Surveying and Cataloguing the State's Cultural Resources Using GIS: Recent Progress & Next Steps
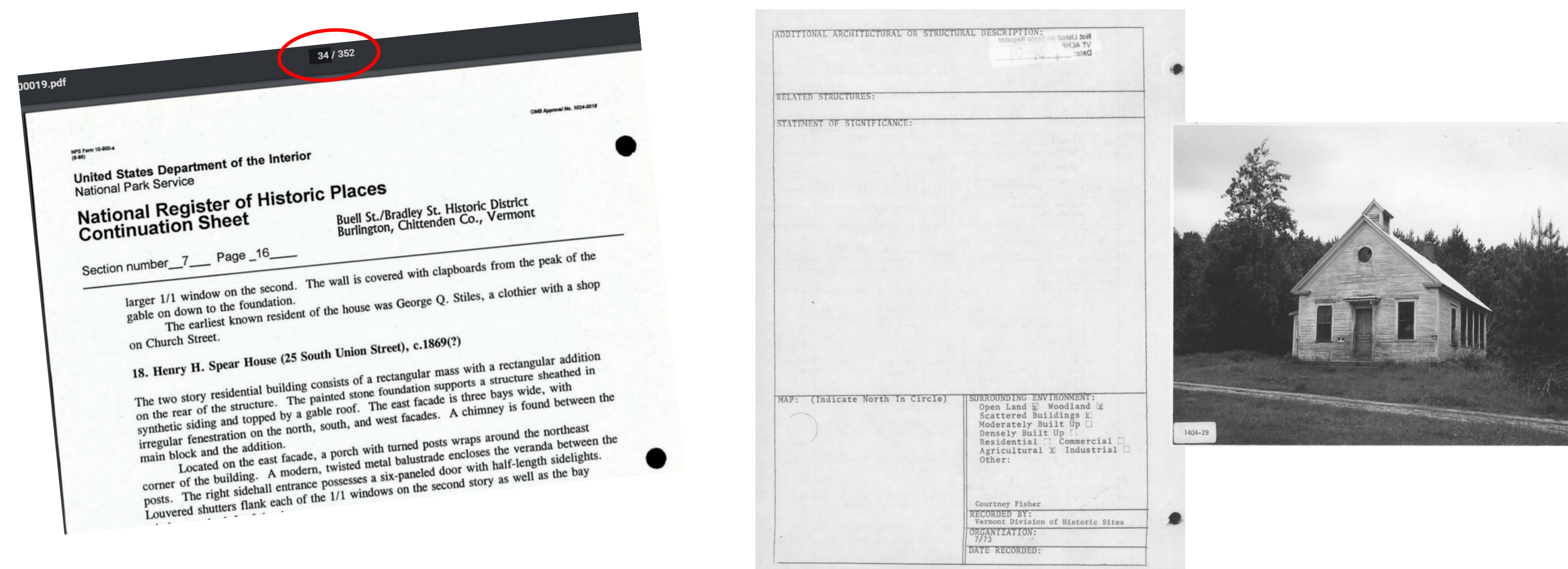
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Optimizing the VTrans Project Review Process

Currently, VTrans historic preservation staff use a variety of existing non-spatial data (mainly PDFs) to perform the research necessary to support their project review process. Stakeholder engagement, decision-making, and public educational opportunities could be greatly streamlined if these data – and the new data arising from the review process – were catalogued geospatially.

VTrans staff evaluate hundreds of pages of incomplete, dated, and non-spatial source information for each project they review, with some resources lacking even a physical address!

Seizing the Opportunity: Middlebury Bridge & Rail Project

One of the Section 106 mitigation requirements for **Middlebury WCRS(23)** is to update the National Register Nomination for the Middlebury Village Historic District, which was originally completed in 1974 and is antiquated. This process involves filling out a standard paper form – the **Vermont Historic Sites and Structures Survey (VHSSS)** Form – for over 400 buildings!

VTrans recognized that this re-nomination process represented a perfect opportunity to **develop and implement new GIS tools** to collect, share, and archive the necessary data in a paperless and geo-referenced format.

Mobile Data Collection and Data Sharing Using Web Maps

Supported in part by FHWA Project Development Work Program (PDWP) funds and WCRS(23) funds, the VTrans Cultural Resources Team and VHB developed GIS and web-based tools to collect, archive, and share historic resource information. VHB created custom applications using **Esri's ArcGIS Collector** and **Survey 123** to document Middlebury's historic resources through VHSSS forms using mobile devices. A web map is used to track survey progress and share information with project stakeholders. This online tool will greatly expedite project review by the Vermont Division for Historic Preservation (VDHP). This robust, geocoded, and queryable data format is a resilient foundation upon which additional functionality can be overlain, facilitating future research by VTrans, sister agencies, and eventually the public.

The Survey 123 interface for the VHSSS Form (left) and a view of the web map dashboard, which can display photographs and summary statistics for the survey area.

Where to Next?

Immediate benefits from this program include data sharing amongst multiple VTrans sections to assist with project-related or other decision-making. By going paperless, this GIS enhances business continuity during times of disruption (such as the current pandemic) and facilitates project transition should staff members be reassigned.

Looking forward, VTrans & VHB are evaluating how to incorporate existing non-spatial data managed by VDHP into the GIS to improve future project review & eventually provide a resource for users outside VTrans.

Acknowledgments