**Guardrail Point Testing Procedures**

**Overview:**

Two tests will be performed and compared for efficiency in order to obtain a confident position in acquiring the location of all guardrail endpoints within the state of Texas. Each test will be timed and performed by multiple individuals in order to gain average statistics for each test.

The tests will be performed on FM2222 from SL360 to RM620. Each guardrail beginning and ending will be collected as a point feature within a feature class and classified as ether an “ET” type or not.

**TEST 1: Field Test**

Timing begins at the office when the field crew leaves for the test and ends when the field crew returns to the office after collection. This allows a realistic variable of ‘travel time to the destination’ to be factored into the tests comparison.

The field crew will consist of 3+ people as 1 will drive and the others will each use separate data collection applications for collecting the location data. Before leaving the office, the field crew is to perform all preliminary safety precautions and procedures. Upon arrival to the destination, the data collectors will use mobile devices to connect to the applications at the following web addresses:

<http://smudgeservices.heliohost.org/fieldassets/>

<http://bantamgis.com/GPS/FC.html>

The crew will begin to travel west on FM2222 from SL360. The crew is to travel within the speed limit and practice all field safety precautions. The suggested speed for using the data collection application is not in excess of 40mph. The data collectors will immediately begin to collect the point locations of the guardrail endpoints on both sides of the road as the crew passes by them. The crew will continue to collect all guardrail endpoints for the entirety of the route. When the crew reaches RM620, the initial test is complete.

The field crew is to find a safe location to turn around as the test will be performed a second time traveling east from RM620 toward SL360 with the intention of acquiring multiple test results and an accurate average of test results. The data collectors will immediately begin to collect the point locations of the guardrail endpoints on both sides of the road as the brew passes by them. The crew will continue to collect all guardrail endpoints for the entirety of the route. Upon completion, the crew is to return to the office for review. Upon arrival at the home office, the crew is to make note of the time and the time duration of the test.

The crew will QC the collected data for accuracy and compare to the office test.

**TEST 2: Office Test**

Timing begins when the office data collector sit down at a computer to being collecting data and ends when the data collector closes the application. It is suggested that 2+ individuals perform this test to ensure accurate averaged results.

To begin the data collector will navigate to the web page application at the following address:

<http://smudgeservices.heliohost.org/guardrail/>

The data collector is to navigate within the map to FM2222 and will begin at either SL360 *or* RM620. The data collector is to use the aerial photography, the Google Street View widget, and any other available desktop/web resources to locate the endpoints of all the guardrails along the route. Upon the location of an endpoint, the data collector will use the Add Point widget to place a properly classified point feature at the location of said endpoint. The data collector is to work along FM2222 toward the opposite end of the route until all endpoints are located and the entire route has been navigated.

Upon completion, the office data collector is to make note of the time and the time duration of the test.

**REVIEW**

All collected endpoint feature classes are to be visually reviewed for location accuracy versus each other and aerial photography. This is to be done within an MXD with all feature classes drawn simultaneously. It is suggested that this QC review to be perform by multiple individuals.