

STOP B2H Coalition

WITNESS LISTS & CROSS STATEMENTS.

Stop B2H Coalition respectfully requests to cross-examine the following witness:

Witness	Topic	Time est.	Statement
Rick T. Link PacifiCorp	PAC's IRP	5 minutes	STOP intends to question the witness on their pending IRP, specifically the action items; budget, OATT, contingencies, and risk.
Lindsay Barretto	IPC's Budget	15 minutes	STOP intends to question the witness on budget, OATT, contingencies, and risk.
Jared Ellsworth	IPC's Budget	15 minutes	STOP intends to question the witness on budget, OATT, contingencies, and risk.

Exhibits for Cross-Examination: As filed in the docket, **not copied or re-produced herein.**

301 - Opening Testimony of Rick T. Link - PAC/100 -Rebuttal Testimony of Rick T. Link.

<https://edocs.puc.state.or.us/efdocs/HTB/pcn5htb101218.pdf>

And Response Testimony of Rick T. Link - PAC/200 and 201

<https://edocs.puc.state.or.us/efdocs/HTB/pcn5htb152050.pdf>

308 - PACIFICORP – 2023 IRP

[https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2023-irp/2023_IRP_Volume_I.pdf] pp 96-109 and 346.

309 - PACIFICORP – 2021 IRP

[<https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2021-irp/Volume%20I%20-%209.15.2021%20Final.pdf>] pp. 88-91.

New EXHIBITS Attached, herein:

302 - BPA-Closeout Letter with Final Decision for B2H with Transfer Service and BPA-Execution of Contracts for B2H with Transfer Service

303 - Cost Overruns in Transmission Grid Projects, Federal Energy Regulatory Commission

304 - Standard Data Requests - DR # 8, 9, and 15

305 - OPUC Internal Operating Guidelines - Integrated Resource Plans (see p.27)

306 - MOCK: Idaho House Resolution No. 4 with B2H Amendment

307 - Import Capacity -

Stop B2H Coalition is not intending to cross-examine any other witnesses at this time, but we reserve the right as a party to the case, to cross-examine any witness who is cross-examined by another party, the ALJ, or the Commissioners.

All EXHIBITS.

Stop B2H would like to formally submit the following Exhibits in the PCN 5 case.

Marking/Code	Name of Exhibit
From Stop B2H CPN5 Testimonies:	
StopB2H/100	STOP's Opening Testimony PCN5
StopB2H/200 StopB2H/201 StopB2H/202 StopB2H/203 StopB2H/204	STOP's Rebuttal Testimony and Exhibits PCN5 Exhibit re: EFSC Cross-Examination of Lautenberger Exhibit re: EFSC Direct Testimony Exhibit 10 (noise) Exhibit re: Attach X-4 - NSRs (noise) Exhibit re: supplemental locations (noise)

In the event that STOP cannot admit the following Exhibits into the case record, we will request the Commission take official notice under OAR 860-001-0460, of items such as: the IRP comment filings, the Wildfire dockets AR683 and UM2209, Oregon Explorer maps via website, and the EFSC administrative record and contested case for the B2H project.

From IRP Filings.	no bates stamps-links only:
STOP's Comments during IPC's IRP's 2015-2021 Stop B2H/100 Page 6 Fn 7	2021 IRP: <input type="checkbox"/> Stop B2H Coalition Opening Comments for 2021 IRP LC#78 (July 7, 2022) <input type="checkbox"/> Stop B2H Coalition Closing Comments for 2021 IRP LC#78 (September 8, 2022) <input type="checkbox"/> Stop B2H Coalition Comments on Staff Report for 2021 IRP LC#78 (November 18, 2022) 2019 IRP: <ul style="list-style-type: none"> • Application for Reconsideration of Order No. 21-184, in

	<p>LC 74 (Aug 3, 2021)</p> <ul style="list-style-type: none"> • STOP B2H Coalition Closing Comments LC 74 (submitted January 8, 2021) • STOP B2H Coalition Amended and Revised Opening Comments LC 74 (submitted April 7, 2020) <p>2017 IRP:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Stop B2H Coalition Opening Comment for the Docket 68 <input type="checkbox"/> Stop B2H Coalition’s Closing Comment (Redacted version) for Docket 68 and the verbal testimony at the Public Hearing <p>2015 IRP:</p> <p>Comments from STOP members before incorporating.</p>
<p>Public Comments in IRP dockets</p> <p>Stop B2H/100 Page 6 Fn6</p>	<p>More Comments/filings from STOP members for Docket LC 68 (2018)</p> <p>LC74 IPC’s 2019 IRP (2019-2022)</p> <p>LC 78 IPC’s 2021 IRP (2023)</p>

<p>From EFSC Process & Contested Case:</p>	<p>The following documents are part of the EFSC administrative record and contested case. If the EFSC Record is admitted in full, we should not need to “mark” these further. However, if required/preferred, we will mark and submit in their entirety on April 25th in the Motion to Admit.</p>
<p>EFSC Contested Case Administrative Record</p>	<p>The EFSC Contested Case record, organized by issue.</p> <p>https://oregonenergy-my.sharepoint.com/personal/askenergy_odoe_state_or_us/layouts/15/onedrive.aspx?ga=1&id=%2Fpersonal%2Faskenergy%5Fodoe%5Fstate%5Ffor%5Ffus%2FDocuments%2FB2H</p>
<p>B2HAPPDoc8-1 All DPO Comments Combined-Rec'd 2019-05-22 to 08-22-optimizedAgain</p>	<p>Public Comments - Draft Proposed Order (summer 2019)</p> <p>https://onedrive.live.com/?authkey=%21AEBE%2Dm62XANUTiQ&id=26041F18E096594%215419&cid=026041F18E096594</p>
<p>ODOE - B2HAPPDoc2-1 Proposed Order on ASC w Hyperlink Attachments 2019-07-02.</p>	<p>Proposed Order in EFSC process - https://oregonenergy-my.sharepoint.com/personal/askenergy_odoe_state_or_us/layouts/15/onedrive.aspx?ga=1&id=%2Fpersonal%2Faskenergy%5Fodoe%5Fstate%5Ffor%5Ffus%2FDocuments%2FB2H%2F07%20Proposed%20Order%2FB2HAPPDoc%2D1%20Proposed%20Order%20on%20ASC%20w%20Hyperlink%20Attachments%202019%2D07%2D02%2Epdf&parent=%2Fpersonal%2Faskenergy%5Fodoe%5Fstate%5Ffor%5Ffus%2FDocuments%2FB2H%2F07%20Proposed%20Order</p>

ODOE - B2HAPPDoc32 Site Certificate (executed) 2022-09-27.	Site Certificate for B2H - EFSC issued September 27, 2022 https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2022-09-27-B2H-APP-Doc32-Site-Certificate.pdf
ODOE - B2HAPPDoc32 Site Certificate (executed) 2022-09-27. Page 25 - 74.	Site Certificate Conditions. https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2022-09-27-B2H-APP-Doc32-Site-Certificate.pdf (pp. 25-74.)
Final Order on the ASC for the Boardman to Hemingway Transmission Line September 27, 2022 (no bates stamp).	Final Order for the EFSC Contested Case https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2022-09-27-Final-Order-on-ASC.pdf

Filings in Wildfire Dockets	
AR 638	https://apps.puc.state.or.us/edockets/docket.asp?DocketID=22341
UM2209 Full Docket	https://apps.puc.state.or.us/edockets/DocketNoLayout.asp?DocketID=23112
<p>STOP's comments on UM2209, including:</p> <p>Union County Community Wildfire Protection Plan (8-10-05) Communities at Risk and WUI Zone Priority Setting (Chapter 7 June 2016);</p> <p>Full Index to Union County Wildfire Protection Plan (June 2016) Greater Morgan Lake Area Fire Risk Report Wildfire Report 2-18-22</p>	<p>https://edocs.puc.state.or.us/efdocs/HAC/um2209hac163939.pdf https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/3259/Union_County_Fire_Plan.pdf?sequence=1&isAllowed=y</p> <p>https://union-county.org/cwpp/FINAL_CWPP/Chapter%207%20Communities%20At%20Risk%20and%20WUI_Zone%20Ratings.docx</p> <p>https://union-county.org/cwpp/FINAL_CWPP/</p> <p>https://drive.google.com/file/d/1N1JTNUMtnsUXIceLmI9Iq-8DcEUS28qZ/view?usp=sharing</p>
IPC 2022 Wildfire Mitigation Plan	https://edocs.puc.state.or.us/efdocs/HAD/um2209had14368.pdf
IPC 2023 Wildfire Mitigation	https://edocs.puc.state.or.us/efdocs/HAQ/um2209haq151044

Plan (200/17)	pdf
Oregon Explorer	Oregon Explorer - https://oregonexplorer.info/

Other EFSC related:	
Public Notice of RFA1 for B2H December 15, 2022 (no bates stamp) Stop B2H/	Public Notice of RFA1 (request for amendment 1, filed by IPC to ODOE/EFSC). https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2022-12-15-B2H-AMD1-pRFA-Public-Notice.pdf

Filings in reference to NEPA process	
Consortium of Citizen Groups - Objection to FEIS Stop B2H/100 Page 6 Fn 7	(2016) FEIS protest: Oregon Natural Desert Association Hells Canyon Preservation Council The Stop B2H Coalition Oregon Wild https://drive.google.com/file/d/1KpQePEg27vUPMcZN3ynBHyvVEzqe5Hmj/view
BLM Record of Decision (November 2017) Stop B2H/100 Page 8-9 Fn 10	BLM Record of Decision (November 2017) https://eplanning.blm.gov/public_projects/nepa/68150/125243/152690/20171117_Record_Of_Decision.pdf p.5

MISC-Additional	
Section 368 energy corridors/West-wide energy corridors	https://landscape.blm.gov/geoportal/catalog/ROW/ROW.page and https://corridoreis.anl.gov/maps/

IPC's testimonies: Response/Reply Testimony	See List supplied below:
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PCN5:	
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- o Lindsay Barretto (Idaho Power/400): B2H Project Costs, Schedule, Mitigation, and Permitting/Regulatory Approvals
 - o Idaho Power/401: CONFIDENTIAL – B2H Project Cost Estimate (Feb. 7, 2023)
 - o Idaho Power/402: Updated Attachment 16 Regarding Permit Status
 - o Idaho Power/403: ODOE Construction and Mitigation Plan Timeline
 - o Idaho Power/404: CONFIDENTIAL – Time and Location Schedule
 - o Idaho Power/405: Updated Landowner List
 - o Idaho Power/406: Memorandum of Agreement with City of La Grande Regarding Morgan Lake Park

- o Jared L. Ellsworth (Idaho Power/500): Partner Agreements and Need for B2H
 - o Idaho Power/501: CONFIDENTIAL – Construction, Ownership, Operation, Asset Exchanges and Service Agreements Necessary for B2H
 - o Idaho Power/502: Updated BPA Letter to the Region Regarding B2H and Southeast Idaho Load Service (Jan. 9, 2023).
 - o Idaho Power/503: BPA B2H Workshop Presentation (Jan. 23, 2023)
 - o Idaho Power/504: Maps Identifying BPA Customers and Utility Service Territories
 - o Idaho Power/505: Comments from BPA Customers and Stakeholders
 - o Idaho Power/506: Resource Adequacy in the Pacific Northwest (Mar. 2019)
 - o Idaho Power/507: PRINCETON UNIV., Net Zero America Potential Pathways, Infrastructure, and Impacts (Dec. 15, 2020)

- o Mitch Colburn (Idaho Power/600): B2H Siting History and Alternative Routes
 - o Idaho Power/601: Idaho Power Response to Staff Data Request No. 60, Attachment 1, Final Environmental Impact Statement Narrative Comparison
 - o Idaho Power/602: 2010 Siting Study
 - o Idaho Power/603: 2012 Supplemental Siting Study
 - o Idaho Power/604: 2015 Supplemental Siting Study
 - o Idaho Power/605: 2017 Supplemental Siting Study
 - o Idaho Power/606: Letter of Protest and Objection from CTUIR to BLM (Dec. 27, 2016)
 - o Idaho Power/607: Ruling and Order on Motions for Summary Determination on Contested Case Issues FW-13, R-2, and SP-2
 - o Idaho Power/608: Idaho Power’s Reply to Michael McAllister’s Response to Idaho Power’s Motion for Summary Determination of Contested Case Issues SP-2 and FW-13 (July 23, 2021)
 - o Idaho Power/609: Idaho Power’s Response to Staff’s Data Request No. 90 and Referenced Attachments
 - o Idaho Power/610: Mapset of Malheur County Utility Corridors
 - o Idaho Power/611: Final Environmental Impact Statement, Chapter 2
 - o Idaho Power/612: Oregon Parks and Recreation Commission Meeting Agenda Item 8b (Nov. 18, 2020)

- o Idaho Power/613: Glass Hill Registration Confirmation Letter
- o Idaho Power/614: Susan Geer's Exception to Hearing Officer's Proposed Contested Case Order for Issue SR-5
- o Idaho Power/615: Oregon Parks and Recreation Commission Meeting Packet (Sept. 18, 2019)
- o Idaho Power/616: Susan Geer DPO Comments and Petition
- o Idaho Power/617: Notice of Ex Parte Communication with Attachment A

- o Kirk Ranzetta (Idaho Power/700): Cultural Resources
 - o Idaho Power/701: Curriculum Vitae of Kirk Ranzetta
 - o Idaho Power/702: Second Amended Project Order
 - o Idaho Power/703: Idaho Power Response to Staff Data Request No. 15 - Attachment 1, Application for Site Certificate, Exhibit S
 - o Idaho Power/704: Letter from Gary Burke to ODOE (Apr. 19, 2019)
 - o Idaho Power/705: EFSC Rebuttal Testimony of Dennis Johnson (Nov. 12, 2021)
 - o Idaho Power/706: Class 4 Undergrounding Cost Estimate (Nov. 8, 2021)
 - o Idaho Power/707: John Williams Response to Idaho Power Data Requests No. 1-6 (Feb. 14, 2023)

- o Stephen Anderson (Idaho Power/800): Cultural Resources on Williams Property
 - o Idaho Power/801: Curriculum Vitae of Stephen Anderson

- o Shane Baker (Idaho Power/900): Tribal Consultation Process
 - o Idaho Power/901: Final Environmental Impact Statement, Chapter 4
 - o Idaho Power/902: Final Environmental Impact Statement, Appendix A
 - o Idaho Power/903: Programmatic Agreement
 - o Idaho Power/904: Consultation Log and Programmatic Agreement Tracking Sheet

- o Jake Weigler (Idaho Power/1000): Environmental Justice Communities
 - o Idaho Power/1001: Curriculum Vitae of Jake Weigler
 - o Idaho Power/1002: Idaho Power's Response to Staff Data Request 24, Attachment 4, 2011 B2H Community Advisory Report
 - o Idaho Power/1003: Metadata for EJ Communities Mapping
 - o Idaho Power/1004: EFSC Rebuttal Testimony of Kurtis Funke

- o Mark Bastasch (Idaho Power/1100): Transmission Line Noise Analysis
 - o Idaho Power/1101: Curriculum Vitae of Mark Bastasch
 - o Idaho Power/1102: ODEQ, Staff Guidance on Noise Control Issues (July 2003)
 - o Idaho Power/1103: Idaho Power's Response to Staff Data Request No. 26, Attachment 5, ASC, Exhibit X
 - o Idaho Power/1104: OAR 340-035-0035 – Table 8
 - o Idaho Power/1105: ODEQ, Sound Measurement Procedure Manual (Sept. 4, 1974)
 - o Idaho Power/1106: Reanalysis of MP 11 Area – Morgan Lake Alternative
 - o Idaho Power/1107: M. Bastasch Testimony, Cross-Examination Hearing, Day 1 (Jan. 10, 2022)

- o Idaho Power/1108: Miller, L., Sound Levels of Rain and of Wind in the Trees (Nov. – Dec. 1998)
- o Idaho Power/1109: BPA, I-5 Corridor Reinforcement Final EIS (Feb. 2016)
- o Idaho Power/1110: Merriam-Webster Online Dictionary, Definition of Infrequent (Feb. 20, 2023)
- o Idaho Power/1111: Golder Associates Memorandum (Dec. 19, 2017)
- o Idaho Power/1112: Written Rebuttal Testimony of Ken Kosky, Golder Associates, on behalf of ODOE (Nov. 12, 2021)
- o Idaho Power/1113: BPA Memorandum on Sound Level Limits for BPA Facilities (May 26, 1982)
- o Idaho Power/1114: Federal Highway Administration, Highway Traffic Noise: Analysis and Abatement Guidance (Dec. 2011)
- o Idaho Power/1115: EQC, Adoption of Statewide Rules Related to Noise Pollution from Industrial and Commission Sources and Changes to the Sound Measurement Procedures Manuals, NPC5-1,2 (Sept. 4, 1974)

- o Christopher W. Lautenberger (Idaho Power/1300): Wildfire Risk and Mitigation
 - o Idaho Power/1301: Curriculum Vitae of Christopher W. Lautenberger
 - o Idaho Power/1302: Idaho Power's Response to Staff Data Request No. 26, Attachment 1, Application for Site Certificate, Exhibit B
 - o Idaho Power/1303: In re Application of San Diego Gas & Electric Company (U 902 E) for a Certificate of Public Convenience and Necessity for the Sunrise Powerlink Transmission Project, A.06-08-010, D. 08-12-058 (California PUC, Dec. 18, 2008)
 - o Idaho Power/1304: In re Application of San Diego Gas & Electric Company (U 902 E) for a Certificate of Public Convenience and Necessity for the Sunrise Powerlink Transmission Project, A.06-08-010, D.08-12-058, Appendix C (Dec. 24, 2008)
 - o Idaho Power/1305: Snow Fire Incident Information Fact Sheet (June 5, 2015)
 - o Idaho Power/1306: U.S. Attorney's Office, Dist. of Or., PacifiCorp to Pay \$3.4 Million in Civil Settlement for Ramsey Canyon Fire (June 9, 2020)
 - o Idaho Power/1307: PG&E Fire Incident Data Compiled from 2014-2021
 - o Idaho Power/1308: SCE Fire Incident Report Data Compiled from 2014-2021
 - o Idaho Power/1309: SDG&E Fire Incident Report Data Compiled from 2014-2021
 - o Idaho Power/1310: Docket UM 2209, Idaho Power Company's 2023 Wildfire Mitigation Plan (Dec. 29, 2022)
 - o Idaho Power/1311: EFSC Contested Case, Deposition of Craig Kretschmer

- o Ottenlips (Idaho Power/1400) – Environmental Review of Union County Routes
 - o Idaho Power/1401: Curriculum Vitae of Michael Ottenlips
 - o Idaho Power/1402: Survey Results from Rice Glass Hill Parcel

- o Stippel (Idaho Power/1500) – Micrositing and Project Design

Surrebuttal Testimonies in CPN5

Lindsay Barretto (Idaho Power/1600): B2H Project Cost Estimate, Permitting Updates, & Mitigation Plans

- o Idaho Power/1601: Updated Permit Status Chart
- o Idaho Power/1602: Updated ODOE Plans Tracking Table
- o Idaho Power/1603: BLM Construction Plan of Development Tracking Table
- o Idaho Power/1604: Updated Landowner List

Jared Ellsworth (Idaho Power/1700): Need and Justification for B2H

Mitch Colburn (Idaho Power/1800): Siting History and Alternative Routes

- o Idaho Power/1801: In re Application for a Site Certificate for the Wheatridge Wind Energy Facility, Final Order (Apr. 2017)
- o Idaho Power/1802: ODOE Diagram re Wheatridge Site Certificate History
- o Idaho Power/1803: George Plaven, Green Energy Corridor, Eastern Oregonian News Article (May 18, 2017)
- o Idaho Power/1804: Letters of Support for West of Bombing Range Road Alternative
- o Idaho Power/1805: Letter from the Glass Hill Coalition (May 6, 2019)

Joseph Stippel (Idaho Power/1900): Wind Loading, Seismic, Operating Voltage

- o Idaho Power/1901: FEMA Fact Sheet: Highlights of Significant Changes to the Wind Load Provisions of ASCE 7-22
- o Idaho Power/1902: Updated Oregon Building Code with October 2022 Amendments
- o Idaho Power/1903: Excerpt from Myers Data Response - Narrative Describing Figure 3-1
- o Idaho Power/1904: Report from the National Weather Service on the Enhanced Fujita (<EF=) Scale
- o Idaho Power/1905: National Oceanic and Atmospheric Administration Storm Events Database – Tornadoes in Oregon from 01/01/1950 to 12/31/2022

Mark Bastasch (Idaho Power/2000): Noise Analysis

- o Idaho Power/2001: Excerpt from Idaho Power Response to Larkin DR 19 – Attachment 2, EFSC Proposed Order on ASC (July 2, 2020)
- o Idaho Power/2002: OAR 340-035-0035 – Table 9
- o Idaho Power/2003: EFSC Exceptions Hearing – Day 3 (Aug. 31, 2022)

Kirk Ranzetta (Idaho Power/2100): Cultural Resources

Stephen Anderson (Idaho Power/2200): Cultural Resources – Direct Impacts

Christopher Lautenberger (Idaho Power/2300): Wildfire Risk and Mitigation

- o Idaho Power/2301: Butte County District Attorney's Office, The Camp Fire Public Report – A Summary of the Camp Fire Investigation

- o Idaho Power/2302: NBC Bay Area, PG&E Criminally Charged for Kincade Fire
- o Idaho Power/2303: Homeland Infrastructure Foundation-Level Data
- o Idaho Power/2304: NFIRS Reports on Gilliam and Sherman County Fires

Michael Ottenlips (Idaho Power/2400): Indirect Impacts to Habitat and Natural Resources Surveys

- o Idaho Power/2401: Excerpts from Exhibit P1 of the ASC
- o Idaho Power/2402: Excerpts from Exhibit P2 of the ASC
- o Idaho Power/2403: Excerpts from Exhibit P3 of the ASC

CERTIFICATE OF MAILING

On April 12, 2023, I certify that I filed the above Witness and Exhibit Lists with the Administrative Law Judge via the OPUC Filing Center, for the Docket # PCN-5, and to the following party as noted below.

/s/ Jim Kreider

Jim Kreider

Intervenor, PCN-5

By: Arrangement for hand delivery:

John C. Williams

PO Box 1384

La Grande, OR 97850

Stop B2H Coalition

EXHIBIT 302

BPA-Closeout Letter with Final Decision for B2H with Transfer Service

Ex 302 - BPA-Execution of Contracts for B2H with Transfer Service



Department of Energy

Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

EXECUTIVE OFFICE

March 23, 2023

In reply refer to: F-2

Subject: Closeout Letter with Final Decision for B2H with Transfer Service

The Bonneville Power Administration (BPA) has decided to execute definitive contracts for the plan of service provided by Boardman to Hemingway (B2H) with Transfer Service. After more than a decade of evaluation and negotiation by BPA, I am pleased to be making this final decision providing a solution to serve our preference customers in southeast Idaho and achieving our core objective of obtaining a long-term, firm, reliable and cost-effective plan of service.

Under B2H with Transfer Service, BPA will not be a joint owner of the project nor exchange assets with Idaho Power and PacifiCorp, as previously considered. Instead, BPA will acquire long-term firm network integration transmission service from Idaho Power under its open access transmission tariff (OATT) to serve our Southeast Idaho Load Service (SILS) customers beyond the contiguous BPA transmission system. These six statutory preference customers – Fall River Rural Electric, Lost River Electric, Salmon River Electric, Lower Valley Energy, the City of Idaho Falls, and the City of Soda Springs – are currently served using Idaho Power's and PacifiCorp's transmission system. Additionally, BPA will provide point-to-point services over its transmission system to Idaho Power and PacifiCorp pursuant to BPA's OATT.

After initially considering joint ownership of the B2H line, BPA selected this plan of service as it best achieves our core objective, is supported by a strong business case providing \$700 million in cost savings over a 30-year period, and provides additional benefits. One of the key additional benefits is improved service for 15 BPA preference customers, including customers in the Burley area, and the delivery of reserve power to the Bureau of Reclamation and irrigation customers. I appreciate and am encouraged by the supportive comments BPA received from stakeholders. These comments demonstrate that BPA's stakeholders recognize the substantial value provided by this solution.

Today's final decision to execute definitive contracts concludes BPA's participation in the permitting of the B2H project and BPA's consideration of joint ownership in the line. BPA commends Idaho Power and PacifiCorp for their dedication, collaboration, and partnership in developing B2H with Transfer Service and their ongoing commitments to construct the B2H line. In addition to enabling long-term, firm power and transmission service to the SILS

customers' loads, the B2H line will provide important benefits to the region and generally enhance the connectivity to and within Idaho.

I have included additional background and the rationale for my decision in Attachment A.

Thank you to the stakeholders who provided feedback and support for this final decision.

Sincerely,

A handwritten signature in blue ink, appearing to read "John Hairston", is written over the word "Sincerely,". The signature is fluid and cursive, with a large loop at the end.

John Hairston

Administrator and Chief Executive Officer

Attachment A: Final Decision to Execute Definitive Contracts for B2H with Transfer Service

ATTACHMENT A

Final Decision to Execute Definitive Contracts for B2H with Transfer Service

A. Background and Prior Letters to the Region

The background on BPA's negotiation of the B2H with Transfer Service plan of service primarily is described in two regional letters - a January 18, 2022, letter (Term Sheet Letter) and a January 9, 2023, letter (Final Contracts Letter). These letters, public workshop materials, customer and stakeholder feedback and BPA's responses to that feedback, and other documentation are all available on BPA's website, [Southeast Idaho Load Service - Bonneville Power Administration \(bpa.gov\)](https://www.bpa.gov)

The Term Sheet Letter announced BPA's signature of a non-binding Term Sheet that clarified BPA's role in Idaho Power's and PacifiCorp's progress toward the future construction of the B2H project. The letter included a detailed description of the history of BPA's service to the SILS customers and BPA's concerns that the current approach for serving the SILS customers' loads would not be reliable or cost-effective in the long-term. BPA described its initial consideration to construct and become a future partial owner of the B2H project. This initial consideration included a transfer of assets between BPA, Idaho Power, and PacifiCorp (this approach was referred to as "B2H with Asset Transfer"), which could allow BPA's transmission system to be directly connected to the SILS customers' loads. BPA encountered many challenges and complexities with this approach and, in 2019, began to reconsider B2H with Asset Transfer as well as potential future ownership of the B2H project without the accompanying asset transfer. In 2019, BPA explored a transfer service-based plan of service (B2H with Transfer Service), rather than a B2H ownership-based plan of service.

The Term Sheet Letter described the agreements BPA, Idaho Power, and PacifiCorp intended to negotiate, including the OATT services each party would take from each other. The letter also included a high-level overview of BPA's business case for B2H with Transfer Service. BPA opened an initial comment period on the terms for B2H with Transfer Service, held a stakeholder workshop in February of 2022 to answer questions about the Term Sheet, and provided written responses to comments. Overall, BPA received supportive comments for B2H with Transfer Service and proceeded to negotiate definitive contracts based on the Term Sheet.

On January 9, 2023, BPA released the Final Contracts Letter announcing conclusion of negotiations and BPA's proposal to execute definitive contracts for B2H with Transfer Service. The Final Contracts Letter described the key terms, conditions, and evaluation considerations for each contract. BPA also provided a detailed description of BPA's business case for B2H with Transfer Service and the other benefits associated with the plan of service (the business case and benefits are described in Section C). BPA opened a second comment period on BPA's

proposal to execute definitive contracts and held a stakeholder workshop on January 23, 2023 to answer questions. Concurrent with this Closeout Letter, BPA is posting responses to each comment BPA received on BPA's website. The comments are discussed generally in Section B.

B. Stakeholder feedback

BPA appreciates the supportive customer and stakeholder feedback for the B2H with Transfer Service plan of service. The comments recognize the significant value provided by this plan of service.

BPA received several questions regarding the network integration transmission service (NITS) BPA will take under Idaho Power's OATT, including access to capacity to serve load growth and the terms for serving that load growth. In the response to comments available on BPA's website, BPA explains that the service for the SILS customer's load growth, including access to transmission capacity for that load growth, will be pursuant to Idaho Power's OATT. BPA will continue to work with customers to update and submit 10-year load and resource forecasts for each customer to Idaho Power. Consistent with Idaho Power's NITS tariff obligations, Idaho Power would use these forecasts for system planning. BPA will work with Idaho Power to ensure Idaho Power follows its OATT and honors its network integration transmission service agreement (NITSA) obligations.

BPA also received several comments seeking additional information regarding BPA's transfer service policies post-2028, including access for non-federal resources, comparability between BPA's transfer and non-transfer customers, and rate design and billing treatment. Additionally, several customers requested BPA to confirm that the transfer service provided through the NITSA's with Idaho Power will not limit BPA or customers' abilities to participate in future organized markets. BPA appreciates this feedback; however, the post-2028 transfer service policies and future market opportunities are out of scope for the B2H with Transfer Service final decision. BPA is holding public workshops and intends to make decisions regarding post-2028 transfer service through the Provider of Choice process. BPA encourages customers and stakeholders to participate in that effort. Information about Provider of Choice workshops and how to submit comments are available at [Provider of Choice - Bonneville Power Administration \(bpa.gov\)](https://www.bpa.gov). Transfer service rate design and billing treatment is a rates issue that will be addressed in the rate case in which costs are incurred.

Finally, BPA will continue to work with its NITS customers to address their service needs across the Federal Columbia River Transmission System, including planning for forecasted load growth and forecasted network resources. BPA encourages its NITS customers to participate in the NT Annual Load and Resource Forecasting Process. Customers should contact their Transmission Account Executive with specific questions associated with their NITS service with BPA.

C. Rationale for this Final Decision

As recognized in many of the comments BPA received, B2H with Transfer Service provides significant value to BPA and its customers. First and foremost, the plan of service satisfies BPA's core objective of attaining a long-term, firm, reliable and cost-effective plan of service for the SILS customers' loads. This plan is supported by a strong business case. The NITSA's BPA will enter into with Idaho Power are for an initial twenty year term and will have rollover rights under Idaho Power's OATT. These contracts facilitate BPA's ability to deliver resources from the BPA transmission system to the SILS customer's loads for many years to come.

Additionally, the NITS BPA will take over Idaho Power's system is firm, as opposed to conditional firm currently utilized under the interim plan of service. Conditional firm is a type of point-to-point (PTP) transmission service that can be curtailed more readily than firm service under certain system conditions. Idaho Power may review, including increase, the conditions for curtailment every two years. One of BPA's critical concerns with continued reliance on conditional firm PTP for the interim plan of service is the risk of additional conditions for curtailment of BPA's PTP service over time. With Idaho Power's construction of B2H, BPA would receive firm NITS that is dispatched after all other conditional firm and non-firm services are curtailed. The NITSA's will substantially reduce BPA's risk of curtailments in service to its loads.

B2H with Transfer Service is cost effective. As compared to the current interim plan of service, B2H with Transfer Service provides substantial cost savings – approximately \$720 million over a 30-year period as compared to the interim plan of service. Purchasing a single wheel of transmission service beyond the BPA transmission system to serve the SILS customers' loads as opposed to relying on two wheels as under the interim plan of service delivers substantial savings.

Another source of substantial savings as compared to the interim plan of service is BPA's reduced reliance on market power from the desert Southwest, which carries with it resource adequacy considerations and negative implications for the carbon content of BPA's fuel mix. This delivers value through lower overall energy costs and generally reduces BPA's cost risk in a region where resource retirements loom and BPA has already observed reduced liquidity.

On top of the cost savings, B2H with Transfer Service brings incremental revenue for BPA associated with providing 500 MW of PTP service to Idaho Power. In addition, the transmission service BPA will provide to PacifiCorp includes conversion of legacy service to PTP service, which achieves BPA's strategic objectives of converting legacy service to standard OATT service.

B2H with Transfer Service delivers additional benefits to BPA's other existing customers in Idaho. The B2H project will increase the resilience and capacity of Idaho Power's transmission system, which will enhance BPA's ability to serve its other 15 preference customers and

irrigation customers currently served by NITSAs over Idaho Power's system. The completion of the B2H project would alleviate potential congestion limiting power deliveries over Idaho Power's transmission system to these customers. Additionally, the B2H project would provide additional capacity on Idaho Power's system that could be used to serve future load growth for these customers. After the B2H project is energized, these existing NITSAs would be updated to include a new B2H point of receipt that BPA can use to deliver resources from the BPA transmission system to BPA's customers located on Idaho Power's system.

Lastly, B2H with Transfer Service avoids the considerable complexities and complications associated with federal participation in joint ownership and asset swaps originally considered in the B2H with Asset Swap proposal. Without the asset swaps, BPA's potential partial joint ownership of the B2H project did not satisfy BPA's cost-effectiveness objective because BPA would still have needed to purchase two legs of transmission service to get from Hemingway (the eastern terminus for the project) to the SILS customers' loads located on PacifiCorp's Idaho transmission system.

D. National Environmental Policy Act Analysis

Consistent with the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq.*, BPA has assessed the potential environmental effects that could result from proceeding with executing contracts for the B2H with Transfer Service plan of service. The decision to execute contracts for B2H with Transfer Service is primarily a business and strategic decision to enable BPA to better serve customers in Southeast Idaho.

B2H with Transfer Service provides a plan of service beyond the BPA transmission system for six statutory preference customers currently served using PacifiCorp's Idaho transmission system. This plan of service is intended to increase reliability and cost-effectiveness of electrical service for the SILS customers. BPA will execute the definitive contracts for B2H with Transfer Service. As described further in Section E below, BPA will execute a Purchase, Sale, and Security Agreement with Idaho Power to transfer BPA's permitting interest in the B2H project to Idaho Power and make a security payment. BPA will also execute two NITSAs with Idaho Power and various PTP and related agreements with Idaho Power and PacifiCorp.

The proposed contracts are generally administrative and financial in nature. These agreements are not expected to result in any physical changes in the environment from BPA actions, and would not cause the development of any new generation resources or the operation of existing generation sources outside of normal limits. As such, implementation of B2H with Transfer Service is not expected to result in reasonably foreseeable environmental effects.

Accordingly, BPA has determined that executing contracts for B2H with Transfer Service falls within certain classes of actions excluded from further NEPA review pursuant to U.S.

Department of Energy NEPA regulations, which are applicable to BPA. More specifically, the B2H with Transfer Service contracts fall within categorical exclusions B4.4, *Power marketing services and activities*, and B4.8, *Electric transmission agreements*, both found at 10 C.F.R § 1021, subpt. D, app. B. BPA has prepared a categorical exclusion determination memorandum that documents this categorical exclusion from further NEPA review, which is available at the BPA website: <https://www.bpa.gov/learn-and-participate/public-involvement-decisions/categorical-exclusions>.

In addition to executing the contracts described above, BPA will continue evaluating the transmission arrangements required for the proposed interconnection of the B2H project to BPA's proposed Longhorn substation, the removal and replacement of a segment of BPA's Boardman-to-lone Line and development of replacement service for Columbia Basin (see Section E below). BPA is currently evaluating these actions in accordance with BPA business practices and is not making final decisions on these actions as part of B2H with Transfer Service. BPA will conduct appropriate NEPA analysis for these activities in the future, as planning, engineering, and project-related details are available.

E. Execution of Definitive Contracts for B2H with Transfer Service

Commensurate with this final decision, BPA will execute the definitive contracts for B2H with Transfer Service. As described in the Final Contracts Letter, BPA will execute a Purchase, Sale, and Security Agreement with Idaho Power to transfer BPA's permitting interest in the B2H project to Idaho Power and make an additional \$10 million security payment. Idaho Power would make installment payments to BPA for the purchase, sale, and security after B2H energization.

BPA will also execute two NITSA with Idaho Power providing long-term transmission service with rollover rights to the SILS customers' loads pursuant to Idaho Power's OATT. Additionally, BPA will execute an agreement with PacifiCorp committing BPA to redirect and assign BPA's conditional firm PTP service over Idaho Power's transmission system to PacifiCorp upon energization of B2H.

BPA will execute a PTP service agreement with Idaho Power providing transmission service over BPA's transmission system to the proposed B2H interconnection at the Longhorn substation. BPA will also execute PTP agreements with PacifiCorp reflecting the redirect of existing transmission service paired with the conversion to OATT service of PacifiCorp's legacy scheduling rights in central Oregon. In addition, BPA and PacifiCorp will execute a related amendment to the legacy contract to reflect the conversion of PacifiCorp's scheduling rights to the PTP service. Pursuant to a separate agreement between BPA and PacifiCorp, PacifiCorp would fund and construct the Meridian series capacitor project.

Concurrent with BPA's execution of contracts, Idaho Power and PacifiCorp will enter into agreements for the continued permitting, construction, and joint ownership of the B2H project, which will include installation of a Midline series capacitor project. To facilitate Idaho Power's ability to provide the NITS to BPA, PacifiCorp and Idaho Power will enter into an agreement to transfer PacifiCorp assets to Idaho Power upon B2H energization. With this asset transfer, BPA's SILS loads currently served on PacifiCorp's southeast Idaho transmission system would now be within Idaho Power's transmission system. The asset transfer allows BPA to receive firm transmission for its SILS customers' loads using a single wheel of transmission service as opposed to two wheels, as under the current interim plan.

In addition to executing the contracts described above, BPA will continue evaluating the transmission arrangements required for Idaho Power's and PacifiCorp's construction of the B2H project. These arrangements, which are described in the Final Contracts Letter, are associated with the proposed interconnection of the B2H project to BPA's proposed Longhorn substation, the removal and replacement of a segment of BPA's Boardman-to-lone Line and development of replacement service for Columbia Basin, and development of an operational agreement with Idaho Power and PacifiCorp.

With regard to the proposed interconnection of the B2H project to BPA's proposed Longhorn substation, the Final Contracts Letter explained that BPA would not be making the final decision to construct the Longhorn substation or to interconnect the B2H project as part of B2H with Transfer Service. BPA intends to make the final decision to construct Longhorn substation in response to a line and load interconnection request submitted by Umatilla Electric Cooperative, because technical studies were complete and BPA is in the process of completing environmental review (environmental review is the last study to complete for BPA's final decision). BPA is presently studying the proposed interconnection of the B2H project to Longhorn substation and intends to offer additional funding and construction agreements in accordance with BPA's line and load interconnection practices.

F. Conclusion

This final decision concludes BPA's involvement in the permitting of the B2H project and exploration of potential future ownership in the B2H line. BPA appreciates the support and feedback of customers and stakeholders. BPA looks forward to discussing important post-2028 transfer service policies and commitments in the Provider of Choice forum.

Categorical Exclusion Determination

Bonneville Power Administration
Department of Energy



Proposed Action: Execution of Contracts for B2H with Transfer Service

Project Manager: K. Sheckells, TSB-TPP-2; P. Garrett, PSS-6

Location: Multnomah County, Oregon and Clark County, Washington

Categorical Exclusion Applied (from 10 C.F.R. §1021, Subpart D): B4.4 Power marketing services and activities; and B4.8 Electric transmission agreements

Description of the Proposed Action: Bonneville Power Administration (BPA) proposes to execute contracts under the Boardman to Hemingway (“B2H”) with Transfer Service plan of service. Under B2H with Transfer Service, BPA would acquire long-term transmission service from Idaho Power under its open access transmission tariff (“OATT”).

B2H with Transfer Service provides a plan of service beyond the BPA transmission system for six customers currently served using PacifiCorp’s Idaho transmission system. These customers (the Southeast Idaho Load Service or “SILS” customers) include Fall River Rural Electric, Lost River Electric, Salmon River Electric, Lower Valley Energy, the City of Idaho Falls, and the City of Soda Springs. Execution of the contracts under the B2H with Transfer Service would provide a long-term firm, reliable, and cost-effective plan of service for the SILS customers’ loads. Further information about the B2H with Transfer Service can be found in the 2022 and 2023 letters to the region located at <https://www.bpa.gov/learn-and-participate/projects/southeast-idaho-load-service>.

Under the B2H with Transfer Service plan of service, BPA’s role as permitting partner and potential future partial owner of the B2H project would be removed from the B2H ownership structure. BPA would transfer its B2H permitting interest share to Idaho Power in a Purchase, Sale, and Security Agreement. To serve the SILS customers’ loads, BPA would enter into a network integration transmission service agreement (“NITSA”) with Idaho Power under its OATT for service to the five SILS customers in the Goshen area and a second NITSA for service to Idaho Falls. These NITSAs would provide BPA with a single leg of network integration transmission service (“NITS”) from Idaho Power to deliver resources from the BPA transmission system to the SILS customers’ various points of delivery.

BPA would provide point-to-point (“PTP”) transmission service in central Oregon to PacifiCorp through the redirect of existing PTP service paired with a conversion of legacy scheduling rights in central Oregon to PTP service. Additionally, BPA would provide Idaho Power with PTP service to the proposed B2H interconnection at the proposed BPA Longhorn substation near Boardman, Oregon, contingent on BPA making a final decision to construct the Longhorn Substation and interconnect the B2H project. PacifiCorp and Idaho Power would take and pay for the PTP services pursuant to BPA’s OATT and rate schedules.

BPA will continue to evaluate the transmission arrangements required for the proposed interconnection of the B2H Project to BPA's proposed Longhorn substation, the removal and replacement of a segment of BPA's Boardman to Lone Line and development of replacement service for Columbia Basin Electric Cooperative. BPA is currently evaluating these actions in accordance with BPA business practices and is not making final decisions or executing contracts for these actions as part of B2H with Transfer Service contract execution. BPA will conduct appropriate National Environmental Policy Act (NEPA) analysis for these activities in the future as planning, engineering, and project-related details are available.

Findings: In accordance with Section 1021.410(b) of the Department of Energy's (DOE) NEPA Regulations (57 FR 15144, Apr. 24, 1992, as amended at 61 FR 36221-36243, Jul. 9, 1996; 61 FR 64608, Dec. 6, 1996, 76 FR 63764, Nov. 14, 2011), BPA has determined that the proposed action:

- 1) fits within a class of actions listed in Appendix B of 10 C.F.R. § 1021, Subpart D (see attached Environmental Checklist);
- 2) does not present any extraordinary circumstances that may affect the significance of the environmental effects of the proposal; and
- 3) has not been segmented to meet the definition of a categorical exclusion.

Based on these determinations, BPA finds that the proposed action is categorically excluded from further NEPA review.

/s/ Amy Mai
Amy Mai
Environmental Protection Specialist

Concur:

Katey C. Grange
NEPA Compliance Officer

Attachment(s): Environmental Checklist

Categorical Exclusion Environmental Checklist

This checklist documents environmental considerations for the proposed project and explains why the project would not have the potential to cause significant impacts on environmentally sensitive resources and would meet other integral elements of the applied categorical exclusion.

Proposed Action: Execution of Contracts for B2H with Transfer Service

Project Site Description

The execution of contracts for B2H with Transfer Service would provide a plan of service beyond the BPA transmission system for six statutory preference customers that are currently served using PacifiCorp's Idaho transmission system. These customers (the Southeast Idaho Load Service or "SILS" customers) include Fall River Rural Electric, Lost River Electric, Salmon River Electric, Lower Valley Energy, the City of Idaho Falls, and the City of Soda Springs.

Evaluation of Potential Impacts to Environmental Resources

1. Historic and Cultural Resources

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or changes to any existing structures or landscapes. For these reasons, the execution of contracts for B2H with Transfer Service would not affect historic and cultural resources.

2. Geology and Soils

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or have any potential for erosion, landslides, or other related impacts. For these reasons, the execution of contracts for B2H with Transfer Service would not affect geology and soils.

3. Plants (including Federal/state special-status species and habitats)

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or vegetation removal or alteration. For these reasons, the execution of contracts for B2H with Transfer Service would not affect plants.

4. Wildlife (including Federal/state special-status species and habitats)

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or cause impacts to special-status species and habitats. For these reasons, the execution of contracts for B2H with Transfer Service would not affect wildlife.

5. Water Bodies, Floodplains, and Fish (including Federal/state special-status species, ESUs, and habitats)

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or potential to cause impacts to water bodies, floodplains, and fish, including federal/state special-status species and ESUs. For these reasons, the execution of contracts for B2H with Transfer Service would not affect water bodies, floodplains, and fish, including federal/state special-status species and ESUs.

6. Wetlands

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or potential to cause impacts to wetlands. For these reasons, the execution of contracts for B2H with Transfer Service would not affect wetlands.

7. Groundwater and Aquifers

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or potential to cause impacts to groundwater and aquifers. For these reasons, the execution of contracts for B2H with Transfer Service would not affect groundwater and aquifers.

8. Land Use and Specially-Designated Areas

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or have the potential to cause impacts to land use and specially designated areas. For these reasons, the execution of contracts for B2H with Transfer Service would not affect land use and specially designated areas.

9. Visual Quality

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or potential to cause impacts to visual resources. For these reasons, the execution of contracts for B2H with Transfer Service would not affect visual resources.

10. Air Quality

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or potential to cause impacts to air quality. For these reasons, the execution of contracts for B2H with Transfer Service would not affect air quality.

11. Noise

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability and cost effectiveness of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or potential to cause noise impacts. For these reasons, the execution of contracts for B2H with Transfer Service would not affect noise resources.

12. Human Health and Safety

Potential for Significance: No

Explanation: The proposed action involves administrative and financial activities intended to increase reliability of electrical service to customers in southeast Idaho. The contracts BPA would execute under B2H with Transfer Service would not result in any ground disturbing activities or potential to cause impacts to human health and safety. For these reasons, the execution of contracts for B2H with Transfer Service would not affect human health and safety.

Evaluation of Other Integral Elements

The proposed project would also meet conditions that are integral elements of the categorical exclusion. The project would not:

Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders.

Explanation: N/A

Require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators) that are not otherwise categorically excluded.

Explanation: N/A

Disturb hazardous substances, pollutants, contaminants, or CERCLA excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases.

Explanation: N/A

Involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those of the Department of Agriculture, the Environmental Protection Agency, and the National Institutes of Health.

Explanation: N/A

Landowner Notification, Involvement, or Coordination

Description: Because the proposed action does not involve activities directly or indirectly affecting any particular real property, notification and involvement of any specific land owner is not required. However, BPA has developed the proposed plan of service for B2H with Transfer Service with public input, including workshops and comment periods associated with the publication of the draft term sheet and letters to the region.

Based on the foregoing, this proposed project does not have the potential to cause significant impacts to any environmentally sensitive resource.

Signed: /s/ Amy Mai March 22, 2023
Amy Mai Date
Environmental Protection Specialist

Stop B2H Coalition

EXHIBIT 303

Cost Overruns in Transmission Grid Projects

Federal Energy Regulatory Commission

Washington, DC 2022

Abstract

Transmission grid projects are essential to the reliable delivery of electricity to consumers. However, cost overruns are a common problem in these projects. This paper examines the causes of cost overruns in transmission grid projects and offers some suggestions for how to reduce them.

The paper begins by reviewing the literature on cost overruns in transmission grid projects. It then discusses the causes of cost overruns, including inflation, changes in scope, delays, and unforeseen problems. The paper also discusses some of the things that can be done to reduce cost overruns, including better planning and estimating, using risk management techniques, having a contingency fund, and having clear and concise contracts.

The paper concludes by discussing the role of the Federal Energy Regulatory Commission (FERC) in addressing the problem of cost overruns in transmission grid projects. FERC is taking steps to require transmission companies to provide more detailed information about their projects and to improve the way that transmission projects are approved.

Introduction

Transmission grid projects are essential to the reliable delivery of electricity to consumers. These projects can be very expensive, and cost overruns are a common problem. In this paper, we examine the causes of cost overruns in transmission grid projects and offer some suggestions for how to reduce them.

Literature Review

A number of studies have examined the causes of cost overruns in transmission grid projects. One study found that the average cost overrun for transmission grid projects is 25%. The study also found that the most common causes of cost overruns are inflation, changes in scope, delays, and unforeseen problems.

Another study found that cost overruns are more likely to occur in projects that are complex, have a long lead time, and are subject to a lot of uncertainty. The study also found that cost overruns are more likely to occur in projects that are poorly planned and managed.

Causes of Cost Overruns

There are a number of factors that can contribute to cost overruns in transmission grid projects. Some of the most common causes include:

- **Inflation:** The cost of materials and labor can increase over time, which can lead to cost overruns in transmission grid projects.
 - **Changes in scope:** The scope of a transmission grid project can change during the course of the project, which can lead to cost overruns.
 - **Delays:** Delays in the construction of a transmission grid project can lead to cost overruns.
 - **Unforeseen problems:** Unforeseen problems, such as natural disasters or changes in regulations, can lead to cost overruns.
-

Reducing Cost Overruns

There are a number of things that can be done to reduce cost overruns in transmission grid projects. Some of the most effective strategies include:

- **Better planning and estimating:** Careful planning and estimating can help to identify and mitigate potential cost overruns.
 - **Using risk management techniques:** Risk management techniques can help to identify and manage risks that could lead to cost overruns.
 - **Having a contingency fund:** A contingency fund can be used to cover unexpected costs that arise during the construction of a transmission grid project.
 - **Having clear and concise contracts:** Clear and concise contracts can help to avoid disputes and misunderstandings that could lead to cost overruns.
-

The Role of FERC

The Federal Energy Regulatory Commission (FERC) is responsible for regulating the transmission grid in the United States. FERC is taking steps to address the problem of cost overruns in transmission grid projects. FERC is requiring transmission companies to provide more detailed information about their projects and to improve the way that transmission projects are approved.

Conclusion

Cost overruns are a common problem in transmission grid projects. There are a number of factors that can contribute to cost overruns, and there are a number of things that can be done to reduce them. FERC is taking steps to address the problem of cost overruns in transmission grid projects.

References

- [1] "Cost Overruns in Transmission Grid Projects." The Brattle Group, 2017.
- [2] "The Causes of Cost Overruns in Transmission Grid Projects." The Electricity Journal, vol. 30, no. 11, 2017, pp. 101-112.
- [3] "Reducing Cost Overruns in Transmission Grid Projects." The National Association of Regulatory Utility Commissioners

Stop B2H Coalition

EXHIBIT 304

Standard Data Requests - DR # 8, 9, and 15

Certificate of Public Convenience and Necessity
Idaho Power Company's Standard Data Requests
Data Request Nos. 1-21

IDAHO POWER COMPANY'S STANDARD DATA REQUEST NO. 8:

Regarding construction of the project, please provide:

- a. A detailed description of the construction process timeline;
- b. A chart detailing construction phasing and major milestones that the petitioner will employ to construct the line;
- c. All contractors selected for the project, including any turnkey provisions;
- d. A description of project segments that will be directly performed by the petitioner (e.g., transport and construction);
- e. Master contracts for construction of the project;
- f. How substation equipment will be contracted for, including: purchase, transport, rigging (cranes and lifting to load, unload and position equipment), and configuration. If all this will be the responsibility of a primary engineering, construction contractor, it is enough to say this is the case; and
- g. Insurance guarantees and other provisions to safeguard the petitioner and ratepayers, from mishaps, failure to perform, and accidents.

RESPONSE TO IDAHO POWER COMPANY'S STANDARD DATA REQUEST NO. 8:

- a. A detailed construction timeline is not available at this time, because those details will be developed by the construction contractor once selected, which will occur in the second quarter of 2023. However, the following is a higher-level timeline information that has been developed by the Company's constructability contractor based on information known at this time.

Construction for the project is scheduled to begin in the summer of 2023 upon receipt of a notice to proceed from the Bureau of Land Management ("BLM") (which will initially be a partial notice to proceed to areas that cultural mitigation is not required, with a full notice to proceed once mitigation is complete) and Oregon's Department of Energy ("ODOE") approval of the pre-construction actions provided in the EFSC site certificate. Construction of the transmission line is not expected to proceed linearly from one end of the project to the other due to environmental, cultural, seasonal, and other constraints on the schedule. Construction is expected to last approximately 34 months with an energization target date of June 1, 2026. There will be multiple active work fronts throughout the construction timeline.

The first activities will be to mobilize equipment, personnel, and job trailers to the right of way. These first tasks include setting up in multiple locations, establishing construction yards, setting up job trailers, and securing material storage yards.

Right of way clearing and access road construction will then start in multiple locations.

Foundation material will begin to arrive and will be staged at multi-use areas. Foundations will either be drilled piers, pressed plate, or grillage foundations. Concrete may be sourced locally or batched at multi-use areas. Foundation installation will begin approximately two months after the start of access road construction.

Certificate of Public Convenience and Necessity
Idaho Power Company's Standard Data Requests
Data Request Nos. 1-21

Other material, such as lattice and cable, will begin to arrive onsite in early 2024, and staged in secured material yards along the way. Lattice tower construction is planned to begin in 2024 with wire stringing to be followed shortly thereafter.

Access road construction and foundation installation are planned to be complete in 2025. Tower assembly and wire stringing are planned to be complete in 2026. Reclamation will be performed as sections of the transmission line are completed. Final reclamation is planned to wrap up in 2026.

Station construction work at Hemingway, Midline, and Longhorn is scheduled to commence in spring 2025 and be complete before June 2026.

- b. See Confidential Attachment 1. Please note, this is a preliminary schedule based on information known at this time and may change during construction of the B2H project. As stated in (a), the details of the construction process in Confidential Attachment 1 will be refined and expanded with more detail by the construction contractor once the contractor is selected by Idaho Power.
- c. Idaho Power has not yet selected contractors for the construction phase but anticipates issuing Request for Proposals for materials and contractors during the first quarter of 2023. The following are the primary contractors working on the permitting and pre-construction phases of the B2H project:
 - Quanta Infrastructure Services Group: Construction manager responsible for assisting with constructability reviews, procurement, cost estimating, and construction services procurement.
 - Leidos: Design engineer responsible for transmission line design, foundation design, and access road design.
 - Shannon and Wilson: Geotechnical consultant responsible for soil sampling and geotechnical analysis to assist foundation design.
 - Cornerstone Energy: Right-of-way and surveying contractor responsible for right-of-way acquisition, landowner outreach and coordination, and surveying as it supports right-of-way acquisition.
 - Tetra Tech: Environmental consultant responsible for biological and cultural field surveying and analysis, preparation of environmental reports and exhibits, preparation of the plan of development, and management of the cultural, historical, archeological aspects of the National Historic Preservation Act of 1966 Section 106 process.
 - HDR: Owner's engineer responsible for engineering oversight, managing the landowner communication database, and engineering and construction deliverable review.
 - Terra Remote: LiDar acquisition contractor responsible for acquiring and analyzing LiDar for use by the design engineer.
 - Power Engineers: Supporting the Bureau of Land Management ("BLM") to expedite review, process modifications, and operating under the direction of the BLM.
- d. Idaho Power employees will not construct any segments of the B2H project. The entirety of the construction will be performed by contractors with oversight by the Company.

Certificate of Public Convenience and Necessity
Idaho Power Company's Standard Data Requests
Data Request Nos. 1-21

- e. Please see Confidential Attachments 2 through 8 for the agreements executed with the contractors identified in (c).
- f. All substation equipment will be competitively bid. Integration engineering will be performed by Idaho Power or a qualified engineering consultant. Equipment engineering will be performed by the successful equipment vendor with oversight by the Company. For major apparatus, such as capacitors or regulators, transportation, delivery, and rigging will be the responsibility of the equipment supplier. For more minor apparatus items, such as switches, the contractor will be responsible for rigging and positioning equipment in the substation.
- g. Insurance is the most common way to verify the financial responsibility of a contractor and ensure losses are paid to Idaho Power in the event of a breach of contract. Insurance coverage and endorsement requirements are based on the scope of work or services being performed. The Company requires contractors to supply current certificates of insurance as proof of coverage, as stipulated in the contracts. The insurance must remain in effect during the term of the agreement or as otherwise stated in the agreement. In addition, the Company includes in contracts a provision for liquidated damages, which are pre-determined amounts between Idaho Power and the contractor that the Company will receive if deliverables are not received timely. This provision is used in contracts when damages are difficult to quantify but impacts to Idaho Power will occur if the contractor does not meet the terms of the contract.

Certificate of Public Convenience and Necessity
Idaho Power Company's Standard Data Requests
Data Request Nos. 1-21

IDAHO POWER COMPANY'S STANDARD DATA REQUEST NO. 9:

Please provide a detailed description of how the petitioner intends to control costs for this project, including any description of performance guarantees and risk mitigation mechanisms. In this narrative, clearly delineate the planning cost of the project itself and other loadings including legal and administrative and general ("A&G") costs later assigned to the project.

RESPONSE TO IDAHO POWER COMPANY'S STANDARD DATA REQUEST NO. 9:

Idaho Power has strict project cost controls for internal and external personnel. Regular monthly forecast updates, including the tracking of budgets and schedules, are part of the project controls suites that the project management team employs.

During the current preconstruction phase, Idaho Power engaged a construction manager, Quanta Infrastructure Solutions Group ("QISG"), to aid in certain preconstruction reviews and tasks. This early integration of the construction team allows for constructability feedback, identification of risk locations, and opportunities to economize the design. As the B2H project transitions into the construction phase, all material and construction services will be competitively bid and be pulled into a guaranteed maximum price ("GMP") that will serve as the construction pricing if awarded. This GMP is tied to a schedule that Idaho Power and the QISG will have developed together that the Company, and as a result the contractors, will be responsible for meeting. Milestone dates will be tied to monetary penalties for contractors if key dates slip.

In addition to the direct project costs, it is Idaho Power's policy, per Code of Federal Regulations ("CFR") guidelines, to apply overheads to construction work orders, which includes indirect operations and maintenance expenses associated with the project. Overheads are monitored for reasonableness based on the size of the project and overall level of internal activities. When presenting project costs, Idaho Power includes all estimated known costs associated with the B2H project, including any costs later assigned to the project and Allowance for Funds Used During Construction.

Certificate of Public Convenience and Necessity
Idaho Power Company's Standard Data Requests
Data Request Nos. 1-21

IDAHO POWER COMPANY'S STANDARD DATA REQUEST NO. 15:

For each material concern raised such as impact on cultural resources; impact on environment; impact on agriculture (including high quality farmland); adjacency to irrigation and structures, impact on local residents' access to farms, businesses and homes; etc. explain how the petitioner has addressed said concerns and will work to minimize materialization of same.

RESPONSE TO IDAHO POWER COMPANY'S STANDARD DATA REQUEST NO. 15:

Idaho Power is required to obtain a site certificate from the EFSC to construct and operate the portions of the B2H project located in Oregon. To receive a site certificate, the B2H project must undergo a thorough review and meet the Council's siting standards. Those standards address issues such as soil protection; land use; protected areas; fish and wildlife habitat; threatened and endangered species; scenic resources; historic, cultural, and archaeological resources; recreation opportunities; public services; waste minimization; and others.¹

Idaho Power has addressed the EFSC standards, and the related resources, in the Company's EFSC Application for Site Certificate ("ASC"), where Idaho Power analyzes the B2H project's potential impacts on those resources and describes the measures the Company will employ to avoid, minimize, or mitigate the potential impacts.² The following are examples of potential impacts that have been analyzed in connections with Idaho Power's ASC and the actions Idaho Power has taken to identify the B2H project's potential impacts and the commitments the Company has made to address those potential impacts:

Historic, cultural, and archaeological resources: Idaho Power conducted extensive records research, literature review, and field surveys to inventory the historic, cultural, and archaeological resources that potentially will be impacted by the B2H project.³ For identified resources, Idaho Power will implement measures to avoid or minimize adverse impacts, including relocation of structures through the design process, realignment of the route, relocation of temporary workspace, or changes in the construction and/or operational design. Where impacts are unavoidable, Idaho Power will implement mitigation actions set forth in a Historic Properties Management Plan, which was developed in coordination with various governmental agencies, including environmental training, data recovery, analysis, documentation, curation, resource-specific treatments, restoration, public signage, publication, and interpretive planning.⁴

Fish and wildlife habitat: Idaho Power catalogued the various types of fish and wildlife habitat potentially impacted by the B2H project through desktop analysis and ground surveys.⁵ To avoid and minimize impacts to fish and wildlife habitat, the Company will implement seasonal work

¹ See OAR Chapter 345, Division 22.

² See [Idaho Power's Application for Site Certificate](#) (Sept. 28, 2018).

³ See [Exhibit S \(Historic, Cultural, and Archeological Resources\)](#) to Idaho Power's Application for Site Certificate, pages S-21 through S-28. See Attachment 1.

⁴ See [Historic Properties Management Plan](#), Attachment S-9 to the Oregon Department of Energy's Proposed Order (July 2, 2020) ("ODOE's Proposed Order"). See Attachment 2.

⁵ See [Exhibit P1 \(Fish and Wildlife Habitat\)](#) to Idaho Power's Application for Site Certificate, pages P1-21 through P1-31. See Attachment 3.

Certificate of Public Convenience and Necessity
Idaho Power Company's Standard Data Requests
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restrictions, map and flag sensitive resources, and implement various other measures set forth in the Company's Reclamation and Revegetation Plan, [Vegetation Management Plan](#), and [Noxious Weed Plan](#).⁶ Unavoidable impacts will be addressed through compensatory mitigation, as outlined in the Fish and Wildlife Habitat Mitigation Plan.⁷

Land use: Idaho Power analyzed, and demonstrated compliance with, the affected cities and counties' comprehensive plans and development codes.⁸ Idaho Power addressed potential impacts to agricultural operations in particular in the Company's [Agricultural Lands Assessment](#).⁹ In that document, Idaho Power includes various measures the Company will undertake to avoid, minimize, and mitigate impacts to agricultural lands and operations, including locating towers outside cultivated fields where feasible, scheduling construction activities around agricultural operations, avoiding damage to drainage tiles, [restoring compacted soils, noxious weed control, and other measures](#).

Idaho Power has made a tremendous effort to design the route of the transmission line to avoid irrigated areas and has sited towers along agricultural field boundaries where feasible. Of the approximately 1,461 transmission towers along the proposed route, only 26 are proposed to be located within an irrigated portion of an agricultural field, and Idaho Power may be able to further reduce this total number through micrositing. Idaho Power is committed to working with each land owner to try to minimize impacts to farming operations where feasible for the construction of the line, and will move structures out of cultivated fields where practical.

⁶ See [Exhibit P1 \(Fish and Wildlife Habitat\)](#) to Idaho Power's Application for Site Certificate, pages P1-86 through P1-90 (included as Attachment 3); [Reclamation and Revegetation Plan](#), Attachment P1-3 to ODOE's Proposed Order (included as Attachment 4); [Vegetation Management Plan](#), Attachment P1-4 to ODOE's Proposed Order (included as Attachment 5); and [Noxious Weed Plan](#), Attachment P1-5 to ODOE's Proposed Order (included as Attachment 6).

⁷ See [Fish and Wildlife Mitigation Plan](#), Attachment P1-6 to ODOE's Proposed Order. See Attachment 7.

⁸ See [Exhibit K \(Land Use\)](#) to Idaho Power's Application for Site Certificate. See Attachment 8.

⁹ See [Agricultural Lands Assessment](#), Attachment K-1 to ODOE's Proposed Order. See Attachment 9.

John C. Williams

Exhibit 305

NPS. 1999. Guidelines for Evaluating and Documenting Rural Historic Landscapes. U.S. Department of the Interior National Park Service, Washington, D.C.

[National Register Bulletin 30 \(nps.gov\)](https://www.nps.gov/nr/travel/bulletin30/)

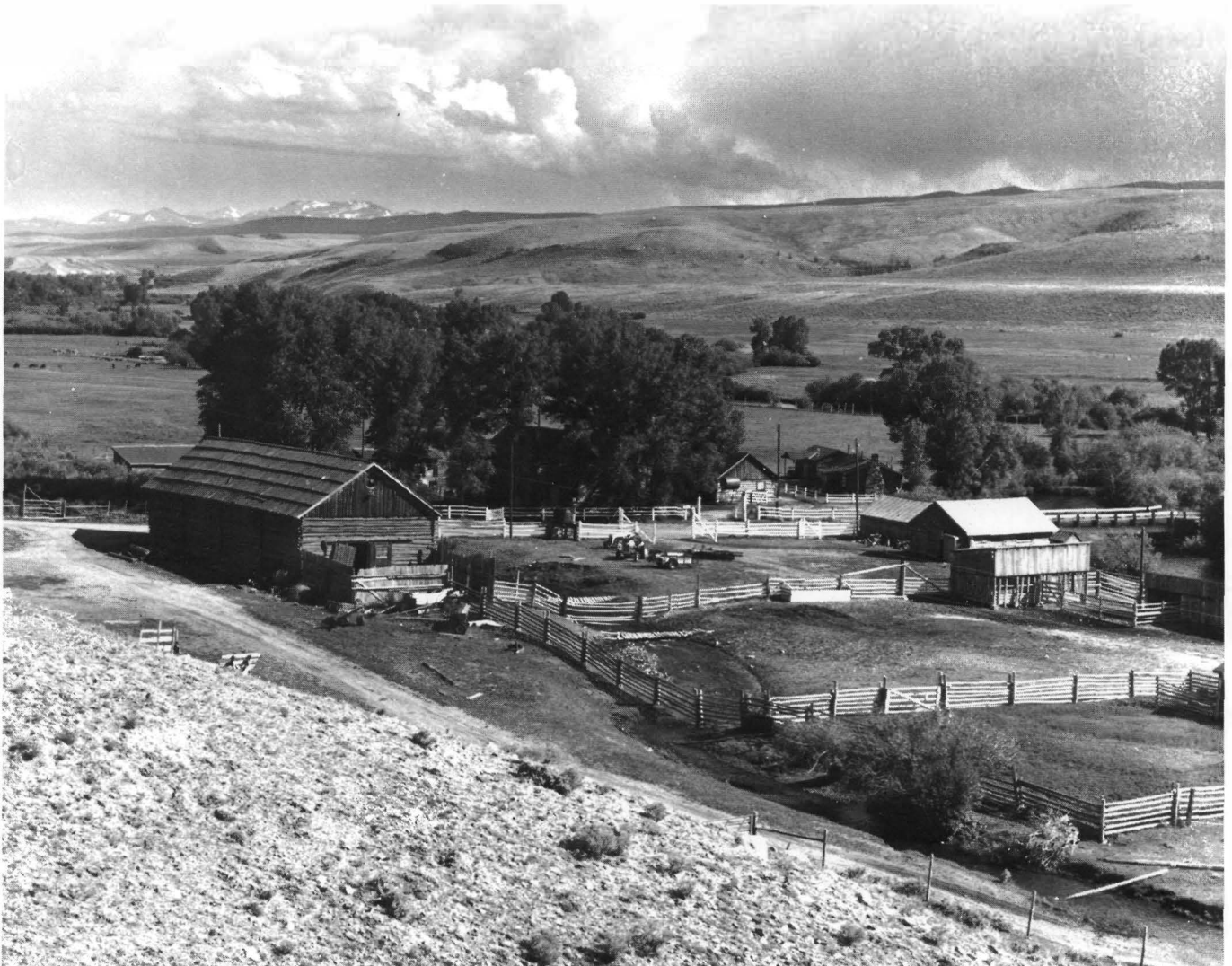
NATIONAL REGISTER BULLETIN

Technical information on the the National Register of Historic Places:
survey, evaluation, registration, and preservation of cultural resources



U.S. Department of the Interior
National Park Service
Cultural Resources
National Register, History and Education

Guidelines for Evaluating and Documenting Rural Historic Landscapes



The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to tribes.

This material is partially based upon work conducted under a cooperative agreement with the National Conference of State Historic Preservation Officers and the U.S. Department of the Interior.



**U.S. Department of the Interior
National Park Service
Cultural Resources**

1989; Revised 1999

On the eastern slopes of the Rocky Mountains, the Nathaniel K. Boswell Ranch reflects the 100-year evolution of a typical Wyoming livestock ranch. Hay was grown on the bottomland along the Laramie River, while cattle and other livestock grazed on hillsides of sage and grass. The headquarters, consisting of a house, barns, bunkhouses, sheds, privies, fences, pens, and corrals, reflects the central operations of the ranch and is also a distinctive collection of late 19th century log construction. (Mark Junge)

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Guidelines for Evaluating and Documenting Rural Historic Landscapes

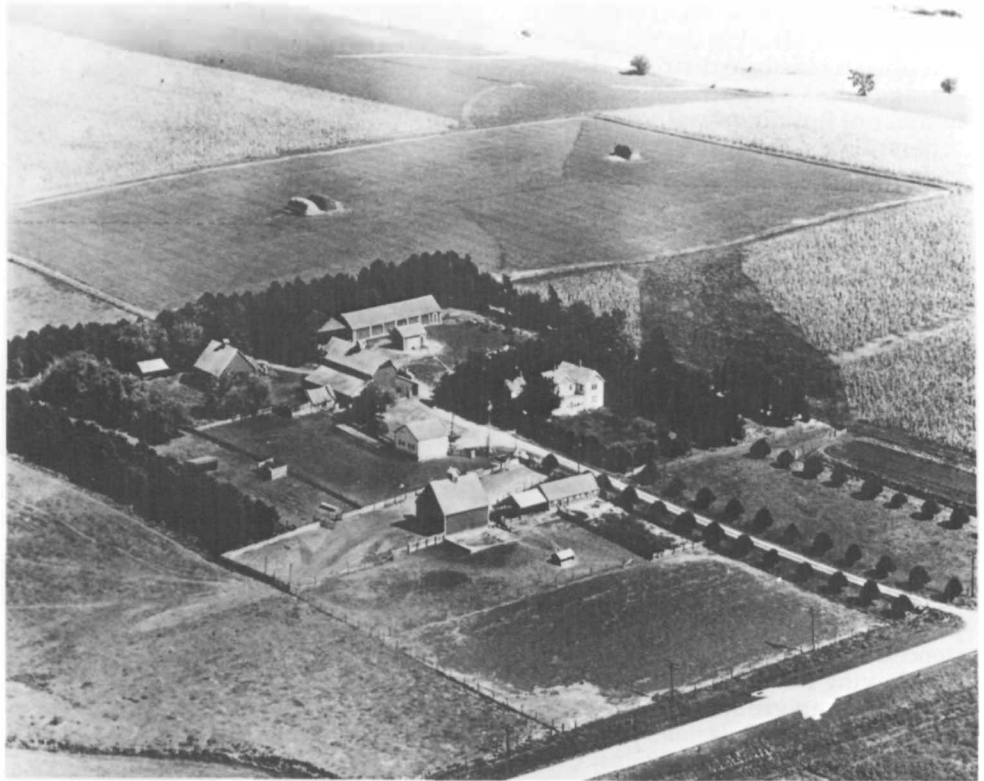
Linda Flint McClelland
National Park Service
and
J. Timothy Keller, ASLA
Genevieve P. Keller
Robert Z. Melnick, ASLA
Land and Community Associates

INTRODUCTION

This bulletin offers guidance to Federal agencies, State Historic Preservation Offices, Certified Local Governments, preservation professionals, and interested individuals in the successful preparation of nominations to the National Register of Historic Places and requests for determinations of eligibility for historic sites or districts known as *rural historic landscapes*. In recent years, there has been a growing interest among preservationists in recognizing and protecting the cultural values that centuries of land use and occupation have embodied in rural America. Understanding the forces that have shaped rural properties, interpreting their historical importance, and planning for their protection are current challenges in historic preservation. This bulletin responds to the many questions that have risen out of efforts to apply the National Register criteria to rural properties possessing significant land areas.

This bulletin defines a *rural historic landscape*, describes its characteristics, and suggests practical methods for survey and research. It also closely examines how the National Register criteria can be applied, significance and integrity evaluated, and boundaries drawn for rural properties having significant acreage. Finally, the bulletin discusses the information needed to register these properties in the National Register.

The bulletin is organized under three general headings—identification, evaluation, and registration. It puts forth a practical approach, not a complete or rigid methodology, that can be applied within a preservation planning framework to both the general development



The 160-acre Kehlbeck Farmstead in Cass County, Nebraska, reflects the standard historic property formed by the United States rectangular land survey. The farm's spatial organization indicates the separation of agricultural activities and many of the improvements, functional and aesthetic, that midwestern farms underwent in the late 19th and early 20th centuries. Landscape features include a formal allée and curved entry drive, windbreaks of Eastern Red Cedar and Austrian Pine, a farmyard with orchards and vegetable gardens, pastures with livestock enclosures, and outlying fields of corn, hay, or oats. (Nebraska State Historical Society)

of historic contexts and the evaluation of properties within rural areas. It should be used with National Register Bulletins, *Guidelines for Local Surveys: A Basis for Preservation Planning* and *Guidelines for Completing the National Register of Historic Places Forms*, which provide general guidance on developing historic context, conducting surveys and completing National Register forms.

WHAT IS A RURAL HISTORIC LANDSCAPE?

The *rural historic landscape* is one of the categories of property qualifying for listing in the National Register as a historic site or district. For the purposes of the National Register, a **rural historic landscape** is defined as a **geographical area that historically has been used by**

people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features.

Rural landscapes commonly reflect the day-to-day occupational activities of people engaged in traditional work such as mining, fishing, and various types of agriculture. Often, they have developed and evolved in response to both the forces of nature and the pragmatic need to make a living. Landscapes small in size and having no buildings or structures, such as an experimental orchard, are classified as sites. Most, however, being extensive in acreage and containing a number of buildings, sites, and structures--such as a ranch or farming community--are classified as historic districts. Large acreage and a proportionately small number of buildings and structures differentiate rural historic landscapes from other kinds of historic properties.

Distinct from designed landscapes (see *National Register Bulletin: How to Evaluate and Nominate Designed Historic Landscapes*), rural landscapes usually are not the work of a professional designer and have not been developed according to academic or professional design standards, theories, or philosophies of landscape architecture. The properties discussed in this bulletin possess tangible features, called landscape characteristics, that have resulted from historic human use. In this way, they also differ from natural areas that embody important cultural values but have experienced little modification, such as sites having religious meaning for Native American groups (see *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*).

A rural area may contain one or more rural historic landscapes. It may also include other kinds of historically significant properties, such as a railroad depot or a granary with little acreage. The National Register lists only those properties satisfying the National Register criteria for historical significance and integrity. An understanding of historic contexts is essential for identifying the significant properties of a rural area and determining the eligibility of any particular property.

Primary is **significance**, ascribed by specific criteria and weighed within the framework of a community, region, or State's historic contexts. Historic contexts provide background information



The cultivation of filberts, seen at Dorris Ranch in Lane County, Oregon, is just one of the many activities for which a rural landscape may be significant in agriculture. From a single orchard of 50 trees planted in 1903, George B. Dorris started a ranch that became known nationally for its production of filberts and hardy planting stock. Today, orchards cover 75 acres, contain 9250 trees, and produce an average of 56 tons of nuts annually. (Willamalane Park and Recreation District)

about the patterns of history and development that shaped a particular geographical area. This information links a rural property with important historic trends or themes, such as dairy farming or cattle grazing, indicating whether the property is unique or representative of its time and place. Contextual information also allows the grouping of properties having similar patterns of historic development, making it possible to weigh their relative importance.

Historic Integrity, a measure of a property's evolution and current condition, is also necessary. A comparison of the changes experienced by a group of properties related by common historic contexts helps define the historic characteristics and qualities of integrity that qualify a rural property for listing. Recent changes that have erased historic

characteristics, and do not have exceptional importance, make a property ineligible, even if scenic qualities are still present.

Spatial organization, concentration of historic characteristics, and evidence of the historic period of development distinguish a rural historic landscape from its immediate surroundings. In most instances, the natural environment has influenced the character and composition of a rural area, as well as the ways that people have used the land. In turn, people, through traditions, tastes, technologies, and activities, have consciously and unconsciously modified the natural environment. Politics, social customs, ownership, economics, and natural resources have determined the organization of rural communities and the historic properties they contain.

SYNOPSIS

A rural historic landscape is:

a geographic area that historically has been used by people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features.

The evidence of human use or activity is examined through eleven landscape characteristics:

- land uses and activities
- patterns of spatial organization
- response to the natural environment
- cultural traditions
- circulation networks
- boundary demarcations
- vegetation related to land use
- buildings, structures, and objects
- clusters
- archeological sites
- small-scale elements.

Rural historic landscapes are listed in the National Register as:

- sites or
- historic districts

following:

- identification of historic landscape characteristics,
- evaluation according to the National Register criteria, and
- documentation on a registration form.

To **identify** a rural historic landscape:

- develop historic context,
- conduct historic research, and
- survey the landscape.

To **evaluate** National Register eligibility:

- define significance,
- assess historic integrity, and
- select boundaries.

To **register** a rural historic landscape:

- complete the National Register Registration Form (NPS 10-900), and
- follow the procedures in 36 CFR Part 60.

TYPES OF RURAL HISTORIC LANDSCAPES

Rural historic landscapes usually fall within one of the following types based upon historic occupation or land use:

- agriculture (including various types of cropping and grazing)
- industry (including mining, lumbering, fish-culturing, and milling)
- maritime activities such as fishing, shellfishing, and shipbuilding
- recreation (including hunting or fishing camps)
- transportation systems
- migration trails
- conservation (including natural reserves)
- sites adapted for ceremonial, religious, or other cultural activities, such as camp meeting grounds.

Although diverse, these types all contain substantial areas of vegetation, open space, or natural features that embody, through past use or physical character, significant historical values. Buildings, industrial structures, objects, designed landscapes, and archeological sites may also be present. Many will be integrally related to historic activities and contribute to the significance of a large historic district. Some may also qualify individually for listing in the National Register.

Rural historic landscapes, especially those composed of a variety of land uses, may incorporate more than one of the types listed above. While this bulletin introduces a methodology that can be used for evaluating all of the above types, it focuses primarily on agricultural properties.

CHARACTERISTICS OF THE RURAL LANDSCAPE

A classification system of eleven characteristics has been developed for **reading** a rural landscape and for **understanding** the natural and cultural forces that have shaped it. **Landscape characteristics are the tangible evidence of the activities and habits of the people who occupied, developed, used, and shaped the land to serve human needs; they may reflect the beliefs, attitudes, traditions, and values of these people.**

The first four characteristics are **processes** that have been instrumental in shaping the land, such as the response of farmers to fertile soils. The remaining seven are **physical components** that are evident on the land, such as barns



Drainage ditches and canals divide the agricultural fields and flat plains of Lake Landing in Hyde County, North Carolina. Implemented in the 19th century, this system made possible water transportation and the farming of swampy lowlands. Coastal plain cottages represent the common housing stock of the region. (J. Timothy Keller)

or orchards. Many, but not all, rural properties contain all eleven characteristics. When historic processes are linked to existing components, the rural landscape can be viewed as a unified whole. The chart on pages 15-18 shows the relationship of the eleven characteristics and the features represented by them.

This classification system is a tool for gathering and organizing information. First of all, it is used to develop historic contexts for rural areas. The processes define specific themes, such as dairy farming or Belgian settlement, that have influenced historic development. The physical components define historic features of the landscape that may be used to describe significant property types and to identify properties eligible for listing in the National Register.

Second, the system is used to identify and evaluate the significant properties of a rural area or to determine the eligibility of a particular rural landscape. Through field survey and historic research, characteristics are associated with specific features, such as field patterns or roadways, and provide an understanding of an area or property's historic land uses and physical evolution.

Third, as information about existing characteristics is related to the historic contexts for a geographical area, assessments of significance, integrity, and boundaries can be made for specific properties. Information is evaluated to determine whether, within a rural area or region, a large historic district or separate properties should be considered for listing in the National Register. A comparison of past and present characteristics within a single property helps determine whether the property retains historic integrity and what the National Register boundaries should be.

Finally, the classification system provides a format for documenting rural properties on National Register forms. It can be used to organize the description and statement of significance for a specific rural property on the registration form. It is also useful for organizing information about rural historic contexts and property types on the multiple property documentation form.

Processes

1. Land Uses and Activities: Land uses are the major human forces that shape and organize rural communities. Human activities, such as farming, mining, ranching, recreation, social events,



Rich deposits of lime and limestone ensured the prosperity and agricultural productivity of Oley Township, Pennsylvania. In response to the natural environment, settlers farmed fertile soil, operated limekilns, and constructed homes, barns, outbuildings, and walls of native limestone. (Oley Resource Conservation Project)

commerce, or industry, have left an imprint on the landscape. An examination of changing and continuing land uses may lead to a general understanding of how people have interacted with their environment and provide clues about the kinds of physical features and historic properties that should be present.

Topographic variations, availability of transportation, the abundance or scarcity of natural resources (especially water), cultural traditions, and economic factors influenced the ways people use the land. Changing land uses may have resulted from improved technology, exhausted soils or mineral deposits, climatic changes, and new economic conditions, as well as previous successes or failures. Activities visible today may reflect traditional practices or be innovative, yet compatible, adaptations of historic ones.

2. Patterns of Spatial Organization:

The organization of land on a large scale depends on the relationship among major physical components, predominant landforms, and natural features. Politics, economics, and technology, as well as the natural environment, have influenced the organization of communities by determining settlement patterns, proximity to markets, and the availability of transportation.

Organization is reflected in road systems, field patterns, distance between

farmsteads, proximity to water sources, and orientation of structures to sun and wind. For example, spatial patterns can be seen in the grid of square mile townships and 160-acre farmsteads in the Midwest established by the land ordinances of 1785 and 1787, the distribution of towns every seven miles along a railroad corridor, and the division of land in Louisiana, by the French long-lot system, to ensure that every parcel has river frontage.

Large-scale patterns characterizing the settlement and early history of a rural area may remain constant, while individual features, such as buildings and vegetation, change over time. Changes in technology, for example, may have altered plowing practices, although the location of plowed fields, and, therefore, the overall historic pattern may remain the same.

3. Response to the Natural Environ-

ment: Major natural features, such as mountains, prairies, rivers, lakes, forests, and grasslands, influenced both the location and organization of rural communities. Climate, similarly, influenced the siting of buildings, construction materials, and the location of clusters of buildings and structures. Traditions in land use, construction methods, and social customs commonly evolved as people responded to the physiography and ecological systems of the area where they settled.



Taro, the staple of the islanders' daily diet is the primary crop of Hanalei, Hawaii. Traditionally grown, it is dependent on a warm humid climate and wetland agriculture made possible by abundant rainfall and irrigation. (Robert Z. Melnick)

Taro fields separated by earthen dikes, forested mountains, rivers and irrigation ditches, and a system of roads define the pattern of spatial organization and characterize the area's wetland agriculture in Hanalei, Hawaii. (Robert Z. Melnick)

Early settlements frequently depended upon available natural resources, such as water for transportation, irrigation, or water power. Mineral or soil deposits, likewise, determined the suitability of a region for particular activities. Available materials, such as stone or wood, commonly influenced the construction of houses, barns, fences, bridges, roads, and community buildings.

4. Cultural Traditions: Cultural traditions affect the ways that land is used, occupied, and shaped. Religious beliefs, social customs, ethnic identity, and trades and skills may be evident today in both physical features and uses of the land. Ethnic customs, pre-dating the origins of a community, were often transmitted by early settlers and perpetuated by successive generations. Others originated during a community's early development and evolution. Cultural groups have interacted with the natural environment, manipulating and perhaps altering it, and sometimes modifying their traditions in response to it.

Cultural traditions determined the structure of communities by influencing the diversity of buildings, location of roads and village centers, and ways the land was worked. Social customs dictated the crops planted or livestock raised. Traditional building forms, methods of construction, stylistic finishes, and functional solutions evolved

in the work of local artisans. For example, rustic saunas appeared among the outbuildings of Finnish farmsteads in northwestern Michigan, while community churches occupied isolated crossroads in the High Plains. Taro, grown as a staple in the Hawaiian daily diet, also assumed an important role in the traditional luau. At the Amana Colonies in Iowa, large expanses of farmland and forest, based upon communal ownership, a village settlement pattern, and religious beliefs, varied from the rectangular grid typical of midwestern family farms.

Components

5. Circulation Networks: Circulation networks are systems for transporting people, goods, and raw materials from one point to another. They range in scale from livestock trails and footpaths, to roads, canals, major highways, and even airstrips. Some, such as farm or lumbering roads, internally served a rural community, while others, such as railroads and waterways, connected it to the surrounding region.

6. Boundary Demarcations: Boundary demarcations delineate areas of ownership and land use, such as an entire farmstead or open range. They also separate smaller areas having special functions, such as a fenced field or enclosed corral. Fences, walls, tree

lines, hedge rows, drainage or irrigation ditches, roadways, creeks, and rivers commonly marked historic boundaries.

7. Vegetation Related to Land Use: Various types of vegetation bear a direct relationship to long-established patterns of land use. Vegetation includes not only crops, trees, or shrubs planted for agricultural and ornamental purposes, but also trees that have grown up incidentally along fence lines, beside roads, or in abandoned fields. Vegetation may include indigenous, naturalized, and introduced species.

While many features change over time, vegetation is, perhaps, the most dynamic. It grows and changes with time, whether or not people care for it. Certain functional or ornamental plantings, such as wheat or peonies, may be evident only during selected seasons. Each species has a unique pattern of growth and life span, making the presence of historic specimens questionable or unlikely in many cases. Current vegetation may differ from historic vegetation, suggesting past uses of the land. For example, Eastern red cedars or aspens indicate the natural succession of abandoned farmland in the Midwest.

8. Buildings, Structures, and Objects: Various types of buildings, structures, and objects serve human needs related

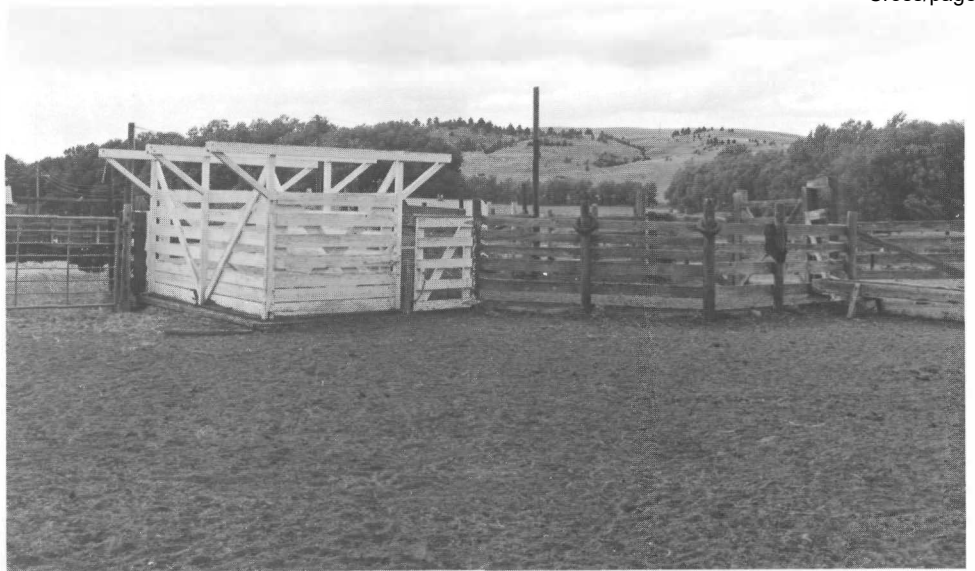
to the occupation and use of the land. Their function, materials, date, condition, construction methods, and location reflect the historic activities, customs, tastes, and skills of the people who built and used them.

Buildings—designed to shelter human activity—include residences, schools, churches, outbuildings, barns, stores, community halls, and train depots. Structures—designed for functions other than shelter—include dams, canals, systems of fencing, systems of irrigation, tunnels, mining shafts, grain elevators, silos, bridges, earthworks, ships, and highways. Objects—relatively small but important stationary or movable constructions—include markers and monuments, small boats, machinery, and equipment.

Rural buildings and structures often exhibit patterns of vernacular design that may be common in their region or unique to their community. Residences may suggest family size and relationships, population densities, and economic fluctuations. The repeated use of methods, forms, and materials of construction may indicate successful solutions to building needs or demonstrate the unique skills, workmanship, or talent of a local artisan.

9. Clusters: Groupings of buildings, fences, and other features, as seen in a farmstead, ranch, or mining complex, result from function, social tradition, climate, or other influences, cultural or natural. The arrangement of clusters may reveal information about historical and continuing activities, as well as the impact of varying technologies and the preferences of particular generations. The repetition of similar clusters throughout a landscape may indicate vernacular patterns of siting, spatial organization, and land use. Also, the location of clusters, such as the market towns that emerged at the crossroads of early highways, may reflect broad patterns of a region's cultural geography.

10. Archeological Sites: The sites of prehistoric or historic activities or occupation, may be marked by foundations, ruins, changes in vegetation, and surface remains. They may provide valuable information about the ways the land has been used, patterns of social history, or the methods and extent of activities such as shipping, milling, lumbering, or quarrying. The ruins of mills, charcoal kilns, canals, outbuildings, piers, quarries, and mines commonly indicate previous uses of the land. Changes in vegetation may indi-



The corral cluster at Spade Ranch in Sheridan County, Nebraska, contains numerous structures associated with the historic functions of a cattle ranch. These include scales for weighing livestock; pens for sorting, breaking, and branding; and chutes for roping and loading. (David Murphy)



One of the most extensive and intact clusters of agricultural outbuildings in the Lake Landing Historic District, Hyde County, North Carolina, consists of a wash house, outhouse, biggy house, harness shed, chicken house, two barns, and wood fences. (Timothy Keller)

cate abandoned roadways, homesites, and fields. The spatial distribution of features, surface disturbances, subsurface remains, patterns of soil erosion and deposition, and soil composition may also yield information about the evolution and past uses of the land.

11. Small-scale elements: Small-scale elements, such as a foot bridge or road sign, add to the historic setting of a rural landscape. These features may be characteristic of a region and occur repeatedly throughout an area, such as limestone fence posts in Kansas or cat-

tle gates in the Buffalo River Valley of Arkansas. While most small-scale elements are long-lasting, some, such as bales of hay, are temporal or seasonal. Collectively, they often form larger components, such as circulation networks or boundary demarcations. Small-scale elements also include minor remnants, including canal stones, road traces, mill stones, individual fruit trees, abandoned machinery, or fenceposts, that mark the location of historic activities, but lack significance or integrity as archeological sites.



Fishing boats, wharves, canals, and a cluster of dwellings at Skamokawa, Washington, illustrate the important role that salmon-fishing has played along the Columbia River since the mid-19th century. (Jake Thomas)

SKILLS REQUIRED

Examination of a rural area frequently requires the combined efforts of historians, landscape historians, architectural historians, architects, landscape architects, archeologists, and anthropologists. Depending on the area, the specialized knowledge of cultural geographers, plant ecologists, folklorists, and specialists in the history of agriculture, forestry, mining, transportation, and other types of land use may also be of assistance.

To prepare nominations for rural historic landscapes, persons should be able to identify various landscape characteristics during field investigations and should know the terminology used to describe the major processes, uses, and physical components visible in the landscape. They should also be familiar with the historical development of the region where they are working, know how to research appropriate sources, and understand the roles of the specialists listed above.

IDENTIFICATION

An in-depth study is necessary to identify the significant historic properties of a rural area or to determine if the area as a whole is a historic district. An understanding of important aspects

of a community, region, or State's historic development and physiography, in the form of historic contexts, helps identify rural areas that merit study and indicates the reasons they may be significant.

The study requires several steps: the history of the area targeted for study is related to local or State contexts, historical records are examined, and existing landscape characteristics are surveyed. The purpose of the study is to gather the information needed to make decisions about the eligibility for the National Register of the entire area or smaller properties within it. The guidance below describes historic resource studies in rural areas; it supplements the general guidelines in *National Register Bulletin: Guidelines for Local Surveys: A Basis for Preservation Planning*.

Developing Historic Context

Information about the history and development of the rural area is organized into **historic contexts** based on common themes, periods of time, and geographical areas. A historic context is an important theme, pattern, or trend in the historical development of a locality, State, or the nation at a particular time in history or prehistory. Because

rural areas often reflect multiple land uses and physical evolution over many years, they usually relate to more than one historic context.

Themes derive from important aspects of development, such as settlement, dairy farming, railroad transportation, or gold mining. They are related to the specific periods of time and geographical areas that they were influential in shaping, for example, grain production in eastern Washington, 1860 to 1940. Each theme is associated with specific types of historic properties, such as granary complexes or large wheat-growing ranches, that may be eligible for listing in the National Register.

A knowledge of historic contexts can guide the selection of a study area that is likely to possess historic landscape characteristics and contain one or more significant properties, including rural historic landscapes. For example, the knowledge that cherry production played an important role in a State's agricultural economy since the early 20th century, or that reforestation has occurred in 80 percent of a county extensively farmed in the 1840s can lead to the identification of significant cherry-producing areas or reforested farms that have evidence of early land uses and division.

A knowledge of contexts provides a historical focus for conducting a rural study. It helps in determining the appropriate sources for research, survey techniques, professionals to make up the study team, and specialists to consult. It gives team members direction on the kinds of properties they are likely to encounter in the field, the characteristics they should look for and record, and the historical documentation that will be most useful for evaluating significance. It enables them to view landscape characteristics as integral parts of overall economic or social systems rather than isolated features. For example, a drainage ditch is seen as part of an extensive system of waterways that allowed thousands of acres of tidewater to be settled and farmed.

A **written statement of historic contexts** should be developed at the beginning of the study. The statement incorporates or references information about previously identified contexts and documented historic properties. It also documents contexts identified during the initial consideration of the study area. It includes research questions to guide the analysis of landscape characteristics and describes the characteristics that an eligible rural property

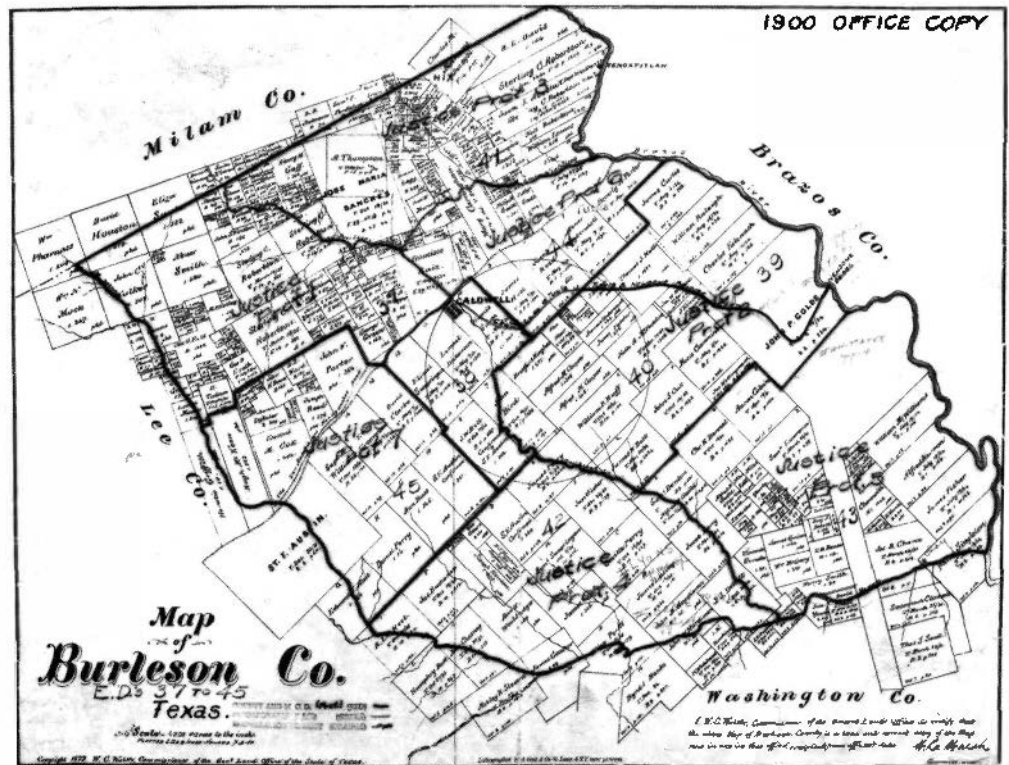
must possess. The statement can be refined, augmented, and revised as information is gathered during identification, as evaluation proceeds, and when National Register forms are completed.

State Historic Preservation Offices, Federal Preservation Officers, and some local governments, are defining historic contexts as part of their historic preservation planning process. These may be a source of comparative and thematic information about patterns of community or regional development, specialized activities, and properties important in the history of a particular State or locality.

Sources on both cultural and natural history should be consulted. Facts about the events, persons, groups, and physical development that shaped an area's cultural identity may be found in State or local histories, archeological studies, or specialized studies on topics such as transportation, ethnic heritage, vernacular architecture, irrigation, wheat farming, mining, or hardwood lumbering. Historic maps, plats, and land records provide valuable information about historic boundaries and ownership, circulation networks, clusters, and land uses. Studies on physical geography provide information about topography, soils, climate, natural vegetation, and water resources that determined land uses, circulation networks, and spatial organization. Ecological studies may address hydrology, climate, patterns of vegetation, and biotic communities that have influenced land uses, vegetation, and responses to the environment.

The eleven **landscape characteristics** relate to historic contexts in several ways. The four processes—land uses and activities, patterns of spatial organization, response to the natural environment, and cultural traditions—directly reflect themes on which contexts are based. Knowledge of a region's settlement patterns, natural topography, cultural influences, and historic land uses, provides an understanding of how a region was organized and developed historically. For example, waterways in the Colonial period influenced settlements around natural harbors and at the fords and falls of rivers, and Hispanic traditions of land division in New Mexico created a recurring pattern of long narrow fields.

Landscape processes explain how communities were structured and divided into smaller units based on ownership, land use, geography, politics,



Historic maps, such as this 1879 map of Burleson County, Texas, were used by the U.S. Census Bureau to determine district boundaries. These maps are now among the cartographic records of the National Archives. Local libraries, state archives, and published atlases are other good sources of historic maps. (Record Group 29, National Archives)

social custom, and economic needs. This information is a logical basis for defining **property types** that existed in a particular geographical area during a period of history, for example, a square-mile township, a 10,000-acre ranch, or a 160-acre farm. Rural property types can be described by the landscape characteristics and the features representing them.

Property types meeting the definition of rural historic landscape—such as a village cluster with outlying farms—become manageable units for survey, evaluation, and National Register listing. Landscape characteristics not only define the types, but also explain their interrelationship and evolution from a historical perspective. As survey and research proceed, the characteristics become the hallmarks of historic properties that should be considered for National Register listing.

Conducting Historic Research

Useful sources for studying the history of rural areas include: historic maps and plats, historic photographs, aerial photographs, census records, local and county histories, federal land-grant records, homestead papers, deeds and wills, diaries, commercial

records, newspapers, farm accounts and receipts, soil surveys, vegetation surveys, oral histories, local stories and folklore, and family records.

Selection of sources, for both general information and references to specific properties, should be based upon the statement of historic context and the character of the rural area under study.

Historic maps indicate the location of historic roads, settlements, mills, ports, quarries, and meeting houses. Land records, plats, deeds, and wills indicate the historic ownership of land, patterns of land division, and historic boundaries of properties. Historic photographs indicate changes in land use practices, land division, vegetation, and clusters. Historic periodicals may help date developments in technology, such as fencing materials, dry-land farming, or irrigation techniques, that have affected the division or character of land. In addition to original applications, homestead records at the Washington National Records Center (Suitland, Maryland) include the *proofs* filed after settlement to fulfill the terms of ownership; these describe early land uses, improvements, and buildings. Changes in spatial organization can be observed by comparing aerial photographs of various dates. Population schedules of the U.S. Census provide demographic

NATIONAL REGISTER PROCESS

Identification

- Develop historic context
- Conduct historic research
- Survey the landscape

Evaluation

- Define significance
 1. Apply the National Register criteria
 2. Select areas of significance
 3. Define period of significance
- Assess integrity
 1. Apply qualities of integrity
 2. Identify changes and threats to integrity
 3. Classify contributing and noncontributing resources
 4. Weigh overall integrity
- Select defensible boundaries
 1. Define the historic property
 2. Decide what to include
 3. Select appropriate edges

Registration

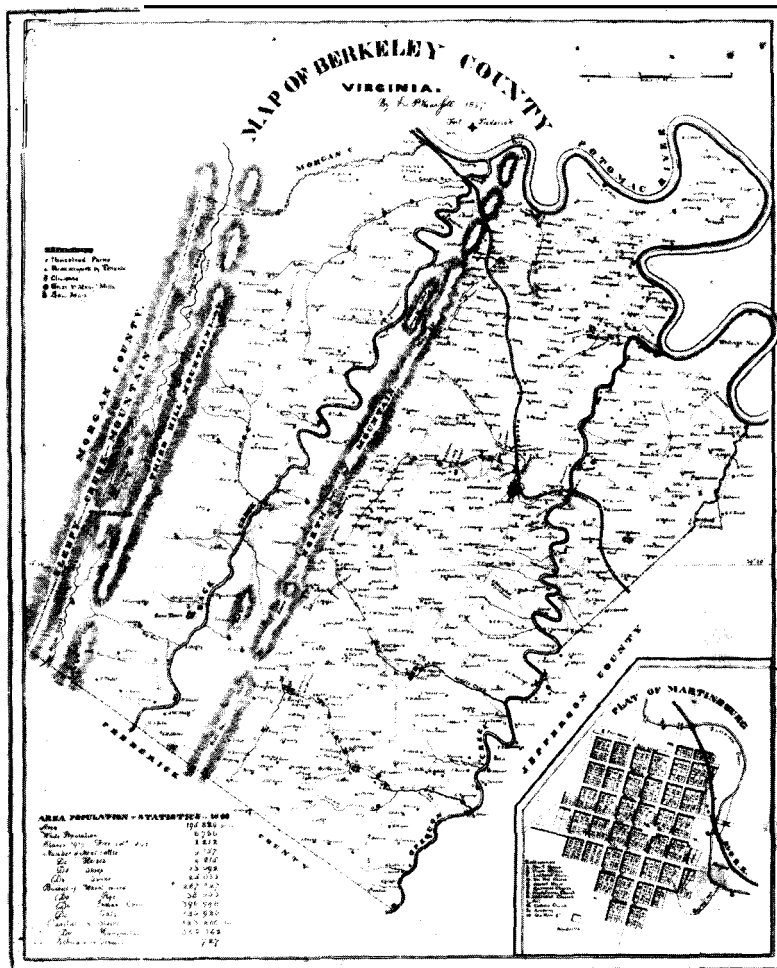
- Complete National Register form(s)
- Follow registration procedures in 36 CFR Part 60

information, such as the size of households, occupations, and ethnic associations. Also, census records for agriculture and industry provide data and statistics on the historic land uses, ownership, and productivity of an area. Agricultural census records may also indicate the kinds and numbers of livestock on farms, and whether they were fenced or at free range.

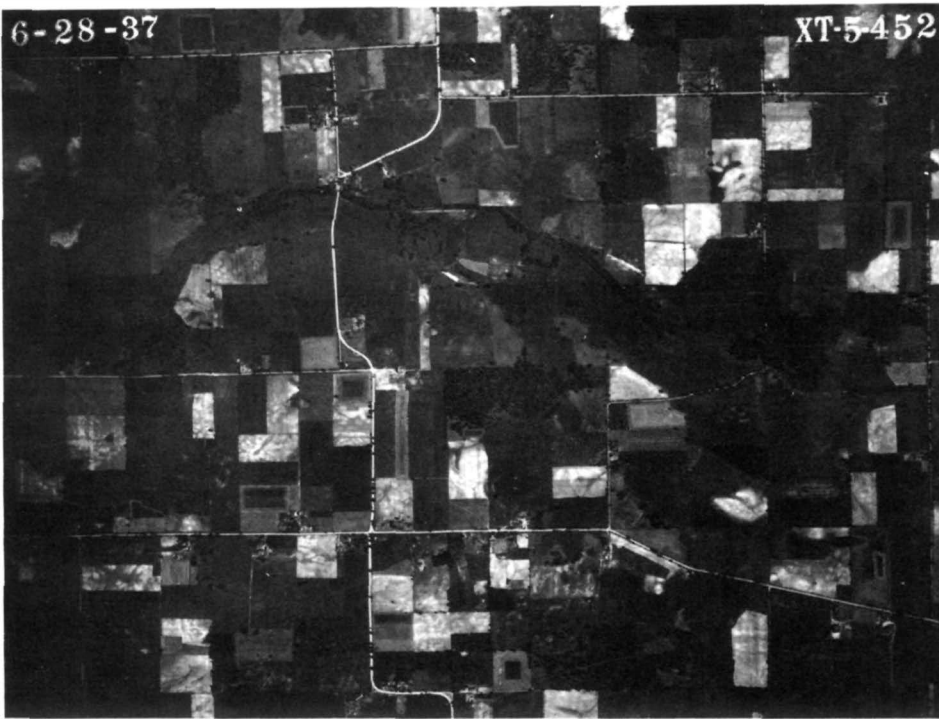
Agricultural practices generally vary from state to state, and region to region. Agricultural periodicals, such as the *Michigan Farmer* or *Connecticut Valley Farmer and Mechanics*, were published state by state or regionally beginning in the early 19th century. State colleges of agriculture, established under the Morrill Act of 1862, and experiment stations first established in 1887 became valuable sources of information for farmers on topics of science, agriculture, and even construction methods for farm buildings. Similarly, mining periodicals and the publications of mining schools, in many states, provide information about scientific and technological advances that affected mining activities.

Beginning in the 1930s, the U.S. Soil Conservation Service assumed an active role in shaping American farms by recommending the planting of wind breaks, revitalization of soils, contour plowing, and other techniques. Reports, pamphlets, and bulletins of federal agricultural programs may be found in university libraries and archives and the National Agricultural Library of the U.S. Department of Agriculture (Beltsville, Maryland). Aerial photographs and soil maps are available from the U.S. Department of Agriculture, National Archives, EROS Data Center of the U.S. Geological Survey, and private air photo services (see **Sources of Aerial Photographs**). Records of other federal agencies in the National Archives, including those of the Corps of Engineers, Bureau of Mines, Bureau of Fisheries, Coast Guard, and Forest Service, also provide information on rural land uses and activities.

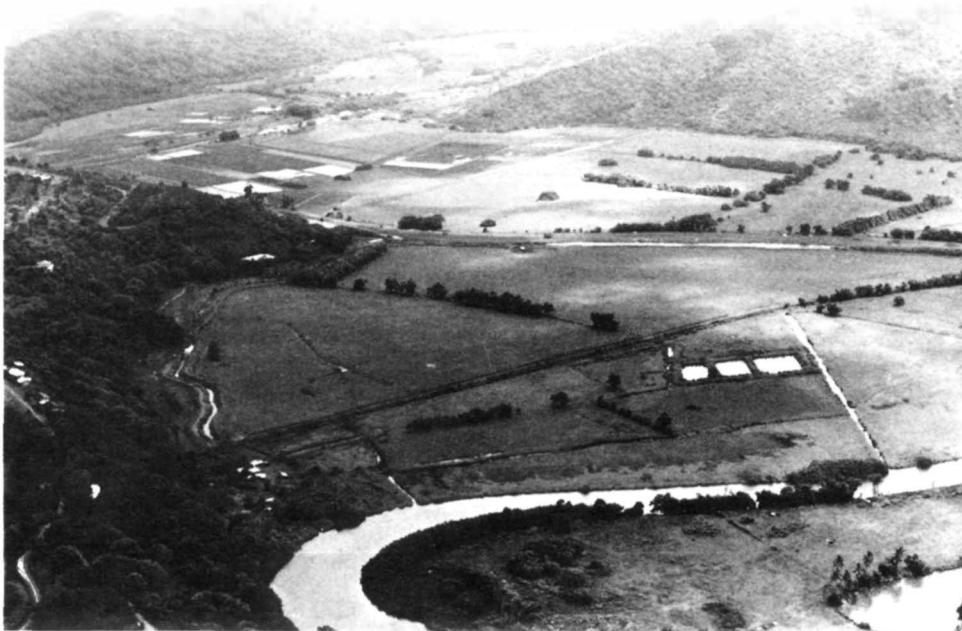
Oral history is often essential. Local farmers, foresters, mining engineers, and extension agents are often valuable sources of information about the agriculture, silviculture, or mining of a particular region. Onsite interviews with local farmers may provide insight into how a farm has been managed and what changes have occurred in the past 20 to 50 years. Other longterm residents, including merchants, teachers, librarians, and town officials, may recollect events or activities related to



An 1847 map of Berkeley County, Virginia (now West Virginia), indicated land ownership, roads and waterways, natural features, and county boundaries. It also provided statistics on acreage, population, crop production, livestock, schools, and manufacturing capital. (Record Group 77, National Archives)



In 1935, the Soil Conservation and Agricultural Stabilization and Conservation Services began recording rural areas through aerial photography. A 1937 photograph of South Lima Township, Washtenaw County, Michigan, shows a typical midwestern pattern of farmyard clusters, roads, orchards and fields, and wetlands. (Record Group 145, National Archives)



Aerial photography is a valuable tool for surveying large rural areas. A recent aerial view of Hanalei, Hawaii, shows the organization of taro fields, placement of irrigation ditches, system of roads, waterways and mountains, general areas of vegetation, and location of clusters. (Robert Z. Melnick)

changing community patterns. Information about current vegetation and agricultural practices is available from the agricultural extension service, State experimental stations, and plant ecologists and other scientists in universities and State government.

Surveying the Landscape

An onsite survey is essential in gathering information about a rural area, its characteristics, and condition. The chart on pages 15-18 provides a convenient checklist of the landscape charac-

teristics that can be used in the field. The boundaries of the survey area should be based on a knowledge of historic property types, as well as current planning needs. Field investigations should be directed at identifying existing landscape characteristics and determining the extent to which historic properties and characteristics remain intact.

The amount of documentation to be collected for each characteristic depends on its relative size, scale, and importance. The statement of contexts should be used as a guide for determining which characteristics are most important given the area's primary activities, associations, and period of development. If, for example, canals played a vital role in the region's early 19th century development, then locks, towpaths, canal sections, natural waterways, and associated buildings should be given particular attention. Landscape characteristics meeting the National Register definitions of building, site, structure, and object, furthermore, require classification as contributing or noncontributing and must be located on a sketch map that will accompany the National Register form.

To view a rural area from various perspectives and observe landscape characteristics, the survey team should:

- travel all roadways;
- gain access to as much acreage as possible, on foot or by car, horse, bicycle, boat, or other means appropriate to study area;
- cover fields, orchards, forests, mines, waterways, pastures, and open range; and
- examine abandoned roadways, land use areas, and homesites, as well as those still in use.

Surveyors should be prepared to take photographs and make detailed notes and sketch maps in the field. They should be acquainted with the general history of the area, including major land uses, important persons and events, historic property types, and the landscape characteristics that are likely to exist. They should be equipped with maps and photographs from various time periods, as well as current topographic and base maps, for reference during field investigations. On site, surveyors should:

- describe and mark on a sketch map major natural features, archeological sites, buildings, bridges, outbuildings, roadways, waterways, orchards, fields, pastures, quarries, mining shafts, and boundary demarcations;

EBEY'S LANDING NATIONAL HISTORICAL RESERVE PNR0 INVENTORY

National Park Service Pacific Northwest Region Cultural Resources Division
Westin Building, Room 1920 2001 Sixth Avenue Seattle, Washington 98121

SITE ID: N. 66L 4. T. 21N. R. 1E QUAD NAME: COUPEVILLE

SOURCES: USGS FIELD OBSERVATION AIR PHOTOS OTHER DATE: SEPT. 1983 INVENTORIED BY: GILBERT/SCENA

FILM UNITS: LA 13-24, 31 LA 41-21, 22, 24, 27

DESCRIPTION: This half section in the northern portion of Ebey's Prairie and includes the commercial part of Coupeville known as Prairie Center. Primary access is along Engle and Terry roads which intersect in Prairie Center and along Cook Road which runs northwest across the prairie. Pasture lands and croplands surround the commercial district with higher residential densities clustered within the Coupeville city limits.

LANDUSE CATEGORY	< 10	10-35	35-50	50-75	75-100	LANDUSE ACTIVITY	BOUNDARY DEMARCATION
% AGRICULTURE						CROPLAND: <input checked="" type="checkbox"/> ROTATING <input type="checkbox"/> PERMANENT	TOPOGRAPHIC: EDGE OF RIDGE IN NW DIVIDES UPLANDS FROM PRAIRIE
% RANCHING						PASTURE: <input checked="" type="checkbox"/> GRAZING <input type="checkbox"/> HOLDING	VEGETATIVE: SMALL WETLAND EAST OF CITY LIMITS
% NATURAL VEGETATION						<input type="checkbox"/> FOREST <input type="checkbox"/> GRASSLAND <input type="checkbox"/> WETLAND	ROAD: TERRY ROAD, ENGLE ROAD, COOK RD.
% RESIDENTIAL						DWELLINGS: <input type="checkbox"/> MULTIPLE <input type="checkbox"/> SINGLE	FENCE: WOOD POST AND WIRE IN PASTURE AND ALONG PROPERTY LINES
% COMMERCIAL						<input type="checkbox"/> TOWN <input type="checkbox"/> SINGLE BUILDING <input type="checkbox"/> GROUP	WATER:
% PARK						RECREATION:	OTHER: COUPEVILLE CITY LIMITS

NOTES: PRAIRIE CENTER COMMERCIAL DISTRICT

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

SITE MAP NORTH SCALE 1:8000 1/4 mi 1/2 mi

LOCATION MAP

LEGEND

CIRCULATION NETWORK

- HIGHWAY
- MAJOR ROAD
- - - SECONDARY RD
- - - GRAVEL RD
- - - FOOTPATH

BOUNDARIES

- x-x-x-x FENCE
- ||||| HEDGEROW
- ||||| MILITARY RES.
- ||||| HISTORICAL RES.
- WATER
- ||||| WOODLANDS

STRUCTURES

- BUILDING
- HIST. BUILDING

CROSS REFERENCE

A3-4-74-89, 120
A7-4-201-205, 207, 200, 210

SECTION HORIZONTAL 1:666 VERTICAL 1:166

EBEY'S PRAIRIE COUPEVILLE EBEY'S PRAIRIE

PANORAMA

- identify vegetation that is predominant or related to land uses;
- date features as accurately as possible (they can be verified by historical research before or after field investigation);
- record the condition of characteristics, noting the evidence of historic field patterns, roadways, or boundary markers; deteriorated and altered buildings and structures; ground disturbances; new land uses and construction; age and condition of vegetation; abandoned fields or roads; reforested areas; relocated farm structures;
- note visible changes in the landscape, by comparing historic and contemporary views provided by maps, illustrations, and photographs. Indicate changes to the historic boundaries of properties due to subdivision, consolidation, growth, or abandonment;
- relate characteristics to the statement of context and historical data, by associating existing features with specific historic activities, land uses, persons, customs, and periods of time; and
- note any characteristics or processes requiring further research.

Field observations should be recorded in a standard format that can be readily used for evaluation, registration, and planning. Landscape characteristics as well as categories of information for buildings, engineering structures, districts, and archeological sites should be included. To facilitate recording landscape characteristics, the survey area should be divided into geographical units, perhaps based on the boundaries of properties under single ownership, or on quarter or half sections of United States Geological Survey (USGS) topographical maps.

Aerial surveys are useful for examining large tracts of land. Aerial views can help determine the spatial relationships among natural features, areas of land use, vegetation, waterways, roadways, and buildings and structures. When photographed at appropriate times of year, aerial views may reveal details such as stone walls or ruins that may otherwise be obscured by foliage or dense vegetation. Aerial surveys are most helpful in identifying field patterns and land division, but they are of little help in describing the condition of individual structures and buildings. Aerial photographs taken with infrared film distinguish plant materials of differing types and age, and often detect abandoned roads, buried walls, and

Form used to survey the 17,000-acre Ebey's Landing National Historical Reserve in Washington recorded landscape characteristics, percentage of land uses, types of land use activities, natural topography, types of vegetation, roadways, fences, and buildings and structures. Each form covered a half-section (320 acres) of the USGS topographic grid and was supplemented by a panoramic photograph, representative photographic views, a site map, and a sectional diagram. (Pacific Northwest Regional Office, National Park Service)

SUGGESTIONS FOR COMPLETING A RURAL SURVEY

- 1. Be comprehensive** both in documentary research and site observations. Important information may be found in state and county offices, but also in local historical museums, in family collections, or through personal recollections. The physical evidence present in the landscape itself is an important source of information.
- 2. Use the statement of historic contexts as a guide** for identifying historic properties and judging what features require the greatest attention and contribute most to historic significance. Do not hesitate to change, refine, and add to the statement as the survey proceeds. Early ideas help guide and shape further investigations.
- 3. Be well equipped** as you enter the field with both a knowledge of the history of the area and personal tools such as maps, aerial photos, sketch pads, markers, note pads, cameras, compasses, and binoculars. Being ready *physically* may be just as important as being well-prepared intellectually. Necessities such as gasoline, water, or food are not always readily available in rural areas. Field work may require special outfitting and provisions, such as hiking boots, rain gear, or insect repellent.
- 4. Be sensitive** to ongoing rural activities and the rights of property owners. Receive permission before entering private land. Inquire about unsafe conditions or areas that are *off-limits*, such as newly planted fields, animal pens, uncovered wells, open mining shafts, sink holes, traps, poison ivy, or potentially dangerous animals—domestic or wild. Close gates behind you, and take care not to interrupt working operations.
- 5. Listen to the people who know the landscape.** Talk with people, try to understand the history of the place from the viewpoint of the people who live and work there. Have specialists in aspects of agriculture, mining, or local history and ecology accompany you in the field; they can provide important insights.
- 6. Keep careful records** of photographs, maps, notes, ideas, and thoughts. Record the subject and vantage point of each photograph, and key the information, if possible, to a map or aerial photograph while you are in the field since this information may be difficult to recollect back in the office. Also record the film roll number, frame number, date, and photographer.
- 7. Remember, always, landscapes change.** Historic photographs are good indicators of the ways things were and can be used to compare changes over time. Do not expect to find any property in its historic condition. Look for the landscape of the past as you would expect it to appear today. Trees may be larger, ground cover may be different, buildings may have been moved, fences may be lost or in relic condition, and farming techniques may have changed.
- 8. Do not rely upon any single source.** Check and counter-check any information. Eyewitness accounts are not always accurate and historical photographs can sometimes be misleading. Judge the value of each historical photograph; it may record a moment in time, but not necessarily an important one.

refuse sites not visible from the ground.

Computerized Geographic Information Systems (GIS) are useful in analyzing data about rural land uses, viewsheds, clusters, and vegetation. Aerial photographs, historic maps, and current maps can be compared to determine the nature and extent of land use changes through time. GIS can create a standard scale for maps and photographs having different scales. Topographic information can be plotted with rural landscape characteristics to determine spatial organization and visual relationships by using typical operations such as map overlays, distance calculations, and interpolation. These operations can also be used to define the boundaries of National Register properties and to assess the visual impact of land use changes.

EVALUATION

Evaluation entails three major activities: defining significance, assessing historic integrity, and selecting boundaries. Information gathered through historic research and field survey is related to the study area's historic contexts to determine the extent to which identified properties possess the characteristics of important rural property types. Significance, integrity, and boundaries depend upon the presence of tangible landscape features and the evidence of the processes, cultural and natural, that have shaped the landscape.

Historical facts and survey data should verify the presence of significant historic landscape characteristics and the condition of the properties that made up a community or region historically. For example, the historic patterns of an agricultural community subject to increasing suburbanization may be evident in eight farms having at least 75 percent of their historic acreage, a substantial number of historic buildings, and compatible agricultural use.

Patterns of change, within a regional or local context, may affect significance. For example, in a six-county region of a midwestern State, typical farmsteads contain similarly arranged clusters of corncribs, sugar houses, wellhouses, and poultry pens; fruit orchards of a standard size; maple-lined roadways, and fenced pastures. As changing agricultural methods and new land uses destroy more and more of these characteristics, isolated communities and individual farmsteads retaining the historic configuration may become eligible for National Register listing.

Properties relating to the same historic contexts may be compared to identify those eligible for listing in the National Register and to determine the relative level—local, State, or national—at which the property is significant. For example, several communities in Nebraska may have local significance for their association with Russian settlement; when they are compared, only those with a high degree of integrity, exhibited in intact field patterns, boundary demarcations, roadways, clusters of vernacular structures and buildings, and continuing traditional activities, have statewide importance.

Defining Significance

An understanding of significance is paramount. It is necessary, first, to determine whether a rural property meets the National Register criteria, and, second, to guide decisions about integrity and boundaries. Historical facts are examined to define those periods of time and aspects of development in which a specific property contributed to the broad themes, or historic contexts, important to its community, State, or the nation.

1. Apply the National Register Criteria

A property must possess significance in at least one of the four aspects of cultural heritage specified by the National Register criteria. Because of their complex evolution and the layering of subsequent land uses without destroying previous ones, many rural landscapes have significance under several criteria.

The criteria can be applied to the study area as a whole and to smaller properties within it. Judgements of significance are made by relating facts about the history and existing landscape characteristics of the study area to the themes and property types recognized as important by the area's historic contexts.

CRITERION A

Criterion A applies to properties associated with events that have made significant contributions to the broad patterns of history. Some events may have been brief, such as a battle or treaty signing. Others may be activities that spanned long periods of time and underwent substantial change, such as dairy farming or silver mining.

Criterion A recognizes the significant contributions that rural properties have



Integrity of feeling is a composite of several factors—association, location, design, materials, and setting. Reflecting many years of local use, a country road in Goose Creek Historic District in Loudoun County, Virginia, retains its historic location, narrow width, unpaved surface, incidental vegetation, pastoral setting, and rural feeling. (Virginia Department of Historic Resources)

made through diverse events and activities, including exploration, settlement, ethnic traditions, farming, animal husbandry, ranching, irrigation, logging, horticulture, fishing, fish culturing, mining, transportation, and recreation. Village and farm clusters, fields and other land use areas, roadways, natural features, vegetation, and boundary demarcations may together illustrate important events and activities that led to a community's development.

Although significant events are often closely related to land uses, historic significance should not be equated with general land uses or the functions of specific buildings or structures. A rural agricultural community may be more important for the role its founders played in settlement and ethnic heritage, than for the logging, farming, or fishing activities that sustained its economy. A canal system may have significance for its impact on the settlement and agricultural development of a region but have little importance in the history of transportation routes.

Many rural properties contain landscape characteristics related to agricultural land uses and practices. Eligibility for significance in agriculture on a local level depends on several factors. First, the characteristics must have served or resulted from an important event, activity, or theme in agricultural development as recognized by the historic contexts for the area. Second, the property must have had a direct involvement in the significant events or activities by contributing to the area's economy, productivity, or identity as an agricultural community. Third, through historic landscape characteristics, the property must cogently reflect the period of time in which the important events took place.

CRITERION B

Criterion B applies to properties associated with the lives of persons significant in our past. Such persons may

have, by their success, talent, or ingenuity, contributed to the historic development or economic prosperity of their community, for example, a prominent rancher who successfully employed newly available irrigation for citrus-growing in the Southwest.

Significance under criterion B is often unrelated to historic uses. This is particularly true of farms that were the home of political leaders, writers, poets, artists, or industrialists. For example, *Connemara*, in Flat Rock, North Carolina, is significant as the home where poet Carl Sandburg spent the last 22 years of his life and wrote much of his poetry. Historic landscape characteristics are important in establishing the historic association and setting of these properties.

Properties, such as *centennial farms*, are recognized in many States for the ownership or contributions of one family over a long period of time. These properties qualify for National Register listing, under criterion B, **if the accomplishments of one or more family members stand out.** (The cumulative accomplishments of several individuals or the continuing operation of the farm over several generations may meet criterion A).

CRITERION C

Criterion C applies to properties embodying the distinctive characteristics of a type, period, or method of construction; possessing high artistic values; or representing a significant and distinguishable entity whose components may lack individual distinction.

Significant physical qualities may be present in a number of ways. The organization of space, visible in the arrangement of fields or siting of farmsteads, may illustrate a pattern of land use significant for its representation of traditional practices unique to a community. Buildings and outbuildings, whether high-style or vernacular, may be distinctive in design, style, or method of construction, and be representative of historic local or regional trends. Similarly, an irrigation or transportation system may reflect an important innovation in engineering that fostered a community's prosperity. Rural landscapes may also contain smaller, designed landscapes that have importance. These may include a formal garden having high artistic value or a farmyard laid out according to a professionally designed plan such as those published in agricultural journals and State extension service bulletins.



Homesteaded in the 1890s, the 40-acre Hanka Farm on the Keweenaw Peninsula, Michigan, retains its early organization. Significant features include a curvilinear indrive, abandoned apple orchard and fields, and numerous log buildings. Within one of the earliest and largest Finnish rural communities in the United States, the farm reflects cultural traditions and building types, such as the savusauna or smoke sauna, that were transferred from northern Europe and adapted to the climatic, physical, and social conditions of the western Great Lakes region. (Alan C. Pape)



Silver-mining spurred development along Clear Creek between Georgetown and Silver Plume, Colorado, in the 1870s and 1880s. By 1900, mine entrances, the ore-processing mill, and an extensive underground network of tunnels and shafts lay abandoned. The Georgetown Loop Railroad, constructed in 1877 to transport silver ore and characterized by dramatic cuts in grade, however, continued to operate as a popular tourist attraction. (William H. Jackson, State Museum of Colorado)

DOCUMENTATION OF LANDSCAPE CHARACTERISTICS

Landscape characteristics are the tangible evidence of the activities and habits of the people who occupied, developed, used, and shaped the landscape to serve human needs; they may reflect the beliefs, attitudes, traditions, and values of these people.

This chart summarizes the kinds of data, gathered through field survey and historic research, to be described on National Register forms. Certain landscape characteristics require location, dating, and detailed description, while others may be described collectively as they contribute to the general character and setting of the landscape. Generally those meeting the definitions used in the National Register for **buildings, structures, objects, and sites**, require the most detail. An asterisk * identifies those characteristics that should be located on sketch maps accompanying National Register forms. Preservation planning and management may call for additional documentation, for example, a detailed site plan of types of vegetation.

The features within a landscape are the physical evidence of past uses, events, and associations. They may reflect a variety of activities occurring at one time, or evolving functions in different periods of time, for example, orchards planted sequentially as a farm's productivity increased. They may or may not be historic, or contributing to the significance for which the landscape meets the National Register criteria. Although the larger and most prominent characteristics require the greatest documentation, those, less prominent, help define the landscape's setting and character, and should not be overlooked. The characteristics of a landscape interrelate and may, in some cases, overlap, for example, cultural traditions may be evident in structures and buildings, spatial organization, vegetation, and clusters.

Characteristics	Features	Documentation
Land Uses and Activities	Fields, pastures, orchards, open range, terraces, commons, cemeteries, playing fields, parks, mining areas, quarries, and logging areas.	<ul style="list-style-type: none"> • Describe principal and significant land uses. • Identify the tangible features related to land uses by type, general location, dates of use, condition, and related vegetation. • Describe historic processes related to land use, such as mining, irrigation, lumbering, contour farming, or quarrying. • Point out obsolete historic operations, ongoing traditional practices, or modern adaptations related to significance. • Identify threats to integrity, and indicate their location, extent, and impact on historic integrity. * Identify areas having major importance or predominance, by location and type, and classify as historic or nonhistoric.

Characteristics	Features	Documentation
Patterns of Spatial Organization	Overall pattern of the circulation networks, areas of land use, natural features, clusters of structures, and division of property.	<ul style="list-style-type: none"> • Describe any patterns characterizing the landscape as a whole. • Relate patterns to land uses and activities, responses to nature, and cultural traditions. • Relate spatial organization to components, including vegetation, boundary demarcations, and circulation networks. • Describe and locate any areas where historic spatial organization is particularly visible or substantially lost.
Response to the Natural Environment	Adaptations to climate and natural features seen in land use, orientation of clusters, construction materials, design of buildings, and methods of transportation.	<ul style="list-style-type: none"> • Describe the physical environment and ecological systems of the region. • Describe the kinds of the features that have resulted from cultural adaptations or responses to the natural environment. * Identify natural features that have major importance or predominance, by name, type, and location.
Cultural Traditions	Land use practices, buildings and structures, ethnic or religious institutions, community organization, construction methods, technology, trades and skills, use of plants, craftsmanship, methods of transportation, and patterns of land division.	<ul style="list-style-type: none"> • Describe land use practices, patterns of land division, institutions, building forms, workmanship, stylistic preferences, vernacular characteristics, use of materials, and methods of construction that have been influenced by cultural tradition. • Identify the sources of cultural influences, and name specific individuals, such as artisans, builders, community leaders, or farmers, responsible for perpetuating or establishing such traditions. • Describe the kinds of features resulting from or exhibiting cultural traditions, and name, date, and locate the primary features reflecting such traditions.
Circulation Networks	Paths, roads, streams, or canals, highways, railways, and waterways.	<ul style="list-style-type: none"> • Describe the principal forms of transportation and circulation routes that facilitate travel within the landscape and connect the landscape with its larger region. • Name, date, and describe principal or significant examples. * Identify principal roadways and other transportation routes, by name, type, and location, and classify as contributing or noncontributing.

Characteristics	Features	Documentation
<p>Boundary Demarcations</p>	<p>Divisions marked by fences, walls, land use, vegetation, roadways, bodies of water, and irrigation or drainage ditches.</p>	<ul style="list-style-type: none"> • Describe the ways in which land ownership and activities are physically divided within the landscape, and discuss the differences between historic and current practices. • Relate boundary demarcations to overall spatial organization and regional patterns of land division. • Identify the predominant features that mark divisions within the landscape and locate important historic ones.
<p>Vegetation Related to Land Use</p>	<p>Functional and ornamental trees and shrubs, fields for cropping, treelines along walls and roads, native vegetation, orchards, groves, woodlots, pastures, gardens, allées, shelter belts, forests, and grasslands.</p>	<ul style="list-style-type: none"> • Describe principal, predominant, and significant vegetation, by type, condition, age, use, and general or specific location. • Discuss changes that have occurred in vegetation since the period of significance. • Relate the function, massing, and details of vegetation to land uses and activities, cultural traditions, and response to the natural environment. • For rotated crops, identify the general types of crops that might be grown over a period of several years.
<p>Buildings, Structures, and Objects</p>	<p>Buildings: residences, schools, churches, outbuildings, barns, stores, community halls, and train depots. Structures: dams, canals, tunnels, mining shafts, grain elevators, silos, bridges, earthworks, and highways. Objects: monuments, threshers, and cider mills.</p>	<ul style="list-style-type: none"> • Describe the kinds of buildings, structures, and major objects present. • Relate the function, form, materials, and construction of buildings, structures, and objects to land uses and activities, cultural adaptations, and response to the natural environment. • Identify patterns and distinctive examples of workmanship, methods of construction, materials, stylistic influences, and vernacular forms. • Describe the condition of historic buildings and structures, and nature of additions and alterations. • Describe the principal and most important buildings, structures, and objects, by name, type, location, date, function, condition, methods of construction, materials, stylistic influence, and, if known, builder. • Discuss the impact of nonhistoric construction and alterations on historic integrity. * Identify all buildings and structures and principal objects, by location, name or number, and type, and classify as contributing or noncontributing.

Characteristics	Features	Documentation
<p>Clusters</p>	<p>Village centers, farmsteads, cross-roads, harbors, and ranching or mining complexes.</p>	<ul style="list-style-type: none"> • Describe the clusters, historic and nonhistoric, found in the landscape, by general location, function, scale, spatial arrangement, density, condition, and composition. • Discuss any patterns visible in the arrangement, location, or presence of clusters, and relate these to spatial organization, cultural traditions, response to the natural environment, and land uses and activities. • Identify principal, representative, or important examples, by name, type, function, and location. • Discuss the impact of nonhistoric development on historic integrity. * Identify all buildings, structures, and principal objects comprising clusters, by type and location, and classify as contributing or noncontributing.
<p>Archeological Sites</p>	<p>Road traces, reforested fields, and ruins of farmsteads, mills, mines, irrigation systems, piers and wharves, and quarries.</p>	<ul style="list-style-type: none"> • Describe the types of archeological sites, their cultural affiliations, and the period of history or prehistory represented. • Indicate the extent of archeological sites within the landscape, their distribution, environmental setting, and general location. • Identify principal sites, by number or name and location, and describe surface and subsurface features, condition, disturbances, and any excavation or testing. * Identify all archeological sites, by site number or name, location, surface and subsurface characteristics, and condition.
<p>Small-scale Elements</p>	<p>Foot bridges, cow paths, road markers, gravestones, isolated vegetation, fence posts, curbstones, trail ruts, culverts, foundations, and minor ruins.</p>	<ul style="list-style-type: none"> • Describe the kinds of elements that collectively add to the landscape's setting, by type, function, general location, and approximate date. • Relate these elements to historic patterns of land use, spatial organization, cultural traditions, boundary demarcations, circulation networks, or vegetation. • Discuss the extent to which the loss of these has cumulatively affected historic integrity.



Although reforested, the abandoned fields and roads of Harrisville, New Hampshire, provide evidence of historic land division, agricultural practices, and social customs associated with the community's settlement and pre-industrial history. Stone walls, changes in vegetation, patterns of erosion and deposition, soil content, and remnant foundations are of primary interest to landscape archeologists who are examining patterns of land use or occupation for which there is little written documentation. (Duffy Monahan)

LANDSCAPE ARCHEOLOGY

It is relatively simple to determine when a building or structure has lost its structural integrity and any potential significance lies in its value as an archeological site. More difficult, however, is deciding when to treat a landscape as an archeological site. Abandoned land, when undisturbed by later development or construction, may retain surface or subsurface features that can provide information important to an understanding of historic or prehistoric activities. When land historically cleared and cultivated is reforested, visual qualities of the historic period are lost, yet landscape characteristics, such as walls, ditches, roadways, streams, and canals, may still be in place and capable of indicating important patterns of land use or organization.

Landscape archeology may involve the examination of characteristics, such as walls, road remnants, trail ruts, foundations, and refuse sites. It may also draw information from observable patterns of erosion and vegetation. A number of techniques may be used: analysis of soil stratigraphy; analysis of pollens and other sediments through flotation and core sampling to determine planting patterns; surficial surveys to identify remnant vegetation, boundary demarcations, and evidence of land use; analyses of existing vegetation or plant succession; remote sensing to detect buried walls, foundations, and roadways; and excavation to uncover buried irrigation systems, canals, or planting beds.

Assessments of significance are based on a well-formulated research design that considers the historic contexts for the study area. The research design needs to indicate the landscape characteristics that are represented in the site and the information the site is likely to provide about the landscape characteristics that shaped an area in history or prehistory. It must explain how the information will add to an understanding of the property. The lack of other sources of information, such as written records or intact properties, generally increases the importance of an archeological site.

Significance may be based on vernacular patterns of land use and division, architecture, circulation, and social order. These patterns may indicate regional trends or unique aspects of a community's development. An important pattern may be represented by a single farm, or be repeated by adjoining farms within a township or county. The recognition of important patterns may require in-depth primary research, multidisciplinary study, the judgment of experts, and comparisons with survey data from other areas. Landscape characteristics may be used to define these patterns and to establish a measure of integrity, as a guide for identifying eligible properties that illustrate these patterns.

CRITERION D

Criterion D applies to properties that have yielded or are likely to yield information important to prehistory or history. Surface or subsurface remains may provide information about agricultural or industrial land uses, settlement patterns, or ceremonial traditions. For example, the Hohokam-Pima Irrigation Canals in Arizona have provided information about the agricultural practices and engineering capabilities of the Hohokam culture from 1000-1450 A.D., and about the Pima Indians' reuse of the canals to irrigate crops in the 17th century.

Vegetation and landscape features may themselves provide archeological evidence. Pollen and soil studies, remote-sensing, and an examination of vegetation may provide valuable information about past uses or activities. The abandoned roadways, reforested fields, remnant stone walls, and farmstead clusters in Harrisville, New Hampshire, for example, indicate significant patterns of 18th and early 19th century land division and diversified agriculture. For additional guidance on historic archeological sites, see *National Register Bulletin: Guidelines for Evaluating and Registering Historical Archeological Sites and Districts*.

CRITERIA CONSIDERATIONS

National Register criteria considerations require some rural properties to meet additional standards. These include properties owned by religious organizations, cemeteries, commemorative properties, reconstructed farms, ceremonial sites, grounds associated with birthplaces or graves, and areas predominated by landscape characteristics less than fifty years of age.

THE NATIONAL REGISTER CRITERIA

The quality of *significance* in American history, architecture, archeology, culture, and engineering is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. that are associated with the lives of persons significant in our past; or
- C. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. that have yielded, or may be likely to yield, information important in prehistory or history.

Criteria Considerations (Exceptions): Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years *shall not be considered eligible* for the National Register. However, such properties *will qualify* if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- A. a religious property deriving primary significance from architectural or artistic distinction or historical importance; or
- B. a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- C. a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his or her productive life; or
- D. a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
- E. a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or
- F. a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance; or
- G. a property achieving significance within the past 50 years if it is of exceptional importance.

Properties, such as farms or estates owned by religious institutions, and rural areas that were the site of religious activities, such as ceremonies or camp meetings, are eligible if they derive their primary significance from the physical characteristics of the land or from the historical events that took place there. The birthplace or grave of an historical figure of outstanding importance, with any associated land, may be eligible if there is no other appropriate site or building directly asso-

ciated with the individual's productive life. Cemeteries in rural areas may be eligible if their primary significance is derived from the graves of persons of transcendental importance, or from age, distinctive design, or association with historic events, such as a cemetery that is the only tangible remains of a community's pioneering period. A commemorative property may be eligible if design, age, tradition, or symbolic value has invested it with historical importance, for example, a

State forest named for an important public figure may be important for its recreational or economic uses.

Farm museums that are reconstructions of farms or artificial assemblages of moved buildings are not eligible. Historically important farms or agricultural communities used as museums, may be eligible if their historic integrity has not been destroyed by new construction, moved buildings, or adaptive uses. Farm museums at least fifty years of age, whether reconstructions, assemblages, or original farms, may be eligible based on their significance as museums.

Continuity of land uses and cultural associations is a common concern in evaluating rural landscapes. Properties less than fifty years of age may be listed only if they are **exceptionally important**. The passage of time is necessary to recognize *historic* importance. This requirement applies to rural properties where a large proportion of buildings and structures were built or moved within the past 50 years, or where the predominant patterns of land use and division developed within the past 50 years. For guidance on evaluating exceptional importance, see *National Register Bulletin: Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Past Fifty Years*.

2. Select Areas of Significance

Area of significance is that aspect of history in which a rural property, through use, occupation, physical character, or association, influenced the development or identity of its community or region. Although *agriculture* is most common, a number of other areas of significance may also apply, including *industry* in the case of mining or lumbering areas, *conservation* and *recreation* for parks and natural reserves, and *transportation* for migration trails. The area of significance is not necessarily the same as the general land use; for example, a farming community may be important in *ethnic heritage* but not in *agriculture*.

Several areas of significance apply to the physical qualities of a rural landscape. *Community development and planning* applies to areas reflecting important patterns of physical development, land division, or land use. *Landscape architecture* applies to properties based on established design principles or a conscious design. *Architecture* is used when significant qualities are embodied in the design, style, or method of construction of buildings

AREAS OF SIGNIFICANCE FOR RURAL LANDSCAPES

The following areas of significance commonly apply to rural landscapes:

Agriculture, where the land has been used for cultivating crops, raising livestock, and other activities that have contributed to the growth, development, and economy of a community during particular periods of its history.

Architecture, where a collection of high-style or vernacular buildings and outbuildings, by historical association, function, design, spatial arrangement, or setting, are integrally related to large areas of landscape and are indicative of the physical development, materials, or land uses of a State, region, or community, or the building practices or traditions of the people who occupied it.

Archeology, where patterns visible upon the land or evident in subsurface remains can provide important information about land use and occupation of prehistoric or historic peoples.

Community Planning and Development, where the spatial organization and character of the landscape are the result of either a consciously designed plan or vernacular patterns of land use or land division.

Conservation, where the landscape has been the subject of an important stage, event, or development in the conservation of natural or cultural resources.

Engineering, where the landscape and its uses reflect the practical application of scientific principles to serve human needs, such as reclamation, irrigation, and water power.

Exploration/Settlement, where the landscape continues to reflect the exploration, establishment, or early development of a community or region.

Industry, where the landscape has been shaped or manipulated to provide goods or services, through activities such as lumbering, mining, milling and quarrying, that have contributed to the development of a community or society in general.

Landscape Architecture, where the landscape contains sites, including gardens, farmyards, and parks, that have been based on established design principles or conscious designs, or are the work of a master, having importance within the context of landscape design.

Science, where the landscape has been the subject of research related to the advancement or understanding of agriculture, horticulture, silviculture, animal husbandry, or other scientific disciplines.

and structures, such as houses, churches, community buildings, barns, and outbuildings. *Engineering* applies to properties having significant systems of irrigation, drainage, transportation, or water power, as well as significant structures, such as dams, bridges, tunnels, mining shafts, and fencing.

3. Define Period of Significance

Period of significance is the span of time when a property was associated with important events, activities, persons, cultural groups, and land uses or attained important physical qualities or characteristics. Although it may be short, more often it extends many years, cover-

ing a series of events, continuum of activities, or evolution of physical characteristics. Properties may have more than one period of significance.

The period of significance begins with the date of the earliest land use or activity that has importance and is reflected by historic characteristics tangible today. The period closes with the date when the events, activities, and construction having historic importance ended. Properties that have evolved and achieved importance during separate periods, some spanning several hundred years, should be given several periods of significance. All landscape characteristics should be considered, since buildings and structures may date

to one era, while roads, field patterns, and archeological sites to earlier ones.

Continuous land use, association, or function does not by itself justify continuing the period of significance. The length of time should be based on the years when the property historically made important contributions in the areas of significance. Fifty years ago may be used as the closing date for the period of significance if a more specific date cannot be identified.

Assessing Historic Integrity

Historic integrity is the composite effect of seven qualities: location, design, setting, materials, workmanship, feeling, and association. Decisions about historic integrity require professional judgements about whether a property today reflects the spatial organization, physical components, and historic associations that it attained during the periods of significance. A property's **periods of significance** become the benchmark for measuring whether subsequent changes contribute to its historic evolution or alter its historic integrity.

Historic integrity requires that the various characteristics that shaped the land during the historic period be present today in much the same way they were historically. No landscape will appear exactly as it did fifty or one hundred years ago. Vegetation grows, land use practices change, and structures deteriorate. The general character and feeling of the historic period, however, must be retained for eligibility. Historical vistas that have remained open often provide a general vantage point for evaluating change. Historic and contemporary views may be compared through old photographs, diary entries, and letters.

Depending on significance, the presence of some characteristics is more critical to integrity than others. Vegetation and land uses are important to an area historically significant for grazing and cropping, while landforms and circulation networks may be essential to a mining community. The integrity of a significant collection of vernacular stone construction may rely heavily on the condition of boundary walls, farmhouses, barns, outbuildings, bridges, and community buildings. Boundary demarcations, early roadways, clusters, and small-scale elements may be necessary to depict the significant patterns of settlement and field arrangements in an ethnic community.



Setting is the physical environment within and surrounding a rural historic landscape. A fertile 40 square-mile basin atop 4,000-foot Garden Mountain, Burke's Garden Historic District, Tazewell County, Virginia, contains the material culture of occupations and agricultural activities from 8000 B.C. to the present. The district lies in the forested and sparsely settled highlands of the Southern Appalachians. (Virginia Department of Historic Resources)

1. Apply Qualities of Integrity

Because of the overriding presence of land, natural features, and vegetation, the seven qualities of integrity called for in the National Register criteria (see page 20) are applied to rural landscapes in special ways.

The relationship of landscape characteristics and integrity is complex. Patterns of spatial organization, circulation networks, and clusters directly relate to design and strongly influence the cohesiveness of a landscape. Boundary demarcations, small-scale elements, vegetation, and the evidence of responses to the natural environment all add to location and setting as well as design. Continuing or compatible land uses and activities enhance integrity of feeling and association. Buildings and structures, vegetation, small-scale elements, and land uses all reflect materials, workmanship, and design. Archeological sites may strengthen integrity by providing physical evidence of activities no longer practiced.

Location is the place where the significant activities that shaped a property took place. Geographical factors, including proximity to natural re-

sources, soil fertility, climate, and accessibility, frequently determined the location of rural settlements. In some places, these factors have continued to spur growth and development. In others, they have insulated communities from change, fostering the preservation of historic characteristics, practices, and traditions. A rural landscape whose characteristics retain their historic location has integrity of location.

Design is the composition of natural and cultural elements comprising the form, plan, and spatial organization of a property. Design results from conscious and unconscious decisions over time about where areas of land use, roadways, buildings and structures, and vegetation are located in relationship to natural features and to each other. Design also relates to the functional organization of vegetation, topography, and other characteristics, for example, upland pastures bounded by forested hillsides and windbreaks sheltering fields or orchards.

New vegetation or reforestation may affect the historic integrity of design. Changes in land use may not seriously alter integrity if historic boundary demarcations, circulation networks, and

other components remain in place. Shifts in land use from wheatfield to pasture or the introduction of contour plowing may not seriously affect the overall design, whereas the extensive irrigation and planting of fruit trees on land historically used for cattle grazing would.

Setting is the physical environment within and surrounding a property. Large-scale features, such as bodies of water, mountains, rock formations, and woodlands, have a very strong impact on the integrity of setting. Small-scale elements such as individual plants and trees, gateposts, fences, milestones, springs, ponds, and equipment also cumulatively contribute to historic setting.

Materials within a rural property include the construction materials of buildings, outbuildings, roadways, fences, and other structures. The presence of native minerals, stone, and even soil can add substantially to a rural area's sense of time and place. These may be present in natural deposits or built construction.

Vegetation, as material, presents a complex problem. Plants do not remain static but change over time and have a



Original plant materials, such as the filbert trees, at Dorris Ranch in Lane County, Oregon, enhance the significance of a rural landscape. Their presence is especially important to the integrity of landscapes significant for the cultivation and productivity of plants having lengthy life spans. (Willamalane Park and Recreation District)

predictable lifespan. While hardwoods and evergreens thrive for decades, most crops are seasonal and demand rotation. Plants and trees are subject to blights and disease and may be damaged by weather and climatic changes. Furthermore, the relationships among plant species vary over time due to differing growth patterns and lifespans, animal grazing behavior, and changes in soil conditions. Soil exhaustion, erosion, improper crop rotation, availability of water, and pollution may affect soil productivity and alter the succession of vegetation.

Original plant materials may enhance integrity, but their loss does not necessarily destroy it. Vegetation similar to historic species, in scale, type, and visual effect, will generally convey integrity of setting. Original or in-kind plantings, however, may be necessary for the eligibility of a property significant for specific cultivars, such as a farm noted for experiments in the grafting of fruit trees.

Workmanship is exhibited in the ways people have fashioned their environment for functional and decorative purposes. It is seen in the ways buildings and fences are constructed, fields are plowed, and crops harvested. The workmanship evident in the carved gravestones of a rural cemetery endures for a long time. Although the workmanship in raising crops is seasonal, it

does contribute to a property's historic integrity if it reflects traditional or historic practices.

Feeling, although intangible, is evoked by the presence of physical characteristics that reflect the historic scene. The cumulative effect of setting, design, materials, and workmanship creates the sense of past time and place. Alterations dating from the historic period add to integrity of feeling while later ones do not.

Association is the direct link between a property and the important events or persons that shaped it. Integrity of association requires a property to reflect this relationship. Continued use and occupation help maintain a property's historic integrity if traditional practices are carried on. Revived historic practices, traditional ceremonies or festivals, use of traditional methods in new construction, and continuing family ownership, although not historic, similarly reinforce a property's integrity by linking past and present. New technology, practices, and construction, however, often alter a property's ability to reflect historic associations.

2. Identify Changes and Threats to Integrity

Historic integrity is threatened by single major changes such as large

scale farming practices that obliterate historic field patterns, flatten the contours of the land, and erase historic boundary markers, outbuildings, and fences. Integrity may also be lost due to the cumulative effect of relocated and lost historic buildings and structures, interruptions in the natural succession of vegetation, and the disappearance of small-scale features that defined historic land uses.

The following changes, when occurring after the periods of significance, may reduce the historic integrity of a rural landscape:

- abandonment and realignment of roadways and canals
- widening and resurfacing of historic roadways
- changes in land use and management that alter vegetation, change the size and shape of fields, erase boundary demarcations, and flatten the contours of land
- modern methods of mining that leave large open pits or massive tailings uncharacteristic of historically significant extraction methods
- introduction of nonhistoric land uses (quarries; tree farms; sanitary landfill; recreational areas; limited access highways and interchanges; power plants, wastewater treatment plants, and other public utilities; subdivision for residential, commercial, or industrial development)
- loss of vegetation related to significant land uses (blights, abandonment, new uses, reforestation, and introduction of new cultivars)
- deterioration, abandonment, and relocation of historic buildings and structures
- substantial alteration of buildings and structures (remodelling, siding, additions)
- replacement of structures such as dams, bridges, and barns
- construction of new buildings and structures
- disturbance of archeological sites (bulldozing, earth removal, highway construction, nonscientific excavation)
- loss of boundary demarcations and small-scale features (fences, walls, ponds, and paving stones)

3. Classify Contributing and Noncontributing Resources

Buildings, structures, objects, and sites are classified as contributing or noncontributing based on their historic integrity and association with a period and area of significance. Those not present during the historic period, not part of the property's documented significance, or no longer reflecting their historic character are noncontributing.

Criteria considerations may affect the classification of religious properties, moved structures, birthplaces and graves, cemeteries, reconstructions, commemorative properties, and properties less than fifty years of age. These may contribute as *integral* parts of districts, that is, resources that relate, by date and function, association, or character, to the historic significance of the overall property. Examples include: a church founded by an ethnic group that settled an area, a corncrib moved during the period of significance to serve a farm's ongoing evolution, a rural cemetery where generations of local families are buried, and a historic war memorial within a village green.

Reconstructed fields and orchards, as well as buildings and structures, may contribute if suitably located and accurately executed according to a restoration master plan.

Buildings and structures built or moved within the past fifty years generally do not contribute. They affect historic integrity by altering the historic relationships of buildings, structures, and land areas, and by disrupting historic patterns of land division and organization. Recent agricultural buildings, whether built by traditional methods or in modern forms and materials, such as Harvestor silos or corrugated metal hay barns, may be recognized as contributing when sufficient time has lapsed to consider them integral parts of the historic landscape.

4. Weigh Overall Integrity

The final decision about integrity is based on the condition of the overall property and its ability to convey significance. The strength of historic landscape characteristics and the nature, extent, and impact of changes since the periods of significance are important factors to consider.

Integrity depends to a substantial degree on the area's historic contexts. This information indicates the extent of integrity that can be expected for a particular type of historic property



Modern-day quarrying in Oley Township, Pennsylvania, bears little relationship to historic practices. The operations and the ever-growing pits and tailings they create threaten the district's historic integrity. Despite new quarries and residential subdivisions, Oley Township was listed in the National Register in its entirety, because 90 percent of the 15,000 acres retained the historic pastoral and agricultural character. (Oley Resource Conservation Project)

given the unique aspects, cultural and natural, of the area and the condition of comparable properties. The survival of significant characteristics, such as field patterns and boundary demarcations, that in other areas have been lost can make a rural property significant despite the deterioration of its buildings and loss of outbuildings.

Loss or relocation of a few features usually does not affect a rural property's overall historic integrity. But the repeated loss of buildings, structures, roadways, and small-scale elements, as well as gradual changes to boundaries and land uses, may cumulatively destroy integrity.

New construction and incompatible land uses covering extensive acreage—such as residential subdivisions, modern mining or quarrying operations, refuse dumps and land fill, limited access highways and their interchanges—cause the greatest damage. Not only do they introduce major visual intrusions and interrupt the continuity of the historic scene, but they reshape the land, disturb subsurface remains, and introduce ahistorical characteristics.

Large rural districts may be able to absorb new development and still maintain their overall historic integrity, provided large-scale intrusions are concentrated in a relatively few locations and cover a proportionately small percentage of the overall acreage. For example, the 15,000 acres of Oley Township Historic District, Pennsylva-

nia, maintain a strong sense of the agricultural activities begun in the 18th and 19th centuries despite the presence of several sizeable modern quarries, a large housing subdivision, and contemporary houses along roadways. While the new development is noncontributing it occurs in isolated pockets and covers only 10 percent of a historic district otherwise characterized by cultivated fields and scattered farmsteads.

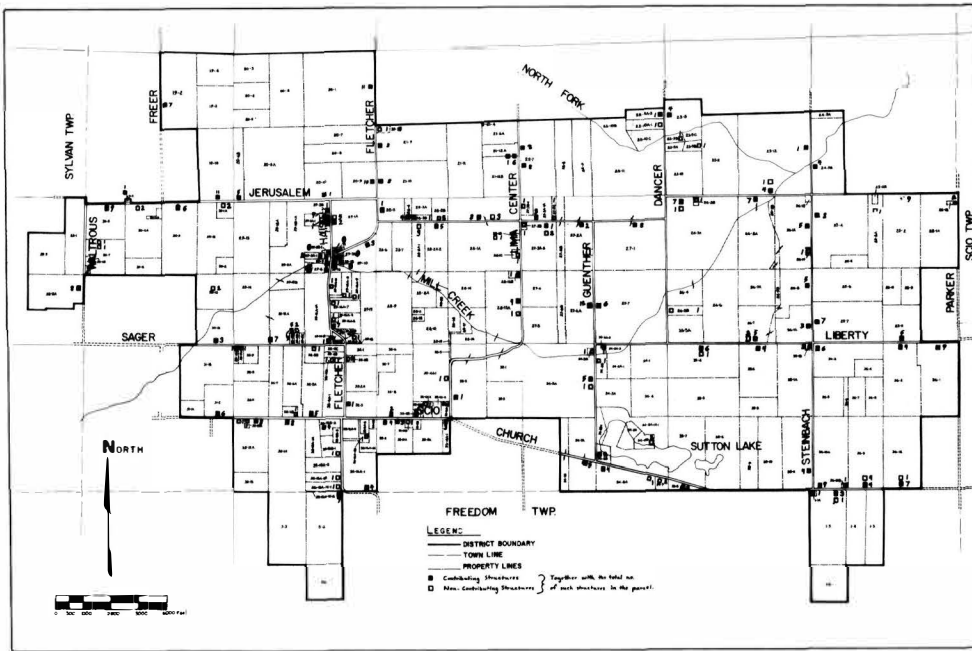
Selecting Boundaries

Boundaries for rural historic landscapes must encompass the area having historic significance, rather than just scenic values, and contain contributing resources that express the characteristics of the historic landscape. For this reason, all of the acreage making up a rural site or district should be reviewed, through either an onsite survey or aerial photography.

1. Define the historic property

The historic property is the unit of land actively managed, occupied, settled, or manipulated during the historic period for purposes related to significance.

In the development of historic contexts, the types of historic properties for an area were identified. This information helped determine the study area and focus research and survey activities on specific properties. As



The boundaries of South Lima Township Rural District, Michigan, are based on property lines, most of which coincide with the historic rectangular grid of the Midwest. Peripheral farms were included or excluded on the basis of their historic integrity. (Lynda Koch)



On September 17, 1862, "Bloody Lane" witnessed some of the most intense fighting of the Civil War. Continuing agricultural land uses and the historic integrity of the sunken farm lane and adjoining fields evoke the historic scene in a photograph taken in August 1934. Monuments along the lane mark commemorative activities that occurred at Antietam National Battlefield in the late 19th and early 20th centuries. (Allan Rinehart, National Park Service History Collection)

facts were associated with existing historic landscape characteristics, the existence of historic properties or portions of them were verified.

Historic properties may be evaluated at various geographical scales. A rural property, such as a farm, may have its own significance, but also be part of a significant collection of neighboring farms or an entire community with a village cluster, outlying farms, and interconnecting roads, that form larger

historic districts. The initial step in selecting the boundaries of a rural historic landscape is to determine the extent to which properties at the smallest scale, such as a single farm, are intact and form larger properties that may be listed as large and cohesive historic districts.

If the study area was based on a historic property clearly defined by physical characteristics, historic ownership, or concentration of activity, National

Register boundaries may vary little from those of the area studied. In cases, however, where a large area was studied, such as a township or county, with the purpose of identifying eligible properties, a number of properties of varying scales and boundaries may be defined, for example, a large village district and several outlying farms and mill sites.

2. Decide what to include

National Register boundaries must encompass a concentration or continuity of historic landscape characteristics. Many properties will not retain their historic property lines or possess significant characteristics throughout. The next step in selecting boundaries is deciding what land within the historic property today has both historic significance and integrity.

Information from survey and research—including historic land uses, dates of buildings and other components, and changes since the period of significance—can indicate to what extent the historic property was actively used and today reflects that use. Consulting historic maps, land plats, aerial photographs, land grant records, property deeds, and oral history data can help determine the evolution of the historic property. The overlaying of transparent maps of the same scale to represent various stages of development, including the current condition, is useful for comparing changes over time and for arriving at boundaries. Geographic Information Systems (GIS) can also be used for this purpose (see page 12).

Continuity is essential. Historic landscape characteristics should predominate and occur throughout. Peripheral areas having a concentration of non-historic features should be excluded, while the impact of centrally located ones on historic integrity should be considered. If, because of their density, distribution, and predominance, non-historic features seriously fragment the overall historic integrity of large-scale properties, smaller properties having integrity should be identified for listing. This applies, for example, to individual farmsteads in an agricultural community that is experiencing rapid and widespread suburbanization.

Buffer zones or acreage not related to historic use are excluded from National Register listings, but may be considered in planning and protection. These include natural features that fall within significant historic vistas but were not actively used, managed, or controlled

DEFINING THE EDGES OF A RURAL LANDSCAPE

The following are commonly used to define the edges of rural historic landscapes:

- **Historic legal boundaries** of a single property, a group of properties, or an entire political jurisdiction when the historic property possesses continuity of historic landscape characteristics throughout, even though the ownership or division of land may have changed.
- **Boundary demarcations** that are relatively permanent, such as stone fences, irrigation or drainage ditches, and mature hedge rows, when such barriers are based on historic land use or ownership and encompass the concentration of related historic landscape characteristics.
- **Rights-of-way**, such as roads, established paths, and highways, when they separate areas of land that are historically significant from those that are either unrelated, insignificant, or not historic.
- **Natural features**, such as rivers, lakeshores, ridges, plateaus, and contour elevations when such features limited the historic development of the land and continue to contain historic landscape characteristics.
- **Changes in nature of development or spatial organization**, such as the departure of a community having vast tracts of communally owned farmland from the typical midwestern grid of 160-acre farms, when differences are related to significance.
- **Edges of new development**, such as modern housing, limited access highways, or industrial parks.
- **Current legal boundaries**, when they coincide with the area retaining historic landscape characteristics today. Acreage may be the same or smaller than that within the historic boundaries.
- **Lines drawn along or between fixed points**, such as stone walls, shorelines, or the intersection of two roads, when they contain the area retaining historic landscape features.
- **Long-standing vegetation** that is visible at all seasons, such as a row of hardwoods, when it marks the edge of the area containing historic landscape characteristics.

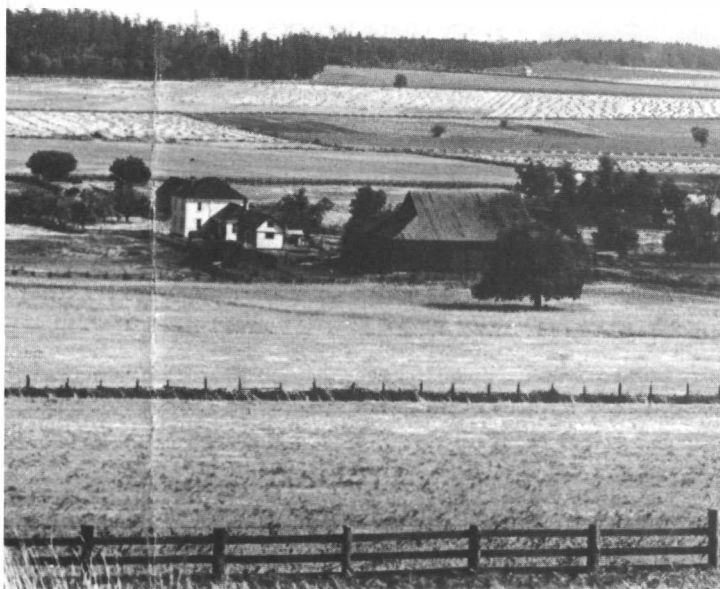
by historic land use or ownership. Also excluded are nonhistoric areas of compatible or similar land use adjoining a historic area, for example, land recently cleared and placed into agricultural use.

Natural features may be included if they are centrally located within the landscape, such as a hill or stream, or if they were actively used for purposes related to historic significance, for example, forests historically used for woodlots, and wetlands used for foraging wild berries.

Peripheral land that provides historic setting, such as forested hillsides or rock escarpments, may be included only if the historic record indicates that the land was historically an integral part of the property being nominated. Such an integral relationship can be established through common historic ownership, the role of the peripheral land in significant land uses or community development, or a passive function such as providing a barrier for defense or protection from wind and weather.

3. Select Appropriate Edges

Edges may be defined in several ways. Legal boundaries, based on historic ownership, land use, or incorporation, should be used where a historic property remains intact and is significant in its entirety. Natural features such as bodies of water, ridgelines, and sharp rises in elevation often form edges that have historically separated areas having different land uses. In areas undergoing widespread change, edges, based on current



Pictorial evidence is valuable for charting the evolution of a rural landscape and verifying its historic integrity. Comparative views of Ebey's Prairie, Washington, photographed about 1900 and in 1983, indicate little change in the division of land, agricultural land uses, and arrangement of the farmyard cluster. (Pacific Northwest Regional Office, National Park Service)

CONSIDERATIONS IN EVALUATING RURAL HISTORIC LANDSCAPES

This section provides additional guidance for evaluating certain types of properties that either meet the definition of a rural historic landscape or possess historic landscape characteristics.

Properties Having Significant Patterns of Folklife

Patterns of folklife established historically may be perpetuated by the people living in rural properties today. These include traditional customs; crafts or land use practices that have historic origins and have been passed from one generation to another.

Tangible characteristics may reflect traditional materials craftsmanship or functions such as a cider-press a community hall or communally owned fields. When these date to the historic period they may contribute to areas of significance such as ethnic heritage art architecture community planning and development or social history.

Seasonal short-lived or recent expressions of folklife are seen in haystacking using traditional techniques for new construction and observing traditional customs. While these do not date to the historic period they do enhance integrity of setting feeling and association.

Traditional Cultural Properties

Native Americans and other cultural groups have commonly used natural features or sites for religious ceremonial or hunting and gathering activities. Although landscape characteristics may be useful for describing the natural setting of these places an in-depth study of characteristics is not necessary when traditional uses have not altered the land. For further guidance in evaluating landscapes possessing traditional values see Bulletin 38: *Criteria for Evaluating and Documenting Traditional Cultural Properties*.

Trails and Roads

Trails and roads require verification that the land nominated be the actual location of the trail. Eligibility requires integrity of setting and location. Boundaries commonly encompass the length and width of the byway and a margin of land, for example, 40 feet, on both sides. Boundaries may be widened to take in encampment sites, mountain passes, fords across streams, and sites marked by trail ruts, arroyos, and surface disturbances associated with historic activity. Boundaries may also include land that forms a historically important and intact setting, for example, the hillsides and rock formations rising from an important pass on a frontier trail. Where the continuity of a byway has been interrupted by nonhistoric development, segments retaining significance and integrity can be nominated together in a multiple property submission.

Battlefields and Encampments

Battlefields, encampments, and other areas where short-term historic events took place may possess important landscape characteristics. Although the significance of these properties does not directly relate to land use, their historic integrity depends upon landscape characteristics such as natural features, land uses, vegetation, and associated buildings and structures. Furthermore, their location may have been determined by natural features, proximity to railroads, land uses, circulation networks, and cultural traditions. When these properties have been preserved for many years, they may have additional significance for patterns of land use and division that have elsewhere disappeared.

Scenic and Recreational Parks

State, county, and national parks set aside for recreational and scenic purposes are designed landscapes to the extent that roads, trails, buildings, vegetation, and other features were developed according to a master plan. These landscapes, due to their location, extensive acreage, purpose, and management, also have the characteristics of a rural landscape. Park features, such as trails, bridges, campgrounds, native flora, cabins, and scenic overlooks, can be meaningfully examined using the system of landscape classification. Circulation networks, response to natural environment, land uses and activities, vegetation related to land use, clusters, and small-scale features are particularly useful in documenting these properties.

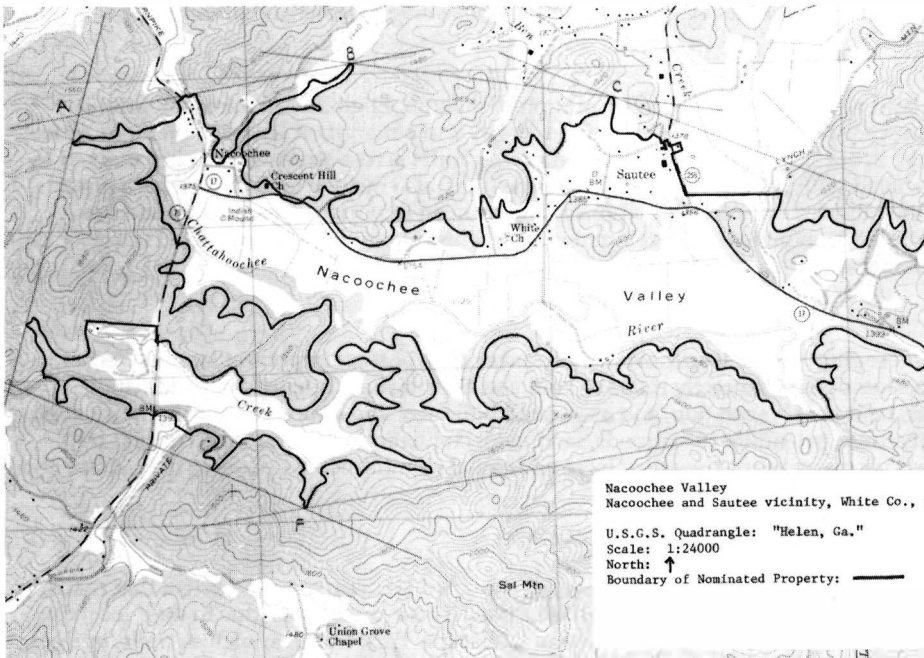
Mining Properties

Mining properties may include not only the most prominent mining structures, but also the communities shaped as a result of the mining activity and the surrounding land covered by related mining claims and containing historic shafts, tunnels, pits, and tailings. Landscape characteristics can be used to describe and evaluate these properties.

Modern methods of extraction may alter integrity. While the historic presence of tailings may be viewed as part of the historic setting, modern tailings and excavation, with or without recent structures, threaten historic integrity. Open pit mining in an area historically mined through tunnels and shafts destroys historic characteristics, altering an area's historic integrity. However, an open pit mine that has operated since the historic period retains its integrity, if recent extraction methods have been similar to those practiced historically and if the character of the pit is similar, although greater in size, to that of the historic period.

Lumbering Communities

Historic lumbering communities may contain scattered remains of logging activities and forests in varying stages of reforestation. Current tree cover often varies in species and age from historic vegetation. Abandoned areas frequently reflect the natural plant succession that follows cutting, making it impossible to define the visual quality of historic setting. For these reasons, significance depends on an understanding of changing patterns of vegetation and the presence of other characteristics, such as roadways, logging equipment and structures, workers' camps, and transportation facilities.



Settlement and agricultural development occurred within the fertile floodplain of the Nacoochee Valley, Georgia. To encompass the land area actively farmed during the historic period, district boundaries included approximately 2,500 acres and were drawn along the 1,400-foot contour line on the USGS topographical map. (photo: James R. Lockhart; map: Georgia Department of Natural Resources)

ownership, may be drawn to exclude new land uses or incompatible development. When none of the approaches listed on page 26 fit a situation, a certain degree of professional judgement will be needed to define an edge--for example, a line drawn between the end of a stone wall and a hedge row that, while somewhat arbitrary, can still be justified.

Edges should be appropriate to the location, historic significance, and integrity of the property. A natural stream and field demarcations may work well in the Piedmont region, while quarter sections of a USGS map are more logical in rural Minnesota where land was divided according to the national rectangular survey.

Several approaches may be combined. An agricultural district, for example, might be bounded by a natural river, the political boundaries of a national forest, the limits of a modern development, and, where intact, the legal boundaries of historic parcels. Whatever the approach, boundaries must be fixed in space and capable of accurate description by metes and bounds, legal descriptions, lines appearing on USGS topographical maps, or site plans drawn to scale.

REGISTRATION

Nominations are made on the National Register Registration Form (NPS 10-900) and processed according to the regulations set forth in 36 CFR Part 60. Where the study of rural area identifies several properties eligible for listing and related by common historic contexts, the National Register Multiple Property Documentation Form (NPS 10-900-b) is used to document the contexts, property types, and methodology; separate registration forms then document each eligible property.

The following guidance supplements *National Register Bulletin: How to Complete the National Register Registration Form* and is organized according to the section names on the registration form. The form is intended as a summary of the information gathered during identification and a synthesis of findings concerning significance, integrity, and boundaries.

Classification

A rural property containing a collection of sites, structures, buildings, or objects is classified as a district. A rural property containing land with no buildings, objects, or structures, such

as a wildlife preserve or a camp meeting ground--is classified as a *site*. Contributing and noncontributing resources are counted according to the guidelines in *Guidelines for Completing National Register of Historic Places Forms*. Acreage with component land areas, such as forests, orchards, fields, or pasture, counts as a single continuous site. Buildings, structures, objects, and sites within the landscape that are substantial in size and scale or are specifically discussed as significant are counted separately.

Other landscape characteristics, including areas of natural vegetation, fences, walls, plantings, ponds, and drainage ditches, are considered integral parts of the overall site. It is appropriate to count them separately if they form a structure or site that is substantial in size, scale, or importance--such as a network of historic roads, an irrigation system, a designed park, or a significant orchard.

Function

Data categories for *agriculture, landscape, transportation, industry, and recreation and culture*, include a number of subcategories that apply to land uses and activities. These should be listed along with those relating to buildings and structures.

Description

The description defines the historic property being registered and describes the evolution and current condition of its landscape characteristics. The processes that have shaped the landscape are discussed and related to specific features within the property. Changes that have occurred in the use and character of the land should be dated as accurately as possible. Threats to integrity should be described and their impact on the historic character of the landscape discussed. The chart on pages 15-18 lists the information to be included for each characteristic.

Information about historic landscape characteristics should be organized to best portray the character of the property. For a large district, it may be logical to discuss the general character of the district, and then separately treat the circulation networks, large-scale irrigation systems, village clusters, and smaller properties contained within it. For other properties, it may make most sense to describe the landscape characteristics by type, and to discuss land use areas, structures, and buildings individually rather than as parts of clusters or small units of property.

Specialized **terminology** may be necessary. Botanical or geological terms not commonly understood should be explained. Common names, such as Corvallis cherry or Longhorn cattle, are sufficient to identify vegetation and livestock. Scientific names should, however, be used when common botanical names are inadequate to describe plant diversity or significant cultivars. Commonly understood terms should be used to describe vernacular patterns of construction, land use, or land division. When terms that are regional or ethnic in derivation are used to describe land use practices, construction methods, or cultural customs, they should be explained.

Significance

The statement of significance explains the ways in which the property, through its land uses and characteristics, directly relates to specific historic contexts, National Register criteria, areas and periods of significance, and, if applicable, criteria considerations. Important activities, events, persons, or physical qualities are discussed in relationship to specific features identified by the landscape characteristics. The statement of historic contexts, revised, as appropriate, based on the findings of survey, research, and evaluation, is included.

The greater the importance of certain landscape characteristics, the more factual and detailed the discussion of their role and evolution should be. For example, if *transportation* is an area of significance, the circulation networks will require greater explanation; if *community development and planning* is an area of significance, patterns of land division and use should be discussed.

Major Bibliographical References

A standard bibliographical style is used to cite sources, including books, magazine articles, maps, atlases, historic photographs, local histories, studies on soils and vegetation, archeological reports, and geological studies. References to oral histories should give the date of the interview, and the name and affiliation of both the person being interviewed and the interviewer. Collections of photographs, oral history tapes or transcripts, personal records, and maps that are not available in published sources should be cited by name and location.

Boundaries

Boundaries are described as accurately as possible using metes and bounds, legal descriptions, tax parcel numbers, lines and sections on USGS maps, or lines on a map drawn to a scale no smaller than 1" = 200 feet. The edges that commonly bound rural properties are listed on page 26.

Maps

A detailed **sketch map** is required for all properties meeting the definition of historic district. The map indicates the boundaries of the property and locates the principal landscape characteristics. Buildings and structures, circulation networks, major land uses, archeological sites, prominent natural features, and large areas of vegetation should be marked on the map. Each building, structure, object, and site that is substantial in size, scale, or importance should be labeled by name, number, or other symbol, and marked as **contributing** or **noncontributing**. Refer to the chart on pages 15-18 for additional guidance.

For properties with large acreage, several maps drawn to different scales may be used in place of one overall sketch map. A small-scale map, such as a USGS topographic map in the 1:24,000 series, could cover the overall property and indicate boundaries and principal areas of land use, natural features, circulation networks, isolated buildings and structures, and clusters. Maps drawn to a larger scale, for example, 1" equals 200', could then show the location of buildings, structures, and other features within each cluster. Large-scale maps should be cross-referenced as inserts to the area map.

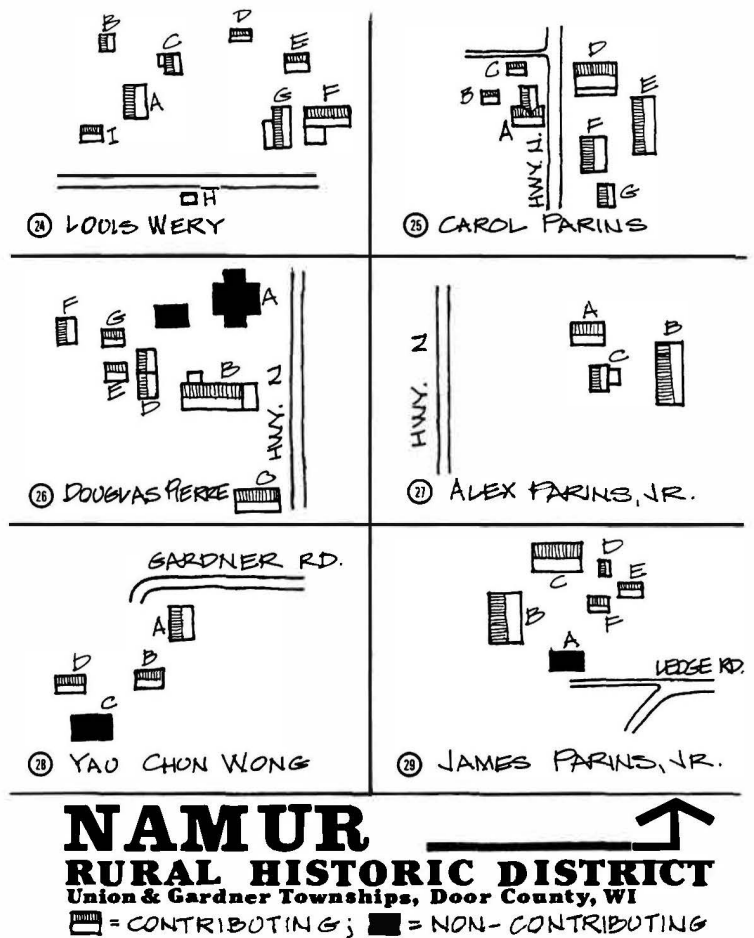
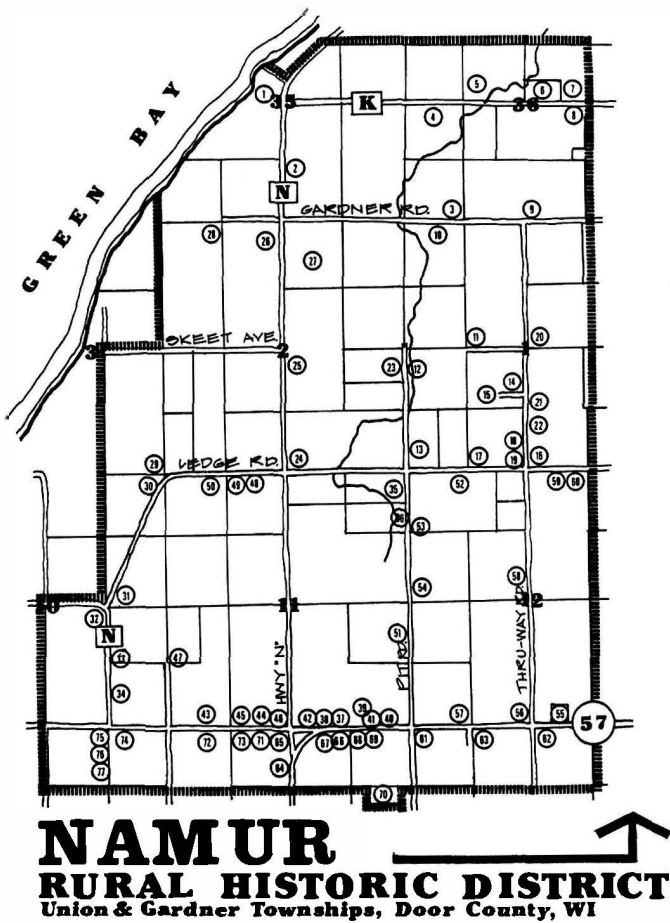
Separate maps may also be used to locate archeological sites, land use areas, road systems or other transportation systems, and buildings and structures. A series of maps may show the evolution of the property at various periods of time.

Photographs

Representative views of historic and nonhistoric land areas and landscape characteristics, as well as buildings, structures, and clusters, must be submitted with the registration form. Copies of historical photographs, engravings, and illustrations may also be included. Contemporary photographs taken from the vantage point of historical photographs may supplement the written description of land changes.



The Carol Parins Farmstead (no. 25 below) represents the traditional Belgian-American farm in the U-shaped configuration of the barnyard, numerous log outbuildings, and outlying fields. (Bill Tishlir)



Sketch maps of two scales were used to record the Namur Belgian-American District in Door County, Wisconsin. A large map drawn to a small scale covers the entire district and locates district boundaries, roads, and farm clusters. Small maps drawn to a larger scale and keyed by number to the district map then identify the contributing and noncontributing buildings and structures in each farm cluster.

RECOMMENDED READING AND SOURCES

Related National Register Bulletins

Nomination of Deteriorated Buildings to the National Register

Contribution of Moved Properties

Nomination of Properties Significant for Association with Living Persons

Defining National Register Boundaries

Guidelines for Counting Contributing and Noncontributing Resources for National Register Documentation

Guidelines for Applying the National Register Criteria for Evaluation

Guidelines for Completing National Register of Historic Places Forms

How to Evaluate and Nominate Designed Historic Landscapes

Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places

Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Last Fifty Years

How to Improve the Quality of Photos for National Register Nominations

Guidelines for Local Surveys: A Basis for Preservation Planning

Guidelines for Restricting Information About Historic and Prehistoric Resources

Guidelines for Evaluating and Documenting Properties Associated with Significant Persons

Guidelines for Evaluating and Nominating Historic Aids to Navigation

National Register Casebook: Examples of Documentation

Guidelines for Evaluating and Documenting Traditional Cultural Properties

The above publications may be obtained by writing to the National Register of Historic Places, National Park Service, U.S. Department of the Interior, 1849 C St., NW, NC-400, Washington, DC 20240.

Books and Articles

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Sources of Census Data

U.S. Census data are on microfilm. Copies may be viewed in local libraries and historical societies, college and university libraries, and the National Archives in Washington, DC, and its regional branches. Microfilm copies and the following catalogs may be purchased from the National Archives Trust Fund Board, National Archives, Washington, DC 20408.

Federal Population Censuses, 1790–1890: A Catalog of Microfilm Copies of the Schedules. 1978.

1900 Federal Population Census: A Catalog of Microfilm Copies of the Schedules. 1979.

1910 Federal Population Census: A Catalog of Microfilm Copies of the Schedules. 1982.

Sources of Aerial Photographs

Aerial Photography Division (East)
U.S. Department of Agriculture
45 French Broad Avenue
Asheville, NC 28802

Aerial Photography Division (West)
U.S. Department of Agriculture
2505 Parley's Way
Salt Lake City, UT 84102

Aerial Photography Field Office
Agricultural Stabilization and
Conservation Service
U.S. Department of Agriculture
2222 West 2300 South
Salt Lake City, UT 84125

Cartographic Archives Division
National Archives
Washington, DC 20408

National Archives contains federal aerial surveys conducted, between 1935 and 1942, by the Agricultural Stabilization and Conservation Service, Soil Conservation Service, Forest Service, Geological Survey, and Bureau of Reclamation. The following guide is available from the National Archives:

Aerial Photographs in the National Archives. Washington, DC: National Archives, 1973. (Special list No. 25)

EROS Data Center
User Services Section
U.S. Geological Survey
U.S. Department of the Interior
Sioux Falls, SD 57198

Eros Data Center makes available transparencies and photographic reproductions of aerial photographs taken by the fourteen Federal agencies (including the Soil Conservation and Agricultural Stabilization and Conservation Services) participating in the National High Altitude Photography (NHAP) program. The center will also provide a free computerized search of all black and white and color infrared imagery in their collection for a location identified on a USGS map or by UTM references or coordinates of longitude and latitude.

Other Sources

For homesteading records:

Suitland Reference Branch
National Archives
Washington, DC 20409

For agricultural research:

National Agricultural Library
U. S. Department of Agriculture
10301 Baltimore Boulevard
Beltsville, MD 20705

CREDITS AND ACKNOWLEDGEMENTS

This bulletin derives from Robert Z. Melnick's seminal work, *Cultural Landscapes: Rural Historic Districts in the National Park Service*, which was published by the National Park Service in 1984, and has guided a number of excellent rural surveys within the National Park Service and State historic preservation programs. We acknowledge the contributions of the National Trust for Historic Preservation, Alliance for Historic Landscape Preservation, American Society of Landscape Architects, several State Historic Preservation Offices, several colleges and universities, and local preservation groups in making possible various forums for the exchange of information about rural preservation.

Many individuals representing State historic preservation programs, National Park Service, Advisory Council on Historic Preservation, universities and colleges, professional organizations, and private consultants have been involved in the preservation of historic rural landscapes, have shared their thoughts and experiences during the past several years, and have commented on drafts of this bulletin. For their valuable contributions to this bulletin, special recognition goes to Marilyn Fedelchak, Rural Heritage Coordinator of the National Trust for Historic Preservation, and the following individuals within the National Park Service: Carol Shull, Chief of Registration, and John Knoerl, Archeologist of the National Register Branch, Interagency Resources Division; Richard Waldbauer of the Archeological Assistance Division; and Cathy Gilbert, Historical Landscape Architect of the Pacific Northwest Regional Office.

Stop B2H Coalition

EXHIBIT 306

MOCK: Idaho House Resolution No. 4 with B2H Amendment

LEGISLATURE OF THE STATE OF IDAHO
Sixty-seventh Legislature First Regular Session – 2023

IN THE HOUSE OF REPRESENTATIVES
HOUSE CONCURRENT RESOLUTION NO. 4
BY RESOURCES AND CONSERVATION COMMITTEE

1 A CONCURRENT RESOLUTION
2 STATING FINDINGS OF THE LEGISLATURE EXPRESSING CONCERN OVER THE PROPOSED
3 ~~LAVA RIDGE~~ Boardman to Hemingway (B2H) PROJECT AND SUPPORTING A NO-BUILD
OPTION.
4 Be It Resolved by the Legislature of the State of Idaho:
5 WHEREAS, the United States Bureau of Land Management and the Oregon Department of Energy
(ODOE) has under consid-
6 eration an application from Idaho Power Corporation ~~LS Energy~~ to lease and condemn an extensive
amount of acres
7 of public ~~land~~ and private land, Lava Ridge for Boardman to Hemingway (B2H), in ~~Jerome, Lincoln,~~
~~and Minidoka~~ Owyhee, Id; Malheur, Or; Baker, Or; Union, Or; Umatilla, Or and Morrow, Or Counties
soon the be annexed into Idaho per House Joint Memorial 1; and
8 WHEREAS, Idaho Power ~~LS Energy~~ plans to construct 305 miles of high-voltage (500 kV)
transmission lines in a 250' wide clear cut corridor with 1198 steel lattice towers ~~400 wind turbines~~, with
a maximum
9 height of up to 200 ~~740~~ feet, 440 ~~381~~ miles of access roads, taking xx# acres of private land, XX#
acres public land and the infrastructure to
10 support their construction and maintenance; and
11 WHEREAS, the height of the ~~turbines~~ transmission towers will impact civil, military, and
12 agricultural flight operations; and
13 WHEREAS, the energy created by the ~~Lava Ridge~~ Boardman to Hemingway Project is designed and
14 planned to provide energy to ~~Southern Nevada and California~~ Idaho; and
15 WHEREAS, the States of ~~Idaho Nevada and California~~ has ~~ve~~ tremendous open space
16 that could accommodate this project and more directly move the impacts to the
17 beneficiaries; and

18 WHEREAS, the ~~Magic Valley~~ Northeastern Oregon economy currently has a shortage of housing,
19 available workforce, and construction capacity, stressing the local markets
20 needed to support the build out of Boardman to Hemingway (B2H) ~~Lava Ridge~~; and

21 WHEREAS, local citizens and businesses are concerned about the impact
22 of a boom-and-bust economy over a two-year period; and

23 WHEREAS, Idaho is required by law to protect all wildlife. This project
24 area will severely impact the migration and habitat of local wildlife; and

25 WHEREAS, these lands have been utilized by agriculture, public recre-
26 ation, hunting, and fishing by the citizens of Idaho and specifically ~~the~~

~~27 Magic Valley~~ Northeastern Oregon; and

28 WHEREAS, the ~~Lava Ridge~~ Boardman to Hemingway Project encroaches upon the historical
signifi-

29 cance of the ~~Minidoka~~ National Historic Oregon Trail Interpretive Center, Oregon Trail Interpretive
Park at Blue Mountain Crossing plus 6 other historical crossings, Morgan Lake Park, Glass Natural area,
Ladd Marsh Wildlife area, a number of state parks and campgrounds, Regional hunting, fishing, biking,
skiing, birding areas and other recreational opportunities will be adversely impacted, site of the Hunt
Japanese Relocation

~~30 Camp from World War II~~; and

31 WHEREAS, tremendous public opinion is not favorable to the Boardman to Hemingway (B2H)
Lava Ridge

32 Project; and

33 WHEREAS, the legislative complexity of the federal, state, and local
34 laws and regulations associated with the project cause concern for citizens
35 and local governments.

36 NOW, THEREFORE, BE IT RESOLVED by the members of the First Regular Ses-
37 sion of the Sixty-seventh Idaho Legislature, the House of Representatives
38 and the Senate concurring therein, that Idaho Attorney General Raúl Labrador
39 and Governor Brad Little review the ~~Lava Ridge~~ Boardman to Hemingway (B2H) Project to assure
that the in-

40 terests of Idaho are foremost in the final decision.

41 BE IT FURTHER RESOLVED that the Legislature considers the concerns of

42 Idaho and the soon to be annexed Eastern Oregon Counties memorialized in Idaho House Joint
Memorial 1 ~~the Magic Valley~~ justification to support a no-build option.

STOP B2H Coalition

Exhibit 307



NorthWestern enters an agreement to secure reliable, cost-effective energy services for Montanans

8-K January 17, 2023

Forward Looking Statements

Forward Looking Statements

During the course of this presentation, there will be forward-looking statements within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements often address our expected future business and financial performance, and often contain words such as “expects,” “anticipates,” “intends,” “plans,” “believes,” “seeks,” or “will.”

The information in this presentation is based upon our current expectations as of the date hereof unless otherwise noted. Our actual future business and financial performance may differ materially and adversely from our expectations expressed in any forward-looking statements. We undertake no obligation to revise or publicly update our forward-looking statements or this presentation for any reason. Although our expectations and beliefs are based on reasonable assumptions, actual results may differ materially. The factors that may affect our results are listed in certain of our press releases and disclosed in the Company’s most recent Form 10-K and 10-Q along with other public filings with the SEC.

Company Information

NorthWestern Corporation

dba: NorthWestern Energy

Ticker: NWE (Nasdaq)

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Transaction Overview

NorthWestern Energy executed an agreement with Avista Corporation (Exit Agreement) for the transfer of Avista's ownership interests in Colstrip Units 3 and 4.

- Effective date of transfer: January 1, 2026
- Generating capacity: 222 MW (bringing our total ownership to 444 MW)
- Transfer price: \$0.00
- NorthWestern will be responsible for operational and capital costs after January 1, 2026.
 - The agreement does not require approval by the Montana Public Service Commission (MPSC). We expect to work with the MPSC in a future docket for cost recovery in 2026.
 - NorthWestern will have the right to exercise Avista's vote with respect to capital expenditures¹ between now and 2025 with Avista responsible for its pro rata share².
- Avista will retain its existing environmental and decommissioning obligations through life of plant.
- Under the Colstrip Ownership & Operating Agreement, each of the owners will have a 90-day period in which to evaluate the transaction between NorthWestern and Avista to determine whether to exercise their respective right of first refusal.
- We expect to file our Montana Integrated Resource Plan during the first quarter 2023. This transaction is expected to satisfy our capacity needs in Montana for at least the next 5 years.



1. Avista retains the vote related to remediation activities.

2. Avista bears its current project share (15%) costs through 2025, other than "Enhancement Work Costs" for which it bears a time-based pro-rata share. Enhancement Work Costs are costs that are not performed on a least-costs basis or are intended to extend the life of the facility beyond 2025. See the Exit Agreement for additional detail.

Why Colstrip?

Reduces Risk

- We are in a supply capacity crisis due to lack of resource adequacy, with approx. 40% of our customers' needs on the market. This transaction will reduce our need to import expensive capacity during critical times.
- Establishes clarity regarding operations past 2025 Washington state legislation deadline.
- Reduces PCCAM risk sharing for customers and shareholders.



Bill Headroom

- Stable pricing reduces impact of market volatility and high energy prices on customers.

Aligned with 'All of the Above' energy transition in Montana

- Supports our generating portfolio that is nearly 60% carbon-free today.
- Provides future opportunity at the site while supporting economic development in Montana.
- Agreement considers the appropriate balance of reliability, affordability and sustainability.

Why Colstrip? (Cont.)

Reliable

- **Existing resource, ready to serve our Montana customers.** Avoids lengthy planning, permitting and construction of a new facility that would stretch in-service beyond 2026.
- Reduces reliance on imported power and volatile markets, providing increased energy independence.
- In-state and on-system asset mitigating the transmission constraints we experience importing capacity.
- Adds critical long-duration, 24/7 on-demand generation necessary for balancing our existing portfolio.

Affordable

- **222 MW of capacity with no upfront capital costs** and stable operating costs going forward.
 - Equivalent new build would cost in excess of \$500 million.
 - Incremental operating costs are known and reasonable. Resulting variable generation costs represent a 90%+ discount to market prices incurred during December's polar vortex.
- In addition to no upfront capital, low and stably priced mine-mouth coal supply costs.

Sustainable

- **We remain committed to our net zero goal by 2050.** This additional capacity, with a remaining life of up to 20 years, helps bridge the interim gap and will likely lead to less carbon post 2040.
- Yellowstone Generating Station is likely be our last natural gas generating resource addition necessary.
- Partners are committed to evaluate non-carbon long-duration alternative resources for the site.
- Keeps the existing plant open and retains its highly skilled jobs vital to the Colstrip community.
- Protects existing ownership interests with an ultimate goal of majority ownership of Unit 4.

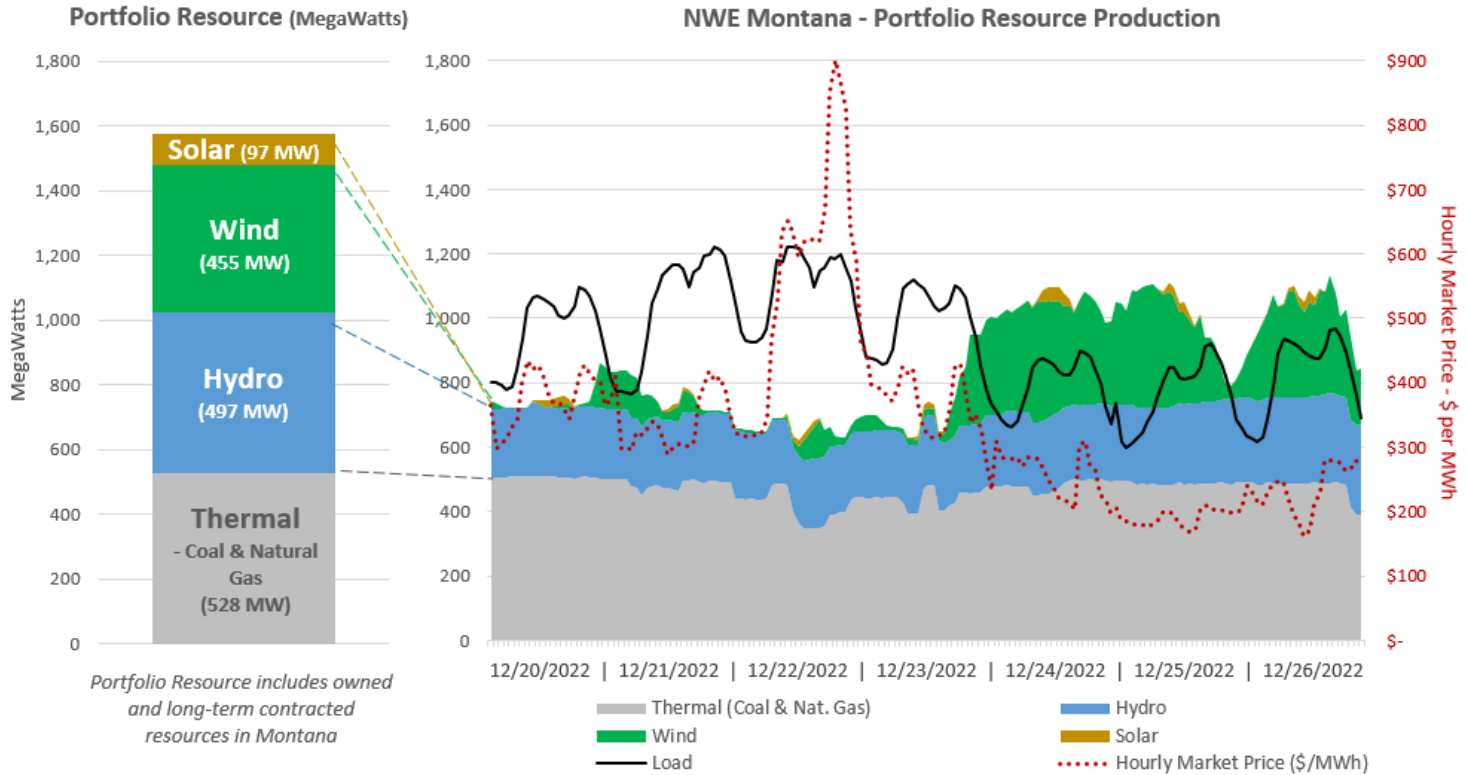
Facility Ownership Overview

Mitigating today's capacity crisis while creating a sustainable glide path to the cost-effective carbon-free technologies of tomorrow

	Current Colstrip Ownership Structure (megawatts)		Announced Sep. 12, 2022 2026 Exit Agreement 185 MW of both Units 3 & 4 transfer from Puget Sound → Talen		Executed Jan. 16, 2023 2026 Exit Agreement 111 MW of both Units 3 & 4 transfer from Avista → NorthWestern	
	Unit 3	Unit 4	Unit 3	Unit 4	Unit 3	Unit 4
Avista	111	111	111	111		
NorthWestern		222		222	111	333
PacifiCorp	74	74	74	74	74	74
Portland	148	148	148	148	148	148
Puget	185	185				
Talen	222		407	185	407	185
Total	740	740	740	740	740	740

NorthWestern is actively working with the other owners to resolve outstanding issues, including the associated pending legal proceedings. Additionally, the owners intend to pursue a mutually beneficial reallocation of megawatts between the two units that would ideally provide NorthWestern with a controlling (> 370 megawatts) share of Unit 4.

December 2022 Polar Vortex



Estimated Cost Benefit of Existing 222 MW Colstrip Ownership vs. Market Purchases (Millions)

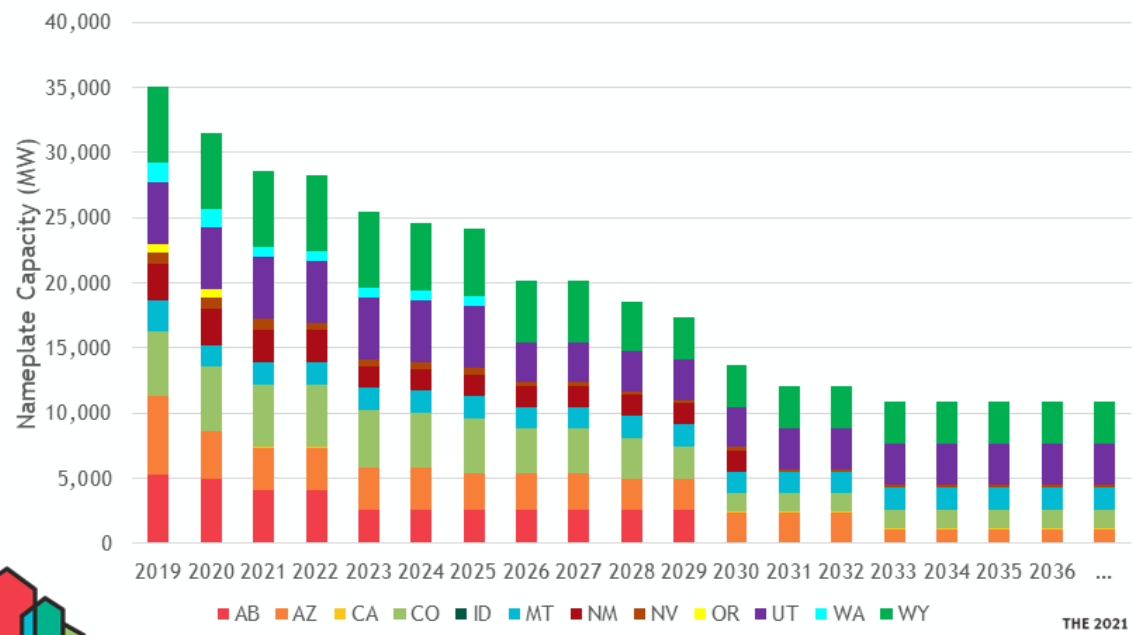
	Existing 222 MW of Colstrip				Colstrip Cost vs. Market	Estimated Market Cost	
	MWh	Variable	Fixed	Total		Total	Avg. \$ Per MWh
Dec. 20-26	35,580	\$0.8	\$1.4	\$2.2	(\$9.8)	\$12.0	\$336.14
Dec. 21-23	15,467	\$0.4	\$0.5	\$0.9	(\$5.7)	\$6.6	\$427.64

Colstrip costs significantly lower than market

Significant Capacity Retirements in the West

WECC coal units in operation, decreasing over time

WECC Coal Operating Capacity - By State/Province



Planned coal retirements in the west exceed 20 gigawatts over the next decade resulting in worsening capacity deficits as forecasted by the Northwest Power Plan.

