No Effect: US 97 Bend North Corridor Project, Key No. 14020

Copies with Enclosure:

Chris Woods, Program Development Team Leader, FHWA

Copies w/o Enclosure:

Jon Heacock, Project Manager and Tech Center Manager
Amy Pfeiffer, Team Leader
Jim Barnes, Region Biologist, ODOT
ODOT Geo-Environmental Central Files in Salem (NRU-Trans)

ESA Determination of NO EFFECT

Key No. 14020 US 97 Bend North Corridor Project

Fed Aid No. S0004(112)

September 2010

Project Type: Construct new roads and improve existing roads.**Location:** Highway US 97 between Fort Thompson Road and Butler Market Road; US 20 between Old Bend-Redmond Highway and Butler Market Road.**Township/Range/Section(s):** T17S, R12E, Sections 3, 4, 8, 9, 16, 17, 20, 21, and 28**Lat/Long:** Centroid: 44.099976°; -121.303199°**City:** Bend**County:** Deschutes**HUC6:** 170703, Deschutes River Basin**Project Topography:** Generally flat with localized hilly terrain.**Surrounding Environment:** City of Bend; rural residential; sagebrush and juniper woodlands.**Check one of the following:**

- ☒ No, the Area of Potential Impact (API) does not overlap with listed species, critical habitat or EFH. (No Effect because of an absence determination)
- ☐ Yes, the API does overlap with listed species, critical habitat or EFH. (Signatures of individuals responsible for implementing avoidance measures are required on the last page of this memo as indicated.)

If "YES" is checked above, check all protected resources below that overlap with the API:

- | | | |
|--|---|------------------------------|
| <input type="checkbox"/> USFWS Listed Species | <input type="checkbox"/> NMFS Listed Species | <input type="checkbox"/> EFH |
| <input type="checkbox"/> USFWS Critical Habitat | <input type="checkbox"/> NMFS Critical Habitat | |
| <input type="checkbox"/> USFWS Proposed Species/CH | <input type="checkbox"/> NMFS Proposed Species/CH | |

Check if applicable:

- ☐ This No Effect document is in addition to a separate Biological Assessment (BA) that covers species/habitats that may be affected by the project.

Provide the following in table format:

(A) All listed Species likely to be within the API: Federally listed species that may occur in Deschutes County are not located in the API due to a lack of suitable habitat.

(B) All designated Critical Habitat within the API: No designated critical habitat is mapped for the API.

(C) All essential Fish Habitat (EFH) within the API: No Essential Fish Habitat is located in the API.

Data Sources and Survey Method(s) Utilized: [Check all that apply; do NOT attach information.]

<input type="checkbox"/> NMFS Staff Contacted <i>[Include name(s)]</i>	Date(s):
<input type="checkbox"/> USFWS Staff Contacted <i>[Include name(s)]</i>	Date(s):
<input checked="" type="checkbox"/> Species List – NMFS Website	Date(s): July 28, 2010
<input checked="" type="checkbox"/> Species List – USFWS Website	Date(s): July 28, 2010
<input checked="" type="checkbox"/> Federal Register	Date(s): July 29, 2010
<input checked="" type="checkbox"/> ORNHIC Database	Date(s): July 16, 2008
<input checked="" type="checkbox"/> StreamNet	Date(s): July 29, 2010
<input type="checkbox"/> ODOT TransGIS Environmental	Date(s):
<input checked="" type="checkbox"/> Field Survey – Complete Assessment	Date(s): 6/11, 6/13, 7/23, 7/25/2008
<input type="checkbox"/> Field Survey – Sample	Date(s):
<input checked="" type="checkbox"/> Other, DSL Essential Salmon Habitat Mapping	Date(s): July 28, 2010

NOTE: An API map with survey areas and locations of the closest water resources is attached (Figure 1).

Field Survey Technique(s): ESA Adolfson biologists conducted walking and driving surveys in the API to assess baseline habitat conditions on parcels that provided right of entry authorization during the summer of 2008. For parcels where right of entry was not provided, we observed typical habitat conditions from sidewalks and/or rights-of-way.

Provide Brief Project Description: The Oregon Department of Transportation (ODOT) and Federal Highway Administration (FHWA) propose to improve a five-mile segment of US 97 and portions of US 20 by removing at-grade intersections and signals and eliminating several accesses on US 97. The project would include relocating a portion of this five mile segment of US 97; from just north of Cooley Road to the Empire Avenue interchange, slightly east of the current facility.

US 97 is a strategic north-south state facility that runs through the central portion of the state and is a complement to the I-5 corridor. US 20 is similarly designated as a statewide freight route and expressway through the API. Through the API, US 97 also serves as a way for people to get to and from home and work and is a connection to area shopping and dining. In addition, the significant population growth in Bend and Central Oregon that has occurred over the past decade has placed many demands on US 97. This has led to an increase in traffic congestion and delay, disruptions in traffic flow, an increase in traffic delays, and an increase in the number of crashes in the corridor. The US 97 Bend North Corridor project will address safety and mobility on US 97 at the north end of Bend.

Finding of Effect:

- ODOT, acting as an agent of FHWA, determines that the listed species, designated critical habitat, and EFH covered under this document will not be affected by the project because they are not present in the API.
- This No Effect determination is based on the project as defined by preliminary engineering available during the Draft EIS phase of the project. Changes in project scope or scale following preliminary engineering may invalidate this No Effect determination.

Complete the following *only* if “YES” is checked on page 1:

Avoidance measures will be implemented to prevent effects on: [Check all that apply.]

- ☐ Listed species covered under this document. (Complete Section A below.)
- ☐ Designated critical habitat covered under this document. (Complete Section B below.)
- ☐ EFH covered under this document. (Complete Section C below.)

Required Avoidance Measures.

For each applicable section below:

- Identify *specific* project impacts that could affect *each* identified resource if avoidance measures are not implemented to eliminate *all* potential impacts.
- Provide a brief description of *each required* avoidance measure.

Section A – Listed Species

Not Applicable

Section B – Designated Critical Habitat

Not Applicable

Section C – Essential Fish Habitat

Not Applicable

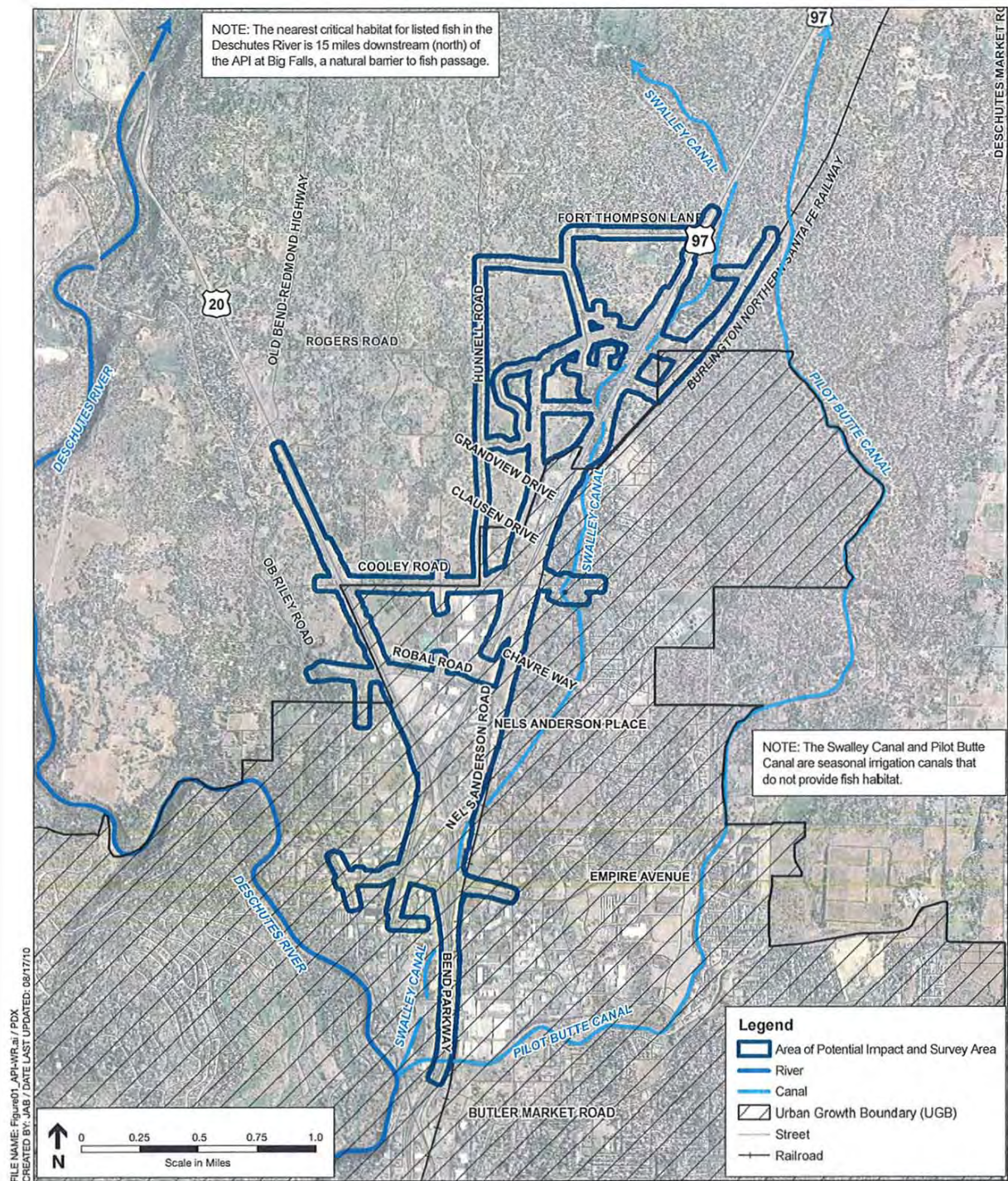
Additional Supportive Information: The Deschutes River in the project vicinity does not contain federally listed fish and is not designated critical habitat or essential fish habitat. Fish passage in the Deschutes River is blocked at Big Falls; a natural barrier located approximately 15 miles downstream (north) of the API at river mile 132. The nearest bull trout critical habitat in the Deschutes River is downstream of Big Falls (70 FR 56212). The proposed revised critical habitat designation for bull trout does not affect the Deschutes River in the project vicinity (75 FR 2270). The nearest population of northern spotted owl, a federally threatened species, and designated critical habitat is located 15 miles west of the API in the Deschutes National Forest (USFWS, 2008). There are no federally listed plants in Deschutes County (USFWS, 2010). The Swalley Canal and Pilot Butte Canal are seasonal irrigation facilities and do not provide fish habitat.

Federal Register, Volume 70, Page 56212. September 26, 2005. *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Bull Trout; Final Rule*. U.S. Fish and Wildlife Service, Department of the Interior.

Federal Register, Volume 75, Page 2270. January 14, 2010. *Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for Bull Trout in the Coterminous United States*. U.S. Fish and Wildlife Service, Department of the Interior.

United States Fish and Wildlife Service (USFWS). 2008. *Final Revised Critical Habitat for the Northern Spotted Owl*. Accessed on-line:
<http://www.fws.gov/pacific/ecoservices/nso/map.html>.

United States Fish and Wildlife Service (USFWS). 2010. Federally Listed Threatened, Endangered, Proposed, Candidate Species and Species of Concern which may occur within Deschutes County. Accessed on-line:
<http://www.fws.gov/oregonfwo/Species/Lists/>




US 97 Bend North Corridor . 208283.01
Figure 1
API and Nearby Water Resources
City of Bend and Deschutes County, Oregon


No Effect Memorandum (3-2-10 update)

Required Signatures. (Include signatures, printed names, and administrative units and/or organizations. A Biologist Qualified by ODOT under its ESA Effects Determination Program must sign this document and ensure its quality before it is submitted to the federal nexus agency.)

Individuals Responsible for the No Effect Determination:

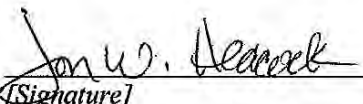

 [Signature]
 Randy Davis
 Region 4 Environmental Manager, ODOT

10-18-2010
 Date



 [Signature]
 Sarah Hartung
 Qualified Biologist
 ESA Adolfson

10-18-2010
 Date
May 2010
 Date of last ODOT ESA Effects
 Determination Training

Individuals Responsible for Ensuring Implementation of Avoidance Measures: *(These signatures are required only if the API overlaps with listed species, critical habitat, or EFH.)*


 [Signature]
 Jon Heacock
 Region 4 Project Manager, ODOT

10-18-2010
 Date


 [Signature]
 Amy Pfeiffer
 Project Leader
 Region 4 Project Leader, ODOT

10-18-2010
 Date



Oregon

John A. Kitzhaber, MD., Governor

Department of Transportation

Region 4 Project Delivery Building
63055 N. Highway 97, Bldg M
Bend, OR 97701
(541) 388-6225
FAX: (541) 385-0476

June 16, 2014

Mr. Phillip Ditzler
Division Administrator
Federal Highway Administration
530 Center Street N.E.
Salem, OR 97301

SUBJECT: UPDATED NO EFFECT DOCUMENT
US 97 Bend North Corridor Project, Key No. 14020
US 97 between MP 130.18 and MP 136.33;
Deschutes County

Dear Mr. Ditzler,

Enclosed is an updated No Effect document for the US 97 Bend North Corridor project, Key No. 14020. The original No Effect document for the project was submitted to Federal Highway Administration (FHWA) in October of 2010. Since then, the East DS2 Modified Alternative has been identified as the Preferred Alternative, and there were small changes to the area of potential impact (API). After evaluating the potential effects, Oregon Department of Transportation (ODOT) Environmental Services concludes that the Preferred Alternative will have no effect to threatened or endangered species.

Please provide comments within one week of receipt of this document. If ODOT does not receive comments within one week, it will be presumed that FHWA concurs with the no effect determination.

If you need further assistance or additional information, please contact me at (541) 388-6052 or by email at Amy.L.Pfeiffer@odot.state.or.us.

Sincerely,

Amy Pfeiffer
Planning and Environmental Manager

Enclosure: Updated ESA Determination of No Effect: US 97 Bend North Corridor Project, Key No. 14020

Copies with Enclosure:

Michelle Eraut, Program Development team Leader, FHWA

Copies w/o Enclosure:

Jon Heacock, Tech Center Manager, ODOT
Kevin Halesworth, Region 4 Biologist, ODOT
ODOT Geo-Environmental Central Files in Salem (NRU-Trans)

US 97 Bend North Corridor
ESA Determination of NO EFFECT

ESA Determination of NO EFFECT
US 97 Bend North Corridor (Updated Footprint)
KN 14020

6/11/14

Project Type: Construct new roads and improve existing roads

Location: US 97 between Fort Thompson Road and Butler Market Road; US 20 between Old Bend-Redmond Highway and Butler Market Road

Township/Range/Section(s): 17S/12E/ 3,4,8,9,16,17,20 and 28

Lat/Long: Varies

City: Bend

County: Deschutes

Project Topography: Fairly flat, with hilly terrain

Check one of the following:

- ☒ No, the Area of Project Impact (API) does not overlap with listed species, critical habitat or EFH. (No Effect because of an absence determination)
- ☐ Yes, the API does overlap with listed species, critical habitat or EFH.

If "YES" is checked above, check all protected resources below that overlap with the API:

- | | | |
|--|---|------------------------------|
| <input type="checkbox"/> USFWS Listed Species | <input type="checkbox"/> NMFS Listed Species | <input type="checkbox"/> EFH |
| <input type="checkbox"/> USFWS Critical Habitat | <input type="checkbox"/> NMFS Critical Habitat | |
| <input type="checkbox"/> USFWS Proposed Species/CH | <input type="checkbox"/> NMFS Proposed Species/CH | |

Check if applicable:

- ☐ This No Effect document is in addition to a separate Biological Assessment (BA) that covers species/habitats that may be affected by the project.

Provide the following in table format:

(A) All listed Species likely to be within the API: None

(B) All designated Critical Habitat within the API: None

(C) All essential Fish Habitat (EFH) within the API: None

Data Sources and Survey Method(s) Utilized: (Check all that apply; do NOT attach information.)

- | | |
|---|------------------|
| <input type="checkbox"/> NMFS Staff Contacted <i>[Include name(s)]</i> | Date(s): |
| <input type="checkbox"/> USFWS Staff Contacted <i>[Include name(s)]</i> | Date(s): |
| <input type="checkbox"/> Species List – NMFS Website | Date(s): 7/28/10 |

US 97 Bend North Corridor
ESA Determination of NO EFFECT

<input type="checkbox"/> Species List – USFWS Website	Date(s):
<input type="checkbox"/> Federal Register	Date(s):
<input checked="" type="checkbox"/> ORNHIC Database	Date(s): 6/11/14
<input type="checkbox"/> StreamNet	Date(s):
<input type="checkbox"/> ODOT TransGIS Environmental	Date(s):
<input type="checkbox"/> Field Survey – Complete Assessment	Date(s): 6/11/14
<input type="checkbox"/> Field Survey – Sample	Date(s):
<input type="checkbox"/> Other <i>[Provide references if appropriate]</i>	Date(s):

NOTE: New attached API map.

Field Survey Technique(s): Typical walking and driving surveys to assess baseline habitat conditions.

Provide Brief Project Description: (1-2 paragraphs)

This No Effect document is a supplement to the original NE document. The full description has not changed, rather there are additions to the API (see new API map attached).

Finding of Effect:

- ODOT, acting as an agent of FHWA, determines that the listed species, designated critical habitat, and EFH covered under this document will not be affected by the project. No avoidance measures are required.
- This No Effect determination is based on the project as defined in the Design Acceptance Package (DAP). Changes in project scope or scale following DAP may invalidate this No Effect determination.

Avoidance measures will be implemented to prevent effects on: NA

- ☐ Listed species covered under this document. (Complete **Section A** below.)
- ☐ Designated critical habitat covered under this document. (Complete **Section B** below.)
- ☐ EFH covered under this document. (Complete **Section C** below.)

Required Avoidance Measures. None are required.

US 97 Bend North Corridor
ESA Determination of NO EFFECT

Section A – Listed Species: N/A

Section B – Designated Critical Habitat: N/A

Section C – Essential Fish Habitat: N/A

Additional Supportive Information: (Optional)

US 97 Bend North Corridor
ESA Determination of NO EFFECT

Required Signatures. (Include signatures, printed names, and administrative units and/or organizations. A Biologist Qualified by ODOT under its ESA Effects Determination Program must sign this document and ensure its quality before it is submitted to the federal nexus agency.)

Individuals Responsible for the No Effect Determination:

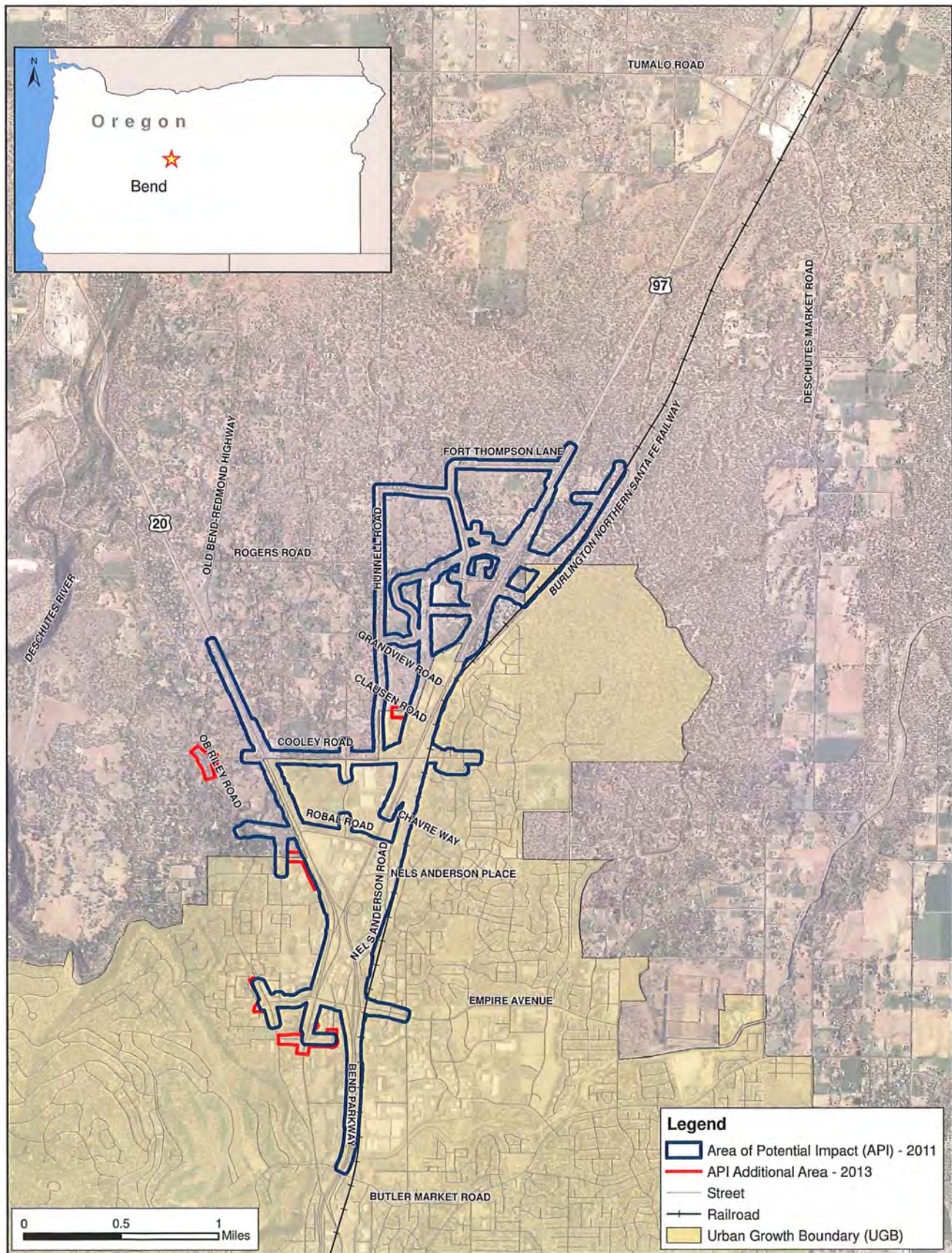
<p>_____ [Signature] Amy Pfeiffer Region 4 Environmental Manager, ODOT</p>	<p>_____ Date</p>
--	-----------------------

<p>_____ [Signature] Kevin Halesworth Qualified Biologist ODOT Region 4 Geo-Bridge Environmental</p>	<p>_____ Date</p> <p>9/13/11 Date of last ODOT ESA Effects Determination Training</p>
--	---

Individuals Responsible for Ensuring Implementation of Avoidance Measures: *(These signatures are required only if the API overlaps with listed species, critical habitat, or EFH.)*

<p>_____ [Signature] Printed Name Project Manager or District Manager [Administrative Unit or Organization]</p>	<p>_____ Date</p>
---	-----------------------

<p>_____ [Signature] Printed Name Project Leader [Administrative Unit or Organization]</p>	<p>_____ Date</p>
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Appendix H

SAFETEA-LU Section 6002

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Appendix H

SAFETEA-LU Section 6002

Pursuant to 23 CFR 771.125(b) the following documentation is required for FHWA legal sufficiency review.

1. Is the State Department of Transportation (State DOT) and/or local government a joint lead agency?

Legal Requirement: Sec. §139(c): Along with FHWA as the lead federal agency, any state or local government project sponsor that is the direct recipient of FHWA funds shall serve as joint lead agency. Joint lead agencies may include other federal agencies.

ODOT is a joint lead agency with the FHWA.

2. Has FHWA received a project initiation letter from the SDOT prior to the start of The National Environmental Policy Act?

Legal Requirement: Sec. §139(e) requires the project sponsors to notify FHWA regarding the type of work, termini, length, general location of the project, and any federal approvals anticipated to be necessary. The purpose of the letter is to inform FHWA that the environmental review process should be initiated.

Documentation Required: A copy of the initiation letter or notice that includes the type of project, termini, length, general location of the project, and anticipated approvals that will be required.

A project initiation letter was sent by Robert Bryant, Manager, ODOT Region 4 to Phillip Ditzler, FHWA Oregon Division Administrator, on October 5, 2007 (Attachment H-1).

3. Have participating agencies been identified?

Legal Requirement: Sec. §139(d): The lead agency shall identify other federal and non-federal agencies “that may have an interest in the project and shall invite such agencies to become participating agencies.” There is little room for discretion here unless, as guidance suggests, the lead agency believes the entity has no interest. Any legal commenting or permitting agency is “interested” per se.

Documentation Required: Invitation letters or notices and replies.

Invitation letters were mailed to the City of Bend, Deschutes County, and the Oregon Department of Land Conservation and Development in November 2007. All three agencies accepted the invitation to be a participating agency. Invitation letters were also mailed to the Confederated Tribes of Warm Springs, the

Confederated Tribes of Burns Paiute Tribe, and the Klamath Tribe, but these tribes did not respond to the invitation to be participating agencies.

4. Have cooperating agencies been identified as appropriate?

Legal Requirement: Sec. §139(d)(5): Participating agencies can also be cooperating agencies.

Documentation Required: List of cooperating agencies, invitation letters, and replies.

There are no cooperating agencies for this project.

5. Has the lead agency provided an opportunity for involvement by participating agencies in the development of the project's purpose and need?

Legal Requirement: Sec. §139(f): Lead Agency shall provide an opportunity for involvement by the participating agencies in defining the project's purpose and need.

Documentation Required: Invitation letters or notices, dates of events, and summary of involvement.

ODOT met with the participating agencies on February 4, 2010 to discuss the project's purpose and need and range of alternatives. This meeting initiated a 30-day review and comment period for the participating agencies. All three participating agencies sent comment letters to ODOT regarding the purpose and need and range of alternatives. ODOT responded to the participating agencies on April 6, 2010.

6. Has the lead agency provided an opportunity for involvement by the public in the development of the project's purpose and need?

Legal Requirement: Sec. §139(f): Lead agency shall provide an opportunity for involvement by the public in defining the project's purpose and need.

Documentation Required: Invitation letters or notices, dates of events, and summary of involvement by the public.

A newsletter was mailed to residents and businesses in the project area through general mail routes. Additionally, those who were included on the mailing list for the project's refinement planning phase also received the newsletter. The newsletter announced a public open house which was held on January 24, 2008. A notice of intent in the Federal Register (December 27, 2007), a press release (January 14, 2008), and newspaper advertisements in the Bend Bulletin and Redmond Spokesman also announced this open house

and comment period. There were 115 people who signed the open house attendance sheet. Comment forms were provided to gather input from the public on the draft purpose and need statement and other project issues or concerns. An on-line survey also collected public comments on the draft purpose and need statement. This survey was available for public response between January 10 and February 11, 2008, and received over 130 responses.

7. Has the lead agency provided an opportunity for involvement by the participating agencies in the development of the project's range of alternatives?

Legal Requirement: Sec. §139(f)(4): Lead agency shall provide an opportunity for involvement by participating agencies in defining the project's range of alternatives.

Documentation Required: Invitation letters or notices, dates of events, and summary of involvement by the participating agencies.

ODOT has provided an opportunity for involvement by the participating agencies in the development of the project's range of alternatives. ODOT held 24 meetings with the participating agencies over a 4-year time period to develop the project alternatives and gather input on the range of alternatives.

8. Has the lead agency provided an opportunity for involvement by the public in the development of the project's range of alternatives?

Legal Requirement: Sec. §139(f): Lead agency shall provide an opportunity for involvement by participating agencies in defining the project's range of alternatives.

Documentation Required: Invitation letters or notices, dates of events, and summary of involvement by the participating agencies.

Starting with the project's scoping meeting on January 24, 2008, ODOT has held numerous meetings and focus group sessions to gather public input on the project's range of alternatives. During the alternatives development phase of the project, ODOT held five public open houses (all advertised in newspapers, via press release, and through newsletters, postcards, the project website, and the project mailing list) to gather input on the range of alternatives. Furthermore, ODOT has also held 20 focus group meetings with various stakeholder groups (e.g. neighborhoods, business areas, emergency service providers, bicycle and pedestrian interests) to gather input on the range of alternatives. Online surveys have also been conducted on three separate occasions (January/February 2008, June 2008, and October 2008) to collect public comments

about the range of alternatives. ODOT has met with the project's Citizen Advisory Committee 26 times and with the Agency Coordination Committee, which includes the project's participating agencies, 24 times during the alternatives development phase of the project to give committee members an opportunity to comment on the project's range of alternatives.

9. Has the lead agency determined the methodologies to be used and the level of detail required to analyze each alternative? Has this determination been made in collaboration with the participating agencies?

Legal Requirement: Sec. §139(f)(4)(C)

Documentation Required: List of methodologies and evidence of collaboration as applicable.

ODOT sent letters to the project's participating agencies on August 25, 2009 inviting them to review and comment on the project's Draft Impact Assessment Methodology Memoranda. These memoranda were finalized based in part on the input received from participating agencies. Therefore, the participating agencies had the opportunity to review the methodology memoranda before completion of the DEIS.

10. Has a coordination plan been developed by the lead agencies with consultation of the participating agencies?

Legal Requirement: Sec. §139(g)(1): The coordination plan is intended to coordinate public and agency participation in and comment on the environmental review process.

Documentation Required: The coordination plan.

The project's coordination plan was initially drafted in January 2008. All participating agencies were provided with a copy of the coordination plan and given an opportunity to comment on it. The coordination plan was revised in September 2010, and was redistributed to the participating agencies in October 2010. The coordination plan was also updated and redistributed to the participating agencies in July 2011.

The coordination plan was updated again in January 2014 and redistributed to the participating agencies in July 2014.

11. If a schedule has been established as part of the coordination plan, were the four statutory factors considered?

Legal Requirement: Sec. §139(g)(1)(B): If a lead agency develops a project schedule or modifies it, the lead agency shall consult with

the participating agencies, the state DOT, and project sponsor if not the state DOT, and consider the four statutory factors.

Documentation Required: The schedule, any correspondence showing consultation, and how the four statutory factors were addressed.

A schedule is part of the coordination plan and was reviewed by all participating agencies prior to adoption. The factors listed for consideration in Sec. §139(g)(1)(B) are:

- *Responsibilities of participating agencies – These responsibilities are outlined in the coordination plan.*
- *Resources available to the cooperating agencies – Participating agencies were included on the project's Agency Coordination Committee to reduce redundant meeting participation.*
- *Overall size and complexity of the project and overall schedule for and cost of the project – Due to the complexity of the project and public concerns about the overall cost of the alternatives, the schedule was extended to allow development of lower-cost alternatives and additional public outreach.*
- *Sensitivity of natural and historic resources that could be affected by the project – The State of Oregon Collaborative Environmental and Transportation Agreement for Streamlining (CETAS) group agreed to not track the US 97 Bend North Corridor project due to the anticipated minimal impacts to natural resources. Impacts to historic resources were considered during the alternatives development and screening phase. Impacts to historic resources will continue to be analyzed and considered through this Draft EIS and Section 4(f) Evaluation.*

The Final EIS has been revised to describe the impacts to historic resources from the Preferred Alternative. A Final Section 4(f) Evaluation was prepared and published with the Final EIS.

12. Has the lead agency established the comment deadlines to be used during environmental review process?

Legal Requirement: Sec. §139(g)(2)

Documentation Required: The letters or notices to agencies and the public of applicable deadlines.

A notice was published in the federal register on July 29, 2011 announcing the availability of this Draft EIS. This announcement started a 45-day comment period. ODOT will hold a public hearing from 5:30 to 8:30pm on August 24, 2011 at The Riverhouse Convention Center Rooms A, B, and C (2850 NW Rippling River Court, Bend, OR 97701) during the Draft EIS's 45-day comment

period. Announcements for this public hearing and the comment period have been distributed via an email to the project mailing list, through display ads in local newspapers, press release, and the project website. Furthermore, electronic copies of the Draft EIS have been made available on the project website, and printed copies are available for review at local libraries or for purchase through ODOT. The Draft EIS has also been distributed to local, state and federal agencies with a potential interest in the project.

ODOT held the public hearing on August 24, 2011, and distributed announcements for the public hearing and comment period deadline as described above. Electronic and printed copies of the Draft EIS were distributed as described above.

13. Has the lead agency made environmental and socioeconomic information available to participating agencies early during the review process?

Legal Requirement: Sec. §139(h) requires lead agencies to make available to participating agencies as early as practicable information about environmental and socioeconomic resources in the project area and general locations of the alternatives. Based on this information, participating agencies shall identify issues of concern.

Documentation Required: Notice or letter of the information provided to participating agencies and their responses.

Participating agencies will receive environmental and socioeconomic information in the form of the Draft EIS when it is distributed during the public review period.

ODOT gathered issues of concern from the participating agencies throughout the scoping and alternatives development and screening phases of the project (see #7 and #8).

ODOT sent the Draft EIS to participating agencies during the public review period for their review and comment.

14. Optional – Has a higher level of detail for the preferred alternative been developed?

Legal Requirement: Sec. §139(f)(4)(D) allows development of the preferred alternative, once identified, to a higher level of detail for the purposes of facilitating development of mitigation measures and/or concurrent compliance with other laws.

Documentation Required: FHWA's determination that development of a higher level of detail will not prevent the lead agency from making an impartial decision whether to accept another alternative under consideration.

All alternatives have been developed to the same level of detail.

US 97 BEND NORTH CORRIDOR EIS

SAFETEA-LU 6002 REVISED COORDINATION PLAN

JANUARY 2014



U.S. Department
of Transportation

**Federal Highway
Administration**

Oregon Department of Transportation



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Appendices

Appendix A Notice of Intent and Invitation Letters

Appendix B Scoping and Purpose and Need

Appendix C Range of Alternatives

Appendix D Impact Assessment Methodology

Appendix E Draft EIS

Appendix F Preferred Alternative

Section 1. Introduction

The US 97 Bend North Corridor project will address safety and mobility on US 97 at the north end of Bend (between Tumalo Road/Deschutes Market Road and Empire Avenue) in Deschutes County. The US 97 corridor is experiencing heavy congestion and delay at signalized intersections with Cooley Road and Robal Road, as well as at the Empire Avenue Interchange. The amount of traffic currently using US 97 at Cooley Road and Robal Road intersections is approximately 35,000 vehicles a day. During the peak travel times these intersections experience traffic back-ups of nearly three-quarters of a mile, which is a significant delay to all roadway users. These two intersections also experience higher than average crash rates and are listed in the top five percent of the statewide Safety Priority Index System (SPIS). A No Build Alternative and build alternatives will be studied in the Environmental Impact Statement (EIS).

Additional information, including a summary of past planning activities and the steps being undertaken to comply with the NEPA process, can be found on the US 97 Bend North Corridor project Web site at: www.US97Solutions.org.

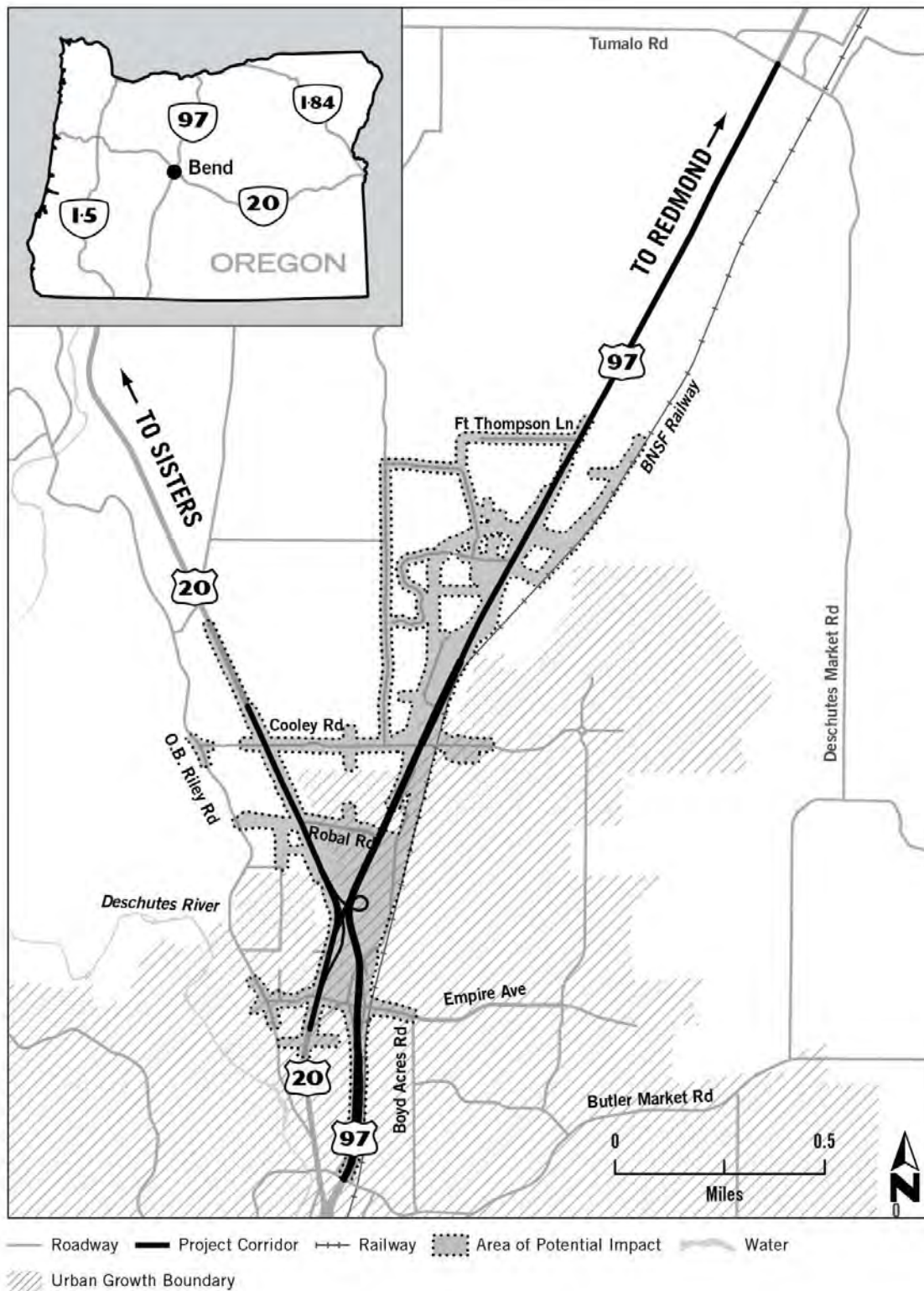
Figure 1 shows the general project area.

This Coordination Plan fulfills the requirements of Section 6002 of the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The purpose of this Coordination Plan is to:

- Facilitate and document FHWA's and ODOT's structured interaction with the public and other agencies, and to inform the public and other agencies of how the coordination will be accomplished
- Outline how FHWA and ODOT have divided the responsibilities for compliance and how the lead agencies will provide the opportunities for input from the public and other agencies in accordance with applicable laws, regulations, and policies
- Establish a schedule of regular meetings and identify which persons, organizations, or agencies should be included for each coordination point, as well as timeframes for input by those persons, organizations and agencies.

This coordination plan is divided into the following sections: Lead, Cooperating and Participating Agencies (Section 2); Coordination Points and Responsibilities (Section 3); Project Schedule (Section 4); and Revision History (Section 5).

Figure 1. General Project Area



Section 2. Lead, Cooperating and Participating Agencies

2.1 List of Agencies, Roles, and Responsibilities

2.1.1 Lead Agencies

Agency Name	Role	Responsibilities
Federal Highway Administration (FHWA)	Joint Lead Agency	Manage 6002 process; prepare EIS; provide opportunity for public, participating and cooperating agency involvement
Oregon Department of Transportation (ODOT)	Joint Lead Agency	Manage 6002 process; prepare EIS; provide opportunity for public & participating and cooperating agency involvement

The agencies listed have been invited by letter to participate in the US 97 Bend North Corridor project in the roles identified (Appendix A). Those agencies that accepted the invitation to become participating agencies are identified and documentation of their acceptance is included in Appendix A of this coordination plan.

2.1.2 Invited Cooperating Agencies

No other Federal permits or approvals outside of FHWA approvals are required for this project (see Section 2.6 of the Final EIS). There are no cooperating agencies.

2.1.3 Invited Participating Agencies

Agency or Tribe	Proposed Role	Responsibilities	Accepted Invitation as Participating Agency
City of Bend	Participating Agency	Review Draft EIS for sufficiency and provide comments. Participate in the scoping process; provide comments on purpose and need, methodologies, and range of alternatives; identify any issues of concern regarding the project's potential environmental or socioeconomic impacts; provide timely input on unresolved issues.	Yes, while the City of Bend did not respond in writing to accept the participating agency invitation, the City verbally accepted participating agency status and ODOT sent a letter to the City of Bend stating that the City would be considered a participating agency.

Agency or Tribe	Proposed Role	Responsibilities	Accepted Invitation as Participating Agency
Oregon Department of Land Conservation and Development (DLCD)	Participating Agency	Review Draft EIS for sufficiency and provide comments. Participate in the scoping process; provide comments on purpose and need, methodologies, and range of alternatives; identify any issues of concern regarding the project's potential environmental or socioeconomic impacts; provide timely input on unresolved issues.	Yes, while the DLCD did not respond in writing to accept the participating agency invitation, DLCD verbally accepted participating agency status and ODOT sent a letter to the DLCD stating that the DLCD would be considered a participating agency.
Deschutes County	Participating Agency	Review Draft EIS for sufficiency and provide comments. Participate in the scoping process; provide comments on purpose and need, methodologies, and range of alternatives; identify any issues of concern regarding the project's potential environmental or socioeconomic impacts; provide timely input on unresolved issues.	Yes, in March 26, 2008 letter
Confederated Tribes of Warm Springs	Participating Agency	Participate in the scoping process; provide comments on purpose and need, methodologies, and range of alternatives; identify any issues of concern regarding the project's potential environmental or socioeconomic impacts; provide timely input on unresolved issues.	Not a Participating Agency; Did Not Respond to Invitation
Confederated Tribes of Burns Paiute	Participating Agency	Participate in the scoping process; provide comments on purpose and need, methodologies, and range of alternatives; identify any issues of concern regarding the project's potential environmental or socioeconomic impacts; provide timely input on unresolved issues.	Not a Participating Agency; Did Not Respond to Invitation

Agency or Tribe	Proposed Role	Responsibilities	Accepted Invitation as Participating Agency
Klamath Tribe	Participating Agency	Participate in the scoping process; provide comments on purpose and need, methodologies, and range of alternatives; identify any issues of concern regarding the project's potential environmental or socioeconomic impacts; provide timely input on unresolved issues.	Not a Participating Agency; Did Not Respond to Invitation

In their written comments on the Draft EIS the Swalley Irrigation District stated that they wished to be Participating Agency. In subsequent discussions with the Swalley Irrigation District staff elaborated on the request in their comment letter, stating they wanted to make sure that ODOT coordinated with the Swalley Irrigation District on the project in so far as it impacts their facilities, easements, and water rights. Since ODOT staff is in close coordination with the Swalley Irrigation District on those issues the Swalley Irrigation District withdrew their request to be a Participating Agency, as it relates to SAFETEA-LU 6002.

2.2 Agency and Tribal Contact Information

Agency	Contact Person/Title	Phone	E-mail
Federal Highway Administration (FHWA)	Michelle Eraut, Program Development Team Leader	503-316-2559	Michelle.Eraut@dot.gov
	Anthony Boesen, Operations Engineer Regions 4 and 5	503-316-2554	anthony.boesen@dot.gov
Oregon Department of Transportation (ODOT)	Jon Heacock, Project Manager	541-388-6468	jon.w.heacock@state.or.us
City of Bend	Jim Clinton, Mayor	541-388-5505	JClinton@ci.bend.or.us
Oregon Department of Land Conservation and Development (DLCD)	Karen Swirsky, Central Oregon Regional Representative	541-325-6927	karen.swirsky@state.or.us
Deschutes County	Tom Anderson, County Administrator	541-388-6570	admin@deschutes.org

Section 3. Coordination Points and Responsibilities

3.1 Coordination Points, Information Requirements and Responsibilities

Coordination Point	Information Provided by Lead Agencies	Agency Responsible	Information Submitted by Participating Agencies	Agency Responsible
Notice of Intent	<p>Send participating agencies a copy of the Notice of Intent; publish notice in newspaper and Federal Register; invite agencies and public to public scoping meeting. The Notice of Intent was published in the Federal Register on December 27, 2007.</p> <p>Appendix A of this plan includes a copy of the project's Notice of Intent as published in the Federal Register, the letters that were sent inviting agencies to be a participating agency, and letters from ODOT confirming the participating agency status for agencies that verbally responded they wanted to be a participating agency.</p>	FHWA ODOT	Participation in scoping	Participating agencies
Purpose and Need	<p>Provide participating agencies and public with draft purpose and need statement via letters and/or web site; solicit comments; hold scoping meeting.</p> <p>Appendix B of this plan includes the minutes and sign in sheets of the agency scoping meeting that was held on January 10, 2008, the minutes of the February 28, 2008 Technical Management Team meeting where project scoping was also conducted and the purpose and need statement was reviewed, and a memorandum summarizing the other outreach ODOT did to solicit comments on the project's purpose and need statement prior to its being finalized.</p>	FHWA ODOT	Comments on Purpose and Need	Participating agencies
Range of Alternatives	<p>Provide participating agencies and public with information regarding alternatives being considered via letters and/or web site; solicit comments; hold scoping meeting and other public meetings.</p> <p>Appendix C of this plan includes documentation of the letters that were sent to the participating agencies to request comments on the range of alternatives and the comments that were received.</p>	FHWA ODOT	Comments on Range of Alternatives	Participating agencies

Coordination Point	Information Provided by Lead Agencies	Agency Responsible	Information Submitted by Participating Agencies	Agency Responsible
Collaboration on impact assessment methodologies	<p>Provide participating agencies with draft impact assessment methodologies for review and comment.</p> <p>Appendix D of this plan includes documentation of the request to all of the participating agencies requesting their comments on the impact assessment methodologies and the comments that were received.</p>	FHWA ODOT	Comments on impact assessment methodologies	Participating agencies
Socioeconomic and natural resource impacts	<p>Identification of resources located within project area and general location of alternatives</p> <p>Appendix E of this plan includes the project's newsletter that was distributed in the summer of 2011 to all of the participating agencies regarding the release of the Draft EIS, which includes identification of resources located within the project area and the potential project impacts from the alternatives being considered.</p>	All participating agencies	Identification of any issues that could substantially delay permit approval	FHWA ODOT
Circulation of DEIS	<p>Provide draft EIS to participating agencies and the public</p> <p>Appendix E of this plan includes the project's newsletter that was distributed in the summer of 2011 to all of the participating agencies regarding the release of the Draft EIS, the date of the public hearing and when the public comment period closed.</p>	FHWA ODOT	Comments on the Draft EIS	Participating agencies and the public
Identify Preferred Alternative	<p>Provide participating agencies and the public with the identified Preferred Alternative</p> <p>Appendix F of this plan includes the project's newsletter that was distributed in the summer of 2013 to all of the participating agencies regarding ODOT's recommendation of a Preferred Alternative for the project and noting the public open house that ODOT held on June 13, 2013.</p>	FHWA ODOT	Comments on Preferred Alternative	Participating agencies and the public

Coordination Point	Information Provided by Lead Agencies	Agency Responsible	Information Submitted by Participating Agencies	Agency Responsible
Circulation of FEIS	Circulate final EIS	FHWA ODOT	None	None
Issue ROD	Record of Decision	FHWA	None	None
Other Permits or Approvals	Issuance of permits or approvals	No other federal approvals are necessary. Section 2.6 of the Final EIS lists all other permits or approvals that are needed for this project.	None	None

Section 4. Project Schedule

Coordination Point	Anticipated Schedule	Agency Responsible	Response Timeframe	Agency Responsible
Notice of Intent	December 27, 2007	FHWA	No response required	FHWA
Purpose and Need	January 10, 2008	FHWA ODOT	Provide comments within 30 days	Participating agencies
Range of Alternatives	February 4, 2010	FHWA ODOT	Provide comments within 30 days	Participating agencies
Collaboration on impact assessment methodologies	August 25, 2009	FHWA ODOT	Provide comments within 30 days	Participating agencies
DEIS	July 2011	FHWA ODOT	Provide comments within 30 days	Participating agencies
FEIS	Summer 2014	FHWA ODOT	Provide comments within 30 days	None
Issue ROD	Summer 2014	FHWA	No response required	FHWA
Permits and other approvals	Post-ROD	See FEIS, Section 2.6.	N/A	N/A

Section 5. Revision History

As the US 97 Bend North Corridor Project progresses, revisions to this Coordination Plan will be documented in the table below.

Version	Date	Document Name	Revision Description and Why Necessary
1.0	January 2008	Draft Coordination Plan	Initial draft
2.0	March 2010	Revised Coordination Plan	Updates project area map, updates contact information, identifies confirmed participating agencies, updates project schedule
3.0	September 2010	Revised Coordination Plan	Updates project area map, updates project schedule, updates FHWA contact information
4.0	July 2011	Revised Coordination Plan	Updates project schedule and contact information
5.0	January 2014	Revised Coordination Plan	Updates project area map, project schedule, contact information, and documentation in appendices

Appendix A Notice of Intent and Invitation Letters



Oregon

Theodore R. Kulongoski, Governor

Department of Transportation

Robert W. Bryant

Region 4 Manager

63055 N Hwy 97

Bend, OR 97708

Telephone (541) 388-6184

FAX (541) 388-6231

E-mail: robert.w.bryant@state.or.us

October 15, 2007

File Code:

Mr. Phillip Ditzler, Division Administrator
Federal Highway Administration
530 Center Street NE, Suite 100
Salem, OR 97301

Re: SAFETEA-LU 6002 notification of project initiation on US 97 Bend North Corridor Project

Dear Mr. Ditzler:

The Oregon Department of Transportation (ODOT) in cooperation with the Federal Highway Administration (FHWA) is initiating the environmental review process as required by SAFETEA-LU 6002 for an Environmental Impact Statement (EIS) for the proposed US 97 Bend North Corridor Project. This is a transportation improvement project proposed in Deschutes County, including within and adjacent to the city limits of Bend. The proposed project is approximately five miles in length. The project study area is bounded to the south by Bend Parkway/Empire Avenue interchange. To the north, it is bound by Deschutes Market Road-Tumalo Junction interchange on US 97 and by the Old Bend-Redmond Highway intersection on US 20 (a project vicinity map is attached). The purpose of the project, as currently defined, is to improve safety and congestion on US 97 in order to preserve the capacity and long-term function of US 97 given the general high rate of growth in the Bend area and statewide importance of US 97. This project has undergone a planning process, which is documented in the US 97 & US 20 Refinement Plan and included evaluation various corridor conceptual alternatives. A review of the Refinement Plan process and the associated alternatives development decisions was conducted to assess the whether the planning-level decisions could be advanced into the EIS process in compliance with the National Environmental Policy Act (NEPA). A summary of this review is attached.

Pursuant to Section 6002 of SAFETEA-LU, the Federal Highway Administration (FHWA) must serve as the lead Federal agency for this project, and ODOT will serve as a joint lead agency. The responsibilities of the lead agencies are to:

- Establish a list of potentially participating and cooperating agencies
- Prepare and send invitations to potentially participating agencies
- Develop a SAFETEA-LU 6002-compliant Coordination Plan
- Provide opportunities for the public and participating agencies involvement in defining purpose and need and range of alternatives

October 15, 2007
 Mr. Phillip Ditzler
 Page 2 of 2

- Consult with participating agencies in determining methodologies and the level of detail for the analysis of alternatives.

ODOT is also requesting that the attached (draft) Notice of Intent (NOI) for the US 97 Bend North Corridor project be modified as needed and submitted for publication in the Federal Register. Please consult with ODOT on any needed modifications to the NOI prior to submitting it for publication.

In addition to an EIS, ODOT anticipates that this project will require compliance with the following:

- National Ambient Air Quality Standards
- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
- Executive Order on Environmental Justice (Executive Order 12898)
- Fish and Wildlife Coordination Act
- Endangered Species Act (Section 7)
- National Pollution Discharge Elimination System (NPDES) 1200-CA permit
- Section 6(f) of the Land and Water Conservation Fund
- Section 4(f) of the Department of Transportation Act of 1966
- Section 106 of the National Historic Preservation Act of 1966
- Oregon Statewide Planning Goals
- Public Utility Commission (PUC) for railroad permit issues (crossings)
- Department of Geology and Mineral Industries (DOGAMI) for material sources
- Department of Environmental Quality (DEQ) Commercial/Industrial Noise Regulation
- Department of Environmental Quality (DEQ) Hazmat Clearance

If you have any questions on the attached NOI or would like to discuss in more detail the US 97 Bend North Corridor Project or the SAFETEA-LU 6002 process as it pertains to this project, please contact Rick Williams at (541) 388-3458.

Thank you for your cooperation and interest in this project.

Sincerely,

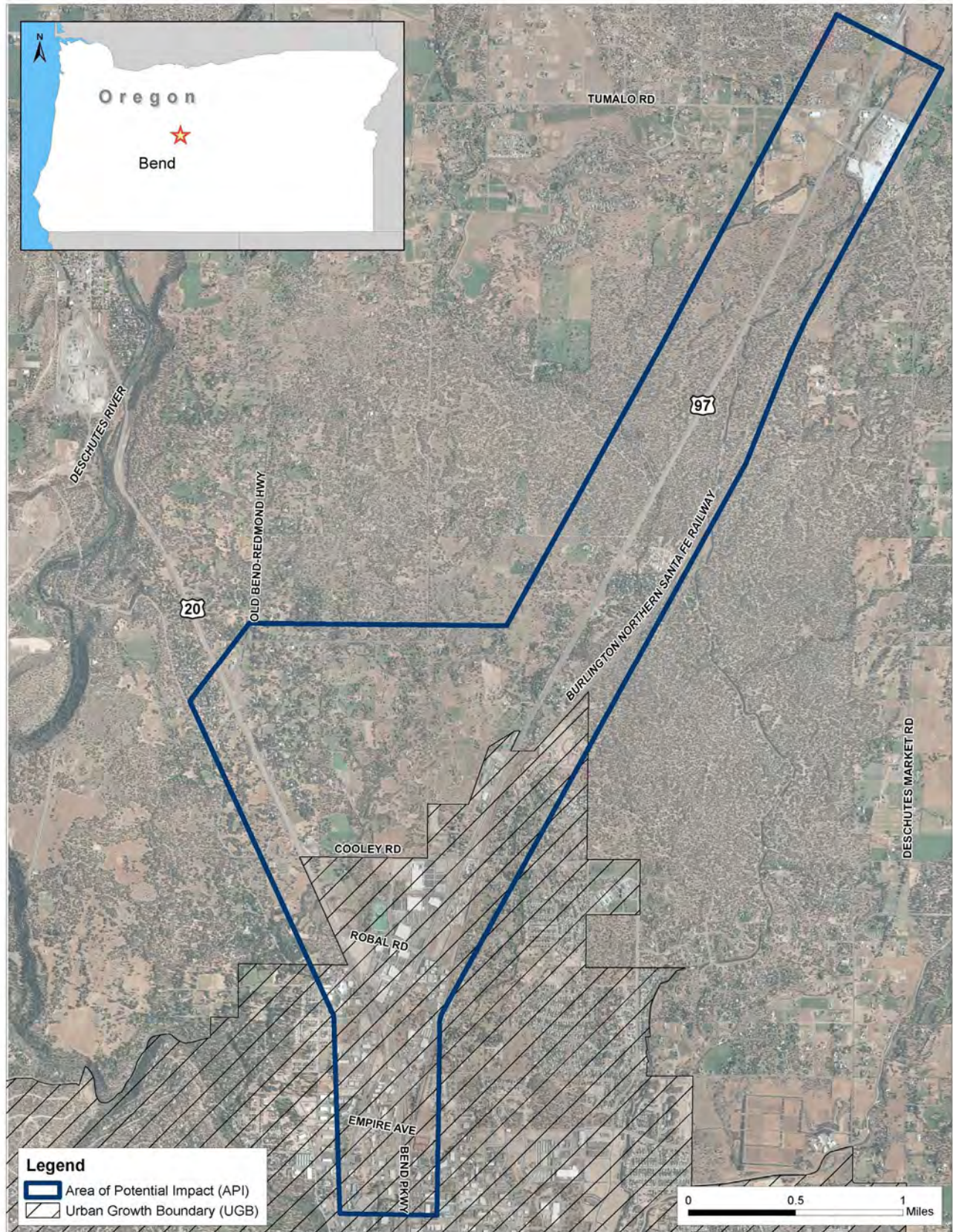


Robert Bryant
 Region 4 Manager

Enclosure: Study Area Map
 Refinement Plan Summary: Executive Summary
 Draft Notice of Intent
 Coordination Plan

cc: Rick Williams, ODOT

Study Area Map



pedestrian safety along the existing truck route; and reduce travel time from NY Route 60 to the industrial corridor.

The reasonable range of alternatives will include a No-Build Alternative and three Build Alternatives, which are briefly described below. Additional input from Participating and Cooperating Agencies, and from the public, will be necessary before a final decision will be made regarding the full range of alternatives to be studied.

- The *No-Build Alternative* would utilize the existing truck route in its current condition. This alternative would maintain the existing truck route along NY Route 60 to NY Route 5 (Lakeshore Drive) to CR 82 in its present state with only routine maintenance to keep the existing truck route open to traffic.

- The *Build Alternatives* are: Improving the existing truck route; improving other existing routes; or constructing a new urban collector on new alignment by utilizing existing and/or new roads. Incorporated into and studied with the various build alternatives will be design variations of grade and alignment.

The purpose of the Millennium Parkway Project is to improve tractor-trailer truck traffic access to the industrial corridor, including the Chadwick Bay Industrial Park, from NY Route 60. In order to meet this purpose, the project limits have been sufficiently delineated to include the industrial corridor. The western boundary of the Project Limits has been established as the existing truck route along NY Route 60, since the tractor-trailer truck traffic currently passing through the City of Dunkirk utilizes this route. The northern boundary of the project limits has been established as the remaining portion of the existing truck route along NY Route 5 and CR 82 as well as the CSX Transportation (CSXT) Railroad, to avoid any additional railroad crossings. The eastern boundary of the project limits has been established as Harrington Road, CR 82, and Cook Road to avoid conflicts with the Dunkirk Airport. Finally, the southern boundary of the project limits has been established as Interstate 90 (I-90) to avoid conflicts with this route (I-90).

The limits considered to define the bounds of the affected environment for the environmental assessment of the Build Alternatives, which vary slightly from the Project Limits, are generally as follows: northwest along NY Route 60 from the intersection with I-90, Interchange 59; east then north along the City of Dunkirk city limit line; northeast along the CSXT Railroad; south along the existing alignments of

Harrington Road, CR 82, and Cook Road; then southwest along the existing alignment of I-90.

The anticipated length of the proposed roadway will be determined based on the preferred alternative. The highway's southern terminus would be located at NY Route 60, north of I-90, Interchange 59, and its northern terminus would be located in the vicinity of the industrial corridor.

Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State, and local agencies, and to private organizations and citizens who have previously expressed or are known to have interest in this proposal. As part of the formal scoping process for this project, a series of public meetings will be held in the towns of Dunkirk and Sheridan this fall. Public notice will be given regarding the time and place of the meetings. The draft EIS will be available for public and agency reviews and comment prior to a public hearing. The draft EIS is expected to be completed in the spring of 2009.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA, NYSDOT, or CCDPF at the addresses provided earlier.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Authority: 23 U.S.C. 315; 23 CFR 771.123.

Issued on: December 19, 2007.

Jeffrey W. Kolb,

Division Administrator, Federal Highway Administration, Albany, New York.

[FR Doc. E7-25027 Filed 12-26-07; 8:45 am]

BILLING CODE 4910-22-P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement: Deschutes County, OR

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of intent.

SUMMARY: The Federal Highway Administration (FHWA) is issuing this notice of intent to advise agencies and the public that an Environmental

Impact Statement (EIS) will be prepared to assess the impacts of proposed modifications to U.S. 97 in Deschutes County, Oregon.

DATES: A public scoping meeting will be held Thursday, January 24, 2008, at the Sky View Middle School Commons 63555 18th Street, Bend, Oregon 97701. The public scoping meeting will include an informational presentation from 5 p.m. to 6 p.m. The informational presentation will be followed by a question and answer period and a general open house from 6 p.m. until 8:30 p.m. An agency scoping meeting will be held on January 10, 2008, at ODOT Region 4, Construction Office Conference Room, 63030 O.B. Riley Road, Bend, Oregon 97701. The agency scoping meeting will be from 1 p.m. to 3:30 p.m.

FOR FURTHER INFORMATION CONTACT: Ms. Michelle Eraut, Environmental Program Manager, Federal Highway Administration, 530 Center Street, NE., Suite 100, Salem, Oregon 97301; telephone 503-587-4716.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Oregon Department of Transportation (ODOT), will prepare an EIS for the proposed modifications to U.S. 97 in Deschutes County, Oregon. The proposed improvements may involve the reconstruction or realignment of the existing U.S. 97 roadway between the Bend Parkway/Empire Avenue and Deschutes Market Road-Tumalo Junction interchanges.

Improvements to the corridor are considered necessary to meet the mobility standards and facility management goals consistent with U.S. 97's designation as a statewide expressway, address current and future transportation demand, and improve safety along the corridor including the intersections of U.S. 97 with Cooley and Robal Roads. Current traffic volumes exceed roadway capacity. Traffic is expected to increase 20 to 40% by 2032. The intersections of U.S. 97 with Cooley and Robal Roads are in the top 5 percent of crash locations on state highways within Oregon.

The northern portion of the project is located in a predominately rural area. Lands on the eastern side of the highway are being considered for inclusion into the City of Bend's Urban Growth Boundary. The middle portion of the project begins the transition from rural to urban uses, with the number of accesses increasing. Access to rural residential uses are located on the west side of the highway and access to two mobile home parks are located on the eastern side of the highway. The

southern portion of the project is within a high-growth urban commercial setting with regional big box retail uses and a large retail mall on the west side of the highway. Smaller regional and local retail and manufacturing businesses are on the east side of the highway.

The EIS will identify transportation needs and deficiencies in the project study area, including safety, mobility, access, safety, system linkages and continuity. The range of alternatives evaluated in the EIS will be developed to meet the identified purpose and need. Potential alternatives and combinations thereof may include, but are not limited to: (1) No action; (2) reroute U.S. 97 on a westerly alignment; and (3) reroute U.S. 97 on an easterly alignment. Design variations of potential alternatives will also be studied, as appropriate. A refinement plan for U.S. 97 & U.S. 20 was completed in May 2007. Information from the refinement plan may be utilized as appropriate in the development of this EIS.

The EIS will be initiated with a scoping process. The scoping process will include a program of public outreach and agency coordination conducted over the next several months to elicit input of project purpose and need, potential alternatives, significant and insignificant issues, and collaborative methods of analyzing transportation alternatives and environmental impacts.

A series of public, agency and tribal meetings will be held in early 2008 and continue throughout the development of the EIS. The public outreach program will include multiple public meetings conducted by ODOT as well as coordination with the Technical Management Team, the Citizens Advisory Committee and the Project Steering Team. The Technical Management Team is comprised of technical representatives from ODOT, the City of Bend, Deschutes County and the Oregon Department of Land Conservation and Development. The Citizens Advisory Committee is comprised of the public representing neighborhood and business interests in the project areas. The Project Steering Team is comprised of policy representatives from ODOT, the City of Bend and Deschutes County.

A public hearing will be held in connection with the release of the draft EIS. Public notice will be given regarding the time and place of the public meetings and hearings. An internet website has been established at: <http://www.US97solutions.org> and will be operational beginning January 10, 2008. This website and other communication media will be utilized

throughout the process to provide public information and to receive comments. All comments and input received during the EIS process will be considered and documented.

The FHWA and ODOT will evaluate significant transportation, environmental, social and economic impacts of the project alternatives. Potential areas of impact include: neighborhoods, businesses, natural resources and environmental justice. Measures to avoid, minimize and mitigate any significant adverse impacts will be developed.

Comments and suggestions are invited from all interested parties, to ensure that the full range of issues related to this project are addressed and all significant issues are identified. Comments or questions regarding the proposed action and the EIS should be directed to the FHWA at the address provided above.

Authority: 23 U.S.C. 315.

Issued on: December 18, 2007.

Michelle Eraut,

Environmental Program Manager, Salem, Oregon.

[FR Doc. E7-25023 Filed 12-26-07; 8:45 am]

BILLING CODE 4910-22-P

DEPARTMENT OF TRANSPORTATION

Maritime Administration

Marine Transportation System National Advisory Council

ACTION: National Advisory Council public meeting.

SUMMARY: The Maritime Administration announces that the Marine Transportation System National Advisory Council (MTSNAC) will hold a meeting to discuss an expanded Marine Transportation System outreach and education program that addresses future workforce needs, environmental issues, and freight mobility; public and private sector data collection efforts; and addressing MTSNAC's ten public/private recommendations. A public comment period is scheduled for 10:30 a.m. to 11 a.m. on Thursday, January 10, 2008. To provide time for as many people to speak as possible, speaking time for each individual will be limited to three minutes. Members of the public who would like to speak are asked to contact Richard J. Lolich by January 2, 2008. Commenters will be placed on the agenda in the order in which notifications are received. If time allows, additional comments will be permitted. Copies of oral comments must be submitted in writing at the meeting. Additional written comments

are welcome and must be filed by January 18, 2008.

DATES: The meeting will be held on Wednesday, January 9, 2008, from 3 p.m. to 5 p.m. and Thursday, January 10, 2008, from 8:30 a.m. to 5 p.m.

ADDRESSES: The meeting will be held in the Westin Seattle Hotel, 1900 Fifth Ave., Seattle, WA 98101. The hotel's phone number is 206-728-1000.

FOR FURTHER INFORMATION CONTACT: Richard Lolich, (202) 366-0704; Maritime Administration, MAR-540, Room W21-309, 1200 New Jersey Ave., SE., Washington, DC 20590-0001; richard.lolich@dot.gov.

Authority: 5 U.S.C. App 2, Sec. 9(a)(2); 41 CFR 101-6.1005; DOT Order 1120.3B.

Dated: December 17, 2007.

By order of the Maritime Administrator.

Christine Gurland,

Acting Secretary, Maritime Administration.

[FR Doc. E7-25009 Filed 12-26-07; 8:45 am]

BILLING CODE 4910-81-P

DEPARTMENT OF TRANSPORTATION

Surface Transportation Board

[STB Ex Parte No. 290 (Sub No. 5) (2008-1)]

Quarterly Rail Cost Adjustment Factor

AGENCY: Surface Transportation Board.

ACTION: Approval of rail cost adjustment factor.

SUMMARY: The Board has approved the rebased first quarter 2008 rail cost adjustment factor (RCAF) and cost index filed by the Association of American Railroads. As required by statute, the RCAF is rebased using the fourth quarter 2007 index value as the denominator and first quarter 2008 index value as the numerator ($10/1/07 = 1.00$). Rebased is required every five years. The rebased first quarter 2008 RCAF (Unadjusted) is 1.050. The rebased first quarter 2008 RCAF (Adjusted) is 0.486. The rebased first quarter 2008 RCAF-5 is 0.461.

EFFECTIVE DATE: January 1, 2008.

FOR FURTHER INFORMATION CONTACT: Pedro Ramirez, (202) 245-0333. [Federal Information Relay Service (FIRS) for the hearing impaired: 1-800-877-8339.]

SUPPLEMENTARY INFORMATION:

Additional information is contained in the Board's decision, which is available on our Web site <http://www.stb.dot.gov>. To purchase a copy of the full decision, write to, e-mail, or call the Board's contractor, ASAP Document Solutions, 9332 Annapolis Rd., Suite 103, Lanham, MD 20706; e-mail asapdc@verizon.net;



U.S. Department
of Transportation
**Federal Highway
Administration**

530 Center Street N.E.
Suite 100
Salem, Oregon 97301
(503) 399-5749

February 26, 2008
In Reply Refer To:
S004(112)

Ms. Cora Parker
Interim Director
Oregon Department of Land Conservation and Development
635 Capitol Street, NE, Suite 200
Salem, Oregon 97301-2540

RE: Participating Agency Invitation for US 97 Bend North Corridor Project

Dear Ms. Parker:

Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) are initiating an Environmental Impact Statement (EIS) for the proposed US 97 Bend North Corridor Project in Deschutes County. FHWA requests that your agency be a participating agency in the environmental review process for this project pursuant to Section 6002 of the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) [Public Law 109-59]. Any preferred alternative resulting from the EIS may require changes to the City of Bend's and Deschutes County's Transportation System Plans, changes to local land use plans and exceptions to statewide land use goals. Designation as a participating agency does not imply support for or jurisdiction over the proposed project, or special expertise with respect to evaluation of the project.

The proposed project is approximately five miles in length. The project study area is bounded to the south by the Bend Parkway/Empire Avenue interchange and to the north by Deschutes Market Road-Tumalo Junction interchange on US 97 and by the Old Bend-Redmond Highway intersection on US 20. A project vicinity map is included with this letter. The project proposes to improve safety and congestion on US 97 in order to preserve the capacity and long-term function of US 97 given the high rate of growth in the Bend area and the statewide importance of US 97.

The US 97 and US 20 Refinement Plan included evaluation of various corridor conceptual alternatives. This planning effort will inform the National Environmental Policy Act (NEPA) process for this project. Based on current information, anticipated project impacts include social and economic, acquisition of right-of-way and access management. Impacts to natural resources will likely be minor and related to the potential wetlands associated with irrigation canals.

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Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential impacts that could substantially delay or prevent that agency from granting a permit or other approval that is needed for the project. A goal exception is a potential outcome resulting from the EIS. Your agency's role in the development of this project would include the following, as they relate to your area of expertise:

- Provide meaningful and early input on the purpose and need, range of alternatives to be considered and the methodologies and level of detail required in alternatives analysis;
- Participate in coordination meetings and joint field reviews as appropriate; and,
- Timely review and comment on environmental documents including technical memorandum, the draft EIS and the final EIS, to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered and the anticipated impacts and mitigation.

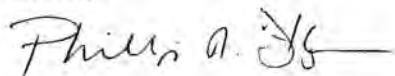
A copy of the SAFETEA-LU 6002 coordination plan is also included with this letter. The coordination plan outlines the roles of agencies, coordination points and a project schedule. The coordination plan will be updated as the project develops. Your comments on the plan are welcome. A current copy of the coordination plan will be available at the project website at: <http://www.us97solutions.org/>

We look forward to your written response to accept our invitation to become a participating agency. The favor of a reply is requested **no later than March 28, 2008**. If we do not receive a written response from your agency by this date, your agency will be considered non-participating as outlined in SAFETEA-LU 6002. Should you choose to accept participating agency status, we request comments on the draft coordination plan that is included with this letter.

If you have any questions or would like to discuss the project or our agency's respective roles and responsibilities in more detail, please contact Rick Williams, Environmental Project Manager, ODOT Region 4, (541)388-6458 or Michelle Eraut, Environmental Program Manager, FHWA, (503)587-4716.

Thank you for your participation and interest in this project.

Sincerely,



Phillip A. Ditzler
Division Administrator

Attachments

cc: ODOT (Rick Williams)

ME/rm

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ECONOMY**





Oregon

Ted Kulongoski, Governor

Department of Transportation

Region 4 Office

63055 N. Hwy 97

Bend, OR 97701

(541) 388-6180

FAX: (541) 388-6231

January 22, 2010

Oregon Dept. of Land Conservation and Development
Attn: Mark Radabaugh
888 NW Hill Street, Suite 2
Bend, OR 97701

Dear Mr. Radabaugh,

The Oregon Dept. of Land Conservation and Development was identified and agreed to be a Participating Agency in the development of the US 97 Bend North Corridor Environmental Impact Statement (EIS). The role of Participating Agencies is outline in the project's SAFETEA-LU 6002 Coordination Plan. The key area for your input is focused upon reviewing the overall EIS for sufficiency.

This review can be broken into several discrete areas of input to include participating in the alternative scoping process; providing comments on purpose and need; reviewing methodologies and the range of alternatives; identifying any issues of concern regarding the project's potential environmental or socioeconomic impacts and providing timely input on unresolved issues. We are approaching a key milestone in the EIS process where we set the Range of Alternatives that will be forwarded for detailed environmental studies in the Draft Environmental Impact Statement (DEIS). Accordingly, we are requesting you review the draft Range of Alternatives document and provide written comments to ODOT.

We are offering a 30 day comment period for you to provide your written comments on the draft Range of Alternatives. The 30-day comment period will begin with a meeting on February 4, 2010 from 3:00 to 5:00 p.m. at the ODOT Project Support conference room, 63020 O.B. Riley Road, Bend, Oregon. Please let us know if you do not need the full 30-day comment period to provide your input so we can make related adjustments to the project schedule.

Thank you for your time and continued participation in the US 97 Bend North Corridor EIS. Please contact me with any questions you may have regarding this correspondence.

Regards,

Rick Williams

Assistant District Manager D-10
Environmental Project Manager
ODOT Region 4
63055 N. Hwy 97
Bend, Oregon 97701

Tel: (541) 388-6458
Cell: (541) 815-6877

Richard.L.WILLIAMS@odot.state.or.us

Confirmation Services	Package ID: 917108213330302095300	E-CERTIFIED
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	Customer Reference:	
	Recipient:	PBP Account #: 17170830
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		JAN 22 2010 2:22P



U.S. Department
of Transportation
**Federal Highway
Administration**

530 Center Street N.E.
Suite 100
Salem, Oregon 97301
(503) 399-5749

February 26, 2008
In Reply Refer To:
S004(112)

Mr. Dave Kanner
Deschutes County Administrator
1300 NW Wall Street
Bend, Oregon 97701

RE: Participating Agency Invitation for US 97 Bend North Corridor Project

Dear Mr. Kanner:

The Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) are initiating an Environmental Impact Statement (EIS) for the proposed US 97 Bend North Corridor Project in Deschutes County. FHWA requests that your agency be a participating agency in the environmental review process for this project pursuant to Section 6002 of the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) [Public Law 109-59]. Designation as a participating agency does not imply support for or jurisdiction over the proposed project, or special expertise with respect to evaluation of the project.

The study area for this EIS includes lands within Deschutes County and under the jurisdiction of the County. Any project resulting from the EIS process could result in changes to the configuration of and access to existing highways and roadways within the County and may have impacts to public and private property. Deschutes County is a member of the Bend Metropolitan Planning Organization (MPO). Any preferred alternative resulting from the EIS process will be incorporated into the Bend MPO's long-range plan.

The proposed project is approximately five miles in length. The project study area is bounded to the south by the Bend Parkway/Empire Avenue interchange and to the north by Deschutes Market Road-Tumalo Junction interchange on US 97 and by the Old Bend-Redmond Highway intersection on US 20. A project vicinity map is included with this letter. The project proposes to improve safety and congestion on US 97 in order to preserve the capacity and long-term function of US 97 given the high rate of growth in the Bend area and the statewide importance of US 97.

The US 97 and US 20 Refinement Plan included evaluation of various corridor conceptual alternatives. This planning effort will inform the National Environmental Policy Act (NEPA) process for this project. Based on current information, anticipated project impacts include social and economic, acquisition of right-of-way and access management. Impacts to natural resources will likely be minor and related to the potential wetlands associated with irrigation canals.

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Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential impacts that could substantially delay or prevent that agency from granting a permit or other approval that is needed for the project. Upon completion of the EIS and the issuance of the Record of Decision, Deschutes County would need to amend the Transportation System Plan and Comprehensive Plan to include the preferred transportation alternative. Your agency's role in the development of this project would include the following, as they relate to your area of expertise:

- Provide meaningful and early input on the purpose and need, range of alternatives to be considered and the methodologies and level of detail required in alternatives analysis;
- Participate in coordination meetings and joint field reviews as appropriate; and,
- Timely review and comment on environmental documents including technical memorandum, the draft EIS and the final EIS, to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered and the anticipated impacts and mitigation.

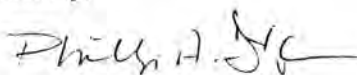
A copy of the SAFETEA-LU 6002 coordination plan is also included with this letter. The coordination plan outlines the roles of agencies, coordination points and a project schedule. The coordination plan will be updated as the project develops. Your comments on the plan are welcome. A current copy of the coordination plan will be available at the project website at: <http://www.us97solutions.org/>

We look forward to your written response to accept our invitation to become a participating agency. The favor of a reply is requested **no later than March 28, 2008**. If we do not receive a written response from your agency by this date, your agency will be considered non-participating as outlined in SAFETEA-LU 6002. Should you choose to accept participating agency status, we request comments on the draft coordination plan that is included with this letter.

If you have any questions or would like to discuss the project or our agency's respective roles and responsibilities in more detail, please contact Rick Williams, Environmental Project Manager, ODOT Region 4, (541)388-6458 or Michelle Eraut, Environmental Program Manager, FHWA (503)587-4716.

Thank you for your participation and interest in this project.

Sincerely,



Phillip A. Ditzler
Division Administrator

Attachments

cc: ODOT (Rick Williams)

ME/rm

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Department of Administrative Services
Dave Kanner, County Administrator

1300 NW Wall St, Suite 200, Bend, OR 97701-1960
(541) 388-6570 - Fax (541) 385-3202
www.co.deschutes.or.us

March 26, 2008

Phillip Ditzler
Division Administrator
US Department of Transportation
530 Center Street N. E.
Suite 100
Salem, Oregon 97301

RE: Participating Agency Invitation for US 97 Bend North Corridor Project

Dear Mr. Ditzler,

Deschutes County is accepting your invitation to become a participating agency. We have no comments at this time on the draft coordination plan.

Tom Blust, Deschutes County Road Department Director will be the contact person/representative for this project. His contact information is:

Tom Blust, Director
Deschutes County Road Department
61150 SE 27th Street
Bend, OR 97702
541-322-7105
tomb@co.deschutes.or.us

Thank you for your invitation for this project.

Sincerely,

Dave Kanner
Deschutes County Administrator

Cc: Board of County Commissioners
Tom Blust

RECEIVED

MAR 27 2008

FHWA
OREGON DIVISION

Quality Services Performed with Pride



Oregon

Ted Kulongoski, Governor

Department of Transportation

Region 4 Office

63055 N. Hwy 97

Bend, OR 97701

(541) 388-6180

FAX: (541) 388-6231

January 22, 2010

Deschutes County

Attn: Dennis Luke, County Commissioner

1300 NW Wall, Suite 200

Bend, OR 97701

Dear Mr. Luke,

Deschutes County was identified and agreed to be a Participating Agency in the development of the US 97 Bend North Corridor Environmental Impact Statement (EIS). The role of Participating Agencies is outline in the project's SAFETEA-LU 6002 Coordination Plan. The key area for your input is focused upon reviewing the overall EIS for sufficiency.

This review can be broken into several discrete areas of input to include participating in the alternative scoping process; providing comments on purpose and need; reviewing methodologies and the range of alternatives; identifying any issues of concern regarding the project's potential environmental or socioeconomic impacts and providing timely input on unresolved issues. We are approaching a key milestone in the EIS process where we set the Range of Alternatives that will be forwarded for detailed environmental studies in the Draft Environmental Impact Statement (DEIS). Accordingly, we are requesting you review the draft Range of Alternatives document and provide written comments to ODOT.

We are offering a 30 day comment period for you to provide your written comments on the draft Range of Alternatives. The 30-day comment period will begin with a meeting on February 4, 2010 from 3:00 to 5:00 p.m. at the ODOT Project Support conference room, 63020 O.B. Riley Road, Bend, Oregon. Please let us know if you do not need the full 30-day comment period to provide your input so we can make related adjustments to the project schedule.

Thank you for your time and continued participation in the US 97 Bend North Corridor EIS. Please contact me with any questions you may have regarding this correspondence.

Regards,

Rick Williams

Assistant District Manager D-10
Environmental Project Manager
ODOT Region 4
63055 N. Hwy 97
Bend, Oregon 97701

Tel: (541) 388-6458

Cell: (541) 815-6877

Richard.L.WILLIAMS@odot.state.or.us

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	Customer Reference:	
	Recipient:	RBP Account #: 17176330
	Address:	Serial #: 3104618
		JAN 23 2010 2:23P

Cc: Tom Blust, County Road Director
61150 SE 27th Street
Bend 97701

Cc: Peter Russell, Deschutes County Senior Planner
117 NW Lafayette
Bend, OR 97701



U.S. Department
of Transportation
**Federal Highway
Administration**

530 Center Street N.E.
Suite 100
Salem, Oregon 97301
(503) 399-5749

February 26, 2008
In Reply Refer To:
S004(112)

The Honorable Bruce Abernathy
Mayor of the City of Bend
710 NW Wall Street
Bend, Oregon 97701

RE: Participating Agency Invitation for US 97 Bend North Corridor Project

Dear Mayor Abernathy:

The Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) are initiating an Environmental Impact Statement (EIS) for the proposed US 97 Bend North Corridor Project in Deschutes County. FHWA requests that your agency be a participating agency in the environmental review process for this project pursuant to Section 6002 of the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) [Public Law 109-59]. Designation as a participating agency does not imply support for or jurisdiction over the proposed project, or special expertise with respect to evaluation of the project.

The study area for the EIS includes lands within the City of Bend's Urban Growth Boundary (UGB) and under the jurisdiction of the City of Bend. Any project resulting from the EIS process could result in changes to the configuration of access to existing highways and local streets within the City and may have impacts to public and private property. Bend is a member of the Bend Metropolitan Planning Organization (MPO). Any preferred alternative resulting from the EIS process will be incorporated into the Bend MPO's long-range plan.

The proposed project is approximately five miles in length. The project study area is bounded to the south by the Bend Parkway/Empire Avenue interchange and to the north by Deschutes Market Road-Tumalo Junction interchange on US 97 and by the Old Bend-Redmond Highway intersection on US 20. A project vicinity map is included with this letter. The project proposes to improve safety and congestion on US 97 in order to preserve the capacity and long-term function of US 97 given the high rate of growth in the Bend area and the statewide importance of US 97.

The US 97 and US 20 Refinement Plan included evaluation of various corridor conceptual alternatives. This planning effort will inform the National Environmental Policy Act (NEPA) process for this project. Based on current information, anticipated project impacts include social and economic, acquisition of right-of-way and access management. Impacts to natural resources will likely be minor and related to the potential wetlands associated with irrigation canals.

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Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential impacts that could substantially delay or prevent that agency from granting a permit or other approval that is needed for the project. The City of Bend will need to amend the Transportation System Plan and Comprehensive Plan to incorporate the preferred alternative selected in the EIS. Your agency's role in the development of this project would include the following, as they relate to your area of expertise:

- Provide meaningful and early input on the purpose and need, range of alternatives to be considered and the methodologies and level of detail required in alternatives analysis;
- Participate in coordination meetings and joint field reviews as appropriate; and,
- Timely review and comment on environmental documents including technical memorandum, the draft EIS and the final EIS, to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered and the anticipated impacts and mitigation.

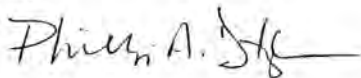
A copy of the SAFETEA-LU 6002 coordination plan is also included with this letter. The coordination plan outlines the roles of agencies, coordination points and a project schedule. The coordination plan will be updated as the project develops. Your comments on the plan are welcome. A current copy of the coordination plan will be available at the project website at: <http://www.us97solutions.org/>.

We look forward to your written response to accept our invitation to become a participating agency. The favor of a reply is requested **no later than March 28, 2008**. If we do not receive a written response from your agency by this date, your agency will be considered non-participating as outlined in SAFETEA-LU 6002. Should you choose to accept participating agency status, we request comments on the draft coordination plan that is included with this letter.

If you have any questions or would like to discuss the project or our agency's respective roles and responsibilities in more detail, please contact Rick Williams, Environmental Project Manager, ODOT Region 4, (541) 388-6458 or Michelle Eraut, Environmental Program Manager, FHWA (503)587-4716.

Thank you for your participation and interest in this project.

Sincerely,



Phillip A. Ditzler
Division Administrator

Attachments

cc:
ODOT (Rick Williams)

ME/rm

MOVING THE
**AMERICAN
ECONOMY**





Oregon

Ted Kulongoski, Governor

Department of Transportation

Region 4 Office

63055 N. Hwy 97

Bend, OR 97701

(541) 388-6180

FAX: (541) 388-6231

January 22, 2010

City of Bend
Attn: Eric King, City Manager
710 NW Wall Street
Bend, OR 97701

Dear Mr. King,

The City of Bend was identified and agreed to be a Participating Agency in the development of the US 97 Bend North Corridor Environmental Impact Statement (EIS). The role of Participating Agencies is outline in the project's SAFETEA-LU 6002 Coordination Plan. The key area for your input is focused upon reviewing the overall EIS for sufficiency.

This review can be broken into several discrete areas of input to include participating in the alternative scoping process; providing comments on purpose and need; reviewing methodologies and the range of alternatives; identifying any issues of concern regarding the project's potential environmental or socioeconomic impacts and providing timely input on unresolved issues. We are approaching a key milestone in the EIS process where we set the Range of Alternatives that will be forwarded for detailed environmental studies in the Draft Environmental Impact Statement (DEIS). Accordingly, we are requesting you review the draft Range of Alternatives document and provide written comments to ODOT.

We are offering a 30 day comment period for you to provide your written comments on the draft Range of Alternatives. The 30-day comment period will begin with a meeting on February 4, 2010 from 3:00 to 5:00 p.m. at the ODOT Project Support conference room, 63020 O.B. Riley Road, Bend, Oregon. Please let us know if you do not need the full 30-day comment period to provide your input so we can make related adjustments to the project schedule.

Thank you for your time and continued participation in the US 97 Bend North Corridor EIS. Please contact me with any questions you may have regarding this correspondence.

Regards,

Rick Williams

Assistant District Manager D-10
Environmental Project Manager
ODOT Region 4
63055 N. Hwy 97
Bend, Oregon 97701

Tel: (541) 388-6458
Cell: (541) 815-6877

Richard.L.WILLIAMS@odot.state.or.us

Confirmation Services	Package ID: 0171082133303020050122	E-CERTIFIED
	Document Code: 07701	1ST CLASS LETTER
	Customer Reference:	PBF Account #: 12176330
	Recipient:	Serial #: 9104618
	Address:	JAN 22 2010 10:23P

Cc: Nick Amis, City of Bend
710 NW Wall Street
Bend, OR 97701



U.S. Department
of Transportation
**Federal Highway
Administration**

530 Center Street N.E.
Suite 100
Salem, Oregon 97301
(503) 399-5749

February 26, 2008
In Reply Refer To:
S004(112)

Mr. Don Junkers
General Manager
Burns Paiute Tribe
HC-71, 100 Pasigo Street
Burns, Oregon 97720

RE: Participating Agency Invitation for US 97 Bend North Corridor Project

Dear Mr. Junkers:

The Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) are initiating an Environmental Impact Statement (EIS) for the proposed US 97 Bend North Corridor Project in Deschutes County. FHWA requests that your agency be a participating agency in the environmental review process for this project pursuant to Section 6002 of the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) [Public Law 109-59]. The project is located in an area that may be of significance or interest to the Burns Paiute Tribe. Designation as a participating agency does not imply support for or jurisdiction over the proposed project, or special expertise with respect to evaluation of the project.

The proposed project is approximately five miles in length. The project study area is bounded to the south by the Bend Parkway/Empire Avenue interchange and to the north by Deschutes Market Road-Tumalo Junction interchange on US 97 and by the Old Bend-Redmond Highway intersection on US 20. A project vicinity map is included with this letter. The project proposes to improve safety and congestion on US 97 in order to preserve the capacity and long-term function of US 97 given the high rate of growth in the Bend area and the statewide importance of US 97.

The US 97 and US 20 Refinement Plan included evaluation of various corridor conceptual alternatives. This planning effort will inform the National Environmental Policy Act (NEPA) process for this project. Based on current information, anticipated project impacts include social and economic, acquisition of right-of-way and access management. Impacts to natural resources will likely be minor and related to the potential wetlands associated with irrigation canals.

**PROVIDES THE
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Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential impacts that could substantially delay or prevent that agency from granting a permit or other approval that is needed for the project. Your agency's role in the development of this project would include the following, as they relate to your area of expertise:

- Provide meaningful and early input on the purpose and need, range of alternatives to be considered and the methodologies and level of detail required in alternatives analysis;
- Participate in coordination meetings and joint field reviews as appropriate; and
- Timely review and comment on environmental documents including technical memorandum, the draft EIS and the final EIS, to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered and the anticipated impacts and mitigation.

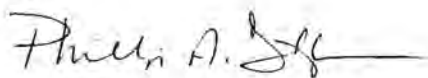
A copy of the SAFETEA-LU 6002 coordination plan is also included with this letter. The coordination plan outlines the roles of agencies, coordination points and a project schedule. The coordination plan will be updated as the project develops. Your comments on the plan are welcome. A current copy of the coordination plan will be available at the project website at: <http://www.us97solutions.org/>

We look forward to your written response to accept our invitation to become a participating agency. The favor of a reply is requested **no later than March 28, 2008**. If we do not receive a written response from your agency by this date, your agency will be considered non-participating as outlined in SAFETEA-LU 6002. Should you choose to accept participating agency status, we request comments on the draft coordination plan that is included with this letter.

If you have any questions or would like to discuss the project or our agency's respective roles and responsibilities in more detail, please contact Rick Williams, Environmental Project Manager, ODOT Region 4, (541) 388-6458, or Michelle Eraut, Environmental Program Manager, FHWA, (503) 587-4716.

Thank you for your participation and interest in this project.

Sincerely,



Phillip A. Ditzler
Division Administrator

Attachments

cc:

ODOT (Rick Williams)
(Tobin Bottman)
Burns Paiute Tribe (Kenton Dick)

ME/rm

**REVIVING THE
AMERICAN
ECONOMY**





U.S. Department
of Transportation

**Federal Highway
Administration**

530 Center Street N.E.
Suite 100
Salem, Oregon 97301
(503) 399-5749

February 26, 2008
In Reply Refer To:
S004(112)

Mr. Joseph S. Kirk
Chairman
Klamath Tribes
PO Box 436
Chiloquin, Oregon 97624

RE: Participating Agency Invitation for US 97 Bend North Corridor Project

Dear Mr. Kirk:

The Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) are initiating an Environmental Impact Statement (EIS) for the proposed US 97 Bend North Corridor Project in Deschutes County. FHWA requests that your agency be a participating agency in the environmental review process for this project pursuant to Section 6002 of the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) [Public Law 109-59]. The project is located in an area that may be of significance or interest to the Klamath Tribes. Designation as a participating agency does not imply support for or jurisdiction over the proposed project, or special expertise with respect to evaluation of the project.

The proposed project is approximately five miles in length. The project study area is bounded to the south by the Bend Parkway/Empire Avenue interchange and to the north by Deschutes Market Road-Tumalo Junction interchange on US 97 and by the Old Bend-Redmond Highway intersection on US 20. A project vicinity map is included with this letter. The project proposes to improve safety and congestion on US 97 in order to preserve the capacity and long-term function of US 97 given the high rate of growth in the Bend area and the statewide importance of US 97.

The US 97 and US 20 Refinement Plan included evaluation of various corridor conceptual alternatives. This planning effort will inform the National Environmental Policy Act (NEPA) process for this project. Based on current information, anticipated project impacts include social and economic, acquisition of right-of-way and access management. Impacts to natural resources will likely be minor and related to the potential wetlands associated with irrigation canals.

Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential impacts that could substantially delay or prevent that agency from granting a permit or other approval that is needed

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**AMERICAN
ECONOMY**

for the project. Your agency's role in the development of this project would include the following, as they relate to your area of expertise:

- Provide meaningful and early input on the purpose and need, range of alternatives to be considered and the methodologies and level of detail required in alternatives analysis;
- Participate in coordination meetings and joint field reviews as appropriate; and,
- Timely review and comment on environmental documents including technical memorandum, the draft EIS and the final EIS, to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered and the anticipated impacts and mitigation.

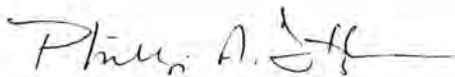
A copy of the SAFETEA-LU 6002 coordination plan is also included with this letter. The coordination plan outlines the roles of agencies, coordination points and a project schedule. The coordination plan will be updated as the project develops. Your comments on the plan are welcome. A current copy of the coordination plan will be available at the project website at: <http://www.us97solutions.org/>

We look forward to your written response to accept our invitation to become a participating agency. The favor of a reply is requested **no later than March 28, 2008**. If we do not receive a written response from your agency by this date, your agency will be considered non-participating as outlined in SAFETEA-LU 6002. Should you choose to accept participating agency status, we request comments on the draft coordination plan that is included with this letter.

If you have any questions or would like to discuss the project or our agency's respective roles and responsibilities in more detail, please contact Rick Williams, Environmental Project Manager, ODOT Region 4, (541)388-6458 or Michelle Eraut, Environmental Program Manager, FHWA, (503)587-4716.

Thank you for your participation and interest in this project.

Sincerely,



Phillip A. Ditzler
Division Administrator

Attachments

cc:

ODOT (Rick Williams)
(Tobin Bottman)
Klamath Tribes (Perry Chocktoot)

ME/rm

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**AMERICAN
ECONOMY**





U.S. Department
of Transportation
**Federal Highway
Administration**

530 Center Street N.E.
Suite 100
Salem, Oregon 97301
(503) 399-5749

February 26, 2008
In Reply Refer To:
S004(112)

Mr. Rob Suppah, Tribal Council Chairman
Confederated Tribes of Warm Springs
PO Box C
Warm Springs, Oregon 97761

RE: Participating Agency Invitation for US 97 Bend North Corridor Project

Dear Mr. Suppah:

The Federal Highway Administration (FHWA) and the Oregon Department of Transportation (ODOT) are initiating an Environmental Impact Statement (EIS) for the proposed US 97 Bend North Corridor Project in Deschutes County. FHWA requests that your agency be a participating agency in the environmental review process for this project pursuant to Section 6002 of the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) [Public Law 109-59]. The project is located in an area that may be of significance or interest to the Confederated Tribes of the Warm Springs. Designation as a participating agency does not imply support for or jurisdiction over the proposed project, or special expertise with respect to evaluation of the project.

The proposed project is approximately five miles in length. The project study area is bounded to the south by the Bend Parkway/Empire Avenue interchange and to the north by Deschutes Market Road-Tumalo Junction interchange on US 97 and by the Old Bend-Redmond Highway intersection on US 20. A project vicinity map is included with this letter. The project proposes to improve safety and congestion on US 97 in order to preserve the capacity and long-term function of US 97 given the high rate of growth in the Bend area and the statewide importance of US 97.

The US 97 and US 20 Refinement Plan included evaluation of various corridor conceptual alternatives. This planning effort will inform the National Environmental Policy Act (NEPA) process for this project. Based on current information, anticipated project impacts include social and economic, acquisition of right-of-way and access management. Impacts to natural resources will likely be minor and related to the potential wetlands associated with irrigation canals.

Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential impacts that could substantially delay or prevent that agency from granting a permit or other approval that is needed

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for the project. Your agency's role in the development of this project would include the following, as they relate to your area of expertise:

- Provide meaningful and early input on the purpose and need, range of alternatives to be considered and the methodologies and level of detail required in alternatives analysis;
- Participate in coordination meetings and joint field reviews as appropriate; and
- Timely review and comment on environmental documents including technical memorandum, the draft EIS and the final EIS, to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered and the anticipated impacts and mitigation.

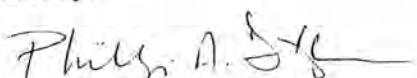
A copy of the SAFETEA-LU 6002 coordination plan is also included with this letter. The coordination plan outlines the roles of agencies, coordination points and a project schedule. The coordination plan will be updated as the project develops. Your comments on the plan are welcome. A current copy of the coordination plan will be available at the project website at: <http://www.us97solutions.org/>

We look forward to your written response to accept our invitation to become a participating agency. The favor of a reply is requested **no later than March 28, 2008**. If we do not receive a written response from your agency by this date, your agency will be considered non-participating as outlined in SAFETEA-LU 6002. Should you choose to accept participating agency status, we request comments on the draft coordination plan that is included with this letter.

If you have any questions or would like to discuss the project or our agency's respective roles and responsibilities in more detail, please contact Rick Williams, Environmental Project Manager, ODOT Region 4, (541) 388-6458, or Michelle Eraut, Environmental Program Manager, FHWA, (503) 587-4716.

Thank you for your participation and interest in this project.

Sincerely,



Phillip A. Ditzler
Division Administrator

Attachments

cc:

ODOT (Rick Williams)
(Tobin Bottman)

Confederated Tribes of the Warm Springs (Sally Bird)

ME/rm

**AMERICAN
ECONOMY**

King Rawlins, Larissa

From: Suzanne Butterfield [suzanne@swalley.com]
Sent: Monday, June 24, 2013 11:38 AM
To: 'PFEIFFER Amy L'
Cc: Findley, Angela; 'ZELMER Barry W'; Brady.Fuller@CH2M.com
Subject: RE: US97 Bend North Corridor Project

Yes Amy I think this still makes sense. Swalley is only interested in the project in so far as it impacts Swalley facilities and easements, ease of access to our facilities, and water rights. Barry is working with us on all of those. I saw you running on the Deschutes Trail the other day- I was being lazy and walking it.

Suzanne

Suzanne Butterfield, General Manager
 Swalley Irrigation District
 64672 Cook Avenue, Suite 1
 Bend, Oregon 97701
 (541) 388-0658 phone
 (541) 389-0433 fax
 (541) 410-8623 cell
www.swalley.com

From: PFEIFFER Amy L [mailto:Amy.L.PFEIFFER@odot.state.or.us]
Sent: Monday, June 24, 2013 10:54 AM
To: Suzanne Butterfield
Cc: Findley, Angela; ZELMER Barry W
Subject: US97 Bend North Corridor Project

Suzanne,
 Thanks for meeting with us on 3-11-2013 to discuss the US97 Bend North Corridor project. It is great to be able to coordinate efforts early on.

Your written comments on the Draft EIS indicated Swalley wished to be a Participating Agency. At the March meeting, we discussed the role of a Participating Agency (review of the Methodology Reports, Technical Reports, etc). You explained that you wanted to make sure that ODOT coordinates with Swalley on the project, and didn't need to be a Participating Agency. ODOT plans to continue to coordinate with you on the project, so I am just writing this confirm that you don't want to be a formal Participating Agency.

Our utility coordinator, Barry Zelmer, and our roadway designer, Ray Thwaits have been working with your consultant on the project. I will check back with them this month to see how things are going.

Hope you are having a great summer!

Amy Pfeiffer
 ODOT Region 4 Senior Project Leader
 63055 N Highway 97 Building M
 Bend, OR 97701-5765
 541-388-6052

Appendix B Scoping and Purpose and Need

US 97 Bend North Corridor Agency Scoping Meeting

January 10, 2008 2:10 – 3:50 P.M.

Present at Scoping Meeting: Jon Heacock, Joel McCarroll, Rex Holloway, Amy Pfeiffer, Peter Murphy, Teresa Brasfield, Gary Larson, Bill Hilton, Randall Davis, Michael Morris, Russ Frost, Scott Billings, Nick Arnis, David Brown, Marv Brophy.

Agency scoping meeting is part of NEPA requirements and that ODOT and FHWA were co-lead agencies on this project. He briefly outlined that the meeting would cover the Agency's draft purpose and need of the project and to review the draft goals and objectives. The objective of the meeting was to solicit comments and input on the goals and objectives from representative Agency staff to make sure that we have covered the various aspects of the agency and community. Employees can send any other comments on the goals and objectives to Rick Williams by February 11th.

Handouts: Draft Purpose and Need Statement and Goals and Objectives

Jon showed on a map the study area (from Deschutes Junction to Empire Avenue.) and gave brief overview of the NEPA process.

- **Purpose and Need Statement (Draft).** Jon reviewed the draft purpose and need for the project. Further discussions and input from Mike, Amy and other helped clarify that the Purpose defines the problem to be solved and the Need gives the context and data that defines the problem we are trying to solve.
 - Question regarding time frame to give additional comments? Today is first day of public scoping period, which runs for 30 days.
 - There was discussion about US 20 not being included in the purpose statement and it was explained that impacts to US 20 was included in the Goals and Objectives.
 - Information could be sent to the Region with a link to project web page web page www.us97solutions.org
 - There was discussion of how things should be explained and presented to the public
 - The years used, 2007, 2012 and 2032 should be explained, to let people know why those particular years are being used.
 - Randy Davis suggested that the general public may not know all of the terms used, and that there be a glossary included.
- **Goals and Objectives (Draft)** - Jon reviewed the Draft Goals and Objectives for the project
 - Last page of the handout depicts the various working groups that helped develop the draft Goals and Objectives.
 - Goal 2, Objective 2 – suggestion was to eliminate italics on “to the extent feasible” and to consider changing reference to HDM to “applicable design manuals”.
 - Goal 3, Object 3D – suggestion to omit “improve”, but after further discussion it was decided to leave as is, as long as it is properly explained.
 - Goal 3, Objective 3C and Goal 9, Objective 9A – are these a duplication and do they overemphasize bike and pedestrian facilities. Discussed that alternative modes encompasses a much wider scope of alternate modes of transportation that bike and pedestrians and decided to keep objective as stated.
 - Goal 6, Objective 6B & 6C – should life cycle costs be added to clarify total costs. Bill Hilton indicated the maintenance costs need to be considered as a design with high maintenance costs should also address the funding to perform

- the maintenance on that facility. If not it may go unfunded if we try to minimize construction costs, which in turn will increase maintenance costs.
- Goal 8, Objective 8A&B –Recommend changing each to add “etc” to indicate that there are other plans like the statewide bike and pedestrian plan, besides those listed - i.e. (Oregon Highway Plan, Statewide Planning Goals, etc)

Recommended changes to Goals and Objectives

- Explain why the years 2007, 2012 and 2032 are used.
- Develop glossary of terms
- Goal 2, Objective 2B – need to eliminate italics on “to the extent feasible”
- Goal 2, Objective 2B – change HDM to “applicable design manuals”
- Goal 8, Objective 8B – add statewide bike and pedestrian plan, add “etc” to indicate that there are other plans

Rex said that the ODOT employees should be well informed of the process. A discussion followed about sending a region-wide email with the link to the website. Employees that do not have email need to be informed and educated about the project also. It is suggested that a mailing be done to the “Bend Campus” group to notify of updates. Newsletters should be posted in crew areas that do not have computer access.

Action Item:

- Rex to send out group email to ODOT employees with link to website so that everyone knows what is going on. Emails will also be sent out notifying people about updates.
- Post information about project in crew areas that do not have computer access.

**US 97 Bend North Corridor Agency Scoping Meeting
1-10-2008**

Name and Position

Randall K. Davis ODOT R4 Geo-Bridge-Env. Mgr.

Michael L. Morris ODOT R4 Roadway Manger

Russ Frost ODOT Statewide Matl Source Program

SCOTT BILLINGS ODOT " " " "

Nick Amis - city of Bend

David Brown - ODOT R4/W-survey Mgr

MARV BROPHY ODOT R4

**US 97 Bend North Corridor Agency Scoping Meeting
1-10-2008**

Name and Position

Joel McCarroll,	R4 Traffic Mgr.
Rex Holloway	R4 Communications
Amy Pfeiffer	R4 Project Leader
(Peter Murphy)	R4 PIO
Teresa Brasfield	R4 North Env. Coord.
Gary Larson	R4 Environmental
Bill Hulten	D-10 Oper. Coord.

US 97 Bend North Corridor - Technical Management Team Meeting

Date/Location: February 28, 2008 - 1:15 to 3:00 P.M. —Region 4 Project Support Conference Room
Teleconference Number: 541-388-6357

Attending: Jon Heacock (ODOT), Rick Williams (ODOT), Mark Devoney (ODOT), Tyler Deke (Bend MPO), Mike Murrow (FHWA) by phone, George Kolb (Deschutes County),

Absent: Peter Russell (Deschutes County), Nick Arnis (City of Bend), Jerry Mitchell (City of Bend), Mark Radabaugh (DLCD)

Facilitator/Note Taker: Jon Heacock

1. City/County/DLCD/FHWA Updates: 1:15 – 1:30

There were no new updates at this meeting.

2. Public Scoping overview – Discussion Topic

- Discussed Public Scoping Open House held in January and was attended by approximately 100-120 citizens. Summary of comments received from meeting and from Project Website will be summarized next week.
- Reviewed public scoping summary (attached). General comments for Purpose was if “access” and/or connectivity” should be included in the Project purpose statement. Rick discussed that agency response is that the purpose addresses the highway problem that the agency is trying to solve and that does not include access. It is appropriately included in the Goals and Objectives. In addition there were on-going concerns with neighborhood impacts and the need to move forward with the alternative refinement work.
- Were not able to discuss City of Bend comments, as they were not able to attend meeting. A follow-up meeting with Rick, Jon, Nick and Jerry is scheduled for tomorrow.

3. Alternative Development Process – Recommendation Topic

- Reviewed Purpose and Need initial screening document (attached). **Recommendations are noted on the document and group supported this as a Pass/Fail criteria.**
- The criteria will be applied to proposed alternatives. Alternative will not be forwarded for further consideration if it does not meet the Purpose and Need Criteria.
- Group supported additional screening criteria to help narrow alternatives into a reasonable range of alternatives to focus our design work on. At our next meeting we will be reviewing the next screening level and the initial Goals and Objective Screen. Mike Morrow commented noted that this seems reasonable and emphasized the importance of the alternatives being able to meet the Goal and Objective Measurable criteria.

4. Committee Change from Technical Management Team to **AGENCY COORDINATION COMMITTEE**

- Committee Structure has changed with the Beginning of NEPA. This group was called the Technical Management Team, responsible for the technical oversight of the project. However, with the official start of NEPA, this group will take on a modified role and focus on Agency Coordination. The technical oversight of the project will be now handled by the Project Management Team (PMT) that consists of ODOT staff, including Environmental Consultant PB.
- Committee Purpose will be inter-agency coordination/cooperation focused around representing this project to their respective agencies with the responsibilities outlined in the upcoming Inter-Agency Coordination letters associated SAFETY-LU 2006 guidelines. Committee will still have a key role in reviewing work by PMT and maintaining their advisory role to the Steering Team.
- Rick indicated that the agency coordination letters from this project will be sent out in the 2 weeks.

5. Agenda Build -

Discussion Items

- Agency Updates

Recommendation Items

- Overview of alternatives that cleared P&N screen by PMT – Recommendation Item
- Review of Second Screening Criteria
- Review of Initial Goals and Objective Screening Criteria

6. MARCH MEETINGS - THURSDAY MARCH 13 AND THURSDAY MARCH 27, 1:15 – 3:00 PM

ACTION ITEMS: No new items

Purpose and Need Screening Criteria

(2/21/2008)

Comments from ACC – 2/28/08

The purpose of this transportation project is to reduce traffic congestion, improve traffic flow and improve public safety on the segment of US 97 between the Deschutes Junction Interchange and the Empire Avenue Interchange.

Can the alternative carry the volume of traffic and reduce delay on US 97? - (minimum criteria)

The alternative must be free flow on US 97 Mainline for through traffic - No signals to stop through traffic on US97.

Background Information:

- 2032 Traffic projection at 61,000 ADT
- 2003 HDM pg 10-40 & 41 –
- 4 –lane expressway maximum ideal daily capacity is approx. 74,500. With 6-10% trucks, a signal will reduce capacity to approximately $(.90) * (.51) * 74,500 = 38,000$ ADT
- 6-lane expressway maximum ideal daily capacity is approx. 117,500. With 6-10% trucks, a signal will reduce capacity to approximately $(.90) * (.51) * 117,500 = 54,000$ ADT

Does the alternative have the ability to make US 97 operational? (geometric feasibility)

- Horizontal and Vertical Geometry FEASIBLE for operational speed of 45 mph on US 97.
 - *ACC recommendation - Horizontal and Vertical Geometry FEASIBLE for speed of 55 mph on US 97.*

Does the alternative improve safety on US 97?

- An alternative must reduce conflict points on US 97
 - *ACC recommendation - No at grade access points*



Bend MPO Meeting 2/21/2008

Environmental Impact Statement Timeline – General Overview

Current Status Update

- Public scoping -
 - Draft Purpose and Need/Goals and Objectives completed
 - Public Scoping (comment on P&N/Goals and Objectives) Jan 10, 2008 to Feb 11, 2008, is complete with a public scoping meeting held on Jan 24, 2008 at Sky View Middle School –
 - Website information and surveys (www.us97solutions.org)
 - Summary of comments and survey results early March 2008.
- General overview of comments –
 - Concern impacts to community: access, homes, businesses,.....
 - Can purpose statement include access? The purpose and need statement identifies current and future transportation problems. The purpose of the project is to solve these problems, which include safety, congestion and traffic flow. As alternatives are developed and considered as solutions to these problems, ODOT will evaluate each solution in terms of solves the transportation problems and how well it meets project goals and objectives, including access to businesses and neighborhoods..
 - Need statement (problem we are trying to solve) – stakeholder requests to see traffic model information. Traffic Technical Memoranda were made available, scheduled meeting for these stakeholders with ODOT's Traffic Planning and Analysis Unit, and requesting stakeholders to review information on February 22, 2008. – Validate our assumptions
 - Would like to move the process forward, as quickly as possible
 - Refinement Plan information –
 - Engineered concepts to review, not just lines on paper

Next steps

- Summary of comments and survey results –incorporate into alternative development
- Focus Groups
- Project Committee Meetings -
- Alternative Development (Design and Operational Alts March – June 2008 goal, DEIS final range of alternative Sept – Oct)
 - Build on Refinement Concepts – Westerly corridor and RR corridor
 - Existing Corridor -
 - Combination of Concepts –
 - New Concepts –
- Screening Criteria for Alternatives
 - Purpose and Need – high level criteria
 - Goals and Objective - performance based do the alternatives meet the basic objectives

Future Updates –

- How often
- What type of information
- Any other expectations

Questions



Oregon

John A. Kitzhaber, M.D., Governor

Department of Transportation

Region 4 Project Delivery Building
63055 N. Highway 97, Bldg M
Bend, OR 97701
(541) 388-6225
FAX: (541) 385-0476

FILE CODE:

Date: December 24, 2013

To: File

From: Amy Pfeiffer
Senior Project Leader

Subject: US 97 Bend North Corridor Project
SAFETEA-LU 6002 Coordination Plan
Participating Agency opportunity to review Purpose and Need

The Participating Agencies provided comments and input on the Purpose and Need for the project on numerous occasions. Table 1 (below) outlines the dates and venues that comments were provided on the Purpose and Need.

Participating Agency	Date	Venue	Input Provided
City of Bend	January 10, 2008	Agency Scoping Meeting	Verbal and Meeting Minutes
City of Bend Deschutes County Department of Land Conservation and Development (DLCD)	February 28, 2008	Technical Management Team Meeting.	Verbal and Meeting Minutes
Public Scoping Meeting	January 24, 2008	Public Meeting	Verbal, Comment Forms and Meeting Summary
City of Bend Deschutes County DLCD	March 13, 2008	Agency Coordination Meeting	Verbal and Meeting Minutes
City of Bend Deschutes County	March 13, 2003	Steering Team Meeting	Verbal and Meeting Minutes
City of Bend Deschutes County	March 25, 2008	Steering Team Meeting	Verbal and Meeting Minutes
City of Bend Deschutes County	April 8, 2008	Steering Team Meeting	Verbal and Meeting Minutes

Appendix C Range of Alternatives



Oregon

Ted Kulongoski, Governor

Department of Transportation

Region 4 Office

63055 N. Hwy 97

Bend, OR 97701

(541) 388-6180

FAX: (541) 388-6231

January 22, 2010

Oregon Dept. of Land Conservation and Development
Attn: Mark Radabaugh
888 NW Hill Street, Suite 2
Bend, OR 97701

Dear Mr. Radabaugh,

The Oregon Dept. of Land Conservation and Development was identified and agreed to be a Participating Agency in the development of the US 97 Bend North Corridor Environmental Impact Statement (EIS). The role of Participating Agencies is outline in the project's SAFETEA-LU 6002 Coordination Plan. The key area for your input is focused upon reviewing the overall EIS for sufficiency.

This review can be broken into several discrete areas of input to include participating in the alternative scoping process; providing comments on purpose and need; reviewing methodologies and the range of alternatives; identifying any issues of concern regarding the project's potential environmental or socioeconomic impacts and providing timely input on unresolved issues. We are approaching a key milestone in the EIS process where we set the Range of Alternatives that will be forwarded for detailed environmental studies in the Draft Environmental Impact Statement (DEIS). Accordingly, we are requesting you review the draft Range of Alternatives document and provide written comments to ODOT.

We are offering a 30 day comment period for you to provide your written comments on the draft Range of Alternatives. The 30-day comment period will begin with a meeting on February 4, 2010 from 3:00 to 5:00 p.m. at the ODOT Project Support conference room, 63020 O.B. Riley Road, Bend, Oregon. Please let us know if you do not need the full 30-day comment period to provide your input so we can make related adjustments to the project schedule.

Thank you for your time and continued participation in the US 97 Bend North Corridor EIS. Please contact me with any questions you may have regarding this correspondence.

Regards,

Rick Williams

Assistant District Manager D-10
Environmental Project Manager
ODOT Region 4
63055 N. Hwy 97
Bend, Oregon 97701

Tel: (541) 388-6458
Cell: (541) 815-6877

Richard.L.WILLIAMS@odot.state.or.us

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Oregon

Ted Kulongoski, Governor

Department of Transportation

Region 4 Office

63055 N. Hwy 97

Bend, OR 97701

(541) 388-6180

FAX: (541) 388-6231

January 22, 2010

Deschutes County
Attn: Dennis Luke, County Commissioner
1300 NW Wall, Suite 200
Bend, OR 97701

Dear Mr. Luke,

Deschutes County was identified and agreed to be a Participating Agency in the development of the US 97 Bend North Corridor Environmental Impact Statement (EIS). The role of Participating Agencies is outlined in the project's SAFETEA-LU 6002 Coordination Plan. The key area for your input is focused upon reviewing the overall EIS for sufficiency.

This review can be broken into several discrete areas of input to include participating in the alternative scoping process; providing comments on purpose and need; reviewing methodologies and the range of alternatives; identifying any issues of concern regarding the project's potential environmental or socioeconomic impacts and providing timely input on unresolved issues. We are approaching a key milestone in the EIS process where we set the Range of Alternatives that will be forwarded for detailed environmental studies in the Draft Environmental Impact Statement (DEIS). Accordingly, we are requesting you review the draft Range of Alternatives document and provide written comments to ODOT.

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Thank you for your time and continued participation in the US 97 Bend North Corridor EIS. Please contact me with any questions you may have regarding this correspondence.

Regards,

Rick Williams

Assistant District Manager D-10
Environmental Project Manager
ODOT Region 4
63055 N. Hwy 97
Bend, Oregon 97701

Tel: (541) 388-6458

Cell: (541) 815-6877

Richard.L.WILLIAMS@odot.state.or.us

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	Address: _____	Serial # 3104618
		JAN 22 2010 9:23P

Cc: Tom Blust, County Road Director
61150 SE 27th Street
Bend 97701

Cc: Peter Russell, Deschutes County Senior Planner
117 NW Lafayette
Bend, OR 97701



Community Development Department

Planning Division Building Safety Division Environmental Health Division

117 NW Lafayette Avenue Bend Oregon 97701-1925
(541)388-6575 FAX (541)385-1764
<http://www.co.deschutes.or.us/cdd/>

March 23, 2010

Rick Williams, Environmental Project Manager
ODOT Region 4
63030 O.B. Riley Road
Bend, Oregon 97701

**RE: Deschutes County assessment of draft "Alternatives Development Report"
for U.S. 97 at north end of Bend**

Dear Rick,

Deschutes County appreciates the opportunity as an agency of record to comment on the January 2010 draft of how the Oregon Department of Transportation (ODOT) has arrived at the alternatives for U.S. 97 at the north end of Bend. This includes work performed by ODOT and its local partners to downscale the project to a more reasonable financial level. The County's comments will focus on the general process, concerns related to County roads, and then specifically on Alternative East DS-1 and Alternative East DS-2. The County, for reasons stated below, prefers Alternative East DS-1 with suggested revisions or additions.

General Process

Section 1 does an excellent job of describing the operational problems, both current and future, and demonstrates the critical need for this project. Goal 4, Objectives 4A and 4B are unclear as to what differentiates regional access to U.S. 20 from regional connectivity to U.S. 97. Further complicating matters is the language of Objective 4D which is to maintain highway approaches to commercial and industrial properties. One could read 4D as maintaining direct connections to U.S. 97, which would seem not to be a preferred outcome given the phrasing of 4B.

Goal 6 is to develop a cost-effective project, but no objective specifically defines what is meant by that term. The County agrees that arriving at a solution that can be realistically funded and built in a timely manner is a worthy goal.

Section 2 details how the various alternatives compared to the selection criteria. The only critique is that the photo illustrations for the exhibits as well as the evaluation tables were tiny and difficult to read. Otherwise this section does an admirable job of documenting and describing the myriad alternatives considered and dismissed and those retained for further study. A summary table of alternatives that would act as a quick scorecard for alternatives either dismissed or advanced would be helpful.

Quality Services Performed with Pride

Section 3.8.2 documents the purpose of the initial Agency Coordination Committee (ACC) and lists meeting dates. If possible, it would be useful to summarize in a sentence what the purpose of the specific meetings were and any key decisions that might have been made. A similar summary in Section 3.8.3 for the Steering Team would be beneficial. Such information is invaluable for a reader trying to understand the project's evolution and major discussion items.

Developing scaled-down alternatives

The County appreciates and supports the methods used to attempt to arrive at a project that still meets the purpose and need of reducing congestion at the north end of Bend while striving to arrive at a solution consistent with financial reality. Even these downscaled alternatives are far beyond the historic levels of funding in Central Oregon for modernization projects.

General thoughts on East DS-1 and East DS-2 alternatives vs. West DS-1

The County has long stated its preference for the eastern alternatives to the western alternative. The western alternative has greater negative impacts on County roads, more disruption to rural properties, adversely affects accesses onto several County roads, and complicates the long-term solution for the U.S. 20/Old Bend-Redmond Highway intersection.

East DS-1 preferred to East DS-2

Our comments are focused on the area north of Cooley Road, south of Fort Thompson Lane, east of Hunnell Road, and west of the Burlington Northern and Santa Fe Railway (BSNF) tracks. Both DS-1 and DS-2 need to show improvements to Hunnell Road, which is a Rural Collector in the Deschutes County Transportation System Plan (TSP).

East DS-1 provides a more logical circulation pattern and provides the potential of an eastern extension across the BSNF into the City of Bend's proposed Juniper Ridge, which in turn would offload Cooley Road. A road could be extended in the vicinity of Bowery Lane to go west from the realigned Third Street to connect to Rogers Road. This would develop a better east-west grid system in the area.

East DS-2 has a much more confusing circulation pattern. This is particularly true if a northbound driver on 97 has gone past Cooley Road and wishes to return to Bend. Even if they successfully find the right-in, right-out only (RIRO) at 97/Fort Thompson, once they cross westbound over 97 there is no obvious or direct local road network to return the traveler south to Bend. Improving Bowery to Hunnell, improving Hunnell south to Cooley, and providing a link between Bowery and Rogers would provide drivers non-highway options to reach the retail area around Cooley.

The County looks forward to continuing to work with ODOT on selecting a financially feasible solution to the transportation issues in this portion of the rural-urban fringe. Thank you.

Peter Russell
Senior Transportation Planner

cc: Tom Blust, Deschutes County Road Department Director
Nick Lelack, Deschutes County Planning Division Director
Dennis Luke, Board of County Commissioners, Chairman



Oregon

Ted Kulongoski, Governor

Department of Transportation

Region 4 Office
63055 N. Hwy 97
Bend, OR 97701
(541) 388-6180
FAX: (541) 388-6231

January 22, 2010

City of Bend
Attn: Eric King, City Manager
710 NW Wall Street
Bend, OR 97701

Dear Mr. King,

The City of Bend was identified and agreed to be a Participating Agency in the development of the US 97 Bend North Corridor Environmental Impact Statement (EIS). The role of Participating Agencies is outline in the project's SAFETEA-LU 6002 Coordination Plan. The key area for your input is focused upon reviewing the overall EIS for sufficiency.

This review can be broken into several discrete areas of input to include participating in the alternative scoping process; providing comments on purpose and need; reviewing methodologies and the range of alternatives; identifying any issues of concern regarding the project's potential environmental or socioeconomic impacts and providing timely input on unresolved issues. We are approaching a key milestone in the EIS process where we set the Range of Alternatives that will be forwarded for detailed environmental studies in the Draft Environmental Impact Statement (DEIS). Accordingly, we are requesting you review the draft Range of Alternatives document and provide written comments to ODOT.

We are offering a 30 day comment period for you to provide your written comments on the draft Range of Alternatives. The 30-day comment period will begin with a meeting on February 4, 2010 from 3:00 to 5:00 p.m. at the ODOT Project Support conference room, 63020 O.B. Riley Road, Bend, Oregon. Please let us know if you do not need the full 30-day comment period to provide your input so we can make related adjustments to the project schedule.

Thank you for your time and continued participation in the US 97 Bend North Corridor EIS. Please contact me with any questions you may have regarding this correspondence.

Regards,

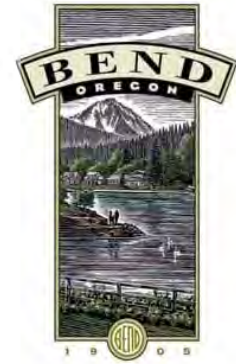
Rick Williams

Assistant District Manager D-10
Environmental Project Manager
ODOT Region 4
63055 N. Hwy 97
Bend, Oregon 97701

Tel: (541) 388-6458
Cell: (541) 815-6877
Richard.L.WILLIAMS@odot.state.or.us

Cc: Nick Amis, City of Bend
710 NW Wall Street
Bend, OR 97701

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Memorandum

To: Jon Heacock, US 97 North Corridor Solutions Project Manager

From: Nick Arnis, Transportation Engineering Manager

Subject: Staff Recommendations: Alternatives Report

Date: March 5, 2010

The following is intended to guide, recommend, and provide information to the Alternatives Development Report (January 2010) created by ODOT staff for the US 97 North Corridor Solutions project. The Steering Committee that includes the City Manager, made a decision on February 24th, 2010 to advance for further study the two alternatives in the East Corridor. The following comments are also not intended to contradict the decision by the City to forward the two East Alternatives.

Process and Alternatives

- It would be useful to include in the document the Transportation Demand Management and System Management recommendations or variations as alternatives in the report.
- The OTC requested the City to create options on the City Street system in relation to the Juniper Ridge development. The City produced with ODOT the NE Transportation Study. Is it useful to include this study in the traffic modeling in order to study a comprehensive system approach and realize the benefits for improving the City transportation system in conjunction to the alternatives? The NE Study included an implementation plan which guides how and when projects in the study would be approved, designed and constructed, could this be used in the further alternatives studies – the Draft EIS stage of the work.
- Could you please include a section of the report that includes past City comments and minutes of the ACC meetings, this would strengthen the Report.
- As the project begins the DEIS, City staff recommends that the ACC group review and make recommendations as a team to the Steering Committee before the information and issue are taken to the Committee.
- City staff recommends ODOT conduct a weighted decision process that includes the ACC creating and agreeing to the weights and scoring of the objectives and criteria

in order to rank the projects and provide greater clarification of how important the objectives are to members of the ACC and Steering Committee.

- Please consider including the December 17, 2009 Draft Traffic Tech Memo #7 in the Report.
- Recently it was brought to City staff attention that a November 1995 Corridor Strategy exists for Highway 97. The Strategy appears to contain a tremendous amount of work to define the interests of the various stakeholders and cities along the corridor; it would be good to include this document as a supporting or guiding document, if it was adopted by the OTC, in how the alternatives were created.
- City staff would like the opportunity to participate in the work plan development for the next steps of the project.
- Please include a section up front in the document about the current corridor conditions, what is the corridor, how is it currently designed.

Access and Connectivity

- Relating to Goal 3 in the Additional Goals and Objectives Screening spreadsheet:

In general the alternatives are intended to provide very few if any City street connections to Highway 97. Consequently, the alternatives provide poor access and connectivity to the City system.

Transportation Engineering staff for the City notes many inconsistencies with how Goal 3 and its screening criteria were evaluated. As the road authority for the City system, In Objective 3A, criteria 2, and criteria 3, these criteria do not measure the extent that City street system is impacted by the alternatives from the standpoint of overall connectivity and access. Merely because there is an arterial, 3rd Street, does not measure the value or the quality of the connectivity. If the criteria is to measure whether or not local trips must refrain from using the Highway then the alternatives succeed in this goal and objective, However, City staff believes the East Alternatives should receive a poor ranking in terms of providing connectivity and access to the Bend metro area.

Please include “employment areas” in criteria 2.

- Goal 4 “Provide Local and Regional Access”

Please review Objective 4B rating, what does >5poor, or greater than 8 mean?

Please review Objective 4B, Existing DS1 total interchange access points -8 ---does 8 = good? It is listed as fair, does this need to be changed?

Objective 4D, screening criteria is good in itself, but the question the City is most interested in was how access and connectivity to major commercial and employment

centers was impacted by the alternatives. The objectives and screening criteria take a very narrow approach to this question. For instance, Objective 4C screening criteria is what “Relative extent that US 97 fragments the north area of Bend from Rodgers Road to Empire Ave” and then the rating is based on “no new barriers.” The fact is with Cooley Road disconnected from Highway 97 in the East Alternatives, there is a very significant reduction in access and connectivity to the major City land uses. The City Transportation Engineering staff recommended the East alternatives should be rated as “poor” in Objective 4C.

The screening criteria uses the term “relative”, therefore, City transportation staff believes the relative negative impacts to the local and regional street system is significant with the East alternatives. The East alternatives have achieved the intended mission to reduce local and regional access and connectivity to the state highway system; however, this comes with impacts to existing City access and connectivity, this is the tradeoff.

Alternatives Design Issue

There is a NB exit ramp (3rd Street Slip Ramp) with the downscaled East designs that was not identified as being studied for weave movements in the December 17, 2009 Draft Tech Memo #7 Downscaled Alternatives. This slip ramp is very important to the major commercial and employment centers in this part of Bend and it would be good to determine if the slip ramp is a viable element of the East Alternatives before going much further in the process. If a weave movement analysis has been conducted, please include it in the Tech memo #7.

Project Level Alternatives Phasing

The need to develop a project phasing approach to the East alternatives is critical for the City’s continued acceptance for the East alternatives. There has been multiple thoughts that a first phase would be improvements at the Highway 97/Cooley Road intersection. In the Draft EIS stage of this process, please create a section on project phasing with involvement from City staff.

MPO rules about Financial Constraint

Objective 6B criteria rating does not fit with Bend MPO letter about financial constraints. There is only \$42 million available in the MPO area, for ODOT modernization projects in the next 20 years. Given this, the alternatives should be rated as poor in this category.

Land Use

- Support for Alternative East DS-1
Long Range Planning (LRP) supports both Alternatives East DS-1 and East DS-2 going through the DEIS process; however, staff prefers DS-1 at this point. Alternative East DS-1 provides superior access to Juniper Ridge, and like DS-2, complements new commercial, residential, and mixed employment land included in the UGB expansion between Highways 97 and 20. East DS-1 appears to provide more direct and convenient access to industrial land inside the current UGB

located at Juniper Ridge than East DS-2. Convenient access to major transportation facilities is an important site characteristic for industrial uses, and staff feels East DS-1 provides such an amenity. Please also note that each alternative provides ODOT with the opportunity to still construct the mid-term solution.

- **UGB Expansion Remand**

The City anticipates that LCDC will issue a final order remanding the UGB expansion back to the city for further work and changes to the adopted boundary. This remand process provides the city with another opportunity to evaluate what lands might serve the city's future needs for employment lands. These lands may include lands to the north of the proposed UGB Expansion on which ODOT proposes local road improvements and an interchange through Alternative East DS-1. Some lands in this area were previously considered for inclusion of the Bend UGB. While including this land in the UGB expansion to support future planning and development of this facility is possible, please note that DLCD will require the city to show additional land is required to meet a future need. DLCD's position on this topic of land need would require the city to demonstrate that the land needed for facilities and rights of way must be included in the UGB as well as any adjacent land. Even if we can't document a housing or employment-related need for land in this area, it may still be possible to include the "footprint" of an interchange at Juniper Ridge, as proposed in DS-1. This, of course, would mean that there would be some certainty about this facility and its design, so that we would know how much territory to include.

There is another option the city can explore regarding planning for the proposed new facilities: develop and propose for county adoption an amendment to the county's comprehensive plan and TSP and exception to Goal 12 for an urban transportation facility on rural land. To what extent an exception may be warranted will depend on the final alternative and whether urban standard facilities will need to be sited on rural lands. The exception would need to be limited to the rights of way and the facilities to not provide an opportunity for adjacent land owners to argue for allowing changes in zoning for more intensive uses around the interchange. A decision about which option to pursue will depend to a large extent on the status of the North Corridor project at the time of UGB adjustment under remand.

- **Additional Issues for Consideration**

There is one (1) historic resource affected by this proposal: the Bowery Lane Bridge (county). The land on which the improvements contemplated under each Alternative could be considered for inclusion in an urban reserve under ORS 195.145.

Emergency Services

City Fire Department can support both East alternative plans being forwarded with a few suggestions:

Both plans do not show a Jamison / Robal connection and show a closure of (24) Xanthippe Ln. Fire believes Xanthippe Ln is the current Fire and SO access point to US 20. They would propose to keep Xanthippe Ln as RI/RO and extend Jamison to Robal Rd or as an option Britta. The current views show their only access egress route to be out Jamison to Empire (proposed to be RI/RO), or out Jamison to Poe Sholes to Britta. This will be a residential response area and not acceptable for a primary response route for our North Fire Station.

The Fire Department has concerns regarding center medians and would like to discuss emergency service access across/through given points if medians are in place for extended distances.

There appears to be little access/egress to the parkway between Empire and Ft Townsend or Bowery in both plans. DS1 appears to have on / off ramp capabilities where DS2 does not. If emergency vehicles traveling the parkway are unable to get off or on at reasonable intervals, the potential exists that we must travel long distances before the opportunity to turn around occurs. DS2 implies we may have to continue northbound to Deschutes junction overpass before we have the ability to cross over and travel southbound on 97. This leaves few options between Empire and Deschutes Junction for emergency vehicles to access opposing lane traffic in emergency situations.

Jurisdictional Transfer of Highway 97 existing segment to City

Objective 6C Assumptions is that City will assume jurisdictional responsibility for the existing Highway 97. As clearly stated in numerous letters and memos to ODOT staff, the City has very limited maintenance funds and ability to assume this jurisdictional responsibility, therefore, ODOT should not assume the City will not accept this responsibility. The existing Highway 97 intersections with Cooley Road and Robal Road are the highest SPIS sites in Region 4 and would now become a City liability is not a very compelling incentive for a jurisdictional transfer notwithstanding the road maintenance responsibilities.

Empire Interchange Operations and Safety

- Please clarify improvements to Empire interchange in the East alternatives
- If the Empire interchange operations and safety are not improved with the alternatives, the City encourages ODOT to seek long term mobility standard amendments to the state Highway Plan. City understands this is a MPO area issue. The concern is that site plan development, UGB expansions, zone changes and other land use actions conditions of approval will not be able to mitigate for improvements to the Empire Interchange.

Appendix D Impact Assessment Methodology

From: WILLIAMS Rick * Reg4 [mailto:Richard.L.WILLIAMS@odot.state.or.us]
Sent: Tuesday, August 25, 2009 11:16 AM
To: RADABAUGH Mark; board@co.deschutes.or.us; NArn@ci.bend.or.us; Peter Russell; rsuppah@wstribe.org; don.munkers@burnspaiute-nsn.gov; joseph.kirk@klamathtribes.com
Cc: WILLIAMS Rick * Reg4; PFEIFFER Amy L; RIDENOUR Diana L
Subject: US 97 Bend North Corridor EIS : Seeking your input on the Draft Final IAM Memos

The Oregon Department of Transportation (ODOT) is continuing to work on the Environmental Impact Statement (EIS) for the US 97 Bend North Corridor Project. The project has completed the alternatives development phase and is moving into the detailed environmental study phase of the Draft EIS. To begin this phase of the project ODOT has developed draft Impact Assessment Methodologies (IAMs). IAMs outline how we propose to undertake each individual environmental study.

As an identified Participating Agency you may, and are encouraged to, review and comment on the draft IAMs. The Draft Final IAM memos are now available on ODOT's public FTP site for the participating agencies to access. They are located here: <ftp://ftp.odot.state.or.us/region4/US97BendNorthCorridor/Public Folder/Draft Final IAM Memos/>

We would ask that you complete any review and submit your comments back to me, at the address below or electronically through e-mail, within thirty days of your receipt of this correspondence. You will receive a letter reflecting this same information in the coming days. Please feel free to contact me with any questions you may have.

Regards,

Rick Williams

Assistant District Manager D-10
Environmental Project Manager
ODOT Region 4
63055 N. Hwy 97
Bend, Oregon 97701

Tel: (541) 388-6458
Cell: (541) 815-6877

From: Cortright, Bob [mailto:bob.cortright@state.or.us]
Sent: Wednesday, August 26, 2009 4:04 PM
To: WILLIAMS Rick * Reg4
Cc: RADABAUGH Mark
Subject: FW: US 97 Bend North Corridor EIS : Seeking your input on the Draft Final IAM Memos

Rick

Thanks for the invite to provide comments. I understand that this is primarily a FHWA required check in on process. I do have a couple of thoughts for your consideration.

- We'd like to be consulted on the indirect and cumulative impacts analysis. Since at least part of this speculates about future land use development patterns or impacts, we'd like to be involved in that discussion. If you could add checks to the table which indicate that DLCD will be consulted on this part of the process, that would be great.
- I think we have a continuing question about how this analysis is coordinated with the city's ongoing work related to UGB expansion and the specific proposals that the city has made to OTC to fund and provide transportation improvements in the Juniper Ridge area. I note that the process you've outlined is careful to refer only to "existing" or "adopted" plans. I assume that choice of words is intentional and meant to limit consideration of things that are yet to be adopted. It would be helpful to clarify how you intend to treat both the UGB and other transportation improvements:
 1. Regarding the UGB, we'd note the city has "adopted" an expanded UGB. DLCD is currently reviewing the city's adoption, and it is subject to approval by our department. It may be worthwhile for the environmental analysis to address both the preexisting UGB and the city's adopted, but unapproved expanded UGB.
 2. Regarding other transportation improvements, we note that the city has made very detailed proposals to the OTC for transportation improvements in the Juniper Ridge area that would include a combination of street improvements, and TDM and TSM measures. While many of these actions are not part of the city's adopted plan, they are under active consideration and are likely to be acted on within the timeframe of the EIS work. Consequently, we think its prudent for the EIS to consider what benefit these improvements might provide in meeting the transportation needs in the study area. Again, it may be worthwhile for the environmental analysis to compare options that consider actions included in the city's existing adopted TSP and the additional actions that it is considering as part of the ongoing planning for Juniper Ridge development.

Thanks again for the opportunity to provide these comments.

Bob

Robert Cortright | Transportation Planning Coordinator
 Planning Services Division
 Oregon Department of Land Conservation and Development
 635 Capitol Street NE, Suite 150 | Salem, OR 97301-2540
 Office: 503.373.0050 x241 | Cell: 503.689.2522 | Fax: 503.378.5518
bob.cortright@state.or.us | www.oregon.gov/LCD

From: Radabaugh, Mark
Sent: Wednesday, August 26, 2009 2:40 PM
To: Cortright, Bob
Subject: FW: US 97 Bend North Corridor EIS : Seeking your input on the Draft Final IAM Memos

Bob,

Do you have any time to take a look at this and provide comments? I'm swamped right now, and will be on vacation following OPI for two and a half weeks.

Thanks.

Mark.

From: WILLIAMS Rick * Reg4 [mailto:Richard.L.WILLIAMS@odot.state.or.us]
Sent: Tuesday, August 25, 2009 11:16 AM
To: RADABAUGH Mark; board@co.deschutes.or.us; NArn@ci.bend.or.us; Peter Russell; rsuppah@wsribes.org; don.munkers@burnspaiute-nsn.gov; joseph.kirk@klamathtribes.com
Cc: WILLIAMS Rick * Reg4; PFEIFFER Amy L; RIDENOUR Diana L
Subject: US 97 Bend North Corridor EIS : Seeking your input on the Draft Final IAM Memos

The Oregon Department of Transportation (ODOT) is continuing to work on the Environmental Impact Statement (EIS) for the US 97 Bend North Corridor Project. The project has completed the alternatives development phase and is moving into the detailed environmental study phase of the Draft EIS. To begin this phase of the project ODOT has developed draft Impact Assessment Methodologies (IAMs). IAMs outline how we propose to undertake each individual environmental study.

As an identified Participating Agency you may, and are encouraged to, review and comment on the draft IAMs. The Draft Final IAM memos are now available on ODOT's public FTP site for the participating agencies to access. They are located here: ftp://ftp.odot.state.or.us/region4/US97BendNorthCorridor/Public_Folder/Draft_Final_IAM_Memos/

We would ask that you complete any review and submit your comments back to me, at the address below or electronically through e-mail, within thirty days of your receipt of

this correspondence. You will receive a letter reflecting this same information in the coming days. Please feel free to contact me with any questions you may have.

Regards,

Rick Williams

Assistant District Manager D-10
Environmental Project Manager
ODOT Region 4
63055 N. Hwy 97
Bend, Oregon 97701

Tel: (541) 388-6458
Cell: (541) 815-6877

From: WILLIAMS Rick * Reg4 [Richard.L.WILLIAMS@odot.state.or.us]
Sent: Wednesday, September 23, 2009 5:26 pm
To: Findley, Angela
Subject: FW: US 97 Bend North Corridor EIS : Seeking your input on the Draft Final IAM Memos

From: Peter Russell [mailto:Peter_Russell@co.deschutes.or.us]
Sent: Wednesday, September 23, 2009 7:58 AM
To: WILLIAMS Rick * Reg4
Cc: Kristen Maze; Peter Russell
Subject: RE: US 97 Bend North Corridor EIS : Seeking your input on the Draft Final IAM Memos

The methodologies make sense; all I would suggest is that the project team brief the Deschutes County Landmarks Commission to see if that body has any concerns.

Peter Russell
 Senior Planner
 Deschutes County Community Development Dept.
 117 NW Lafayette Ave.
 Bend, OR 97701

ph: (541) 383-6718
 FAX (541) 385-1764

From: WILLIAMS Rick * Reg4 [mailto:Richard.L.WILLIAMS@odot.state.or.us]
Sent: Tuesday, August 25, 2009 11:16 AM
To: RADABAUGH Mark; Board; NARNIS@ci.bend.or.us; Peter Russell; rsuppah@wstribes.org; don.munkers@burnspaiute-nsn.gov; joseph.kirk@klamathtribes.com
Cc: WILLIAMS Richard L; PFEIFFER Amy L; RIDENOUR Diana L
Subject: US 97 Bend North Corridor EIS : Seeking your input on the Draft Final IAM Memos

The Oregon Department of Transportation (ODOT) is continuing to work on the Environmental Impact Statement (EIS) for the US 97 Bend North Corridor Project. The project has completed the alternatives development phase and is moving into the detailed environmental study phase of the Draft EIS. To begin this phase of the project ODOT has developed draft Impact Assessment Methodologies (IAMs). IAMs outline how we propose to undertake each individual environmental study.

As an identified Participating Agency you may, and are encouraged to, review and comment on the draft IAMs. The Draft Final IAM memos are now available on ODOT's public FTP site for the participating agencies to access. They are located here:

ftp://ftp.odot.state.or.us/region4/US97BendNorthCorridor/Public_Folder/Draft_Final_IAM_Memos/

We would ask that you complete any review and submit your comments back to me, at the address below or electronically through e-mail, within thirty days of your receipt of this correspondence. You will receive a letter reflecting this same information in the coming days.

file:///K:/80345W02/Task03_EnvrRpts/Task3.3_IAMs/PartAgcyComments/DesCo_FW US... 12/9/2013

Please feel free to contact me with any questions you may have.

Regards,

Rick Williams

Assistant District Manager D-10
Environmental Project Manager
ODOT Region 4
63055 N. Hwy 97
Bend, Oregon 97701

Tel: (541) 388-6458

Cell: (541) 815-6877

file:///K:/80345W02/Task03_EnvrRpts/Task3.3_IAMs/PartAgcyComments/DesCo_FW US... 12/9/2013

Sprague, Stephanie

From: WILLIAMS Rick * Reg4 <Richard.L.WILLIAMS@odot.state.or.us>
Sent: Monday, October 05, 2009 7:57 AM
To: Findley, Angela; Sprague, Stephanie; PFEIFFER Amy L
Subject: FW: US 97 Bend North Corridor Project - Impact Assessment Methodologies (IAMs)

From: rroot@ci.bend.or.us [mailto:rroot@ci.bend.or.us]
Sent: Friday, October 02, 2009 1:17 PM
To: WILLIAMS Rick * Reg4
Cc: NArn@ci.bend.or.us
Subject: US 97 Bend North Corridor Project - Impact Assessment Methodologies (IAMs)

Rick Williams:

Per your request (written correspondence, dated 8/25/09), we have reviewed the **US 97 Bend North Corridor Project - Impact Assessment Methodologies (IAMs)**, and they seem to be quite complete and accurate as it relates to local process or Ordinances.

My apologies for any delays in our response, but at this point in time, we have no substantive comments to make regarding the Draft IAMs. The City, of course, may have comments in the future as the NEPA process continues and more detail/findings may be added to the IAMs.

We look forward to the next phase of this massive transportation project.

Again, my apologies for our delay.

Please let us know how we could be of further assistance.

Thank you.

:Rick Root

PUBLIC RECORDS LAW DISCLOSURE: Emails are generally public records and therefore subject to public disclosure unless exempt from disclosure under Oregon Public Records Law.

Emails can be sent inadvertently to unintended recipients and contain confidential or privileged information. If you are not the intended recipient (or authorized to receive for the recipient), please advise by return email and delete immediately without reading or forwarding to others. Thank you.

Appendix E Draft EIS

Draft EIS Public Hearing

Wednesday, August 24, 2011

5:30 p.m. to 8:30 p.m.

**Riverhouse Convention Center
2850 NW Rippling River Court
Bend, OR 97701**

The Oregon Department of Transportation is planning to improve US 97 in the north end of Bend. A Draft Environmental Impact Statement describing the impacts and benefits of this project is available for public review and comment. ODOT will accept comments on the Draft EIS until September 12, 2011.

Public Testimony - You may provide public testimony to the project team from 6:30 p.m. to 8:00 p.m. In order to provide testimony you must sign up by 6:30 p.m. Court reporters will be available to take oral comments any time during the public hearing.

To remove your name from the project mailing list, please contact Rex Holloway, ODOT Public Information Liaison, at Rex.A.Holloway@odot.state.or.us or (541) 388-6178.

El Departamento de Transporte de Oregon (ODOT) piensa en mejorar la carretera US 97 en el extremo norte de Bend. Un Estudio de Impacto Ambiental (EIS) Borrador describiendo los impactos y beneficios de este proyecto está disponible para revisión y comentarios públicos. ODOT aceptará comentarios sobre el EIS Borrador hasta el 12 de septiembre 2011.

Además, una reunión en español para discutir el proyecto se llevará a cabo el Miércoles, 17 de agosto de 5:30 p.m. a 7:00 p.m. en Juniper Mobile Home Park (63930 N Hwy 97, Bend, Oregon). Si desea obtener más información en español sobre este proyecto, por favor venga a la reunión o contacte con José Rodríguez al (541) 388-6190 o Joseph.J.Rodriguez@odot.state.or.us.



**Oregon Department of Transportation, Region 4
Project Manager's Office
63034 O.B. Riley Road
Bend, OR 97701**



US 97 Bend North Corridor Solutions

The Draft EIS is Ready for Public Review

The Oregon Department of Transportation is pleased to announce the public release of the Draft Environmental Impact Statement (EIS) for the US 97 Bend North Corridor Project. The DEIS explains in detail the project's purpose and need; describes the different alternatives that ODOT is considering, including the No Build Alternative; compares and contrasts the adverse and beneficial direct, indirect and cumulative impacts of the alternatives; and discusses measures ODOT would take to avoid, minimize or mitigate impacts to the community and environment. The Draft EIS also explains why other alternatives studied by ODOT were withdrawn from further consideration. Attached to the Draft EIS is a Draft Section 4(f) Evaluation that considers the project's impacts to publicly owned park lands and significant historic resources.

Each of the build alternatives would satisfy the project's purpose and need, but would have different impacts and benefits to the community and environment.

The Draft EIS can be obtained in the following locations:

- **Download** a free, electronic (PDF) version of the Draft EIS from www.us97solutions.org/draft_eis.
- **Request** a free CD with an electronic (PDF) version of the Draft EIS, or a free printed copy of the Executive Summary.
- **Purchase** a printed copy of the Draft EIS from ODOT. Cost: \$50 each.

- **Review** printed copies of the Draft EIS at the Deschutes County Public Library:

*Downtown Bend Branch
(601 N.W. Wall Street)*

*East Bend Branch
(6280 Dean Swift Road)*

*La Pine Branch
(16425 1st Street)*

*Redmond Branch
(827 SW Deschutes Avenue)*

*Sisters Branch
(110 N Cedar Street)*

Contact Rex Holloway, ODOT Public Information Liaison at Rex.A.Holloway@odot.state.or.us or (541) 388-6178 for copies of the Draft EIS, or to review the Draft EIS at ODOT offices. If you have already returned a postcard to ODOT requesting a copy of the Draft EIS or Executive Summary, you do not need to contact ODOT again. Your requested documents will automatically be sent to you.

How to comment on the Draft EIS

ODOT will collect comments on the Draft EIS during a 45-day comment period. During this time, ODOT encourages the public, interested stakeholders, agencies and tribes to formally submit written comments about the information contained within the Draft EIS.

During the comment period, ODOT will host a public hearing on August 24th from 5:30 p.m. to 8:30 p.m. at the Riverhouse Convention Center in Bend. The purpose of the hearing is to summarize the information from the Draft EIS and to take comments about the Draft EIS. ODOT staff will be available to answer questions, court reporters will be available to take oral testimony, public testimony

Comments on the Draft EIS must be submitted or postmarked by September 12, 2011. There are three ways you can submit comments:

1. Attend the public hearing and submit written or oral comments.
2. Send an email to: comments@us97solutions.org
3. Mail a letter to:
ODOT, ATTN: US 97 Bend
North Corridor Project
63030 N Hwy 97
Bend, OR 97701

can be provided to the project team, and comment forms will be available for written comments.

How can your comments help ODOT identify a Preferred Alternative?

ODOT will evaluate all substantive comments on the Draft EIS to identify a preferred alternative. Comments with specific detail will be most helpful in the future decision-making process to identify a Preferred Alternative. For example, comments should:

- *Describe the specific elements that you like or do not like about the alternatives*
- *Suggest ways an alternative could be improved*
- *Explain why you agree or disagree with the information in the Draft EIS*
- *Describe information that should be added to the Draft EIS.*

Your comments will help ODOT identify a preferred alternative that best meets the project's purpose and need, while minimizing impacts to the community and environment.

Project Update

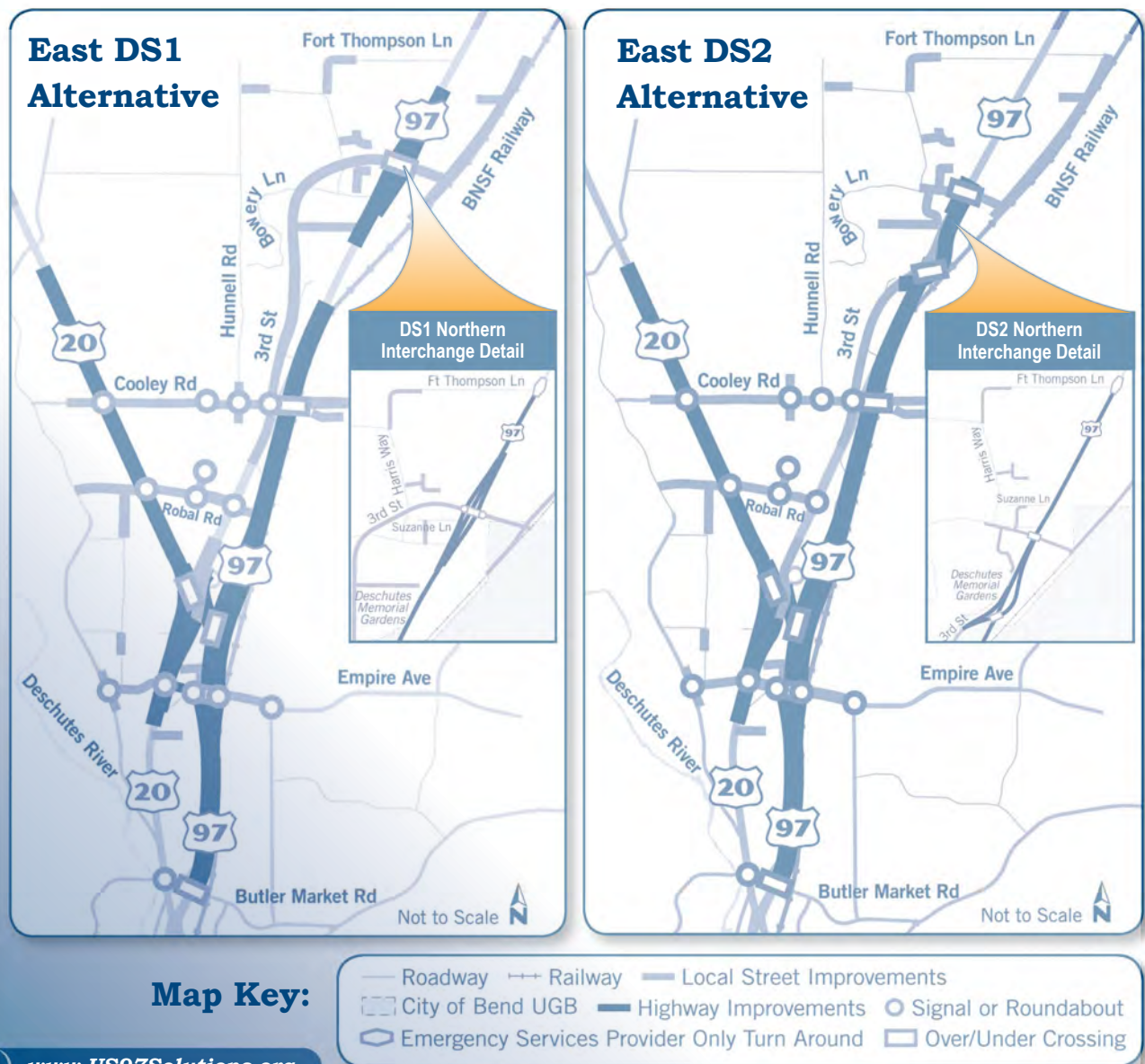
In spring 2010, after gathering input from the public, interested stakeholders, businesses, neighborhoods, and local, state and federal agencies and receiving approval from the Federal Highway Administration, the Oregon Department of Transportation (ODOT) advanced three alternatives for detailed environmental study. These alternatives include the East DS1 Alternative, East DS2 Alternative, and No Build

Alternative. All other alternatives were withdrawn from further consideration.

Advancing the East DS1 Alternative and East DS2 Alternative represents ODOT's commitment to provide practically-designed solutions to improve safety and mobility for trucks and automobiles on US 97 between the Deschutes Market Road/Tumalo Junction interchange and Empire Avenue interchange. The maps below show the general

alignments of the two build alternatives. East DS1 Alternative and East DS2 Alternative would be the same south of Cooley Road. They differ in the location and type of northern interchange as well as local road connections.

Over the last year, ODOT conducted detailed environmental studies and prepared the DEIS, which is now ready for public review.



Next Steps

ODOT will review and consider all comments on the Draft EIS to recommend a preferred alternative. The preferred alternative recommendation is subject to Federal Highway Administration approval. Once a preferred alternative is identified, ODOT will prepare a Final EIS, which will document the preferred alternative and associated adverse and beneficial impacts to the community and environment. The Final EIS will also document responses to all comments received during the Draft EIS comment period.

ODOT is also currently working with Deschutes County and the City of Bend to identify land use actions and local planning document updates, including interchange area management plans, transportation system plan updates, comprehensive plan updates, and exceptions to the statewide planning goals, which would be required to implement the project. Many of these land use actions and plan updates will be implemented prior to publishing the Final EIS.

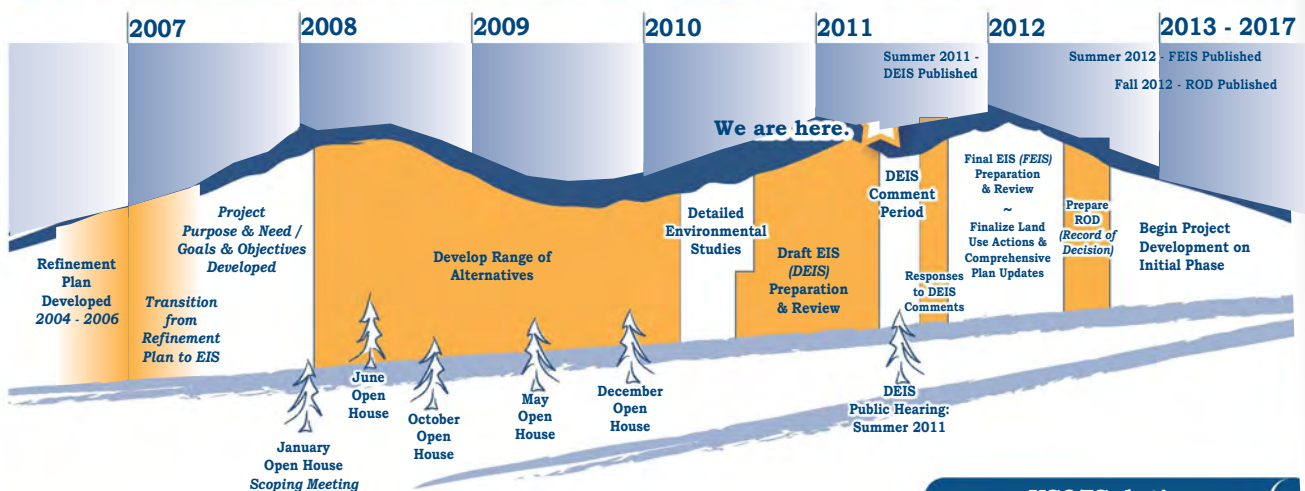
Once the Final EIS is completed, the Federal Highway Administration will publish a Record of Decision to document the decision process undertaken to select the preferred alternative, adverse and beneficial impacts associated with the preferred alternative, and mitigation commitments.

Project Phasing

Funding constraints will likely require smaller portions of the project to be built over time. After the Record of Decision is published, ODOT will identify funding from federal and state sources. Specific phases of the project will also be identified for construction. Final design plans will be developed and environmental permits will be obtained, and the project will be constructed, based on the identified phases. Right of way will be acquired as needed for each phase of the project. During this period, ODOT will continue to keep the public informed and will continue to provide opportunities for the public to share their input.

ODOT will consider all substantive comments received during the Draft EIS comment period to identify the alternative that best satisfies the overall purpose and need for the project, minimizes impacts across a wide range of community and environmental concerns, and strives to achieve as many of the project goals and objectives as possible.

Project Schedule



Appendix F Preferred Alternative

Public Open House

Thursday, June 13, 2013

5:00 p.m. to 7:00 p.m.

Presentation at 6:00 p.m.

Sky View Middle School

63555 NE 18th St

Bend, OR 97701

More information:

Visit www.US97Solutions.org
or contact Rex Holloway, (541) 388-
6178, Rex.A.Holloway@odot.state.or.us

The Oregon Department of Transportation (ODOT) is working on a plan to improve US 97 in the north end of Bend. ODOT is recommending its preferred alternative, called modified East DS2, and wants to share this with the community.

If you cannot attend the open house, visit the project website, www.us97solutions.org, to view project documents and maps.

Meeting facilities are Americans with Disabilities Act (ADA) compliant. If you require accommodations, please contact Ryan Penhollow at least 48 hours before the meeting at Ryan.J.Penhollow@odot.state.or.us or (541)388-6268.

Si desea obtener más información en español sobre este proyecto, por favor venga a la reunión o contacte a Joseph Rodríguez al (541) 388-6190 o Joseph.J.Rodriguez@odot.state.or.us.



Oregon Department of Transportation
Region 4 Project Delivery
63055 N. Highway 97, Bldg. M
Bend, OR 97701



US 97

Bend North Corridor Solutions

Agencies Respond to Community Concerns

In July 2011, ODOT released the Draft Environmental Impact Statement (EIS) for the US 97 Bend North Corridor Project. The Draft EIS analyzed the impacts and benefits of three alternatives: East DS1, East DS2 and the No Build.

The Draft EIS and the beginning of a forty-five day public comment period was announced in the Federal Register and through a variety of media outlets and communications. ODOT held an open house and public hearing on August 24, 2011, offering the public a chance to provide formal testimony about the project. In addition to individual testimony given at the public hearing, ODOT received comments by phone, email, and mail.

The general topics that were raised during the public comment period included:

- Overall project cost
- Economic impacts including business displacements and potential loss of jobs
- Growth and traffic assumptions used for traffic analysis
- Noise and air quality impacts to adjacent residential areas
- Future traffic levels on local roads and out of direction travel to access US 97
- Impacts to utility providers
- Access to and from business areas and the shopping center
- Impacts to low-income and minority persons and children
- Impacts to rural residential lands north of Cooley Road

Since the close of the public comment period, ODOT has been working with local agency staff from the City of Bend, Bend Metropolitan Planning Organization (MPO) and Deschutes County, and the Federal Highway Administration (FHWA). These project partners are working to make sure the US 97 Bend North Corridor project implements a shared long-term vision for US 97 and also explores opportunities to address public concerns and feedback received during the public comment period.

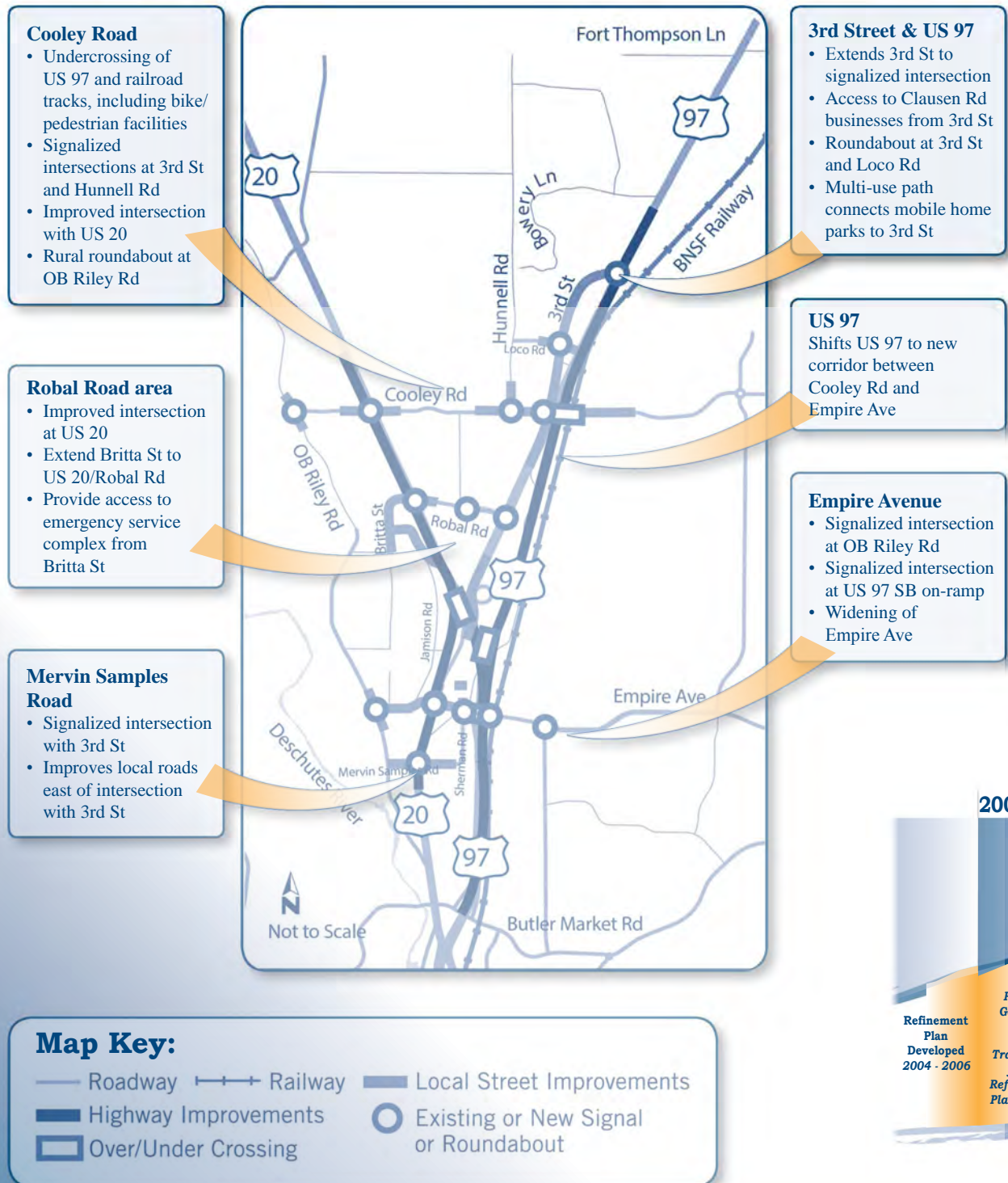
ODOT Recommends its Preferred Alternative – Modified East DS2 Alternative

ODOT is now ready to recommend its preferred alternative – modified East DS2 Alternative– which substantially reduces the overall area of potential impacts as compared to the previously considered East DS1 and East DS2 alternatives.

Benefits of the modified East DS2 Alternative compared to previously studied alternatives:

- Keeps the majority of improvements within the urban growth boundary
- Includes a signal at the north end to connect US 97 and 3rd Street
- Expands bicycle and pedestrian facilities
- Reduces land converted to right-of-way
- Retains the visual and community character of rural residential lands

Modified East DS2 Alternative



Next Steps

Join ODOT for an open house event to learn more about the modified East DS2 Alternative.

At this event:

- Learn why the modified East DS2 Alternative was identified as the preferred alternative.
- Review maps for the preferred alternative.
- Provide input on anticipated impacts and benefits to community and environmental resources (including the Nels and Lillian Andersen House, a historically significant property eligible for listing on the National Register of Historic Places), and potential measures to mitigate those impacts.

PLEASE JOIN US! - OPEN HOUSE

Thursday, June 13, 2013

5:00 p.m. - 7:00 p.m.

Presentation at 6:00 p.m.

Sky View Middle School

63555 NE 18th Street

Bend, OR 97701

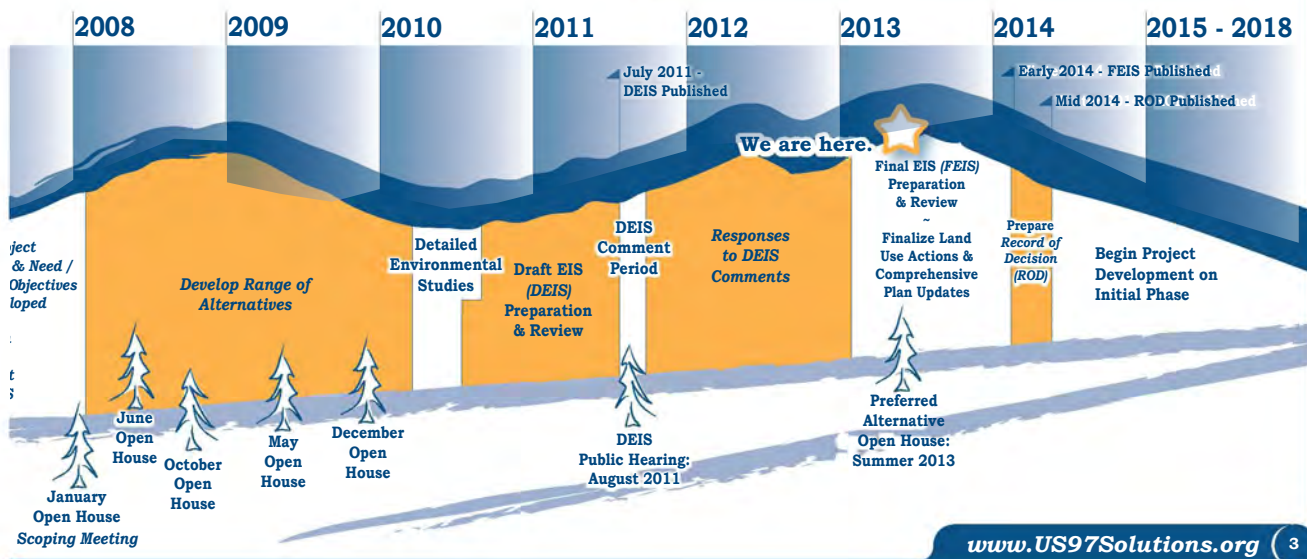
If you cannot attend the open house, visit the project website, www.us97solutions.org, to view project documents and maps.

Meeting facilities are Americans with Disabilities Act (ADA) compliant. If you require accommodations, please contact Ryan Penhollow at least 48 hours before the meeting at Ryan.J.Penhollow@odot.state.or.us or (541)388-6268.

Project Schedule

In summer and fall 2013, ODOT will analyze and document the impacts and benefits of the modified East DS2 Alternative, prepare the Final EIS, which will include responses to comments received on the Draft EIS, and work with local agencies to update applicable plans. The Final EIS and Record of Decision (ROD) are scheduled for release in 2014. The current project schedule is shown below.

The ROD is the final step for agencies in the EIS process. The ROD is a document that states what the decision is; identifies the alternatives considered, including the environmentally preferred alternative; and discusses mitigation plans, including any enforcement and monitoring commitments. The ROD will also discuss if all practical means to avoid or minimize environmental harm have been adopted, and if not, why they were not. It must be signed by the Federal Highway Administration. The ROD is a publicly available document.



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Appendix I

Noise Analysis Supporting Documentation

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Introduction

Appendix I includes the outcomes of specific analysis conducted to support the conclusions made in Section 3.16 Noise.

Exhibit I-1 lists each noise measurement site and associated measured noise data. Exhibit I-2 indicates noise levels for the Existing Condition (2007), No Build Alternative (2035), East DS1 Alternative (2035), and East DS2 Alternative (2035) at sites throughout the area studied. Noise receptor numbers in Exhibit I-2 correspond to receptor numbers shown on mapping in Section 3.16 Noise.

Exhibit I-3 summarizes the outcome of the noise mitigation analysis for each of the receptors impacted under both the East DS1 and the East DS2 Alternatives where the two alternatives share the same configuration. This includes areas from the southern end of the alternatives to approximately 1,000 feet north of Cooley Road. Each build alternative's design and the predicted noise levels are the same in this area.

Exhibit I-4 summarizes the outcome of noise mitigation analysis for impacted receptors under the East DS1 Alternative. Noise levels and mitigation analysis differ at these receptors for the East DS1 Alternative compared to the East DS2 Alternative due to design differences. Generally this includes areas from approximately 1,000 feet north of Cooley Road to the northern end of the study area, approximately 700 feet north of Fort Thompson Road along US 97. Similarly Exhibit I-5 shows the noise mitigation analysis for receptors impacted under the East DS2 Alternative where they differ from the East DS1 Alternative.

Exhibits I-6 and I-7 are ODOT Noise Mitigation and Recommendation forms for impacted special use areas. These forms are a requirement for noise studies where special use areas are impacted due to the build alternative or alternatives (ODOT *Draft Noise Manual*).

Exhibits I-8 through I-31 are ODOT Noise Mitigation Evaluation and Recommendation forms. These forms are a requirement for noise studies where sensitive areas are impacted by the build alternative or alternatives (ODOT *Draft Noise Manual*).

This appendix has been updated to include the outcomes of the noise analysis for the Preferred Alternative. Exhibit I-2 FEIS indicates the noise levels for the Existing Conditions (2011), No Build Alternative (2036), and the Preferred Alternative (2036) at sites throughout the area studied. Exhibit I-3 FEIS summarizes the outcome of the noise mitigation analysis for impacted receptors with the Preferred Alternative in the southern portion of the study area and Exhibit I-5 FEIS summarizes the outcome of the noise mitigation analysis for impacted receptors in the northern portion of the study area.

ODOT's 2011 *Noise Manual* includes an updated Noise Abatement Evaluation and Recommendation form. No forms were required for the Preferred Alternative.

Exhibit I-1: Noise Monitoring Table

Noise Receptor Number (Measurement ID)	Location	Land Use	Date	Time	L _{eq} dBA ¹
20 (ST08-9)	63087 Empire Ave	Residential	10/24/2008	10:25 am	56
45 (LT10-3 ²)	20514 Mutt Court	Residential	5/18/2010	1:00 pm	68
20 (ST08-6)	US 20 – 20203	Residential	10/23/2008	10:17 am	56
35 (ST08-13)	Empire Ave and US 97	ParkNone ³	10/24/2008	10:53 am	48
32 (ST10-3)	63435 O.B. Riley Road	Residential	5/19/2010	10:30 am	53
34 (ST08-2)	20609 Over Under Court	Residential	10/22/2008	11:30 am	49
41 (ST08-1)	20613 Marlin Court	Residential	10/22/2008	10:20 am	44
52 (ST08-12)	796 Cooley Road –Community Church of Christ	Church	10/23/2008	3:30 pm	49
49 (ST08-3)	63610 Hunters Circle	Residential	10/22/2008	12:00 pm	53
64 (LT10-2)	20569 Raymond Court	Residential	5/18/2010	1:00 pm	66
104 (ST08-11)	US 20/Cooley Road – Deschutes Christian Fellowship	Church	10/23/2008	2:30 pm	52
115 (ST10-2)	20710 Beverly Lane	Residential	5/18/2010	3:15 pm	61
125 (ST08-10)	US 20/Cooley Road – Cascade Praise Christian Center	Church	10/23/2008	2:00 pm	56
140 (ST08-16)	63707 Scenic Drive	Residential	10/24/2008	1:15 pm	52
134 (ST08-4)	20639 Smith and Wesson Court	Residential	10/22/2008	12:38 pm	57
143 (ST08-5)	63737 Hunters Circle	Residential	10/22/2008	1:20 pm	53
158 (ST08-14)	63840 US 97	Residential	10/24/2008	11:30 am	59
164 (ST08-15)	US 97 – Deschutes Memorial Chapel and Gardens	Cemetery	10/24/2008	11:50 am	66
168 (ST08-18)	US 97 – Four Seasons mobile home park	Residential	10/24/2008	2:55 pm	67
176 (ST08-17)	US 97 – Juniper Ridge mobile home park	Residential	10/24/2008	2:18 pm	66
168 (ST08-8)	63866 Old Bend – Redmond Hwy	Residential	10/23/2008	11:29 am	58
162 (LT10-1)	63829/63833 Hunters Circle	Residential	5/18/2010	1:00 pm	71
162 (ST10-1)	63829/63833 Hunters Circle	Residential	5/18/2010	11:28 am	53
194 (ST08-7)	Old Bend – Redmond Hwy	Church	10/23/2008	10:50 am	50
233 (LT10-4)	20680 Fort Thompson Lane	Residential	5/18/2010	2:00 pm	54

¹L_{eq} shown for “LT##” measurements is that of the loudest 1-hour dBA monitored.

²19 hour measurement due to power failure.

³Measurement collected for noise model validation.

Exhibit I-2: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	NAC FHWA/ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
1	E/70	Commercial	1	66	Railroad	63	-3	59	-7	59	-7
2	E/70	Commercial	1	64	Roadway	65	1	61	-3	61	-3
3	E/70	Commercial	9	62	Roadway	64	2	61	-1	61	-1
4	G	Undeveloped	0	62	Roadway	64	2	66	4	66	4
5	C/65	Outdoor Sport Area	1	64	Roadway	<u>67</u>	3	<u>65</u>	1	<u>65</u>	1
6	E/70	Commercial	6	66	Roadway	68	2	69	3	69	3
7	E/70	Commercial (Sugarloaf Motel Pool and two other businesses)	3	59	Roadway	61	2	62	3	62	3
8	E/70	Commercial	4	67	Railroad	66	-1	65	-2	66	-1
9	C/65	Public (ODOT Picnic Tables)	1	<u>66</u>	Roadway	<u>68</u>	2	<u>70</u>	4	<u>70</u>	4
10	E/70	Commercial (Tom Tom Inn and two other businesses)	3	67	Roadway	68	1	69	2	69	2
11	G	Undeveloped	0	55	Roadway	58	3	57	2	57	2
12	E/70	Commercial (with outdoor use)	1	69	Roadway	<u>70</u>	1	<u>71</u>	2	<u>71</u>	2
13	C/65	Public (ODOT Picnic Tables)	1	64	Roadway	<u>65</u>	1	<u>68</u>	4	<u>68</u>	4
14	E/70	Commercial	4	59	Roadway	61	2	62	3	62	3
15	E/70	Commercial	3	63	Roadway	64	1	64	1	64	1
16	G	Undeveloped	0	60	Roadway	63	3	62	2	62	2
17	E/70	Commercial	1	65	Railroad	64	-1	61	-4	61	-4

Notes: **#** values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * Indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** Indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

Exhibit I-2: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	NAC FHWA/ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
18	G	Undeveloped	0	57	Roadway	60	3	60	3	60	3
19	G	Undeveloped	0	59	Roadway	62	3	61	2	61	2
20	B/65	Residential	2	65	Railroad	62	-3	61	-4	61	-4
21	E/70	Commercial	2	62	Roadway	64	2	DISPLACED	DISPLACED	DISPLACED	DISPLACED
22	B/65	Residential	3	58	Roadway	63	5	63	5	63	5
23	B/65	Residential	1	54	Roadway	60	6	62	8	62	8
24	G	Undeveloped	0	60	Railroad	56	-4	55	-5	55	-5
25	B/65	Residential	3	65	Railroad	60	-5	60	-5	60	-5
26	E/70	Commercial	2	58	Roadway	60	2	63	5	63	5
27	G	Undeveloped	0	58	Railroad	55	-3	55	-3	55	-3
28	B/65	Residential	7	60	Roadway	66	6	65	5	65	5
29	B/65	Residential	5	63	Railroad	58	-5	59	-4	59	-4
30	E/70	Commercial	1	60	Roadway	62	2	61	1	61	1
31	E/70	Commercial (Bethlehem Inn and one other business)	2	61	Roadway	63	2	65	4	65	4
32	E/70	Commercial	1	64	Roadway	66	2	68	4	68	4
33	B/65	Residential	15	51	Roadway	56	5	56	5	56	5
34	B/65	Residential	10	56	Roadway	62	6	62	6	62	6
35	B/65	Local Park (not named)	1	60	Railroad	54	-6	55	-5	55	-5
36	B/65	Residential	1	53	Roadway	58	5	60	7	60	7
37	B/65	Residential	10	50	Roadway	54	4	55	5	55	5

Notes: **#** values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * Indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** Indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

Exhibit I-2: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	NAC FHWA/ ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
38	E/70	Commercial	1	66	Roadway	67	1	DISPLACED	DISPLACED	DISPLACED	DISPLACED
39	E/70	Commercial	2	67	Roadway	68	1	65	-2	65	-2
40	B/65	Residential	10	66	Railroad	58	-8	61	-5	61	-5
41	E/70	Commercial	2	65	Roadway	66	1	67	2	67	2
42	E/70	Commercial	1	62	Roadway	63	1	64	2	64	2
43	E/70	Commercial	1	69	Roadway	71	2	DISPLACED	DISPLACED	DISPLACED	DISPLACED
44	E/70	Commercial	1	70	Roadway	71	1	64	-6	65	-5
45	B/65	Residential	3	68	Railroad	55	-13	60	-8	60	-8
46	E/70	Commercial	3	62	Railroad	61	-1	DISPLACED	DISPLACED	DISPLACED	DISPLACED
47	E/70	Commercial	3	57	Roadway	59	2	60	3	60	3
48	E/70	Commercial	2	66	Roadway	67	1	DISPLACED	DISPLACED	DISPLACED	DISPLACED
49	E/70	Commercial	4	60	Roadway	62	2	64	4	64	4
50	B/65	Residential	5	69	Railroad	54	-15	64	-5	64	-5
51	E/70	Commercial	3	64	Railroad	56	-8	DISPLACED	DISPLACED	DISPLACED	DISPLACED
52	G	Undeveloped	0	60	Roadway	62	2	65	5	65	5
53	G	Undeveloped	0	56	Roadway	58	2	60	4	60	4
54	B/65	Residential	5	69	Railroad	56	-13	65	-4	65	-4
55	B/65	Residential	10	62	Railroad	52	-10	56	-6	56	-6
56	E/70	Commercial	1	65	Roadway	66	1	64	-1	64	-1
57	B/65	Residential	8	68	Railroad	55	-13	67	-1	67	-1
58	E/70	Commercial	3	66	Railroad	55	-11	DISPLACED	DISPLACED	DISPLACED	DISPLACED
59	E/70	Commercial	3	62	Railroad	57	-5	DISPLACED	DISPLACED	DISPLACED	DISPLACED
60	E/70	Commercial	2	74	Roadway	74	0	67	-7	67	-7
61	E/70	Commercial	3	63	Roadway	64	1	61	-2	61	-2

Notes: # values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * Indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** Indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

Exhibit I-2: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	NAC FHWA/ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
62	E/70	Public (Fire Dept., State Police, Justice Center)	3	61	Roadway	63	2	64	3	64	3
63	G	Undeveloped	0	50	Roadway	54	4	55	5	55	5
64	B/65	Residential	6	66	Railroad	50	-16	59	-7	59	-7
65	E/70	Commercial (one with outdoor use plus four other non-outdoor uses)	5	59	Roadway	61	2	59	0	59	0
66	G	Undeveloped	0	52	Roadway	54	2	58	6	58	6
67	E/70	Commercial (three outdoor uses plus one other non-outdoor use)	4	58	Roadway	59	1	58	0	58	0
68	E/70	Commercial (one outdoor use plus three other non-outdoor use)	4	63	Roadway	65	2	61	-2	61	-2
69	E/70	Commercial	1	71	Roadway	72	1	68	-3	68	-3
70	B/65	Residential	1	52	Roadway	57	5	57	5	57	5
71	E/70	Commercial (one outdoor use plus three other non-outdoor use)	4	58	Roadway	59	1	58	0	58	0
72	E/70	Commercial	3	69	Roadway	70	1	66	-3	66	-3

Notes: **#** values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * Indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** Indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

Exhibit I-2: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	NAC FHWA/ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
73	G	Undeveloped	0	57	Roadway	59	2	62	5	62	5
74	G	Undeveloped	0	64	Roadway	66	2	66	2	66	2
75	G	Undeveloped	0	63	Roadway	65	2	66	3	66	3
76	E/70	Commercial	4	61	Roadway	64	3	61	0	61	0
77	B/65	Residential	1	52	Roadway	57	5	59	7	59	7
78	E/70	Commercial	1	59	Roadway	62	3	60	1	60	1
79	B/65	Residential	2	54	Roadway	60	6	60	6	60	6
80	B/65	Residential	5	65	Railroad	53	-12	62	-3	62	-3
81	G	Undeveloped	0	60	Roadway	62	2	61	1	61	1
82	G	Undeveloped	0	66	Roadway	67	1	66	0	66	0
83	E/70	Commercial	1	58	Roadway	60	2	58	0	59	1
84	E/70	Commercial	1	58	Roadway	60	2	58	0	58	0
85	G	Undeveloped	0	64	Railroad	54	-10	62	-2	62	-2
86	G	Undeveloped	0	54	Roadway	56	2	57	3	57	3
87	G	Undeveloped	0	62	Roadway	64	2	64	2	64	2
88	E/70	Commercial	2	65	Railroad	60	-5	DISPLACED	DISPLACED	DISPLACED	DISPLACED
89	E/70	Commercial	1	56	Roadway	59	3	58	2	58	2
90	E/70	Commercial	3	66	Roadway	67	1	66	0	66	0
91	B/65	Residential	2	64	Railroad	53	-11	60	-4	60	-4
92	B/65	Residential	2	58	Railroad	53	-5	55	-3	55	-3
93	G	Undeveloped	0	55	Roadway	57	2	59	4	59	4
94	G	Undeveloped	0	60	Roadway	62	2	62	2	62	2
95	G	Undeveloped	0	54	Roadway	58	4	56	2	56	2
96	G	Undeveloped	0	55	Roadway	59	4	57	2	57	2
97	B/65	Residential	4	69	Railroad	59	-10	65	-4	65	-4

Notes: **#** values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * Indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** Indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

Exhibit I-2: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	NAC FHWA/ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No. Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
98	B/65	Residential	3	56	Railroad	54	-2	55	-1	55	-1
99	B/65	Residential	4	62	Railroad	59	-3	63	1	63	1
100	E/70	Commercial	1	55	Roadway	58	3	58	3	58	3
101	B/65	Residential	1	54	Roadway	57	3	57	3	57	3
102*	B/65	Residential	4	60	Railroad	57	-3	58	-2	59	-1
103	B/65	Residential	3	64	Railroad	60	-4	64	0	64	0
104	C/65	Church (Calvary Chapel)	1	52	Roadway	56	4	55	3	55	3
105	E/70	Commercial	1	68	Railroad	67	-1	DISPLACED	DISPLACED	DISPLACED	DISPLACED
106	B/65	Residential	4	58	Roadway	63	5	61	3	62	4
107	B/65	Residential	4	57	Railroad	60	3	60	3	61	4
108	E/70	Commercial	3	59	Roadway	64	5	62	3	62	3
109	B/65	Residential	2	60	Railroad	64	4	63	3	63	3
110	B/65	Residential	4	61	Roadway	65	4	65	4	65	4
111	B/65	Residential	3	68	Railroad	67	-1	65	-3	65	-3
112	B/65	Residential	2	64	Roadway	69	5	DISPLACED	DISPLACED	DISPLACED	DISPLACED
113	B/65	Residential	2	56	Roadway	60	5	60	4	60	4
114	B/65	Residential	5	61	Roadway	68	7	DISPLACED	DISPLACED	DISPLACED	DISPLACED
115	B/65	Residential	2	59	Roadway	65	6	DISPLACED	DISPLACED	DISPLACED	DISPLACED
116	B/65	Residential	1	56	Roadway	61	5	60	4	60	4
117	B/65	Residential	1	66	Roadway	68	2	69	3	68	2
118	C/65	Church (Community of Christ)	1	56	Roadway	61	5	60	4	59	3
119	B/65	Residential	3	61	Railroad	60	-1	62	1	62	1
120	B/65	Residential	1	51	Roadway	56	5	55	4	55	4

Notes: # values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

Exhibit I-2: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	NAC FHWA/ ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
121	B/65	Residential	3	59	Railroad	60	1	61	2	61	2
122	G	Undeveloped	0	58	Roadway	61	3	63	5	63	5
123	B/65	Residential	2	66	Railroad	60	-6	64	-2	64	-2
124	B/65	Residential	7	57	Railroad	58	1	59	2	59	2
125	C/65	Church (Cascade Prairie)	1	60	Roadway	63	3	63	3	63	3
126	B/65	Residential	4	59	Railroad	57	-2	58	-1	58	-1
127	B/65	Residential	2	62	Railroad	58	-4	60	-2	60	-2
128	G	Undeveloped	0	56	Roadway	59	3	65	9	65	9
129	G	Undeveloped	0	55	Roadway	57	2	60	5	60	5
130	E/70	Commercial	1	66	Railroad	59	-7	62	-4	62	-4
131	B/65	Residential	3	67	Railroad	62	-5	64	-3	64	-3
132	G	Undeveloped	0	62	Roadway	63	1	66	4	66	4
133	B/65	Residential	1	57	Roadway	59	2	59	2	59	2
134	B/65	Residential	3	66	Railroad	63	-3	65	-1	65	-1
135	G	Undeveloped	0	54	Ambient	56	2	58	4	58	4
136	G	Undeveloped	0	55	Roadway	57	2	64	9	64	9
137	G	Undeveloped	0	54	Roadway	56	2	60	6	60	6
138	B/65	Residential	1	60	Roadway	63	3	63	3	62	2
139	E/70	Commercial	4	67	Roadway	68	1	70	3	70	3
140	B/65	Residential	3	56	Roadway	58	2	58	2	58	2
141	G	Undeveloped	0	59	Roadway	61	2	65	6	65	6
142	B/65	Residential	1	58	Roadway	60	2	60	2	59	1
143	B/65	Residential	9	68	Railroad	60	-8	60	-8	60	-8

Notes: **#** values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * Indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** Indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

Exhibit I-2: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	NAC FHWA/ ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
144	E/70	Commercial (Holiday Inn Express)	1	61	Roadway	62	1	64	3	64	3
145	B/65	Residential	4	66	Railroad	56	-10	57	-9	57	-9
146	B/65	Residential	1	63	Roadway	65	2	66	3	66	3
147	B/65	Residential	1	54	Ambient	54	0	57	3	58	4
148	E/70	Commercial	1	68	Roadway	69	1	68	0	68	0
149	B/65	Residential	1	54	Ambient	50	-4	51	-3	51	-3
150	B/65	Residential	1	61	Roadway	63	2	63	2	63	2
151	E/70	Commercial (Bend Quality Inn)	1	60	Roadway	62	2	62	2	65	5
152	B/65	Residential	1	67	Roadway	69	2	69	2	69	2
153	B/65	Residential	3	60	Roadway	62	2	63	3	62	2
154	B/65	Residential	1	56	Roadway	58	2	58	2	58	2
155	E/70	Commercial	4	65	Roadway	65	0	DISPLACED	DISPLACED	DISPLACED	DISPLACED
156	B/65	Residential	7	71	Railroad	59	-12	59	-12	58	-13
157	G	Undeveloped	0	54	Railroad	49	-5	51	-3	51	-3
158	B/65	Mobile-Homes	3	68	Railroad	62	-6	DISPLACED	DISPLACED	DISPLACED	DISPLACED
159	B/65	Residential	1	54	Ambient	50	-4	53	-1	53	-1
160	B/65	Residential	2	54	Ambient	51	-3	54	0	52	-2
161	B/65	Residential	1	48	Roadway	50	2	50	2	50	2
162	B/65	Residential	5	71	Railroad	58	-13	58	-13	57	-14
163	C/65	Church (Summit Community Church)	1	62	Roadway	65	3	64	2	64	2

Notes: **#** values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

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Noise Receptor Number	NAC FHWA/ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
164	C/65	Cemetery (Deschutes Memorial Gardens)	1	<u>65</u>	Roadway	<u>66</u>	1	<u>66</u>	1	<u>66</u>	1
165	B/65	Residential	1	54	Ambient	50	-4	53	-1	52	-2
166	B/65	Residential	1	54	Ambient	51	-3	54	0	52	-2
167	B/65	Residential	1	54	Ambient	48	-6	50	-4	51	-3
168	B/65	Residential	3	59	Roadway	61	2	61	2	61	2
169	B/65	Mobile-Homes	2	<u>69</u>	Railroad	59	-10	59	-10	58	-11
170	B/65	Residential	2	54	Ambient	46	-8	47	-7	48	-6
171	B/65	Mobile-Homes	3	<u>65</u>	Roadway	<u>65</u>	0	<u>65</u>	0	64	-1
172	B/65	Mobile-Homes	3	<u>71</u>	Roadway	<u>71</u>	0	<u>71</u>	0	<u>70</u>	-1
173	B/65	Mobile-Homes	11	<u>71</u>	Railroad	57	-14	57	-14	56	-15
174	B/65	Residential	1	54	Ambient	49	-5	51	-3	51	-3
175	B/65	Residential	1	54	Ambient	51	-3	DISPLACED	DISPLACED	51	-3
176	B/65	Mobile-Homes	2	64	Railroad	63	-1	63	-1	63	-1
177	B/65	Mobile-Homes	21	<u>66</u>	Railroad	60	-6	60	-6	59	-7
178	B/65	Residential	1	57	Roadway	58	1	58	1	59	2
179	B/65	Residential	1	54	Ambient	50	-4	62	8	50	-4
180	B/65	Mobile-Homes	6	64	Railroad	63	-1	63	-1	62	-2
181	B/65	Residential	1	<u>68</u>	Roadway	<u>68</u>	0	<u>68</u>	0	<u>70</u>	2
182	B/65	Mobile-Homes	4	<u>66</u>	Roadway	<u>66</u>	0	<u>66</u>	0	<u>66</u>	0
183	B/65	Mobile-Homes	3	<u>69</u>	Roadway	<u>70</u>	1	<u>70</u>	1	<u>70</u>	1
184	B/65	Residential	1	58	Roadway	59	1	59	1	61	3
185	B/65	Residential	1	63	Roadway	63	0	62	-1	<u>65</u>	2

Notes: ## values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * Indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** Indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

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Noise Receptor Number	NAC FHWA/ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
186	B/65	Residential	1	54	Roadway	55	1	54	0	54	0
187	B/65	Residential	1	54	Ambient	48	-6	51	-3	51	-3
188	B/65	Residential	1	54	Ambient	49	-5	55	1	50	-4
189	B/65	Residential	1	57	Roadway	58	1	58	1	59	2
190	G	Undeveloped	0	69	Railroad	52	-17	48	-21	52	-17
191	B/65	Residential	1	54	Ambient	51	-3	58	4	52	-2
192	B/65	Residential	1	54	Ambient	49	-5	61	7	50	-4
193	B/65	Residential	1	56	Roadway	57	1	57	1	50	-6
194	C/65	Church (Crossroads Church)	1	56	Roadway	58	2	58	2	58	2
195	B/65	Residential	1	54	Ambient	47	-7	48	-6	48	-6
196	B/65	Residential	1	68	Roadway	70	2	64	-4	69	1
197	B/65	Residential	1	54	Ambient	47	-7	49	-5	48	-6
198	B/65	Residential	2	63	Roadway	64	1	61	-2	65	2
199	B/65	Residential	1	54	Ambient	48	-6	52	-2	49	-5
200	B/65	Residential	1	59	Roadway	60	1	59	0	61	2
201	B/65	Residential	1	54	Ambient	51	-3	60	6	52	-2
202	B/65	Residential	1	54	Ambient	47	-7	50	-4	51	-3
203*	B/65	Residential	2	56	Roadway	57	1	63	7	57	1
204	B/65	Residential	1	63	Roadway	64	1	DISPLACED	DISPLACED	62	-1
205	B/65	Residential	1	54	Ambient	46	-8	47	-7	47	-7
206	B/65	Residential	1	58	Roadway	60	2	56	-2	58	0
207**	B/65	Residential	3	67	Roadway	69	2	60	-7	68	1
208	B/65	Residential	1	63	Roadway	64	1	59	-4	61	-2

Notes: **#** values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * Indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** Indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

Exhibit I-2: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	NAC FHWA/ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
209	G	Undeveloped	0	54	Ambient	47	-7	48	-6	47	-7
210	G	Undeveloped	0	54	Ambient	46	-8	48	-6	48	-6
211	B/65	Residential	1	67	Railroad	52	-15	53	-14	54	-13
212	B/65	Residential	1	61	Roadway	63	2	60	-1	61	0
213	B/65	Mobile-Homes	6	66	Railroad	52	-14	52	-14	52	-14
214	B/65	Mobile-Homes	4	62	Railroad	59	-3	58	-4	58	-4
215	B/65	Mobile-Homes	4	61	Railroad	62	1	61	0	61	0
216	B/65	Mobile-Homes	4	63	Roadway	64	1	62	-1	63	0
217	B/65	Mobile-Homes	4	62	Railroad	56	-6	55	-7	56	-6
218	B/65	Mobile-Homes	4	67	Roadway	68	1	67	0	67	0
219	B/65	Mobile-Homes	8	64	Railroad	54	-10	54	-10	54	-10
220	B/65	Mobile-Homes	5	63	Railroad	56	-7	55	-8	55	-8
221	B/65	Mobile-Homes	4	73	Roadway	74	1	74	1	74	1
222	B/65	Residential	1	54	Ambient	51	-3	49	-5	50	-4
223	B/65	Residential	2	54	Ambient	46	-8	47	-7	46	-8
224	B/65	Residential	1	66	Roadway	68	2	DISPLACED	DISPLACED	DISPLACED	DISPLACED
225	B/65	Residential	1	61	Railroad	60	-1	60	-1	60	-1
226	B/65	Residential	1	54	Ambient	49	-5	48	-6	48	-6
227	E/70	Commercial	1	65	Roadway	66	1	65	0	65	0
228	B/65	Residential	1	62	Roadway	64	2	63	1	63	1
229	G	Undeveloped	0	54	Ambient	52	-2	51	-3	51	-3
230	G	Undeveloped	0	67	Railroad	48	-19	48	-19	49	-18
231	B/65	Residential	1	62	Roadway	63	1	63	1	63	1
232	B/65	Residential	1	54	Ambient	46	-8	46	-8	46	-8

Notes: # values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

Exhibit I-2: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	NAC FHWA/ODOT Criteria	Use Description	No. of Uses	Existing Noise Level dBA L _{eq} (2007)	Dominant Noise Source	No Build Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS1 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing	East DS2 Alternative Noise Level dBA L _{eq} (2035)	Difference from Existing
233	B/65	Residential	2	54	Ambient	47	-7	46	-8	46	-8
234	G	Undeveloped	0	54	Ambient	50	-4	49	-5	49	-5
235	G	Undeveloped	0	63	Roadway	65	2	64	1	64	1
236	G	Undeveloped	0	69	Roadway	70	1	70	1	70	1
237	G	Undeveloped	0	61	Roadway	62	1	62	1	62	1
238	B/65	Residential	1	54	Ambient	51	-3	49	-5	49	-5
239	G	Undeveloped	0	69	Roadway	70	1	70	1	70	1
233	B/65	Residential	2	54	Ambient	47	-7	46	-8	46	-8

Notes: [H] values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). Noise Abatement Activity Categories (NAC) are explained in the US 97 Noise Technical Report. "Ambient" means that neither roadway or railroad noise are dominant at the site and therefore dominant noise at these sites are from other non roadway or railroad sources. "DISPLACED" values indicate that all sites represented by that receptor are displaced under the East DS1 and/or East DS2 Alternatives. * indicates that one of the units represented by the receptor would be displaced under the East DS1 Alternative. ** indicates that two units represented by the receptor would be displaced under the East DS1 Alternative.

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAG Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
1	E/70	Commercial	1	60	61	1	57	-3
2	E/70	Commercial	1	63	64	1	59	-4
3	E/70	Commercial	9	60	61	1	59	-1
4	G	Undeveloped	0	60	62	2	65	5
5	C/65	Outdoor Sport Area	1	62	64	2	65	3
6	E/70	Commercial	6	64	65	1	68	4
7	E/70	Commercial (Sugarloaf Motel Pool and two other businesses)	3	57	59	2	62	5
8	E/70	Commercial	4	62	64	-1	65	3
9	C/65	Public (ODOT Picnic Tables)	1	64	66	2	68	4
10	E/70	Commercial (Tom Tom Inn and two other businesses)	3	65	66	1	67	2
11	G	Undeveloped	0	54	57	3	57	3
12	E/70	Commercial (with outdoor use)	1	66	68	2	68	2
13	C/65	Public (ODOT Picnic Tables)	1	62	63	1	66	4
14	E/70	Commercial	4	58	60	2	61	3
15	E/70	Commercial	3	61	63	2	63	2
16	G	Undeveloped	0	59	62	3	62	3
17	E/70	Commercial	1	60	63	3	61	1
18	G	Undeveloped	0	57	60	3	60	3
19	G	Undeveloped	0	58	61	3	61	3
20	B/65	Residential	2	58	61	3	61	3

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAC Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
21	E/70	Commercial	2	61	63	2	DISPLACED	DISPLACED
22	B/65	Residential	3	57	62	5	63	6
23	B/65	Residential	1	54	58	4	61	7
24	G	Undeveloped	0	52	55	3	55	3
25	B/65	Residential	3	57	59	2	61	4
26	E/70	Commercial	2	57	59	2	62	5
27	G	Undeveloped	0	51	54	3	55	4
28	B/65	Residential	7	59	64	5	64	5
29	B/65	Residential	5	55	57	2	60	5
30	E/70	Commercial	1	59	60	1	61	2
31	E/70	Commercial (Bethlehem Inn and one other business)	2	61	62	1	66	5
32	E/70	Commercial	1	64	65	1	68	4
33	B/65	Residential	15	51	55	4	56	5
34	B/65	Residential	10	56	60	4	61	5
35	B/65	None (model validation measurement)	0	51	53	2	56	5
36	B/65	Residential	1	52	57	5	59	7
37	B/65	Residential	10	50	53	3	54	4
38	E/70	Commercial	1	63	64	1	DISPLACED	DISPLACED
39	E/70	Commercial	2	64	65	1	66	2
40	B/65	Residential	10	55	56	2	62	7
41	E/70	Commercial	2	64	65	1	67	3
42	E/70	Commercial	1	61	63	2	64	3
43	E/70	Commercial	1	67	66	-1	DISPLACED	DISPLACED
44	E/70	Commercial	1	68	68	0	65	-3

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAG Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
45	B/65	Residential	3	52	53	1	61	9
46	E/70	Commercial	3	58	59	1	DISPLACED	DISPLACED
47	E/70	Commercial	3	57	58	1	59	2
48	E/70	Commercial	2	64	64	0	DISPLACED	DISPLACED
49	E/70	Commercial	4	60	61	1	62	2
50	B/65	Residential	5	52	53	1	64	12
51	E/70	Commercial	3	54	55	1	DISPLACED	DISPLACED
52	G	Undeveloped	0	59	61	2	63	4
53	G	Undeveloped	0	55	57	2	58	3
54	B/65	Residential	5	53	54	1	65	12
55	B/65	Residential	10	50	51	1	57	7
56	E/70	Commercial	1	63	64	1	62	-1
57	B/65	Residential	8	53	54	1	67	14
58	E/70	Commercial	3	53	54	1	DISPLACED	DISPLACED
59	E/70	Commercial	3	55	56	1	DISPLACED	DISPLACED
60	E/70	Commercial	2	70	71	1	DISPLACED	DISPLACED
61	E/70	Commercial	3	61	62	1	60	-1
62	E/70	Public (Fire Dept., State Police, Justice Center)	3	60	61	1	62	2
63	G	Undeveloped	0	49	53	4	54	5
64	B/65	Residential	6	48	49	1	59	11
65	E/70	Commercial (one with outdoor use plus four other non-outdoor uses)	5	58	59	1	58	0
66	G	Undeveloped	0	51	53	2	57	6
67	E/70	Commercial (three outdoor uses plus one other non-outdoor use)	4	57	58	1	58	1

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAC Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
68	E/70	Commercial (one outdoor use plus three other non-outdoor use)	4	62	63	1	61	-1
69	E/70	Commercial	1	69	70	1	68	-1
70	B/65	Residential	1	51	55	4	56	5
71	E/70	Commercial (one outdoor use plus three other non-outdoor use)	4	56	58	2	58	2
72	E/70	Commercial	3	67	68	1	66	-1
73	G	Undeveloped	0	56	58	2	61	5
74	G	Undeveloped	0	62	64	2	64	2
75	G	Undeveloped	0	62	64	2	64	2
76	E/70	Commercial	4	61	63	2	62	1
77	B/65	Residential	1	51	55	4	56	5
78	E/70	Commercial	1	58	61	3	60	2
79	B/65	Residential	2	52	58	6	58	6
80	B/65	Residential	5	50	52	2	62	12
81	G	Undeveloped	0	59	61	2	61	2
82	G	Undeveloped	0	65	66	1	66	1
83	E/70	Commercial	1	58	59	1	59	1
84	E/70	Commercial	1	57	59	2	59	2
85	G	Undeveloped	0	52	53	1	63	11
86	G	Undeveloped	0	53	55	2	56	3
87	G	Undeveloped	0	61	63	2	63	2
88	E/70	Commercial	2	58	60	2	DISPLACED	DISPLACED
89	E/70	Commercial	1	55	57	2	58	3
90	E/70	Commercial	3	66	67	1	65	-1
91	B/65	Residential	2	51	53	2	61	10

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAG Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
92	B/65	Residential	2	50	52	2	55	5
93	G	Undeveloped	0	54	57	3	59	5
94	G	Undeveloped	0	60	62	2	62	2
95	G	Undeveloped	0	52	56	4	57	5
96	G	Undeveloped	0	53	57	4	58	5
97	B/65	Residential	4	57	59	2	65	8
98	B/65	Residential	3	50	53	3	54	4
99	B/65	Residential	4	56	58	2	63	7
100	E/70	Commercial	1	54	57	3	60	6
101	B/65	Residential	1	53	56	3	57	4
102*	B/65	Residential	4	54	57	3	59	5
103	B/65	Residential	3	56	59	3	64	8
104	C/65	Church (Calvary Chapel)	1	52	55	3	57	5
105	E/70	Commercial	1	65	67	2	DISPLACED	DISPLACED
106	B/65	Residential	4	57	62	5	60	3
107	B/65	Residential	4	56	60	4	60	4
108	E/70	Commercial	3	58	63	5	64	6
109	B/65	Residential	2	60	64	4	63	3
110	B/65	Residential	4	60	65	5	DISPLACED	DISPLACED
111	B/65	Residential	3	62	66	4	65	3
112	B/65	Residential	2	64	68	4	DISPLACED	DISPLACED
113	B/65	Residential	2	56	61	5	58	2
114	B/65	Residential	5	63	67	4	DISPLACED	DISPLACED
115	B/65	Residential	2	61	65	4	DISPLACED	DISPLACED
116	B/65	Residential	1	55	60	5	64	9

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAC Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
117	B/65	Residential	1	66	68	2	69	3
118	C/65	Church (Community of Christ)	1	55	60	5	59	4
119	B/65	Residential	3	56	59	3	62	6
120	B/65	Residential	1	50	55	5	57	7
121	B/65	Residential	3	56	59	3	61	5
122	G	Undeveloped	0	57	61	4	65	8
123	B/65	Residential	2	57	59	2	64	7
124	B/65	Residential	7	54	57	3	59	5
125	C/65	Church (Cascade Praise)	1	60	62	2	63	3
126	B/65	Residential	4	54	56	2	58	4
127	B/65	Residential	2	56	57	1	61	5
128	G	Undeveloped	0	56	57	1	65	9
129	G	Undeveloped	0	54	57	3	62	8
130	E/70	Commercial	1	57	58	1	63	6
131	B/65	Residential	3	60	60	0	65	5
132	G	Undeveloped	0	61	61	0	67	6
133	B/65	Residential	1	56	58	2	59	3
134	B/65	Residential	3	61	62	1	66	5
135	G	Undeveloped	0	53	57	4	59	6
136	G	Undeveloped	0	55	56	1	65	10
137	G	Undeveloped	0	53	55	2	61	8
138	B/65	Residential	1	60	62	2	62	2
139	E/70	Commercial	4	66	66	0	71	5
140	B/65	Residential	3	55	57	2	57	2
141	G	Undeveloped	0	59	59	0	66	7

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAC Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
142	B/65	Residential	1	57	59	2	59	2
143	B/65	Residential	9	58	59	1	61	3
144	E/70	Commercial (Holiday Inn Express)	1	60	61	1	65	5
145	B/65	Residential	4	55	56	1	58	3
146	B/65	Residential	1	63	65	2	65	2
147	B/65	Residential	1	52	53	1	59	7
148	E/70	Commercial	1	67	69	2	68	1
149	B/65	Residential	1	47	49	2	52	5
150	B/65	Residential	1	61	63	2	63	2
151	E/70	Commercial (Bend Quality Inn)	1	60	61	1	65	5
152	B/65	Residential	1	66	68	2	69	3
153	B/65	Residential	3	60	62	2	62	2
154	B/65	Residential	1	55	58	3	58	3
155	E/70	Commercial	4	64	66	2	DISPLACED	DISPLACED
156	B/65	Residential	7	58	60	2	62	4
157	G	Undeveloped	0	47	49	2	51	4
158	B/65	Mobile-Homes	3	61	63	2	66	5
159	B/65	Residential	1	47	49	2	54	7
160	B/65	Residential	2	49	50	1	54	5
161	B/65	Residential	1	47	49	2	50	3
162	B/65	Residential	5	57	58	1	60	3
163	C/65	Church (Summit Community Church)	1	62	64	2	64	2
164	C/65	Cemetery (Deschutes Memorial Gardens)	1	65	66	1	67	2
165	B/65	Residential	1	48	50	2	53	5

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAC Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
166	B/65	Residential	1	49	51	2	53	4
167	B/65	Residential	1	45	47	2	51	6
168	B/65	Residential	3	58	61	3	61	3
169	B/65	Mobile-Homes	2	58	59	1	61	3
170	B/65	Residential	2	43	45	2	48	5
171	B/65	Mobile-Homes	3	64	65	1	67	3
172	B/65	Mobile-Homes	3	70	71	1	72	2
173	B/65	Mobile-Homes	11	56	57	1	58	2
174	B/65	Residential	1	46	48	2	51	5
175	B/65	Residential	1	50	51	1	52	2
176	B/65	Mobile-Homes	2	62	64	2	65	3
177	B/65	Mobile-Homes	21	59	61	2	61	2
178	B/65	Residential	1	57	58	1	60	3
179	B/65	Residential	1	48	49	1	51	3
180	B/65	Mobile-Homes	6	62	63	1	64	2
181	B/65	Residential	1	68	69	1	70	2
182	B/65	Mobile-Homes	4	65	66	1	68	3
183	B/65	Mobile-Homes	3	69	70	1	71	2
184	B/65	Residential	1	58	59	1	61	3
185	B/65	Residential	1	62	63	1	65	3
186	B/65	Residential	1	53	54	1	55	2
187	B/65	Residential	1	45	47	2	51	6
188	B/65	Residential	1	47	48	1	50	3
189	B/65	Residential	1	56	58	2	60	4

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAG Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
190*	G	Undeveloped	0	50	51	1	NOT IN STUDY AREA	NOT IN STUDY AREA
191	B/65	Residential	1	49	50	1	52	3
192	B/65	Residential	1	47	48	1	50	3
193*	B/65	Residential	1	56	57	1	NOT IN STUDY AREA	NOT IN STUDY AREA
194	C/65	Church (Crossroads Church)	1	56	58	2	57	1
195	B/65	Residential	1	44	46	2	48	4
196	B/65	Residential	1	68	69	1	NOT IN STUDY AREA	NOT IN STUDY AREA
197	B/65	Residential	1	45	46	1	48	3
198	B/65	Residential	2	62	63	1	NOT IN STUDY AREA	NOT IN STUDY AREA
199	B/65	Residential	1	46	47	1	49	3
200	B/65	Residential	1	59	60	1	NOT IN STUDY AREA	NOT IN STUDY AREA
201	B/65	Residential	1	50	51	1	NOT IN STUDY AREA	NOT IN STUDY AREA
202	B/65	Residential	1	44	46	2	47	3
203	B/65	Residential	2	56	57	1	NOT IN STUDY AREA	NOT IN STUDY AREA
204	B/65	Residential	1	62	63	1	NOT IN STUDY AREA	NOT IN STUDY AREA
205	B/65	Residential	1	44	45	1	46	2
206	B/65	Residential	1	58	59	1	NOT IN STUDY AREA	NOT IN STUDY AREA
207	B/65	Residential	3	67	68	1	NOT IN STUDY AREA	NOT IN STUDY AREA

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAC Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
208	B/65	Residential	1	62	63	1	NOT IN STUDY AREA	NOT IN STUDY AREA
209	G	Undeveloped	0	45	46	1	NOT IN STUDY AREA	NOT IN STUDY AREA
210	G	Undeveloped	0	43	45	2	NOT IN STUDY AREA	NOT IN STUDY AREA
211	B/65	Residential	1	50	52	2	NOT IN STUDY AREA	NOT IN STUDY AREA
212	B/65	Residential	1	61	62	1	NOT IN STUDY AREA	NOT IN STUDY AREA
213	B/65	Mobile-Homes	6	50	51	1	NOT IN STUDY AREA	NOT IN STUDY AREA
214	B/65	Mobile-Homes	4	57	58	1	NOT IN STUDY AREA	NOT IN STUDY AREA
215	B/65	Mobile-Homes	4	60	61	1	NOT IN STUDY AREA	NOT IN STUDY AREA
216	B/65	Mobile-Homes	4	62	64	2	NOT IN STUDY AREA	NOT IN STUDY AREA
217	B/65	Mobile-Homes	4	54	55	1	NOT IN STUDY AREA	NOT IN STUDY AREA
218	B/65	Mobile-Homes	4	66	67	1	NOT IN STUDY AREA	NOT IN STUDY AREA
219	B/65	Mobile-Homes	8	52	53	1	NOT IN STUDY AREA	NOT IN STUDY AREA
220	B/65	Mobile-Homes	5	54	55	1	NOT IN STUDY AREA	NOT IN STUDY AREA
221	B/65	Mobile-Homes	4	72	74	2	NOT IN STUDY AREA	NOT IN STUDY AREA
222	B/65	Residential	1	49	50	1	NOT IN STUDY AREA	NOT IN STUDY AREA
223	B/65	Residential	2	44	46	2	NOT IN STUDY AREA	NOT IN STUDY AREA

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAC Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
224	B/65	Residential	1	66	67	1	NOT IN STUDY AREA	NOT IN STUDY AREA
225	B/65	Residential	1	58	59	1	NOT IN STUDY AREA	NOT IN STUDY AREA
226	B/65	Residential	1	47	48	1	NOT IN STUDY AREA	NOT IN STUDY AREA
227	E/70	Commercial	1	64	66	2	NOT IN STUDY AREA	NOT IN STUDY AREA
228	B/65	Residential	1	62	63	1	NOT IN STUDY AREA	NOT IN STUDY AREA
229	G	Undeveloped	0	50	51	1	NOT IN STUDY AREA	NOT IN STUDY AREA
230	G	Undeveloped	0	46	47	1	NOT IN STUDY AREA	NOT IN STUDY AREA
231	B/65	Residential	1	62	62	0	NOT IN STUDY AREA	NOT IN STUDY AREA
232	B/65	Residential	1	44	45	1	NOT IN STUDY AREA	NOT IN STUDY AREA
233	B/65	Residential	1	45	46	1	NOT IN STUDY AREA	NOT IN STUDY AREA
234	G	Undeveloped	0	48	49	1	NOT IN STUDY AREA	NOT IN STUDY AREA
235	G	Undeveloped	0	63	63	0	NOT IN STUDY AREA	NOT IN STUDY AREA
236	G	Undeveloped	0	68	70	2	NOT IN STUDY AREA	NOT IN STUDY AREA
237	G	Undeveloped	0	61	61	0	NOT IN STUDY AREA	NOT IN STUDY AREA
238	B/65	Residential	1	49	50	1	NOT IN STUDY AREA	NOT IN STUDY AREA

Exhibit I-2 FEIS: Predicted Traffic Noise Levels and Impact Conditions

Noise Receptor Number	ODOT NAAC Criteria	Use	No. of Uses	Existing Noise Level dBA L _{eq} (2011)	No Build Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing	Preferred Alternative Noise Level dBA L _{eq} (2036)	Difference from Existing
239	G	Undeveloped	0	68	68	0	NOT IN STUDY AREA	NOT IN STUDY AREA
240	G	Undeveloped	0	62	62	0	NOT IN STUDY AREA	NOT IN STUDY AREA

Exhibit I-3: Noise Barrier Summary East DS1 and East DS2 Alternatives Southern Area Studied

Noise Receptor Number	Number of Dwelling Units or Number of Uses	NAC FHWA ODOT Criteria	Use Description	Existing Noise Level dBA L _{eq} (2007)	No Build dBA L _{eq} (2035)	East DS1 Alternative dBA L _{eq} (2035) without Noise Barrier	East DS2 Alternative dBA L _{eq} (2035) without Noise Barrier	Barrier Height Evaluated (feet)	Barrier Length Evaluated (feet)	Barrier Square Footage	Benefitted Residences or Uses	Cost per Benefitted Residence or Person-Hour per Square Foot	Estimated Cost	Allowable Cost	Barrier Feasible/ Reasonable	East DS1 & East DS2 Alternatives dBA L _{eq} (2035) with Noise Barrier	Change in dBA L _{eq} with Noise Barrier East DS1 & East DS2 Alternatives (2035)
5	1	C/65	Outdoor Sport Area	64	67	65	65	8	2,024	16,192	1	\$4,048,000	\$323,840	\$518,758	Not Reasonable (Too Costly)	N/A	N/A
9	1	C/65	Public (ODOT Picnic Tables)	66	68	70	70	NA	NA	NA	NA	NA	NA	NA	Not Reasonable (Blocks Visibility)	N/A	N/A
12	1	E/70	Commercial (Sonic Outdoor Eating Area)	69	70	71	71	NA	NA	NA	NA	NA	NA	NA	Not Reasonable (Blocks Visibility)	N/A	N/A
13	1	C/65	Public (ODOT Picnic Tables)	64	65	68	68	NA	NA	NA	NA	NA	NA	NA	Not Reasonable (Blocks Visibility)	N/A	N/A
28*	7	B/65	Residential	60	66	65	65	10	499	4,987	10	\$9,974	\$99,740	\$250,000	Feasible/ Reasonable	56	-9
54	5	B/65	Residential	69	56	65	65	NA	NA	NA	NA	NA	NA	NA	Not Feasible (Railroad Noise)	N/A	N/A
57	8	B/65	Residential	68	55	67	67	NA	NA	NA	NA	NA	NA	NA	Not Feasible (Railroad Noise)	N/A	N/A
97	4	B/65	Residential	69	59	65	65	NA	NA	NA	NA	NA	NA	NA	Not Feasible (Railroad Noise)	N/A	N/A
110	4	B/65	Residential	61	65	65	65	NA	NA	NA	NA	NA	NA	NA	Not Reasonable (Too Costly due to Displacements and Existing Access Removal)	N/A	N/A
111	3	B/65	Residential	68	67	65	65	NA	NA	NA	NA	NA	NA	NA	Not Feasible (Railroad Noise)	N/A	N/A
115	2	B/65	Residential	59	65	65	65	NA	NA	NA	NA	NA	NA	NA	Not Reasonable (Too Costly due to Displacements and Existing Access Removal)	N/A	N/A
117	1	B/65	Residential	66	68	69	68	8	2,740	21,920	1	\$438,400	\$438,400	\$25,000	Not Reasonable (Too Costly)	N/A	N/A
134	3	B/65	Residential	66	63	65	65	NA	NA	NA	NA	NA	NA	NA	Not Feasible (Railroad Noise)	N/A	N/A
146	1	B/65	Residential	63	65	66	66	8	1,930	15,440	1	\$308,800	\$308,800	\$25,000	Not Reasonable (Too Costly)	N/A	N/A
152	1	B/65	Residential	67	69	69	69	8	1,416	11,328	1	\$226,560	\$226,560	\$25,000	Not Reasonable (Too Costly)	N/A	N/A
164	1	C/65	Cemetery	65	66	66	66	8	1,700	13,600	1	\$3,400,000	\$272,000	\$518,758	Not Reasonable (Too Costly)	N/A	N/A

Notes: **[#]** values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). **Barrier at Sites 182 and 183 would also benefit Sites 169, 176, 177, and 180 representing 31 additional receptors. ***Site 207 two residences are displaced under the East DS1 Alternative only. ****Barrier at Sites 218 and 221 also benefits Sites 215 and 216 representing 8 benefitted receptors. "N/A" means Not Applicable because noise barriers were found to be either not feasible, not reasonable or both.

Exhibit I-3 FEIS: Noise Barrier Summary Preferred Alternative Southern Area Studied

Noise Receptor Number	Number of Dwelling Units or Number of Uses	ODOT NAAC Criteria	Use	Preferred Alternative dBA L _{eq} (2036) without Noise Barrier	Barrier Height Evaluated (feet)	Barrier Length Evaluated (feet)	Barrier Square Footage	Benefitted Residences or Uses	Cost per Benefitted Residence or Cost per Person-Hour per Square Foot	Estimated Cost	Allowable Cost	Barrier Feasible/ Reasonable	Preferred Alternative dBA L _{eq} with Noise Barrier (2036)	Change in dBA L _{eq} with Noise Barrier Preferred Alternative (2036)
5	1	C/65	Outdoor Sport Area	65	16	2,024	16,192	1	\$4,048,000	\$323,840	\$518,758	Not Reasonable (Too Costly)	N/A	N/A
9	1	C/65	Public (ODOT Picnic Tables)	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Reasonable (Blocks Visibility)	N/A	N/A
12	1	E/70	Commercial (Sonic Outdoor Eating Area)	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Reasonable (Blocks Visibility)	N/A	N/A
13	1	C/65	Public (ODOT Picnic Tables)	66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Reasonable (Blocks Visibility)	N/A	N/A
50*	5	B/65	Residential	64	16	3,270	52,320	29	\$45,103	\$1,308,000	\$725,000	Not Reasonable (Too Costly)	N/A	N/A
54*	5	B/65	Residential	65										
57*	8	B/65	Residential	67										
64*	6	B/65	Residential	59										
80*	5	B/65	Residential	62										
91*	2	B/65	Residential	61	22	900	19,800	9	\$55,000	\$495,000	\$225,000	Not Reasonable (Too Costly)	N/A	N/A
97	4	B/65	Residential	65										
111	3	B/65	Residential	65										

Notes: ## values exceed the ODOT Noise Abatement Approach Criteria (NAAC). *Sites experience a substantial increase of 10 dBA or more in noise levels. ** Appendix H includes barrier evaluation results for additional barrier design options evaluated that include additional receptor location not shown in this exhibit. "N/A" means Not Applicable because noise barriers were found to be not feasible, not reasonable, or both.

Exhibit I-4: Noise Barrier Summary East DS1 Alternative Northern Area Studied

Noise Receptor Number	Number of Dwelling Units or Number of Uses	NAC FHWA ODOT Criteria	Use Description	Existing Noise Level dBA L _{eq}	No Build dBA L _{eq} (2035)	East DS1 Alternative dBA L _{eq} (2035) without Noise Barrier	Barrier Height Evaluated (feet)	Barrier Length Evaluated (feet)	Barrier Square Footage	Benefitted Residences or Uses	Cost per Benefitted Residence or Cost per Person-Hour per Square Foot	Estimated Cost	Allowable Cost	Barrier Feasible/ Reasonable	East DS1 Alternative dBA L _{eq} (2035) with Noise Barrier	Change in dBA L _{eq} with Noise Barrier East DS1 (2035)
171**	3	B/65	Residential	65	65	65									59	-6
172**	3	B/65	Residential	71	71	71	14-18	1,370	23,004	44	\$10,456	\$460,080	1,100,000	Feasible/ Reasonable	62	-9
182**	4	B/65	Residential	66	66	66									59	-7
183**	3	B/65	Residential	69	70	70									60	-10
181	1	B/65	Residential	68	68	68	8	1,376	11,008	1	\$220,160	\$220,160	\$25,000	Not Reasonable (Too Costly)	N/A	N/A
218****	4	B/65	Residential	67	68	67	18	900	16,205	16	\$20,256	\$324,100	\$400,000	Feasible/ Reasonable	58	-9
221*****	4	B/65	Residential	73	74	74									58	-16

Exhibit I-5: Noise Barrier Summary East DS2 Alternative Northern Area Studied

Noise Receptor Number	Number of Dwelling Units or Number of Uses	NAC FHWA ODOT Criteria	Use Description	Existing Noise Level dBA L _{eq} (2007)	No Build dBA L _{eq} (2035)	East DS2 Alternative dBA L _{eq} (2035) without Noise Barrier	Barrier Height Evaluated (feet)	Barrier Length Evaluated (feet)	Barrier Square Footage	Benefitted Residences or Uses	Cost per Benefitted Residence or Cost per Person-Hour per Square Foot	Estimated Cost	Allowable Cost	Barrier Feasible/ Reasonable	East DS2 Alternative dBA L _{eq} (2035) with Noise Barrier	Change in dBA L _{eq} with Noise Barrier East DS2 (2035)
172**	3	B/65	Residential	71	71	71									66	-5
182***	4	B/65	Residential	66	66	66	20	710	14,203	39	\$7,284	\$284,060	\$975,000	Feasible/ Reasonable	57	-9
183***	3	B/65	Residential	69	70	70									58	-12
181	1	B/65	Residential	68	68	70	8	1,376	11,008	1	\$220,160	\$220,160	\$25,000	Not Reasonable (Too Costly)	N/A	N/A
185	1	B/65	Residential	63	63	65	8	2,392	19,136	1	\$382,720	\$382,720	\$25,000	Not Reasonable (Too Costly)	N/A	N/A
196	1	B/65	Residential	68	70	69	8	1,664	13,312	1	\$266,240	\$266,240	\$25,000	Not Reasonable (Too Costly)	N/A	N/A
198	2	B/65	Residential	63	64	65	8	1,536	12,288	1	\$245,760	\$245,760	\$25,000	Not Reasonable (Too Costly)	N/A	N/A
207***	3	B/65	Residential	67	69	68	8	1,104	8,832	3	\$58,880	\$176,640	\$75,000	Not Reasonable (Too Costly)	N/A	N/A
218****	4	B/65	Residential	67	68	67									59	-8
221*****	4	B/65	Residential	73	74	74	16	1,125	18,002	16	\$22,503	\$360,040	\$400,000	Feasible/ Reasonable	59	-15

Notes: [##] values approach or exceed the FHWA/ODOT Noise Abatement Criteria (NAC). **Barrier at Sites 171, 172, 182 and 183 would also benefit Sites 169, 176, 177, and 180 representing 31 additional receptors. ***Barrier at Sites 172, 182 and 183 would also benefit Sites 169, 176, 177, and 180 representing 31 additional receptors. ****Site 207 two residences are displaced under the East DS1 Alternative only. *****Barrier at Sites 218 and 221 also benefits Sites 215 and 216 representing 8 benefitted receptors. "N/A" means Not Applicable because noise barriers were found to be either not feasible, not reasonable or both.

Exhibit I-5 FEIS: Noise Barrier Summary Preferred Alternative Northern Area Studied

Noise Receptor Number	Number of Dwelling Units or Number of Uses	ODOT NAAC Criteria	Use Description	Preferred Alternative dBA L _{eq} (2036) without Noise Barrier	Barrier Height Evaluated (feet)	Barrier Length Evaluated (feet)	Barrier Square Footage	Benefitted Residences or Uses	Cost per Benefitted Residence	Estimated Cost	Allowable Cost	Barrier Feasible/ Reasonable	Preferred Alternative dBA L _{eq} with Noise Barrier (2036)	Change in dBA L _{eq} with Noise Barrier Preferred Alternative (2036)
117	1	B/65	Residential	69	16	1,000	16,000	1	\$320,000	\$320,000	\$25,000	Not Reasonable (Too Costly)	N/A	N/A
131	3	B/65	Residential	65	14	980	13,720	6	\$45,733	\$274,400	\$150,000	Not Reasonable (Too Costly)	N/A	N/A
134	3	B/65	Residential	66										
139	4	E/70	Commercial	71	16	1,100	17,600	4	\$88,000	\$352,000	\$100,000	Not Reasonable (Too Costly)	N/A	N/A
146	1	B/65	Residential	65	12	1,600	19,200	2	\$192,000	\$384,000	\$50,000	Not Reasonable (Too Costly)	N/A	N/A
152	1	B/65	Residential	69										
158	4	B/65	Residential	66	16	565	9,040	4	\$45,200	\$180,800	\$100,000	Not Reasonable (Too Costly)	N/A	N/A
164	1	C/65	Cemetery	66	8	1,700	13,600	1	\$3,400,000	\$272,000	\$518,758	Not Reasonable (Too Costly)	N/A	N/A
171**	3	B/65	Residential	67	18	861	15,498	13	\$29,804	\$387,450	\$325,000	Meets \$35K/ benefitted residence (Under consideration for placement during final project design)	61	-5
172**	3	B/65	Residential	72									65	-7
176**	2	B/65	Residential	64									60	-4
182**	4	B/65	Residential	65-67									60-62	-5
183**	3	B/65	Residential	67-71	12	1,150	13,800	3	\$92,000	\$276,000	\$75,000	Not Reasonable (Too Costly)	62-65	-5 to -6
181	1	B/65	Residential	70									N/A	N/A
185	1	B/65	Residential	65									N/A	N/A
198	2	B/65	Residential	65									N/A	N/A

Notes: ** values exceed the ODOT Noise Abatement Approach Criteria (NAAC). *Sites experience a substantial increase of 10 dBA or more in noise levels. ** Appendix H includes barrier evaluation results for additional barrier design options evaluated that include additional receptor location not shown in this exhibit. "N/A" means Not Applicable because noise barriers were found to be not feasible, not reasonable, or both.

Exhibit I-6: Site 5 Special Use Noise Mitigation Form

Site 5 Special Use Noise Mitigation and Recommendation *OUTDOOR SPORTS AREA*

	Criteria	Input (English units)	Value
1	Length of proposed barrier	ft	2,024
2	Height of proposed barrier	ft	8
3	Multiply item 1 by item 2	ft ²	16,192
4	Enter the average amount of time that a person stays at the site per visit	hours	2
5	Enter the average number of people that use this site per day that will receive at least 5 dB(A) benefit from abatement at the site	people	50
6	Multiply item 4 by item 5	person-hr	100.00
7	Divide item 3 by item 6	ft ² /person-hr	161.92
8	Multiply \$25,000 by item 7	\$/person-hr/ft ²	\$ 4,048,000
9	Does item 8 exceed the "abatement cost factor" of: English units = \$518,758/person-hr/ft ² ?		Yes
10	If item 9 is no, abatement meets reasonable criteria		Not Applicable
11	If item 9 is yes, abatement does not meet reasonable criteria		Not Reasonable

2/25/2011 - Form prepared by Scott NOEL/PB

Reviewed by Carole NEWING/DDOT 2/25/2011

Amy Pfeiffer, DDOT Region 4 Project Leader 2/28/2011

Exhibit I-7: Site 164 Special Use Noise Mitigation Form

Cemetery

Site 164 Special Use Noise Mitigation and Recommendation

	Criteria	Input (English units)	Value
1	Length of proposed barrier	ft	1,700
2	Height of proposed barrier	ft	8
3	Multiply item 1 by item 2	ft ²	13,600
4	Enter the average amount of time that a person stays at the site per visit	hours	1
5	Enter the average number of people that use this site per day that will receive at least 5 dB(A) benefit from abatement at the site	people	100
6	Multiply item 4 by item 5	person-hr	100.00
7	Divide item 3 by item 6	ft ² /person-hr	136.00
8	Multiply \$25,000 by item 7	\$/person-hr/ft ²	\$ 3,400,000
9	Does item 8 exceed the "abatement cost factor" of: English units = \$518,758/person-hr/ft ² ?		Yes
10	If item 9 is no, abatement meets reasonable criteria		Not Applicable
11	If item 9 is yes, abatement does not meet reasonable criteria		Not Reasonable

Form prepared by Scott Noel/PB
 Reviewed by Carol M. Neumann/ODOT 2/25/11

Amy Affix Project Leader 2/25/2011

Exhibit I-8: Site 9 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 9 (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			0
TOTAL COST			N/A (ODOT Offices)
COST PER RESIDENCE			N/A
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	70 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			4 dBA
AREA OF MIXED DEVELOPMENT			ODOT Offices
ZONING			Light Industrial
FUTURE USE			Same
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE	None		
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒TOO MANY
ACCESS PTS
CMM 2/25/11

Preparer's Signature and Date

Scott Noel 2/25/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Newman 2/25/2011

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

Angela

Date

2/25/2011

(Indicating Project Team's Agreement with Recommendation)

Exhibit I-9: Site 12 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 12 Sonic Restaurant Outdoor Use (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			0
TOTAL COST			N/A (Sonic Restaurant)
COST PER RESIDENCE			N/A
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	71 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			2 dBA
AREA OF MIXED DEVELOPMENT			Commercial
ZONING			General Commercial
FUTURE USE			Same
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE	None		
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒

Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Murrene 2/25/2011

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

Scott Noel

Date

2/28/2011

(Indicating Project Team's Agreement with Recommendation)

Exhibit I-10: Site 13 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 13 (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			0
TOTAL COST			N/A (ODOT Offices)
COST PER RESIDENCE			N/A
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	68 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			4 dBA
AREA OF MIXED DEVELOPMENT			ODOT Offices
ZONING			Light Industrial
FUTURE USE			Same
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE	None		
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒too many
Access pts
on 2/25/11

Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carole M. Newvine 2/25/11

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

AngelaDate 2-28-2011

(Indicating Project Team's Agreement with Recommendation)

Exhibit I-11 : Site 28 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 28 Barrier (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION <u>5-7 dBA for DS1</u>	9 dBA		
NUMBER OF RESIDENCES PROTECTED <u>7 impacts</u>	10 <u>benefit</u>		
TOTAL COST	\$99,740		
COST PER RESIDENCE	\$9,974		
COMMUNITY SUPPORT		Unknown	<u>to be determined</u>
ABSOLUTE NOISE LEVELS	65 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE		5 dBA	
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT			Post 1996
NON-TRAFFIC NOISE	None		
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS			Uncontrolled

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☒No ☐

Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Newhouse 2/25/2011

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

(Indicating Project Team's Agreement with Recommendation)

Scott Noel

Date

2-28-2011

Exhibit I-12: Site 54 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 54 (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			5 dBA
NUMBER OF RESIDENCES PROTECTED			0
TOTAL COST			Not Feasible
COST PER RESIDENCE			N/A
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	65 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			Rail Noise 69 dBA
AREA OF MIXED DEVELOPMENT	Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT		Some post 1996	
NON-TRAFFIC NOISE			Rail
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒

Dominated by Non-Traffic Noise on 2/25/11

Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Newman 2/25/11

NOTE FROM PREPARER:

~~Project Team's Build/No Build Recommendation:~~ The noise barrier described is not recommended because it would only mitigate traffic noise and railroad noise would continue to approach or exceed noise abatement criteria for residential areas.

Project Team Leader's Signature

Angie PappasDate 2-21-2011

(Indicating Project Team's Agreement with Recommendation)

Exhibit I-13: Site 57 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 57 (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			5 dBA
NUMBER OF RESIDENCES PROTECTED			0
TOTAL COST			Not Feasible
COST PER RESIDENCE			N/A
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	67 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			Rail Noise 68 dBA
AREA OF MIXED DEVELOPMENT	Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT		Some post 1996	
NON-TRAFFIC NOISE			Rail
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒dominated by non-traffic noise
cmm 2/25/11Preparer's Signature and Date Scott Noel 2/24/11Reviewed by ODOT Acoustical Specialist (signature and date) Carol M. Huerfano 2/25/2011

NOTE FROM PREPARED:

~~Project Team's Build/No-Build Recommendation:~~ The noise barrier described is not recommended because it would only mitigate traffic noise and railroad noise would continue to approach or exceed noise abatement criteria for residential areas.

Project Team Leader's Signature: [Signature]
 (Indicating Project Team's Agreement with Recommendation)

Date 2-28-2011

Exhibit I-14: Site 97 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 97 (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			5 dBA
NUMBER OF RESIDENCES PROTECTED			0
TOTAL COST			Not Feasible
COST PER RESIDENCE			N/A
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	65 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			Rail Noise 69 dBA
AREA OF MIXED DEVELOPMENT	Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT		Some post 1996	
NON-TRAFFIC NOISE			Rail
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒Dominated by non-traffic noise
cmn 2/25/11

Preparer's Signature and Date

Scott Noel 2/29/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M Newcome 2/25/2011

NOTE FROM PREPARER:

~~Project Team's Build/No-Build Recommendation:~~ The noise barrier described is not recommended because it would only mitigate traffic noise and railroad noise would continue to approach or exceed noise abatement criteria for residential areas.

Project Team Leader's Signature

Amy P.

(Indicating Project Team's Agreement with Recommendation)

Date

2-28-2011

Exhibit I-15: Site 110 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 110 (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			Unknown
TOTAL COST			Not Reasonable
COST PER RESIDENCE			Too Costly
COMMUNITY SUPPORT			Access/Displacements Unlikely
ABSOLUTE NOISE LEVELS	65 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE		4 dBA	
AREA OF MIXED DEVELOPMENT	Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT		Some post 1996	
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS			Uncontrolled

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒too many access
pts cmh 2/25/11

Preparer's Signature and Date

Scott Noel2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Neumann 2/25/11

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

Angie Pelt

Date

2-28-2011

(Indicating Project Team's Agreement with Recommendation)

Exhibit I-16: Site 111 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 111 (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			5 dBA
NUMBER OF RESIDENCES PROTECTED			0
TOTAL COST			Not Feasible
COST PER RESIDENCE			N/A
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	65 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			Rail Noise 68 dBA
AREA OF MIXED DEVELOPMENT	Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT		Some post 1996	
NON-TRAFFIC NOISE			Rail
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒Dominated by NON-traffic noise
cmw 2/25/11Preparer's Signature and Date Scott Noel 2/24/11Reviewed by ODOT Acoustical Specialist (signature and date) Carole M. Newcome 2/25/2011

NOTE FROM PREPARER:

Project Team's Build/No Build Recommendation: The noise barrier described is not recommended because it would only mitigate traffic noise and railroad noise would continue to approach or exceed noise abatement criteria for residential areas.

Project Team Leader's Signature Angie P.
(Indicating Project Team's Agreement with Recommendation)Date 2-28-2011

Exhibit I-17: Site 117 East DS1 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 117 (East DS1)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED	<u>1</u>		1
TOTAL COST			\$438,400
COST PER RESIDENCE			\$438,400
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	69 dBA (East DS1)		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			3 dBA (East DS1)
AREA OF MIXED DEVELOPMENT	Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1998		
NON-TRAFFIC NOISE	None		
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒

Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Kuvshinov 2/25/2011

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

(Indicating Project Team's Agreement with Recommendation)

Andy Pelt

Date

2-28-2011

Exhibit I-18: Site 117 East DS2 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 117 (East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			1
TOTAL COST			\$438,400
COST PER RESIDENCE			\$438,400
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	68 dBA (East DS2)		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			2 dBA (East DS2)
AREA OF MIXED DEVELOPMENT	Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE	None		
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria Yes ☐ No ☒

Preparer's Signature and Date Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date) Carole M. Neuvine 2/25/11

Project Team's Build/No Build Recommendation: _____

Project Team Leader's Signature Amy Adams Date 2-28-2011
 (Indicating Project Team's Agreement with Recommendation)

Exhibit I-19: Site 134 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 134 (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			5 dBA
NUMBER OF RESIDENCES PROTECTED			0
TOTAL COST			Not Feasible
COST PER RESIDENCE			N/A
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	65 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			Rail Noise 66 dBA
AREA OF MIXED DEVELOPMENT	Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT		Some post 1996	
NON-TRAFFIC NOISE			Rail
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒

Site dominated by
non-traffic noise
cmm 2/25/11

Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Newman 2/25/11

NOTE FROM PREPARER:

~~Project Team's Build/No Build Recommendation:~~ The noise barrier described is not recommended because it would only mitigate traffic noise and railroad noise would continue to approach or exceed noise abatement criteria for residential areas.

Project Team Leader's Signature

Angela P. Ray

Date

2-28-2011

(Indicating Project Team's Agreement with Recommendation)

Exhibit I-20: Site 146 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 146 (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			1
TOTAL COST			\$308,800
COST PER RESIDENCE			\$308,800
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	66 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE		3 dBA	
AREA OF MIXED DEVELOPMENT	Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE	None		
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒

Preparer's Signature and Date

Scott Noel2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Hurreine 2/25/11

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

Amy B. B.

Date

2-28-2011

(Indicating Project Team's Agreement with Recommendation)

Exhibit I-21: Site 152 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Site 152 (East DS1 and East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			1
TOTAL COST			\$226,560
COST PER RESIDENCE			\$226,560
COMMUNITY SUPPORT			Unlikely
ABSOLUTE NOISE LEVELS	69 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			2 dBA
AREA OF MIXED DEVELOPMENT	Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE	None		
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒

Preparer's Signature and Date

John Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Hurrell 2/25/11

Project Team's Build/No-Build Recommendation:

Project Team Leader's Signature

Amy Plutz

(Indicating Project Team's Agreement with Recommendation)

Date

2-28-2011

Exhibit I-22: Site 181 East DS1 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Sites 181 (East DS1)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			1
TOTAL COST			\$220,160
COST PER RESIDENCE			\$220,160
COMMUNITY SUPPORT		Unknown	
ABSOLUTE NOISE LEVELS	68 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			No Change
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒Preparer's Signature and Date Scott Noel 2/24/11Reviewed by ODOT Acoustical Specialist (signature and date) Carole M. Newcome 2/25/2011

Project Team's Build/No Build Recommendation: _____

Project Team Leader's Signature Amy [Signature]
(Indicating Project Team's Agreement with Recommendation)Date 2-28-2011

Exhibit I-23: Site 181 East DS2 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Sites 181 (East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			1
TOTAL COST			\$220,160
COST PER RESIDENCE			\$220,160
COMMUNITY SUPPORT		Unknown	
ABSOLUTE NOISE LEVELS	70 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			2 dBA
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒

Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M Neurene 4/25/11

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

Amy Pfeiffer

(Indicating Project Team's Agreement with Recommendation)

Date

3-28-2011

Exhibit I-24: Sites 171, 172, 182 and 183 East DS1 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Sites 171, 172, 182 and 183 (East DS1)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION	7-10 dBA		
NUMBER OF RESIDENCES PROTECTED	44		
TOTAL COST	\$460,080		
COST PER RESIDENCE	\$10,455		
COMMUNITY SUPPORT	<i>to be determined</i>		
ABSOLUTE NOISE LEVELS	65-71 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			1 dBA
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☒No ☐

Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Cathy M. Newvine 2/25/2011

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

(Indicating Project Team's Agreement with Recommendation)

Date *2-25-2011*

Exhibit I-25: Sites 172, 182 and 183 East DS2 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Sites 172, 182 and 183 (East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION	9-12 dBA		
NUMBER OF RESIDENCES PROTECTED	39		
TOTAL COST	\$284,060		
COST PER RESIDENCE	\$7,284		
COMMUNITY SUPPORT	TO BE DETERMINED		
ABSOLUTE NOISE LEVELS	66-70 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			1 dBA
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes



No



Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Neuvine 2/25/11

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

Amy P. [Signature]

(Indicating Project Team's Agreement with Recommendation)

Date 2-28-2011

Exhibit I-26: Site 185 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Sites 185 (East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 6 dBA
NUMBER OF RESIDENCES PROTECTED			1
TOTAL COST			\$382,720
COST PER RESIDENCE			\$382,720
COMMUNITY SUPPORT		Unknown	
ABSOLUTE NOISE LEVELS	65 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			2 dBA
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria Yes ☐ No ☒

Preparer's Signature and Date Scott Noel 2/27/11

Reviewed by ODOT Acoustical Specialist (signature and date) Carol M. Neuvine 2/25/11

Project Team's Build/No Build Recommendation: _____

Project Team Leader's Signature Amy [Signature] Date 2-28-2011
 (Indicating Project Team's Agreement with Recommendation)

Exhibit I-27: Site 196 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Sites 196 (East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			1
TOTAL COST			\$266,240
COST PER RESIDENCE			\$266,240
COMMUNITY SUPPORT		Unknown	
ABSOLUTE NOISE LEVELS	69 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			1 dBA
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☒No ☐

Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carol M. Newman 2/25/11

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

Angie Ruffin

(Indicating Project Team's Agreement with Recommendation)

Date

2-28-2011

Exhibit I-28: Site 198 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Sites 198 (East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			2
TOTAL COST			\$245,760
COST PER RESIDENCE			\$122,880
COMMUNITY SUPPORT		Unknown	
ABSOLUTE NOISE LEVELS	65 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			2 dBA
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1996		
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒

Preparer's Signature and Date

Scott Noel

2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carole M. Neuveme 2/25/11

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature

Ang Bishop

(Indicating Project Team's Agreement with Recommendation)

Date 2-28-2011

Exhibit I-29: Site 207 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Sites 207 (East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION			< 5 dBA
NUMBER OF RESIDENCES PROTECTED			3
TOTAL COST			\$176,640
COST PER RESIDENCE			\$58,880
COMMUNITY SUPPORT		Unknown	
ABSOLUTE NOISE LEVELS	68 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			1 dBA
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1998		
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☐No ☒Preparer's Signature and Date Scott Noel 2/24/11Reviewed by ODOT Acoustical Specialist (signature and date) Carol M. Newrine 2/25/11

Project Team's Build/No Build Recommendation: _____

 Project Team Leader's Signature Amy Pfaff
 (Indicating Project Team's Agreement with Recommendation)
Date 2-28-2011

Exhibit I-30: Sites 218 and 221 East DS1 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Sites 218 and 221 (East DS1) * ALSO benefits sites 215; 216 - additional 8 units benefited
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff *cmk 2/25/11*

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION	9-16 dBA		
NUMBER OF RESIDENCES PROTECTED	16 18		
TOTAL COST	\$324,100		
COST PER RESIDENCE	\$20,256		
COMMUNITY SUPPORT		Unknown -	to be determined
ABSOLUTE NOISE LEVELS	67-74 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			1 dBA
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1998		
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☒ No ☐

Preparer's Signature and Date

Scott Noel 2/24/11

Reviewed by ODOT Acoustical Specialist (signature and date)

Carole M. Neumann 2/25/11

Project Team's Build/No Build Recommendation:

Project Team Leader's Signature
(Indicating Project Team's Agreement with Recommendation)*Amy Papp*Date *2-28-2011*

Exhibit I-31: Sites 218 and 221 East DS2 Noise Mitigation Form

NOISE MITIGATION EVALUATION AND RECOMMENDATION

Project US97 Bend North Corridor EIS Key Number _____
 Highway US97 County Deschutes
 Barrier Sites 218 and 221 (East DS2)
 Technical Report Preparer (and Firm) Scott Noel, Parsons Brinckerhoff

EVALUATION CRITERIA	Supports Mitigation	Neutral	Does Not Support Mitigation
AMOUNT OF REDUCTION	8-15 dBA		
NUMBER OF RESIDENCES PROTECTED	16 *		
TOTAL COST	\$360,040		
COST PER RESIDENCE	\$22,503		
COMMUNITY SUPPORT		Unknown	to be DETERMINED
ABSOLUTE NOISE LEVELS	67-74 dBA		
CHANGE IN NOISE LEVELS, EXISTING TO FUTURE			1 dBA
AREA OF MIXED DEVELOPMENT	All Residential		
ZONING	Residential		
FUTURE USE	Same		
ENVIRONMENTAL IMPACTS		Unknown	
DATE OF DEVELOPMENT	Pre 1998		
NON-TRAFFIC NOISE		Some Rail	
SAFETY AND VANDALISM		Unknown	
CONTROLLED OR UNCONTROLLED ACCESS	Controlled		

Proposed Barrier Meets Cost-Effectiveness Criteria

Yes ☒No ☐

* benefits sites 215, 216 for total of 16 sites benefited

Preparer's Signature and Date Scott Noel 2/24/11Reviewed by ODOT Acoustical Specialist (signature and date) Carol M. Newvine 2/25/11

Project Team's Build/No Build Recommendation: _____

Project Team Leader's Signature Amy [Signature]
(Indicating Project Team's Agreement with Recommendation)Date 2-21-2011

Appendix J

Glossary

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303(d), water quality limited waters	This is a Clean Water Act classification for waters where application of best management practices or technologybased controls are not sufficient to achieve designated water quality standards. Under Section 303(d) of the 1972 Clean Water Act, states, territories, and authorized tribes are required to develop a list of water quality limited segments. Waters on the 303(d) list do not meet water quality standards, even after the minimum required levels of pollution control technology have been installed at the point sources of pollution.
Abatement	Abatement is a reduction in degree or intensity. Abatement for project noise impacts must meet feasible and reasonable criteria.
Access management	Access management seeks to protect the function of a transportation facility by restricting access to it from private driveways and public approach roads.
Affordable housing	Affordable housing generally refers to housing that persons in the “low to moderate” income category can afford, meaning that they earn 80 percent or less of the area’s median family income.
All possible planning	All possible planning means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project. The full definition can be found in 23 CFR 774.17.
Archaeological site	<p>This term refers to those sites that are eligible for or are listed on the National Register of Historic Places (historic properties), as well as those that do not qualify for the National Register. The commonly used term, cultural resource, does not have a consistent or legal definition.</p> <p>The Oregon State Historic Preservation Office generally defines an archaeological site as:</p> <ul style="list-style-type: none"> a) Ten or more artifacts likely to have been generated by patterned cultural activity within a surface area reasonable to that activity; or b) The presence of any archaeological feature, with or without associated artifacts. <p>Examples of features include peeled trees, cache pits, hearths, housepits, rock shelters, cairns, historic mining ditches, petroglyphs, or dendroglyphs.</p>
Area of Potential Effect (APE)	The APE is the area within which an undertaking may cause direct or indirect effects to the character or use of historic properties.
Area of Potential Impact (API)	The API is the area within which potential direct effects from the proposed action may occur.
Artifact	An artifact is any object made or modified by a human. In archaeology, an artifact is an object recovered by some archaeological endeavor, which may have a cultural interest. Examples include stone tools such as projectile points, pottery vessels, metal objects such as guns, and items of personal adornment such as buttons, jewelry and clothing. Other examples include bone that show signs of human modification, fire cracked rocks from a hearth, or plant material used for food.
At capacity	This is the level of service standard as set by each agency; for ODOT facilities, when a state highway segment or intersection has a onehour v/c ratio of 0.7 (rural segments), 0.8 (expressway segments), or 0.85 (US 20 in the Transportation API and at ramp terminals); for City of Bend facilities, v/c of 1.0; for Deschutes County, LOS D.
Attainment and maintenance areas	Attainment and maintenance areas refer to a region’s ability to meet National Ambient Air Quality Standards and to maintain them over time.
Auxiliary lane	An auxiliary lane is a lane along a highway that extends between an onramp and offramp. They are added to reduce heavy traffic merging associated with highway ramps.
Background	Background in the context of visual impact analysis is the area farthest from the viewer where distance effects are primarily explained by aerial perspective (i.e., emphasis is primarily on outlines or edges).

Bend Parkway	The Bend Parkway is a 6.9-mile long, four-lane limited access facility, with a raised median, bike lanes on the shoulders, sidewalks in some areas, and left-turn lanes at selected intersections. It includes signalized intersections and interchanges. It begins just north of the US 20/US 97 junction (approximately at Empire Avenue) and extends south to near Romaine Village Way.
Benefitted Property (noise)	The recipient of an abatement measure that receives a noise reduction of at least 5 dBA, regardless of whether or not it is impacted.
Best Management Practice(s) (BMPs)	BMPs, typically state-of-the-art technology, are designed to prevent or reduce impacts. They represent physical, institutional, or strategic approaches to environmental problems.
British thermal unit (Btu)	To compare energy use from different sources such as diesel, gasoline, and electricity, energy is often expressed in British thermal units (Btu) which assigns a common value to the energy used.
Bypass	Bypasses are highways designed to maintain or increase mobility for through traffic. Generally they relocate the highway alignment around a downtown, an urban or metropolitan area or an existing highway to provide an alternative route for through traffic using that highway.
Census block groups	Census block groups are a collection of census blocks within a census tract, sharing the same first digit of their four-digit identification numbers. A census block group is the smallest geographic unit for which the US Census Bureau tabulates sample data. Block groups average about 1,500 inhabitants.
Census tracts	Census tracts are small statistical subdivisions of counties, generally having stable boundaries and, when first established, were designed to have relatively homogeneous demographic characteristics.
Class I project	Class I projects are those actions that significantly affect the environment and require preparation of an environmental impact statement (EIS). The following are examples of such actions that normally required an EIS: <ul style="list-style-type: none"> ■ A new controlled access freeway. ■ A highway project of four or more lanes on a new location. ■ New construction or extension of fixed rail transit facilities (e.g., rapid rail, light rail, commuter rail, automated guideway transit). ■ New construction or extension of a separate roadway for buses or high occupancy vehicles not located within an existing highway facility.
Community cohesion	Community cohesion is the ability of people to communicate and interact with each other in ways that lead to a sense of community, as reflected in the neighborhood's ability to function and be recognized as a singular unit. There are several indicators of community cohesion including: long average residency tenures; households of two or more people; community activity and communication; and religious homogeneity.
Comprehensive Environmental Response, Compensation, and Liability Information System	The Comprehensive Environmental Response, Compensation, and Liability Information System list is a database of known and potentially hazardous waste facilities reported to the Environmental Protection Agency by state and local agencies and the general public in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). It is one of the databases associated with identifying potential hazardous materials sites or risks.
Conflict point	Conflict points are commonly used to explain the accident potential of a roadway. A conflict point is a location where two traffic streams cross. This could occur when a vehicle crosses, merges with, or diverges from another vehicle traveling on public approach roads or private driveways.
Congestion	Congestion is travel time or delay in excess of what is normally incurred under light or free-flow conditions.
Construction impacts	Construction impacts are short-term temporary impacts that occur during the construction of a project, but which are not permanent effects of the project.

Constructive use	A constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished. (23 CFR 774.15)
Cost-to-cure	The additional cost that the project would pay to the property owner to have the private wells and septic systems rebuilt, if necessary, and returned to equal-to-preconstruction conditions.
Criteria pollutants	Criteria pollutants regulated by the National Ambient Air Quality Standards include: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO ₂), ozone (O ₃); particulate matter less than 10 micrometers in size (PM ₁₀), particulate matter less than 2.5 micrometers in size (PM _{2.5}), sulfur dioxide (SO ₂)
Cumulative impacts	Cumulative impacts are the result of incremental impacts of an action, when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or nonfederal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.
dBA	The term dBA stands for Aweighted decibels. For comparative purposes, human breathing is approximately 10 dBA, a calm room ranges 40–50 dBA, normal talking ranges 40–60 dBA, typical television setting is about 60 dBA at 10 feet, and a passing car is 60–80 dBA at 50 feet.
Decibel (dB) and AWeighted Decibel (dBA)	Decibel is a unit for relative sound intensity. For highway traffic noise, an adjustment, or weighting, of the high and lowpitched sounds is made to approximate the way that an average person hears sounds. The adjusted sounds are called "Aweighted levels" (dBA) For comparative purposes, human breathing is approximately 10 dBA, a calm room ranges 4050 dBA, normal talking ranges 4060 dBA, typical television setting is about 60 dBA at 10 feet, and a passing car is 6080 dBA at 50 feet.
Delay	Delay results from slowed or stopped traffic, and is measured as the additional time spent traveling compared to normal travel times under light or freeflow travel conditions.
Design year (2036)	The design year is the year for which the project was designed to meet anticipated needs. The No Build Alternative and the Preferred Alternative have been updated to a 2036 Design Year in the Final EIS.
Detention	A water detention pond is designed to temporarily detain stormwater runoff from impervious surfaces and to release the runoff at a desired rate.
Diamond interchange	A diamond interchange is an interchange involving four ramps where they enter and leave the highway at a small angle and meet the nonhighway at almost right angles. These ramps at the nonhighway can be controlled through stop signs, traffic signals, or turn ramps. A partial diamond interchange is a diamond interchange with fewer than four ramps.
Direct impacts	Direct impacts are caused by an action and occur at the same time and place as the action.
Directional interchange	A directional interchange is an interchange between two major highway or freeway facilities where all of the movements are maintained without stopping or delays.
Disabled	Generally, the US Census defines a person with a disability as having a long lasting condition, such as severe vision or hearing impairments, or a condition that substantially limits basic physical activities. It may also include people with conditions that make other activities such as learning, getting around inside the home, working at a job, or going places outside the home difficult.
Dominance	Dominance of components or specific features in a scene may be dominant because of prominent positioning, contrast, extent, or importance of pattern elements.
Drainwell	A drainwell is similar to a drywell but a drainwell consists of a pit filled with gravel, riprap, rubble, or other stony debris.
Drive-by Traffic	Traffic stopping at a location, such as a business, when en route to another location.

Drywell	A drywell is an underground structure that disposes of stormwater runoff by dissipating it into the ground where it merges with the local groundwater. A drywell is typically constructed of a metal or concrete cylinder with perforated sides and bottom.
Easement	An easement is a legal right to use property owned by someone else for a designated purpose.
Edges	Edges are the linear elements not used or considered as paths by the observer. They are the boundaries between two phases, linear breaks in continuity: shores, railroad cuts, edges of development, walls. They are lateral reference rather than coordinate axes. Such edges may be barriers, more or less penetrable, which close one region off from another; or they may be seams, lines along which two regions are related and joined together. These edge elements, although probably not as dominant as paths, are for many people important organizing features.
Elderly	Elderly populations are people aged 65 years and over.
Endangered Species Act	The Endangered Species Act provides for the protection of animal and plant species currently in danger of extinction (endangered) and those species that may become so in the near future (threatened).
Energy use	Energy use is calculated using the number of average daily vehicles, the average distance those vehicles travel, and fuel consumption rates.
Environmental Cleanup Site Information System & Confirmed Release List	The Environmental Cleanup Site Information System system includes facilities entered into the Oregon Department of Environmental Quality (DEQ) database pursuant to the site discovery requirements of ORS 466.560. The list includes facilities where there has been a confirmed release of hazardous substances, facilities where investigation or cleanup has been initiated, and facilities suspected of a release of hazardous substances. It is one of the databases associated with identifying potential hazardous materials sites or risks.
Environmental impact statement (EIS, DEIS, SDEIS, FEIS, SFEIS)	An environmental impact statement (EIS) is a statement of the potential environmental impacts of a proposed action and alternatives to it. A Draft EIS (DEIS) is released to the public and other agencies for review and comment. A Final EIS (FEIS) is issued after consideration of public comments. Supplemental EISs (SEIS, SDEIS) are EISs issued after a DEIS has been published and address new aspects of a project, new regulations, or new impacts not previously addressed.
Existing Traffic Conditions Year	The year in which baseline traffic conditions for the project are established. The existing traffic conditions provide a comparative measure for future No Build and build alternatives projected traffic conditions.
Expressway	Expressways are generally highspeed, limitedaccess facilities whose function is to move inter and intraurban traffic. Expressways often serve as major freight corridors and may be located on a designated freight route.
Farmland of Statewide Importance	Farmland of Statewide Importance is a category of land recognized by the US Department of Agriculture's Natural Resource Conservation Service for land other than prime farmland which has a good combination of physical and chemical characteristics for the production of crops.
Farmland Protection Policy Act (FPPA)	The Farmland Protection Policy Act requires federal agencies to coordinate with the NRCS if their activities may irreversibly convert farmland to nonagricultural use.
Feasibility	An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.
Feasible (noise)	Feasible refers to whether the noise barrier can provide a substantial (at least five decibels) reduction in noise levels for at least one of the noise impacted properties and other constructability issues.
Foreground	Foreground in the context of visual impact analysis is the area closest to the viewer, which can be designated with clarity and simplicity because the observer is a direct participant.
Form	Form is one of the four basic elements of visual pattern (usually the strongest); the mass or shape of an object.

High probability area	High probability areas are areas where the landform, soil conditions, and in some cases, the presence of surface artifacts are considered to be likely locations to find intact subsurface archaeological deposits
Historic resource	A historic property (or historic resource) is defined in the National Historic Preservation Act [16 U.S.C. 470w(5)] as any “prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on, the National Register, including artifacts, records, and material remains related to such a property or resource.”
Historic site	Historic sites include any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that are included in, or are eligible for inclusion in, the National Register. (23 CFR 774.17)
Historical significance	The significance of a property refers to its ability to meet one of the four National Register criteria for evaluation. Integrity is the ability of the property to convey this significance through location, design, setting, materials, workmanship, feeling, and association. Historic properties are significant because they meet these criteria and have integrity.
Holocene	Holocene refers to a geologic time period extending from the present to approximately 10,000 years ago.
Hydrologic soil group	Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from longduration storms. Group B soils have a moderate infiltration rate when thoroughly wet and a moderate rate of water transmission. Group C soils have a slow infiltration rate when thoroughly wet and a slow rate of water transmission.
Impervious surface	Impervious surfaces are mainly constructed surfaces such as rooftops, sidewalks, roads, and parking lots, covered by impenetrable materials such as asphalt or concrete. These materials seal surfaces, repel water, and prevent precipitation from infiltrating soils. Soils compacted by urban development can also be highly impervious.
In attainment	An area that is in attainment is considered to have air quality as good as or better than the National Ambient Air Quality Standards (NAAQS) for the criteria pollutants designated in the Clean Air Act.
Incremental improvements	The proposed action would likely be constructed in phases to match incremental, smaller funding packages. Each incremental, or phased, improvement would be designed and implemented to provide operational and safety benefits to US 97.
Indirect impacts	Indirect impacts are impacts on the environment that are caused by the action and occur later in time or farther removed in distance but are still reasonably foreseeable.
Intactness	Intactness in the context of visual impact analysis looks at the integrity of visual order and how much the view is free from encroaching features.
Interchange	According to Oregon Administrative Rule (OAR) 734-051-1070, an “interchange” is defined as “a system of interconnecting roadways in conjunction with one or more grade separations that provides for the movement of traffic between two or more roadways or highways on different levels.” For the purposes of the proposed action, the US 97 at Empire Avenue junction which provides gradeseparated ramp access in most directions is defined as an interchange, while the US 97/US 20 connection which is spread over a number of locations and has only one existing ramp connection (a northbound ramp between US 97 and US 20) is not be considered to be an interchange. This distinction will be important for the upcoming interchange area management plans to be prepared for the proposed action.
Interchange Area Management Plan	An interchange area management plan is a joint ODOT and local government longterm (20+ years) transportation and land use plan to balance and manage transportation and land use decisions in interchange areas, and is an important tool in protecting the function of state highway interchanges and the supporting local street network.
Intersegment	A segment of an intersection.

Invasive species	An invasive species is a species that is: 1) nonnative (or alien) to the ecosystem under consideration and 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112).
Invasive species – population sizes	Small populations of invasive species are defined as less than 100 individuals. Large populations of invasive species are defined as more than 100 individuals. “Occasional” occurrence of an invasive plant species is defined as small populations widely spaced throughout the site. “Common” occurrence of an invasive plant species is defined as frequently observed.
Juniper Ridge	The Juniper Ridge project is a major asset for the entire Bend community and a long term investment in the City’s economic future. Juniper Ridge is a master planned, mixed use community, and represents the community’s vision of “smart growth”: growth that is responsible, sustainable, and of high quality. The master plan for Juniper Ridge is designed to attract diversified, family wage employment, a university campus with research and development capabilities, and opportunities for high quality residential neighborhoods that embrace the qualities of development already proven to be successful and desirable in Bend. Estimates are that the project can create 12,000 to 15,000 new jobs over its lifetime.
Jurisdictional	Jurisdictional refers to the extent or range of a regulatory agency, such as the Oregon Department of State Lands or the US Army Corps of Engineers.
Just compensation	Just compensation includes the estimated value of all the land and improvements within the needed area. If only a part of a property is to be acquired, just compensation would also include any measurable loss in value to the remaining property due to the partial acquisition. ODOT procedures, guided by federal regulations, have been designed to protect both owners of properties needed for public projects as well as other taxpayers.
Lahar	A lahar is a landslide or mudflow of volcanic material from an eruption.
Landscape	Landform and landcover forming a distance visual pattern. Landcover comprises water, vegetation, and built development, including cities.
Landscape unit	A landscape unit is generally an area of distinct landscape character (FHWA 1981). It can also be referred to as an outdoor room.
Lava tube	A lava tube is a hollow space below the surface of a solidified lava flow, formed by the withdrawal of molten lava after the formation of the surficial crust.
Lead agency	The lead agency is the agency or agencies that have the primary responsibility for preparing the EIS.
L_{eq}	L_{eq} represents the equivalent steadystate sound level that, in a stated period of time, contains the same acoustic energy as the timevarying sound level during the same period.
Level of service (LOS)	LOS is a qualitative measure to describe how a road is operating in terms of performance measures related to speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. The levels range from A (least congested) to F (most congested).
Limited access	Limited access generally means that access to, from, and across a highway is limited to intersections with public approach roads or interchanges.
Line	Geometrically, a line is a point that has been extended, or the intersection of two planes, e.g., a silhouette, or a boundary between patterns in the landscape. The second strongest of the four basic visual pattern elements.
Linear and lateral orientation	Linear orientation refers to the distance along a roadway which nonnative plants may spread to. Lateral orientation refers to how far nonnative plants may spread to the side of a roadway (perpendicular to the orientation of the roadway).
Linguistically isolated household	A linguistically isolated household is one in which no member 14 years old and over 1) speaks only English, or 2) speaks a nonEnglish language and speaks English “very well.” In other words, all members 14 years old and over have at least some difficulty with English. (US Census Bureau 2000)

Liquefaction	Liquefaction describes the behavior of loose saturated sands, which go from a solid state to the consistency of a heavy liquid, or reach a liquefied state.
Local Trips	Local trips are those that have both an origin and destination within the Transportation API.
Lowincome	Lowincome persons are defined as residing in households with an income between the federal poverty guidelines and an amount two times greater than those guidelines.
Median	A median is a structure in the center of a roadway that physically separates the two directions of travel. The primary purpose of a median is to prevent vehicles from straying into opposing lanes. In addition, medians can prevent turns where they are undesirable from a traffic flow or safety standpoint.
Median barrier	A median barrier is typically a threefoothigh concrete barrier that separates and controls traffic movements.
Median treatment	A median treatment is a structure in the center of a roadway that physically separates the two directions of travel. The primary purpose of a median treatment is to prevent vehicles from straying into opposing lanes. In addition, median treatments can prevent turns where they are undesirable from a traffic flow or safety standpoint.
Middleground	Middleground in the context of visual impact analysis is where parts of the landscape may be seen to join together (e.g., where trees become a forest) or revealed as either comfortable or conflicting with the landscape.
Minorities	Minorities are defined as Black (or African American, having origins in any of the black racial groups of Africa); Hispanic (of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); Asian American (having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or American Indian and Alaskan Native.
Mitigation	Mitigation measures are designed to counteract environmental impacts or to make such impacts less severe.
Mobile source air toxics	Mobile source air toxics refers to several hazardous air pollutants that cause or may cause cancer or other serious health effects.
National Ambient Air Quality Standards (NAAQS)	The National Ambient Air Quality Standards (NAAQS) are used to measure air quality, expressed as concentrations of pollutants averaged over fixed time periods.
National Environmental Policy Act (NEPA)	The National Environmental Policy Act of 1969 (NEPA) is federal legislation that establishes environmental policy for the nation. It provides an interdisciplinary framework for federal agencies to prevent environmental damage and contains “actionforcing” procedures to ensure that federal agency decisionmakers take environmental factors into account.
National Historic Preservation Act	In 1966, the National Historic Preservation Act established a National Register of Historic Places and the Advisory Council on Historic Preservation.
National Register Criteria for Evaluation	Criteria AD area applied to evaluate a property’s eligibility for listing in the National Register of Historic Places. Historic districts, sites, buildings, structures, and objects that possess integrity must meet at least one of the qualifying criteria to be determined eligible for listing in the National Register of Historic Places: <ul style="list-style-type: none"> A) It is associated with events that have made a significant contribution to the broad patterns of our history B) It is associated with the lives of persons significant in our past C) It embodies a distinctive characteristic of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction D) It has yielded, or may be likely to yield, information important in prehistory or history.
National Register of Historic Places	The National Register of Historic Places is the official list of sites, districts, buildings, structures, and objects significant in the nation’s history or whose artistic or architectural value is unique.
Needs for the project	Needs for the project establish “why” a problem exists or is expected to occur in the future.

No Build Alternative	The No Build Alternative represents the most likely condition expected to exist in the future if current policies, plans, and programs were to continue unchanged.
Network Travel Time	The network travel time is the total amount of time spent traveling the entire network of roads in the Transportation API.
Noise impacts	Noise impacts occur when traffic noise levels exceed the ODOT impact criteria or if levels increase by 10 dBA or more over existing levels.
Non-commercial agriculture	Non-commercial agriculture existing land use consists of land zoned by Deschutes County as Multiple Use Agriculture (MUA10) where the purpose of the zone is to preserve the rural character of the county while permitting development consistent with that character and the capacity of the natural resources of the area, and preserve agricultural lands not suited for fulltime commercial farming.
Non-threatened/endangered species	Non-threatened or endangered species are those that are not listed under the State or Federal ESA.
Observer position	Observer position is a term employed to describe the observer's elevational relationship between himself and the landscape he sees. It is used to indicate if he is essentially below, essentially at the same level, or essentially above the visual objective. Three specific terms are used: 1) observer inferior (viewer below object), 2) observer normal (viewer on level of object), and 3) observer superior (viewer above object).
Official(s) with jurisdiction	Generally the official with jurisdiction over historic resources is the SHPO. Where projects may occur on tribal land, the official with jurisdiction is the Tribal Historic Preservation Officer. In the case of public parks, recreation areas, and wildlife and waterfowl refuges, the official(s) with jurisdiction are the official(s) of the agency or agencies that own or administer the property in question and who are empowered to represent the agency on matters related to the property. The full definition can be found in 23 CFR 774.17.
Oregon Statewide Planning Goals	The Oregon Statewide Planning Goals were established in 1973 and constitute the framework for the statewide land use planning program.
Over Capacity	A roadway segment is over capacity when the v/c ratio exceeds ODOT or City of Bend standards, or for Deschutes County, when a facility or intersection is at level of service E or F.
Overall Network Delay	Overall network delay is the additional amount of time spent traveling in slow or stopped conditions compared to normal travel times under light of freeflow travel conditions across the entire network of roads in the Transportation API.
Palustrine emergent (PEM)	Palustrine emergent wetlands are a subset of palustrine wetlands and are dominated by erect, rooted, herbaceous hydrophytic (i.e., water tolerant) vegetation, excluding mosses and lichens (Cowardin et al. 1979). This vegetation is present for most of the growing season in most years. These wetlands are often dominated by perennial plants.
Palustrine wetlands	Palustrine wetlands consist of vegetated wetlands traditionally called by such names as marsh, swamp, bog, fen, and prairie, which are found throughout the United States (Cowardin et al. 1979). The Palustrine wetland type is distinguished from other wetland types where areas of open water are typically greater than the area occupied by vegetation (i.e. riverine [river systems], lacustrine [lakes]).
Peak hour	A peak hour (or rush hour) is a part of the day with the highest traffic volume during which traffic congestion on roads is worst. Normally, the two peak hour periods (morning and evening) occur when people are traveling to or from work or school. The 2007 evening peak hour in the API is 4:00 to 5:00 pm. By 2035, the peak period will likely spread across multiple hours. <i>The 2011 evening peak hour is the same as the 2007 evening peak hour. By 2036 the peak period would also likely spread across multiple hours.</i>
Peak hour speeds	Peak hour speeds affect fuel economy for that hour of vehicles using the roadway network.
Pleistocene	Pleistocene refers to a geologic time period beginning 2 to 3 million years ago and ending approximately 10,000 years ago.

Pliocene	Pliocene refers to a geologic time period beginning approximately 5 million years ago and ending 2 to 3 million years ago.
Practical design	Practical design is a strategy to deliver focused benefits for the State's transportation system while working with the realities of a fiscally constrained funding environment.
Prime farmland	Prime farmland is a category of protected and highly productive cropland that is recognized by the US Department of Agriculture's Natural Resource Conservation Service.
Private driveway	Private driveway is an approach that serves vehicular access to a roadway from one or more properties and that is not a public approach road.
Project management team	The project management team consists of engineers, scientists, planners and public involvement specialists who are implementing the project for ODOT.
Proposed action	The proposed action is a proposal developed to resolve the problem identified in the Purpose and Need Statement.
Prudence	An alternative is not prudent if it does not meet the stated purpose and need of the project; it results in unacceptable safety or operational problems; it causes severe social, economic, or environmental impacts; it results in additional costs of an extraordinary magnitude; it causes other unique problems; or it involves multiple factors specified above that cumulatively cause impacts of extraordinary magnitude. The full definition can be found in 23 CFR 774.17.
Public approach road	Public approach road is an existing or planned city street or county road connection that provides vehicular access to and from a highway.
Purpose of the project	Purpose of the project asserts "what" the project is intended to address.
Queuing	Queuing is the amount of traffic stopped to proceed through an intersection. Small queues of a few vehicles are typically acceptable. However, when queues become long and extend through adjacent intersections or when vehicles must wait two or more signal cycles to pass through an intersection, drivers become frustrated and may attempt to bypass queues by changing their travel route or travel time, or cut through neighborhoods.
Reasonable (noise)	<p>A noise barrier is reasonable if it fulfills the following three criteria:</p> <ol style="list-style-type: none"> 1) Cost Effective: The cost of the noise barrier does not exceed \$25,000 per benefitted residence. 2) Meets ODOT's "Design Goal": The noise barrier reduces noise by 7 dBA or more for at least one of the noise impacted properties. 3) Property Owner's Approval: Construction of the noise barrier is approved by 51 percent or more of the benefitted property owners and residents.
Receiver (noise)	Modeling term for a location that could represent one or more receptors and one or more land uses.
Receptor (noise)	Term used to describe single individual property or single land use.
Regional trips	Regional trips are those that have one end of a trip within the Transportation API with the other end being outside of the Transportation API
Record of decision (ROD)	A public document that reflects the agency's final decision, rationale behind that decision, and commitments to mitigation.
Remedial investigation	Remedial investigation is a term commonly associated with a US Environmental Protection Agency (EPA) or Oregon Department of Environmental Quality (DEQ) required site investigation to characterize contamination at a site. The original use of RI came through the EPA Superfund Program, where one was required to do a Remedial Investigation/ Feasibility Study for contaminated property. The DEQ also uses the term for state regulated cleanup sites that are managed under DEQ's Voluntary Cleanup Program.
Remediation	Remediation is the act of containing or cleaning up a hazardous materials site.

Resource Conservation, and Recovery Act (RCRA)	The Resource Conservation and Recovery Act (RCRA) list identifies facilities that have obtained identification numbers from the US EPA, which designate these businesses as generators, transporters, or storers/disposers of hazardous waste. It is one of the databases associated with identifying potential hazardous materials sites or risks.
Right of way	Right of way is land acquired by reservation, dedication, prescription, or condemnation and intended to be occupied by a road, crosswalk, railroad, electric transmission line, oil or gas pipeline, water line, sanitary or storm sewer, or other similar use.
Riparian	Riparian areas have distinctive soil and vegetation between a stream or other body of water and the adjacent upland, including wetlands.
Safety Investment Program	ODOT also has developed the Safety Investment Program, which identifies higher severity highway segments by using a measure of fatalities and severe injuries per five-mile segment. The Safety Investment Program has 5 categories: Category 1 has the lowest severity rates, while Category 5 has the highest severity rates.
Safety Priority Index System	ODOT uses a Safety Priority Index System, which is a method to identify potential safety problems on state highways by identifying and evaluating state highway segments with higher than typical crash histories. Those state highway segments with the Safety Priority Index System values that rank in the top 5 percent, by ODOT region, are considered priorities for potential safety improvement projects.
Sagebrush shrublands/ shrubsteppe	Sagebrush shrublands are dominated by shrubs and may include various sagebrush species, bitterbrush, rabbitbrush, and western juniper. Shrubsteppe habitats are open grass-dominated communities and are usually found on loamy, wind-deposited (loess) soils.
Salmonid	A salmonid is a salmon and trout species that are born in freshwater streams, live in the ocean during maturity, and return to the streams of their birth to spawn and die.
Scale	Visual scale is the apparent size relationships between landscape components or features and their surroundings.
Section 106	Section 106 of the National Historic Preservation Act requires federal agencies to “take into account” the effects of their undertakings on historic properties and to provide the Advisory Council on Historic Preservation a “reasonable” opportunity to comment.
Section 4(f) <i>de minimis</i> impact	For historic sites, a Section 4(f) <i>de minimis</i> impact means that the FHWA has determined that the impact is one that would not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f), (23 CFR 774.17), and in accordance with 36 CFR part 800 that no historic property is affected by the project or that the project will have “no adverse effect” on the historic property in question. For parks, recreation areas, and wildlife and waterfowl refuges, a Section 4(f) <i>de minimis</i> impact is one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f). (23 CFR 774.17)
Section 4(f) of the US Department of Transportation Act of 1966	Section 4(f) states that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, wildlife and waterfowl refuge of national, State, or local significance, land of an historic site of national, State, or local significance only if there is no “prudent and feasible alternative” to the use of that land, and the program or project includes all possible planning to minimize harm to the public land involved.
Section 4(f) property	Section 4(f) property refers to land that is subject to Section 4(f). This includes: publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance that is included in or is eligible for inclusion in the National Register of Historic Places.

Section 6(f)	Section 6(f) of the Land and Water Conservation Fund Act provides additional protection of recreational resources. Under this Act, any recreational lands that were purchased or improved with Land and Water Conservation funds are protected from conversion to nonpublic outdoor recreational uses. The Secretary of Interior's approval is required to convert Land and Water Conservation funded lands from recreational uses. Conversions would be granted only if: <ul style="list-style-type: none"> ■ It complies with existing comprehensive statewide outdoor recreation plans, and ■ Substitution of other equivalent recreation properties is assured.
Seismic event	A seismic event is an earthquake or somewhat similar earth motion.
Slope	Slope is an area of landform surface differentiated from other areas by its degree of slope. It is a component of landforms but is not limited in place or extent (e.g. cliff, gentle slope, flat plain).
Species of concern	Species of concern are those that might be in need of conservation action, ranging from a need for periodic monitoring of populations and threats to the species and their habitat to the necessity for listing as threatened or endangered.
Strategy habitats	Strategy habitat is native vegetation assemblages identified by Oregon Department of Fish and Wildlife as needing conservation and restoration.
Strategy species	Strategy species are those species associated with strategy habitats that are at risk of population decline due to habitat loss and degradation.
Subsidized rental housing (Section 8)	Section 8, or the Housing Choice Voucher Program, is a federal housing program that provides housing assistance to low-income renters and home owners.
Temporary occupancy	Temporary occupancies of land are so minimal as to not constitute a use within the meaning of Section 4(f). The following conditions must be satisfied: <ul style="list-style-type: none"> ■ Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land; ■ Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal; ■ There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis; ■ The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and ■ There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions. (23 CFR 774.13 (d))
Tephra	Tephra is material that is ejected from a volcano through the air.
Texture	The visual or tactile surface characteristic of various elements in the landscape; often the least dominant of the four visual pattern elements.
Threatened/endangered species	Endangered – an animal or plant species in danger of extinction throughout all or a significant portion of its range. Threatened – an animal or plant species likely to become endangered within the foreseeable future.
Through trips	Through trips are those that are using the highways in the Transportation API, which have an origin outside of the Transportation API, to reach a destination outside of the Transportation API.
Total maximum daily load	A total maximum daily load is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards.
Transitdependent households	A transitdependent households is an occupied housing unit that does not have a vehicle available.
Transportation system management	Transportation system management uses various actions that increase the efficiency of existing facilities. They are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes.

Transportation demand management	Transportation demand management focuses on strategies for reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation choice in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience.
Tumuli	Tumuli are small mounds or domes that are created on the crest of a lava flow due to higher pressure lava below.
Underground storage tank	An underground storage tank system is a tank and any underground piping connected to the tank that has at least ten percent of its combined volume underground. Federal underground storage tank regulations apply only to underground tanks and piping storing either petroleum or certain hazardous substances.
Unconstrained land	Unconstrained land is land with no development constraints (such as lack of public road access) or physical constraints over 50 percent of the parcel (which includes slopes greater than 25 percent, areas of special interest, and floodplains). (City of Bend 2008b)
Unity	Unity in the context of visual impact analysis looks at the degree to which the visual resources of the landscape form a coherent, harmonious visual pattern and the compositional harmony or compatibility between landscape elements.
Urban area reserve lands	Urban area reserve lands are lands identified for future urban growth.
Use	Use of a Section 4(f) property occurs: When land is permanently incorporated into a transportation facility; When there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose as determined by the criteria in 23 CFR 774.13(d); or When there is a constructive use of a Section 4(f) property as determined by the criteria in 23 CFR 774.15. (23 CFR 774.17)
Vehicle miles traveled (VMT)	Vehicle miles traveled represents the number of vehicles using a roadway and the number of miles traveled by those vehicles. Local VMT represents trips that are entirely within the Transportation API. Regional VMT represents trips that have one end of a trip within the Transportation API with the other end being outside of the Transportation API.
Very low income	Very low income persons who are defined as people residing in households with income below the federal poverty guidelines. Poverty guidelines are determined for households by household size.
View	A view is a scene observed from a given viewpoint.
Viewer activity	Viewer activity is the extent of a viewer's ability to perceive the landscape and its detail may be heightened or decreased by the visual requirements of his current activity and his past experience of the landscape.
Viewer exposure	Viewer exposure is the degree to which viewers are exposed to a view by their physical location, numbers viewing and duration of view.
Viewer sensitivity	Viewer sensitivity is the viewer's variable receptivity to the elements within the environment that he is viewing, affected by viewer activity and awareness. A person cannot readily notice every object and all the attributes of the objects that compose the total visual environment.
Visual character	The visual character of a landscape is formed by the order of the patterns composing it. The elements of these patterns are the form, line, color and texture of the landscape's visual resources. Their interrelationships can be objectively described in terms of dominance, diversity, continuity, and so on.
Visual quality	While many factors contribute to a landscape's visual quality, they can ultimately be grouped under three headings: vividness, intactness, and unity. A view's visual quality score is calculated in the following way: $[\text{vividness} + \text{intactness} + \text{unity}] / 3 = \text{visual quality}$

Vividness	Vividness in the context of visual impact analysis is the memorability of the visual impression received from contrasting landscape elements as they combine to form a striking and distinctive visual pattern. Vividness considers and looks at: landform, vegetation, water, and manmade development.
Volume to capacity (v/c) ratio	The volume to capacity (v/c) ratio illustrates how many vehicles are using the roadway compared to the room available for them.
Weaving sections	Weaving sections are highway segments where the pattern of traffic entering and leaving at contiguous points of access results in vehicle paths crossing each other.
Wellhead protection area	A wellhead protection area is the area surrounding a drinking water well or well field which is protected to prevent contamination of the wells.
Western juniper woodlands	Western juniper woodlands consist of scattered, often large, juniper trees within shrubsteppe. Late successional juniper woodlands may have a higher density of trees, but are characterized by largediameter trees.
Wetland	Wetlands for the purposes of the Clean Water Act, must meet a threeparameter approach that includes the presence of hydrophytic (waterloving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, and the wetland must be connected to or have a significant nexus with one of the other waters of the US, for an area to be designated as a jurisdictional wetland under the Clean Water Act.
Wildlife linkage	A wildlife linkage provides a link for wildlife to travel between habitats.
Year of opening (2016)	The year of opening is the year in which construction of the build alternatives would be completed. <i>The year of opening was updated to 2016 for the Preferred Alternative.</i>

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Appendix K

List of Technical Reports

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List of Technical Reports

This Draft EIS summarizes the technical documentation prepared for the US 97 Bend North Corridor Project. The complete technical documents are lengthier and more detailed than their representative sections in this Draft EIS.

- Air Quality Technical Report
- Bicycle/Pedestrian Technical Report
- Business Survey Summary
- Energy Technical Report
- Geology Technical Report
- Hazardous Materials Corridor Study
- Hazardous Materials Technical Report
- Historic Resources Technical Report
- Land Use/Planning/Parks and Recreational Facilities Technical Report
- Mobile Home Park Survey Summary (July 2008)
- Mobile Home Park Survey Summary (April 2011)
- Natural Systems and Communities Technical Report
- Noise Technical Report
- Overview of Interchange Area Management Plans
- Right of Way Report
- Socioeconomic and Environmental Justice Technical Report
- Traffic Analysis Report
- US 97 Bend North Corridor EIS SAFETEA-LU 6002 Coordination Plan
- Utility Report
- Visual Quality Technical Report
- Water Resources Technical Report
- Wetlands and Water Resources Technical Report

For the Final EIS, the following technical documentation was updated for the US 97 Bend North Corridor Project:

- Air Quality Technical Report
- Bicycle/Pedestrian Technical Report
- Energy Technical Report
- Geology Technical Report
- Hazardous Materials Technical Report
- Historic Resources Technical Report

- Land Use/Planning/Parks and Recreational Facilities Technical Report
- Natural Systems and Communities Technical Report
- Noise Technical Report
- Right of Way Report
- Socioeconomic and Environmental Justice Technical Report
- Traffic Analysis Report
- US 97 Bend North Corridor EIS SAFETEA-LU 6002 Coordination Plan
- Utility Report
- Visual Quality Technical Report
- Water Resources Technical Report
- Wetlands and Water Resources Technical Report

For the Final EIS, the following additional technical documentation was completed or prepared for the US 97 Bend North Corridor Project:

- Archaeological Resources Technical Report (not available for public distribution due to sensitivity of resources)
- Preliminary Stormwater Recommendations Report

All of these reports are available (unless noted above) in the document library of the project's website: www.us97solutions.com or on request from:

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