MULTI-STATE CONTROL POINT DATABASE (MCPD) DATA SUBMISSION REVIEW PROTOCOL

To ensure the reliability and consistency of the MCPD the following protocol was created and put into effect on June 1st, 2020 at Idaho State University's GIS Training and Research Center (GIS TREC). This protocol will be used when a data submission is made by a licensed surveyor or their proxy. Review of the submission will be completed within 10 working days by the MCPD data steward. This includes communications with the submitter to ensure they know their submission's status.

1. Since submission are made via email, when a submission has been received the email will be responded to promptly with the following text:

   ```
   Hello,
   Thank you for submitting your control point data to the Multi-state Control Point
   Database. I will check your data and if I have any questions I will contact you for
   clarification or edits. Your data will be incorporated into the MCPD within 10 working
   days and will be available by visiting the MCPD web map at
   https://giscenter.isu.edu/research/Techpg/GC/. If you do not hear from me by that
   time, please feel free to contact me by emailing mcpd@isu.edu.

   If you have any other questions, please do not hesitate to contact me.
   ```

2. Is the data entered correctly in the submitted document? (i.e., all required fields have been completed, see Table 1). Acceptable submission documents are an ArcGIS file geodatabase (fGDB) (preferred), shapefile, or Microsoft Excel spreadsheet.

Table 1. List of Required Fields

Surveyor Sheet (Excel)	Project Sheet (Excel)	Point Sheet (Excel)
Surveyor First Name	Project Name	Point Name
Surveyor Last Name	Project ID	Point Type
License Number	Project Date	PLSS Corner
Phone	Project Coordinate System	Latitude DD
Address 1	Horizontal Datum	Longitude DD
City	Vertical Datum	HorzUnits_Lat_Lon
State		HorzAcc_Lat_Lon
Zip		HorzAccUnits_Lat_Lon
Email		HorzAccConvention
		Horizontal Method
		Northing
		Easting
		HorzUnit_N_E
		HorzAcc_N_E
		HorzAccUnit_N_E
		CoordSyst_N_E
		Vertical Coordinate
		Vertical Units
		Vertical Accuracy
		Vertical Accuracy Units
		Vertical Accuracy Convention
		Vertical Method
		Meridian
		Township
		Range
		Section
		Corner Designation
		State
		County

3. Once the submission document has been reviewed and approved for completeness, these data need to be mapped in ArcGIS. If the submission form is an Excel spreadsheet you can open this file in ArcGIS as an XY Table.
   a. Open ArcGIS Pro
   b. In the Catalog pane, navigate to the folder where the MCPD submission is stored.
      i. If the submission is an Excel sheet, double click it to expand the file.
      ii. Right click on Point$
      iii. From the fly out menu, select Export
      iv. From the fly out menu, select Table to Point Feature Class
      v. Fill in the XY Table to Point tool as shown below. Save the feature class in the MCPD_Review fGDB and use the submission name to name the feature class. Use the coordinate system listed in the submission.
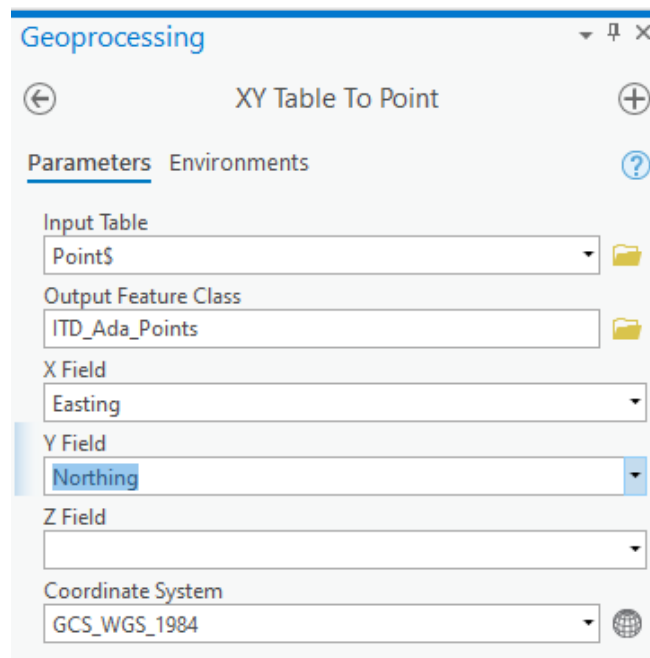
4. Once imported into ArcGIS Pro, consider the following:
   a. Do the points appear to fall in the correct place?
      i. To determine this, review the description of the submission. For example, if the submission is for an ITD highway project yet the points fall on lands managed by the USFS this anomaly should flag the points as a *potential* error. In this case, a follow up communication (preferably by email) asking for review and clarification by the submitter is in order.
      ii. Using one of the several locational descriptions in the database, the submitted point features can be used to extract the underlying township, range, and section data. Using this methodology, points can be tested to determine if their description is consistent with the mapped location. In other words, if the observed section number is section 04 while the expected section (given in the submission) is 02 this inconsistency should be viewed as an error.

5. Review the dataset's attribute table searching for empty/null data values. Null or missing data should be corrected before proceeding.
6. Project the feature class into the spatial reference system (WKID: 3857, WGS 1984 Web Mercator (Auxiliary Sphere)) used to serve the MCPD project as a web service.
7. Populate the DATE UPDATED field with the current date.

8. Once it is determined the submitted data meets all requirements for inclusion in the MCPD, the point feature class will be exported as an XML workspace document and sent to the Research Systems Administrator at ISU's GIS TREC. This XML file can normally be sent using email.
    a. The Research Systems Administrator will import these data into a fGDB
    b. The resulting feature class will be viewed in ArcGIS to ensure they appear correct in their general location
    c. The spatial reference system (SRS) of these data will be checked to ensure they match the required SRS (WKID: 3857, WGS 1984 Web Mercator (Auxiliary Sphere))
    d. If these data satisfy the above requirements, they will be appended to the production MCPD feature class and uploaded to the web server for use by the geospatial community.

9. When the submission has been uploaded into the MCPD and the new control points are visible in the web map application, a follow-up email will be sent to the submitter using the following text:

    ```
    Hello,
    Thank you once again for submitting your control point data to the Multi-
    state Control Point Database (MCPD). I am pleased to inform you that your
    data has been successfully added to the MCPD and is ready for use by visiting
    [URL to web map application zoomed to the extent of the new points]. If you
    notice any errors please let us know as soon as possible by emailing
    mcpd@isu.edu.
    ```

Following this protocol will help ensure the MCPD remains a reliable and useful resource for the entire geospatial community in Idaho.