

May 26, 2020

RE: Low Distortion Projection (LDP) Designs
Exhibit Attached

To Whom It May Concern,

This letter is being sent on behalf of the Montana State Geodetic Co-Coordinator for the National Geodetic Survey (NGS). The Co-Coordinator are Stew Willis, and Corryn Greenawalt.

We are writing with some very exciting news for the state of Montana in regards to the upcoming State Plane Coordinate System 2022 that the NGS is currently working on! As most of you know, along with the new state designs included in the State Plane Coordinate System 2022 (SPCS 2022), NGS is also allowing multiple layers for additional zone projection designs for each individual state. A state can have one, two, or three projection zone layers, where each layer has a distinct distortion design criterion and coverage scheme for its zones.

On March 9, 2020 we were able to get approval and secure an additional second layer through NGS for the state of Montana that will be designated for LDP designs throughout the state. With this second layer being approved and secured, we can start working on LDP designs throughout the state for submittal and approval by NGS. If we can get the designs completed and submitted for approval to NGS by **March 31, 2021**, they will be published and available for use when NGS rolls out the new datum in 2022. Having secured the second layer also means that we will be able to create LDP's in the future even after the deadline.

Although this great news, we need your help! Designing LDP's to NGS standards for submittal and approval can be cumbersome, time consuming, and expensive. We have had much discussion and consultation regarding how to go about getting LDP's designed and submitted for a state as big as Montana. Recently we have been working in conjunction with Northern Engineering and Consulting, Inc. (NECI). NECI has already created and published numerous LDP's, and are currently working on covering the state of North Dakota for the NDDOT as well as working with the reservations along the Hi-Line. NECI and their partners have all the appropriate software, and experience required to get LDP's designed to NGS standards and approved with little to no revisions whatsoever.

NECI has reached out to us (NGS coordinators) and offered to design any requested LDP's for the rest of the state for the low price of \$2,500 per LDP. They have made this generous offer in an effort to help out the state of Montana for getting LDP designs done and submitted before the March 31, 2021 deadline. By comparison, the LDPs NECI is creating for North Dakota are costing \$7,480 each. They are able to reduce the cost for Montana by (1) cutting scope to a minimum, (2) the LDP program is paid for and (3) the tribal initiative has already created standards, templates, and streamlined the system. What we are humbly asking of our surveying community, local and state agencies, and anyone else who would greatly benefit from the LDP's, is a contribution to help cover the cost for getting the LDP's designed and submitted through NECI. If we can get everyone to help out and chip in to cover the expense, it will be something that everybody in the state of Montana will benefit from for many, many years to come.

We have explored many other avenues for well over a year trying to get this task accomplished. After researching the expense, time and effort, software knowledge, and most of all experience, we feel this offer by NECI is very generous. Having a real possibility to get this accomplished is very exciting. Although we have not talked to every single surveyor, or consultant in the state, we have talked with quite a few throughout Montana. It seems that the pulse and feedback from around the state about this subject is very positive. But there was always one glaring question that most people asked... "How do we do it"? We would always have to reply with "well, we are working on it". With this offer from NECI, we now have a great opportunity to get LDP's accomplished in Montana.

Currently our goal is to cover all the major populated areas as shown on the attached exhibit with LDP's by the 2021 deadline. That being said, there is no limitations on that. On the radar right now is the Bitterroot Valley, Flathead Valley, Butte, Helena, Great Falls, Bozeman, Billings, and the respective surrounding areas. But again, there is no limitation on just these areas. LDP's can be created anywhere that adhere to the NGS standards and target distortion factors. We hope that eventually the entire state will be covered.

With this great opportunity presenting itself, we graciously ask that everyone pull together to get this accomplished. If you would like to contribute to any of the areas mentioned above, or if you have another specific area in mind that would benefit from having an LDP created, please contact us at your earliest convenience. Any amount will be more than welcome. LDP contributions of \$1,250 or more will get your logo added to the LDP map. Contributions of \$500 or more will get your name, company name, and or agency name mentioned in the list of contributors in the Handbook and User Guide.

If you are willing to make a contribution, please include the amount and the specific area you are wanting to contribute to. An example would be "*XYZ Land Surveying, \$500 for Flathead area*". In order to keep some organization, we will monitor the responses as they come in for each area. Once the target amount of \$2,500 is reached, we will immediately send out a notification to the area that the goal has been reached. Once each area reaches the target amount, we will contact each contributor for that area individually for payment details.

If you wish to contribute to other areas in the state that you might want to see an LDP created, please feel free. Just make sure you put down where the area is you want to contribute to. We look forward to hearing from ALL of you! Together we can make this happen. Always feel free to contact us at any time with any questions, comments, or concerns you would like to discuss.

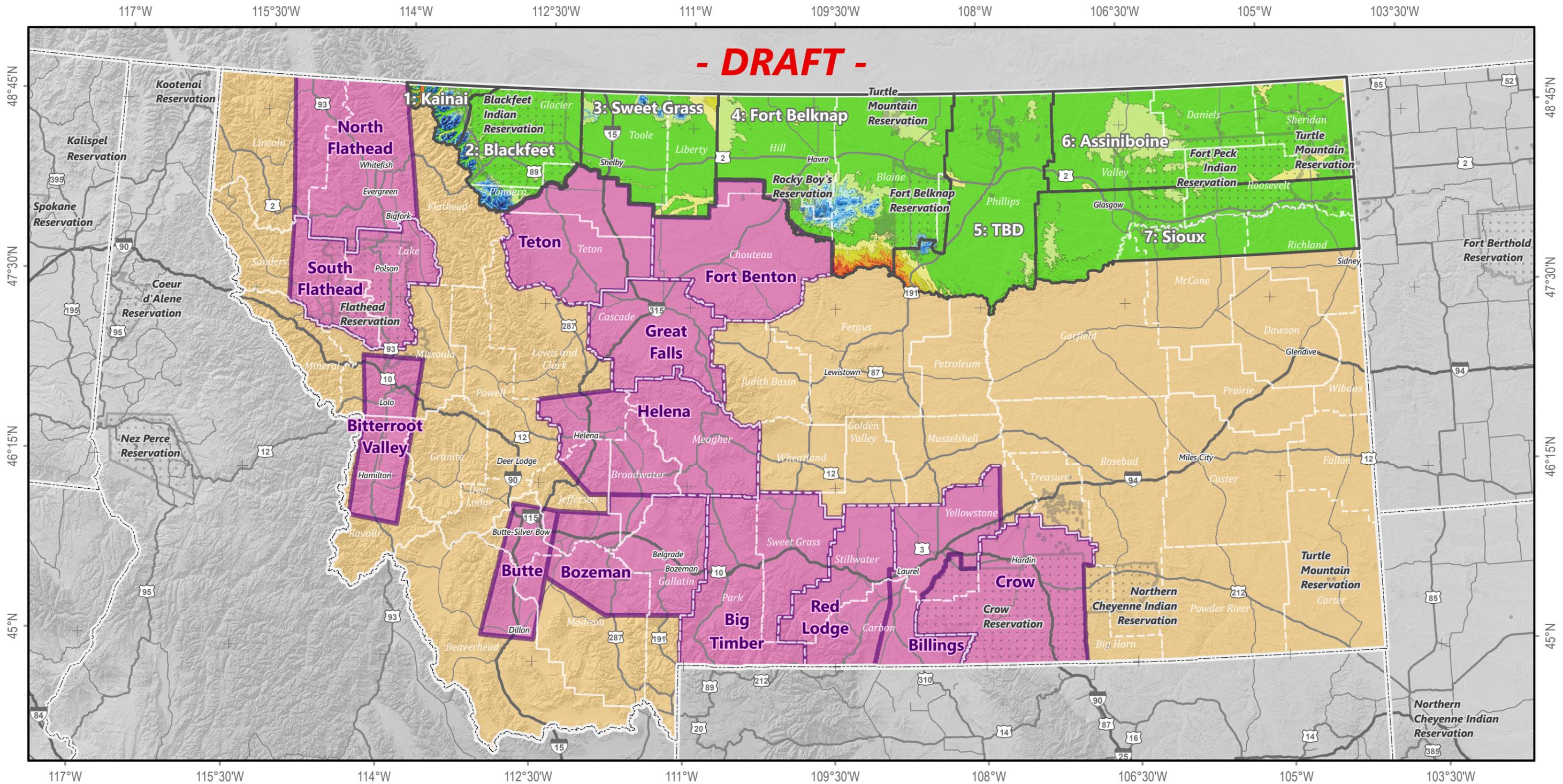
Please send your responses to:

Stew Willis
(406) 529-8171
stewart.willis@usda.gov

Sincerely,

Montana Geodetic Co-Coordinator;
Stew Willis
Corryn Greenawalt

- DRAFT -



Montana
Hi-Line Low Distortion Projections (LDP)
and Potential LDP Areas



Linear Distortion
at the Topographic Surface
in parts per million (ppm)



- LDP Zone
- Potential LDP Zone (limits estimated)
- Reservation
- State
- County
- Interstate
- US Route
- State Route

