Sheet \_\_\_\_\_ of \_\_\_\_\_

## U.S. Geological Survey Trigonometric Leveling Traverse Form

| Survey crew:  |   |                      |   | Date:                             |  | Total station model and serial number:                    |                                |                |              |             |  |  |
|---|---|----------------------|---|-----------------------------------|--|---|--------------------------------|----------------|--------------|-------------|--|--|
| Data collector jo   | ob name:                                  |                      | Weather:                                |                                   | Prism(s) model and serial number:              |   |                                |                |              |             |  |  |
| Horizontal datum  | n: 🗌 NAD 83 🗌                             | NATRF2022            | Assumed                                 | Other                             |  | Vertical datum:   | NAVD 88                        | NAPGD2022      | NGVD 29      | Other       |  |  |
| Traverse type:  | SRLT D                                    | RST 🗌 OT             |   |                                   |  |   |                                |                |              |             |  |  |
| —Establish Baseline—  |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
| Origin point coordinate, in feet (N/E/Z): Foresight point coordinate, in feet (N/E/Z):              |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
| Instrument height at origin point (HI), in feet = Prism height at foresight (SH), in feet =         |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
|   | Vertical difference, i                    | n feet               | Horizontal                              | distance, in feet                 |  | Vertical difference, in feet Horizontal distance, in feet |                                |                |              |             |  |  |
| Face 1 Fa   |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
| Face 2  |   |                      |   |                                   | Face 1   | 1   |                                |                |              |             |  |  |
| Face 1  |   |                      |   | Face 2                            |  |   |                                |                |              |             |  |  |
|   |   |                      | Mean vertical diff                      | erence, in feet =                 |  |   |                                |                |              |             |  |  |
| Mean horizontal distance, in feet =   |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
|   | Azir                                      | rom origin to foresi | ght, in degrees =                       |                                   | Method: Compass Recovered benchmark GNSS Other |   |                                |                |              |             |  |  |
| Air temperatur  | e, in degrees Fahrenheit                  |                      |   |                                   | Total station constant and scale error mm +    |   |                                |                |              | ppm         |  |  |
| Atmospheric pressure, in inches of Hg   |   |                      |   |                                   |  | Total station angu  | iular uncertainty              |                |              | arc-seconds |  |  |
| Prism offset, in mm   |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
| Helpful conversions: 1 m = 3.28084 ft; 1 mm = 0.00328084 ft; 1° C = 1.8°F; 1 mm = 0.03937008 inches |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
| Setup # 1 Description   |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
| Backsight point number  |   |                      | BS prism height (SH), in feet =         |                                   |  |   |                                |                |              |             |  |  |
| Station point number  |   |                      | Instrument height (HI), in feet =       |                                   |  |   |                                |                |              |             |  |  |
| Foresight point number  |   |                      | FS prism height (SH), in feet =         |                                   |  |   |                                |                |              |             |  |  |
|   |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
| Point number  | nt number Instrument orientation Vertical |                      | l difference, in ft Horizontal distance |                                   | e, in ft                                       | Section misclosure  |                                |                |              |             |  |  |
|   | BS direct—F1                              |                      |   |                                   |  |   |                                |                |              |             |  |  |
|   | FS direct—F1                              |                      |   |                                   |  |   | h from noi                     | nt             | to           | _           |  |  |
|   | FS reverse—F2                             |                      |   |                                   |  |   |                                |                |              |             |  |  |
|   | BS reverse—F2                             |                      |   |                                   |  |   | VD(mark to mark) from point to |                |              |             |  |  |
|   |   |                      |   |                                   |  |   | ink/inom por                   |                |              | [           |  |  |
| +=  |   |                      |   |                                   |  |   |                                | Section m      | iaalaaura i  | n ft        |  |  |
| HI  | VD  | SH(FS)               | VD                                      | (mark-to-mark)                    |  |   |                                | Section III    | isciosure, i | IIII =      |  |  |
|   |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
| Setup #   |   |                      |   |                                   |  |   |                                | Descripti      | on           |             |  |  |
| Backsight poin  | Backsight point number                    |                      | BS prism height (SH), in feet =         |                                   |  |   |                                |                |              |             |  |  |
| Station point n   | Station point number                      |                      | Instrument height (HI)                  |                                   |  |   |                                |                |              |             |  |  |
| Foresight point   | number                                    |                      | FS prism h                              | eight (SH), in feet =             |  |   |                                |                |              |             |  |  |
|   |   | Vertical             | Difference in ft                        | Harden at al. diatana             |  |   |                                | Continu minute |              |             |  |  |
| Point number  | Instrument orientation                    | Vertical             | Dillerence, ill it                      | Horizontal distance               | e, in π  |   |                                | Section miscro | Isure        |             |  |  |
|   | FS direct—F1                              |                      |   |                                   |  |   |                                |                |              |             |  |  |
|   | FS reverseF2                              |                      |   |                                   |  | VD(mark-to-ma   | ark) from poi                  | nt             | to           | =           |  |  |
|   | BS reverse—F2                             |                      |   |                                   |  |   |                                |                |              |             |  |  |
| Ļ   | 1   | -                    |   | 1                                 |  | VD(mark-to-ma   | ark) <b>from poi</b>           | nt             | to           | =           |  |  |
|   |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
|   | +   | -                    | =                                       |                                   |  |   |                                | _              |              |             |  |  |
| HI  | <br>                                      | SHIES                |   | (mark-to-mark)                    |  |   |                                | Section m      | isclosure, i | n ft =      |  |  |
|   |   | <u> </u>             | • • •                                   |                                   |  |   |                                |                |              |             |  |  |
| Setup #   |   | Description          |   |                                   |  |   |                                |                |              |             |  |  |
| Backsight poin  | nt number                                 |                      | BS prism height (SH), in feet =         |                                   |  |   |                                |                |              |             |  |  |
| Station point number  |   |                      | Instrument height (HI), in feet =       |                                   |  |   |                                |                |              |             |  |  |
| Foresight point number  |   |                      | FS prism height (SH), in feet =         |                                   |  |   |                                |                |              |             |  |  |
|   |   |                      |   |                                   |  | 1   |                                |                |              |             |  |  |
| Point number Instrument orientation   |   | Vertical D           | itterence, in ft                        | rence, in ft Horizontal distance, |  | Section misclosure  |                                |                |              |             |  |  |
|   | BS direct—F1                              |                      |   |                                   |  | _   |                                |                | <b></b>      |             |  |  |
|   | FS direct—F1                              |                      |   |                                   |  | VD(mark-to-m  | -mark) from point to =         |                |              |             |  |  |
|   | FS reverse—F2                             |                      |   |                                   |  |   |                                |                |              |             |  |  |
| L   | BS reverse—F2                             | 1                    |   |                                   |  | VD(mark-to-m  | ark) from no                   | int            | to           | =           |  |  |
|   |   |                      |   | ]                                 |  |   |                                |                | _``          |             |  |  |
|   |   |                      |   |                                   |  |   |                                |                |              |             |  |  |
|   | +   |                      | _= _                                    |                                   |  |   |                                | Section m      | nisclosure.  | in ft =     |  |  |
| HI  | VD  | SH(FS)               | ) VD                                    | (mark-to-mark)                    |  |   |                                |                |              |             |  |  |