

## Hunker, Brian M.

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**From:** Justin, Michael A.  
**Sent:** Tuesday, December 13, 2011 9:24 AM  
**To:** 'John Graves'; Hunker, Brian M.  
**Cc:** Nelson, Lydia C.; Mike Hennes  
**Subject:** FW: CGF- Info\_ SHPO Ref: 10-0173

FYI

### Michael A. Justin, M.S., RPA

#### HDR Engineering, Inc.

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Mobile: 612.214.5065

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**From:** Picha, Paul R. [<mailto:ppicha@nd.gov>]  
**Sent:** Tuesday, December 13, 2011 8:40 AM  
**To:** Justin, Michael A.  
**Cc:** Quinnell, Susan L.  
**Subject:** RE: CGF- Info\_ SHPO Ref: 10-0173

Dear Mike:

Thank you for forwarding the memo and accompanying maps. We concur with the assessment of geomorphic potential for near-surface and buried deposits in those locations indicated, including revisions to the proposed route.

Sincerely,

Paul Picha

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**From:** Justin, Michael A. [<mailto:Michael.Justin@hdrinc.com>]  
**Sent:** Monday, December 12, 2011 3:32 PM  
**To:** Picha, Paul R.  
**Subject:** CGF- Info\_ SHPO Ref: 10-0173

Paul, attached are documents for review. The Architectural tech memo and Deeply Buried Site tech memo address changes to the route. The route changes are also reflected in the two large map attachments.

Please do not hesitate to contact me if you have questions.

**MICHAEL JUSTIN**  
RPA

**HDR Company Name**  
Archaeologist/Sr. Cultural Resources Project Manager

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## **TECHNICAL MEMO**

**Date:** November 22, 2011  
**To:** Brian Hunker, HDR  
**From:** Michael Kolb

**RE:** Recent Revisions to Geomorphological Model for Locating Areas with Potential for Deeply Buried Archaeological Deposits Along the Center to Grand Forks 345 kV Transmission Line Corridor in North Dakota.

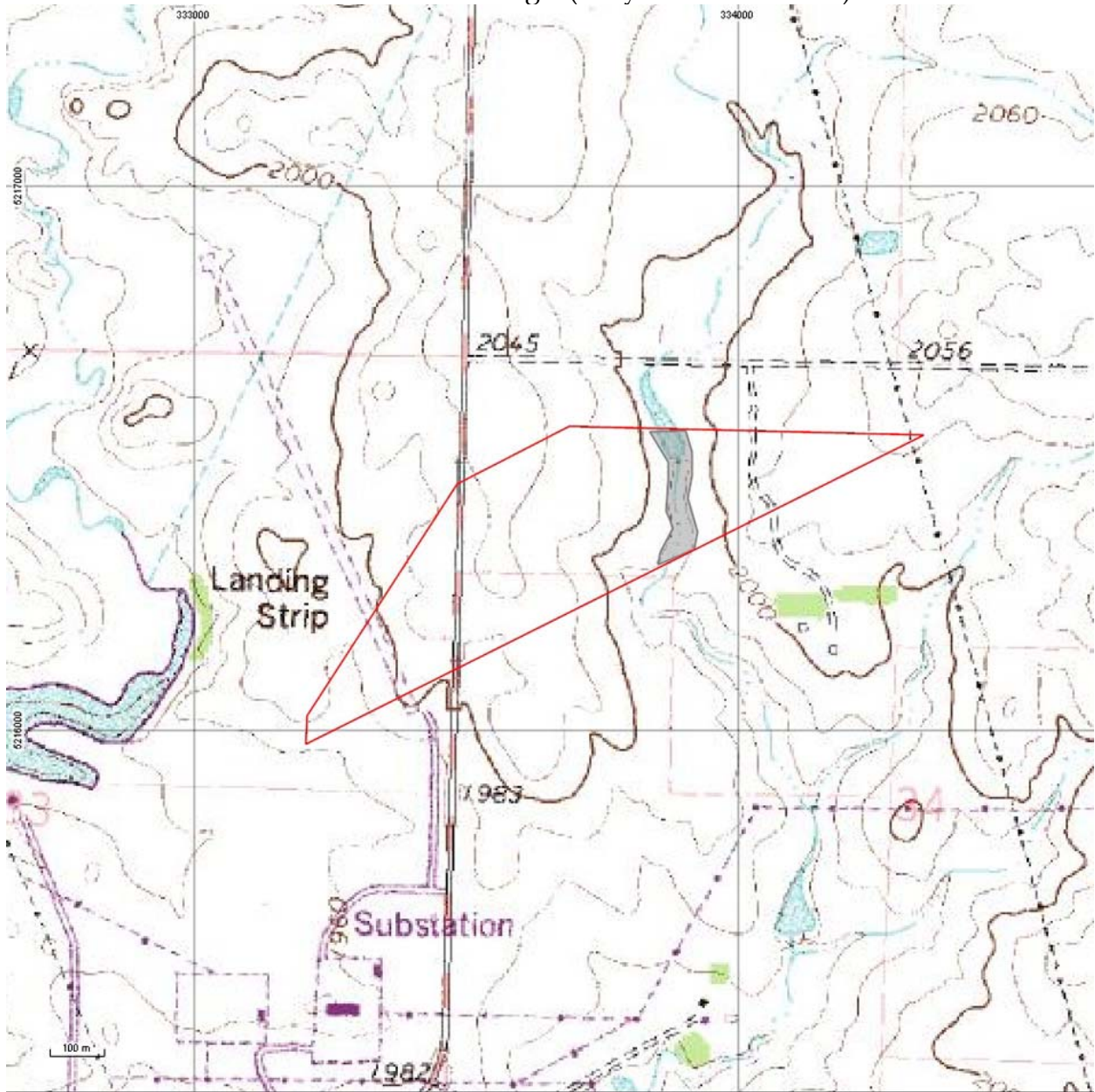
Geomorphological modeling of the proposed Center to Grand Forks Transmission Line corridor is focused on the identification and mapping of landforms and/or deposits that may have potential to contain deeply buried (>0.5 m below the modern surface) archaeological deposits. Revisions of November 4, 2011 are addressed below.

Thirteen changes in the proposed route, defined as Areas 1-13 by HDR, were examined to determine the potential for deeply buried sites (Table 1). Maps of areas where there is a change in the level of potential at a stream crossing are attached.

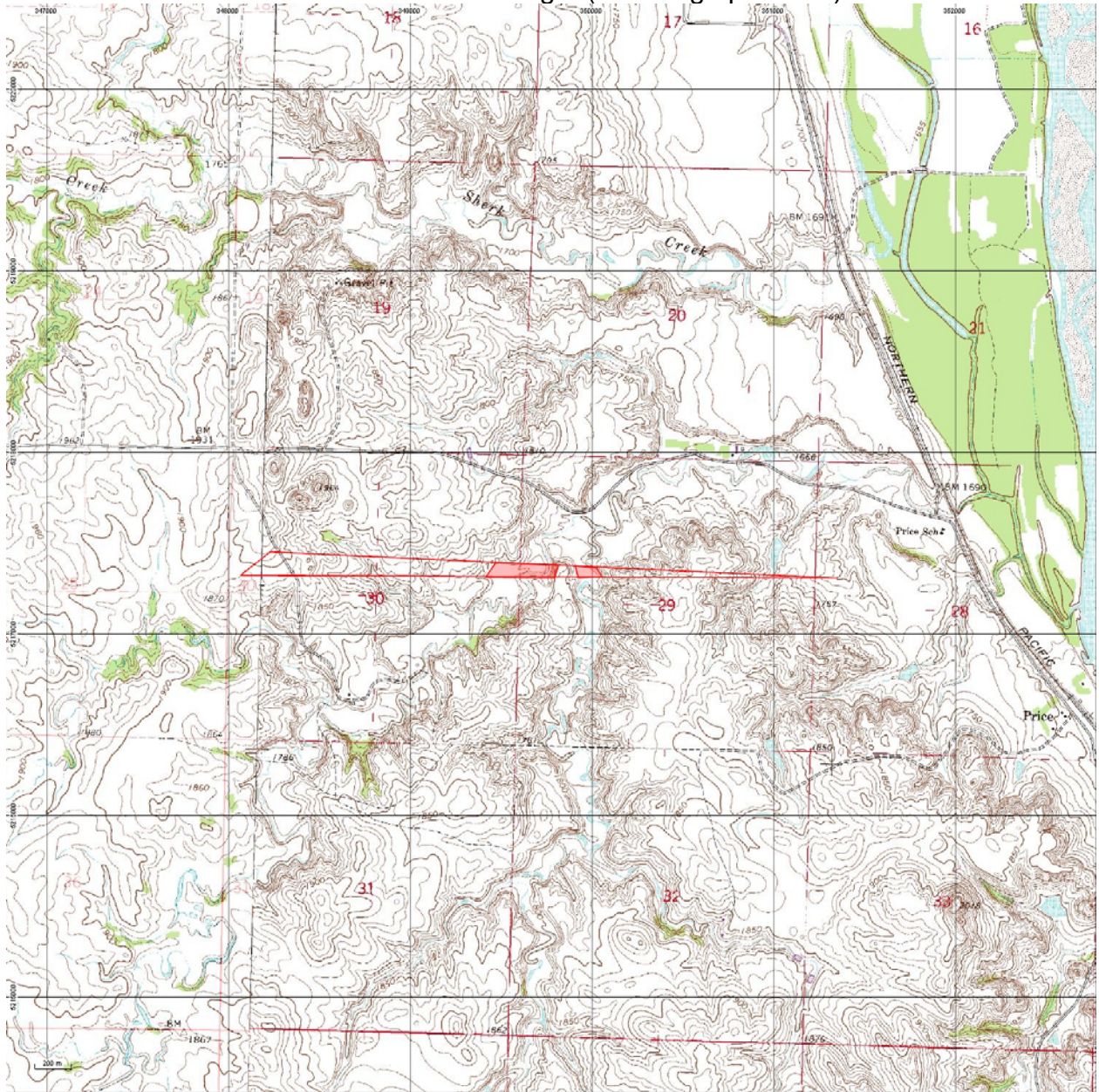
**Table 1. Potential for Deeply Buried Sites CGF Transmission Line Corridor (revised 11-4-11)**

<b>HDR Area</b>	<b>Crossing Number</b>	<b>Potential</b>
1	2	shift south; change to low potential
2	none	no change
3	5	shift south; high potential
4	none	no change; low potential
5	15	no change; moderate potential
6	none	no change; low potential
7	none	no change; low potential
8	none	no change; low potential
9	16	shift 1 mile south; high potential
10	19	shift north; moderate to low potential
11	48	shift west; moderate potential
12	49	no change
13	none	no change; low potential

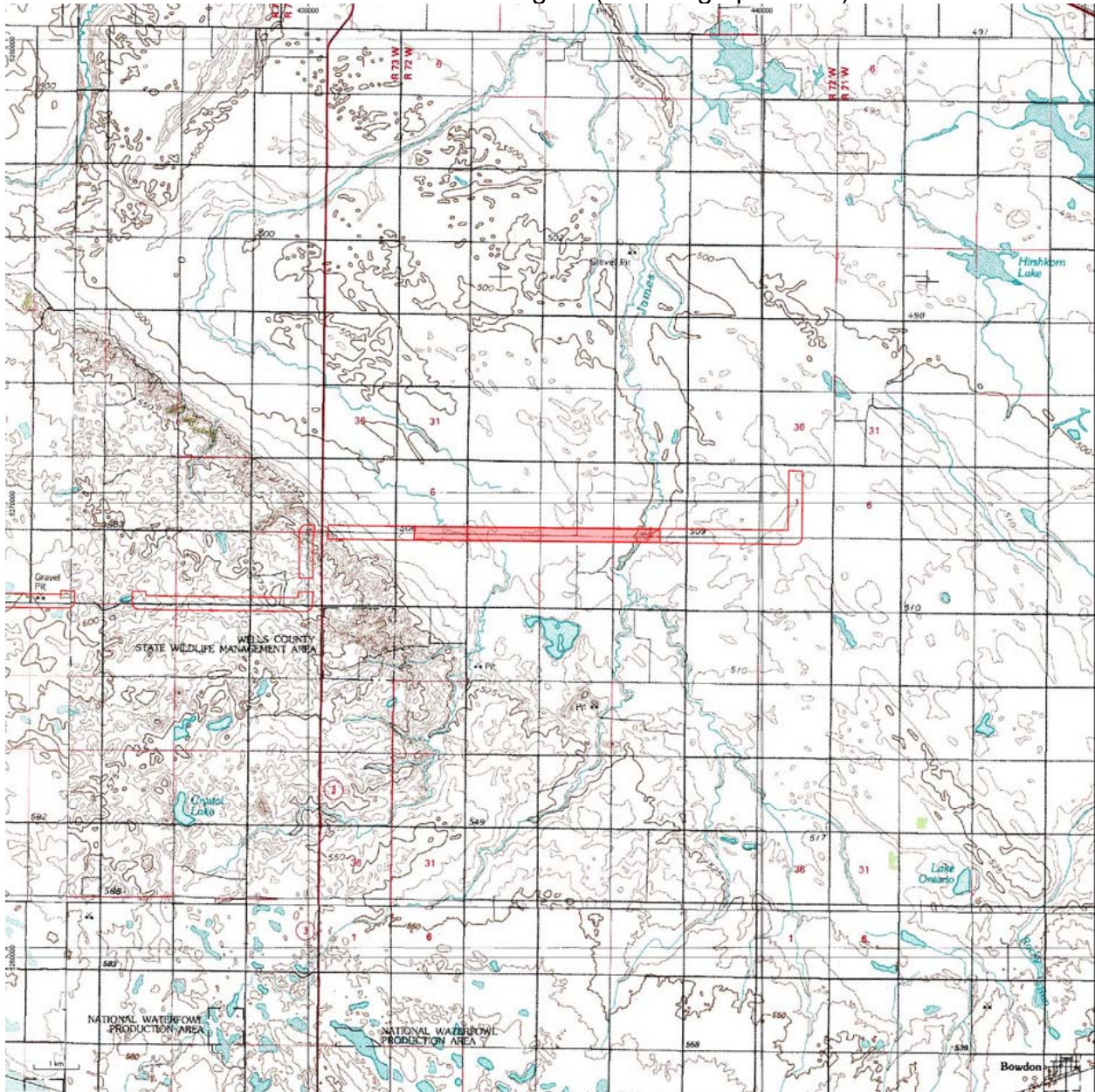
Area 1 Stream Crossing 2 (Gray = Low Potential)



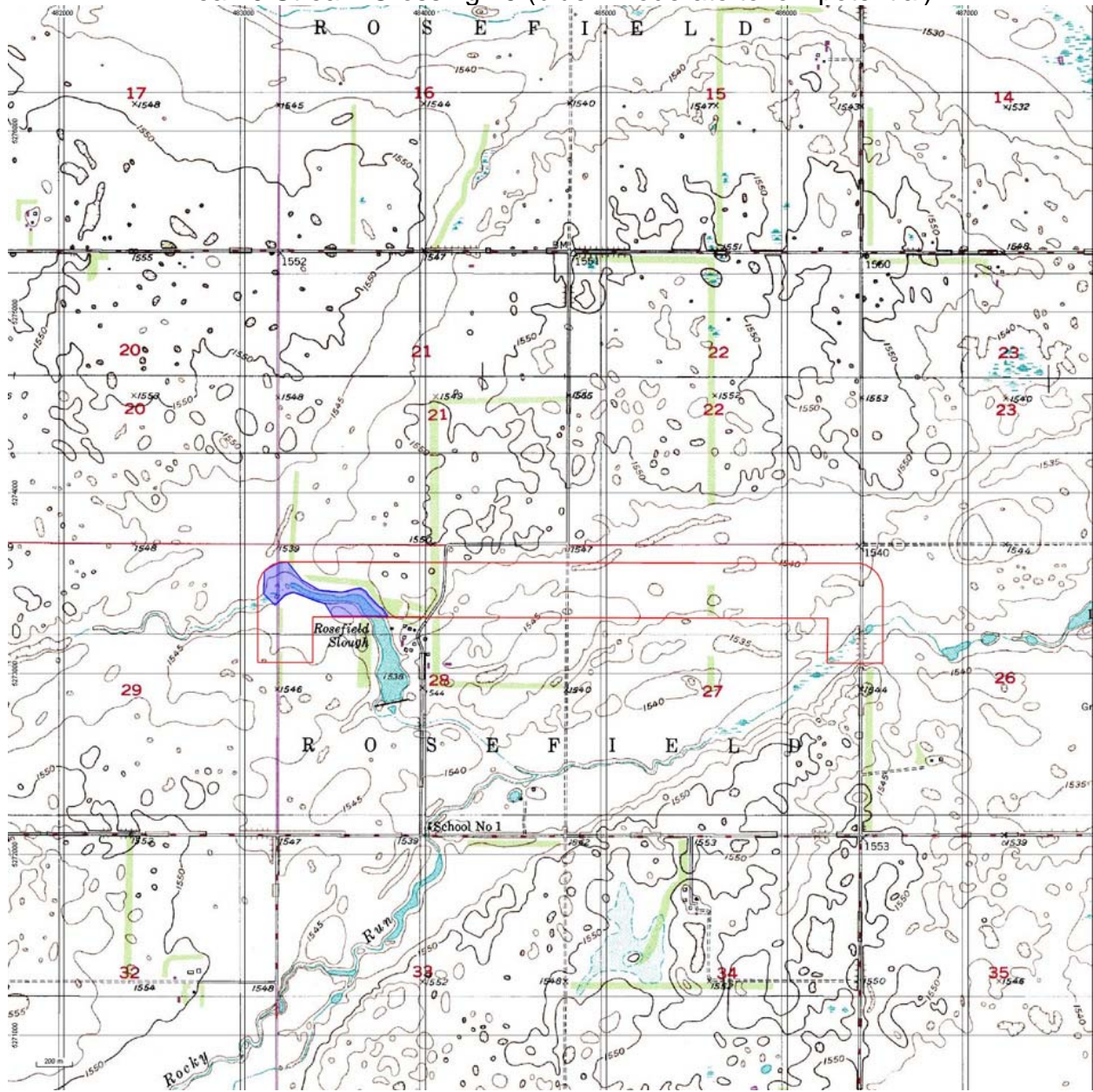
Area 3 Stream Crossing 5 (red = high potential)



Area 9 Stream Crossing 19 (red = high potential)



Area 10 Stream Crossing 19 (blue= moderate to low potential)



Area 11 Stream Crossing 48 (yellow = moderate potential)

