

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
Universal Service Reform – Mobility Fund)	WT Docket No. 10-208

COMMENTS OF THE RURAL WIRELESS ASSOCIATION, INC.

RURAL WIRELESS ASSOCIATION, INC.

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SUMMARY

The Rural Wireless Association, Inc. (“RWA”) files these comments in response to the Federal Communications Commission’s (“FCC” or “Commission”) Public Notice proposing and seeking comment on specific parameters and procedures to implement the Mobility Fund Phase II (“MF-II”) challenge process.

RWA urges the Commission to provide prospective challengers at least 30 days’ notice ahead of the USAC challenge portal opening. RWA was pleased that the Commission provided prospective challengers with a 150-day window. Providing at least 30-days’ notice ahead of the USAC portal opening will allow prospective challengers to “staff up” and make full use of the time they have to mount a challenge.

RWA is concerned about the Bureaus’ proposed use of a one square kilometer grid to determine challenge areas on the initial eligibility map. In the majority of rural America, roads are situated directly on the borders of a one *mile* by one *mile* grid. It is likely that a one square kilometer grid cell could be entirely encapsulated within a one square mile road grid cell, leaving no access to drive a complete single kilometer-based grid cell. In such a case, the Bureaus should create an exception applicable to rural areas where road grids are one square mile or larger.

RWA opposes the Bureaus’ proposal to require challengers to provide several other data parameters associated with a speed test. Challengers will waste limited time and resources recording additional data given that the only eligibility criterion is speed throughput. RWA also opposes the Bureaus’ proposal to allow a challenged party to submit data identifying a particular device that a challenger used as having been subjected to reduced speeds. RWA believes that it would be much more efficient for the challenger and challenged carrier to coordinate this issue *before* the speed test data is recorded.

RWA urges the Bureaus to require service providers to identify a variety of handset models appropriate for testing coverage. Of the three devices, there should be a requirement to support both iOS and Android operating systems. Further, RWA again urges the Commission to place limits on how expensive the devices are, regardless of operating system.

Given questions regarding transmitter monitoring software (“TMS”) accuracy, RWA is concerned with the Bureaus’ proposal to allow challenged parties to submit transmitter monitoring software data that is “substantially similar” in form and content to speed test data. It is RWA’s understanding that TMS can calculate geo-locations with distance errors of more than ½ mile. As such, the TMS triangulation method is not appropriate to be used to rebut a challenge.

Finally, RWA urges the Bureaus to clarify that a “qualified engineer” may work directly for an operator or a third party on behalf of an eligible challenger.

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The Rural Wireless Association, Inc. (“RWA”)¹ files these comments in response to the Federal Communications Commission (“FCC” or “Commission”) Public Notice² in which the Rural Broadband Auctions Task Force, Wireline Competition Bureau, and Wireless Telecommunications Bureau (together, the “Bureaus”) propose and seek comment on specific parameters and procedures to implement the Mobility Fund Phase II (“MF-II”) challenge process. RWA welcomes the opportunity to submit comments on challenge process procedures – an issue of great importance to its carrier members and the rural consumers they serve.

¹ RWA is a Washington, DC – based trade association that ensures wireless carriers with fewer than 100,000 subscribers have a strong voice in our nation’s capital. RWA’s members have joined together to speed the delivery of new, efficient, and innovative communications technologies to underserved rural communities across the United States of America. RWA’s members are comprised of both independent wireless carriers and wireless carriers that are affiliated with rural telephone/broadband companies that are passionate about ensuring rural America is not left behind.

² *Comment Sought on Mobility Fund Phase II Challenge Process Procedures and Technical Implementation*, [Public Notice](#), WT Docket No. 10-208, WC Docket No. 10-90 (rel. Oct. 18, 2017) (“*Public Notice*”).

I. THE COMMISSION SHOULD PROVIDE PROSPECTIVE CHALLENGERS AT LEAST 30 DAYS NOTICE AHEAD OF THE USAC CHALLENGE PORTAL OPENING.

RWA appreciates the Bureaus' effort to provide parties information as to the expected challenge process timetable. In particular, the Bureaus note that they "expect to make public a map of areas presumptively eligible for MF-II support no earlier than four weeks after the deadline for submission of the new, one-time 4G LTE provider coverage data."³ The Bureaus further "propose that the challenge process window open on the next business day following the release of the map. Eligible parties would be able to access the USAC portal and download the provider-specific confidential data necessary to begin conducting speed tests on that day. The challenge window will close 150 days later..."⁴

Given the Commission's desire to utilize only recent data,⁵ the Bureaus "will require that speed test data meet the standard parameters adopted by the Commission, in particular that...the date of the test be after the publication of the initial eligibility map and within six months of the close of the challenge window."⁶ Presumably, the Commission inserted timing flexibility in order to accommodate a scenario in which the USAC portal is not available

³ *Public Notice* at ¶ 28, n.69 (stating that, "contemporaneous with the publication of the map of presumptively eligible areas, we will announce via public notice the availability of this data and subsequent commencement of the challenge window").

⁴ *Public Notice* at ¶ 28.

⁵ *Connect America Fund; Universal Service Reform – Mobility Fund, Order on Reconsideration and Second Report and Order*, FCC 17-102, ¶ 51 (Aug. 4, 2017) ("*MF-II Challenge Process Order*") (stating "we are concerned that speed measurements taken before the submission of updated coverage maps may not reflect the current consumer experience. Thus, we will only accept data that were collected after the publication of the initial eligibility map and within six months of the scheduled close of the challenge window").

⁶ *Public Notice* at ¶ 10; *see also MF-II Challenge Process Order* at ¶ 51.

immediately after the release of the initial map.⁷ In such a case, RWA urges the Bureaus to provide prospective challengers with at least 30 days' notice ahead of the USAC portal opening.

RWA was pleased that the Commission provided prospective challengers with a 150-day window.⁸ Providing at least 30-days' notice ahead of the USAC portal opening will allow prospective challengers to make full use of the time they have to mount a challenge. Such notice will allow prospective challengers the time necessary to "staff up" an internal speed test team or secure speed test services from a third party vendor.

II. A ONE SQUARE KILOMETER GRID DOES NOT FIT ONE SQUARE MILE ROAD GRIDS THROUGHOUT RURAL AMERICA; ITS USE WILL NECESSITATE AN EXCEPTION FOR GRID CELLS THAT ARE INACCESSIBLE AS A RESULT.

In order to generate a map of unsubsidized qualified 4G LTE coverage for each provider, Commission staff proposes to (among other things) "overlay a uniform grid with cells of one square kilometer (1 km by 1 km) on the provider's coverage map..."⁹ The Bureaus state that "[t]he use of a uniform grid will... relieve challengers of the burden of creating maps of the areas they wish to challenge, thereby furthering the Commission's goal of encouraging robust participation in the challenge process to ensure that the determination of eligibility is as accurate as possible."¹⁰ RWA is concerned about this proposal because, in the majority of rural America, roads are situated directly on the borders of a one *mile* by one *mile* grid.¹¹ As shown in Exhibit 1

⁷ Depending on the ultimate timing of initial map release and portal opening, RWA cautions the Bureaus that inclement fall and winter weather in areas of difficult terrain and/or high elevations could negatively impact some RWA members' ability to complete drive tests and meet the challenge submission deadline.

⁸ *Public Notice* at ¶ 28; *see also MF-II Challenge Process Order* at ¶ 29.

⁹ *Public Notice* at ¶ 4.

¹⁰ *Id.*

¹¹ *See, e.g.,* Richard T.T. Forman, Daniel Sperling, John A. Bissonette, Anthony P. Clevenger, Carol D. Cutshall, Virginia H. Dale, *ROAD ECOLOGY: SCIENCE AND SOLUTIONS*, at p. 342 (2002) (stating "the thoroughly regular road network of the Great Plains, so evident on flights across the

attached hereto, it is likely that a one square kilometer grid cell could be entirely encapsulated within a one square mile road grid cell, leaving no access to drive a complete single kilometer-based grid cell.¹² Due to the lack of road access, it would not be physically possible to challenge such a grid cell under the currently proposed rules. The Bureaus' proposed method utilizing one square kilometer grid cells, speed test points with a buffered ¼ kilometer radius, and a 75 percent challengeable area coverage requirement will work in cities, suburban areas, and small towns. However, it will greatly inhibit (or eliminate) the ability to challenge reported unsubsidized coverage in rural areas outside of those towns.

The Bureaus propose that “[o]nly cells with at least one submitted speed test within the cell would be considered as challenged.”¹³ But the Bureaus should create an exception applicable to rural areas where road grids are one square mile or larger. If a cell that abuts against (or is in a group of) blocks where the challenge has been deemed presumptively successful, then that cell should be automatically considered the subject of a presumptively successful challenge if it is identified by the challenger as not being drivable. As shown in Exhibit 2 attached hereto, grid cells surrounding the inaccessible cell should be used to determine whether or not the inaccessible cell has been successfully challenged or not.¹⁴ If four or more of the surrounding grids cells do not meet the Commission's requisite speed threshold, then the inaccessible grid cell should also be considered eligible for MF-II support.

Midwest, marks the section lines forming a 1-mi (1.6-km) grid. These roads provide access to the agricultural fields, which range up to a full square mile (2.6 km²) in extent and necessitate highly mechanized management processes”); *see also* U.S. Geological Survey, *The Public Land Survey System (PLSS)*, available at https://nationalmap.gov/small_scale/a_plss.html (last visited Nov. 11, 2017) (explaining that the PLSS typically divides land into 6-mile-square townships, which is the level of information included in the National Atlas. Townships are subdivided into 36 one-mile-square sections).

¹² *See* Exhibit 1 *infra* for a map that illustrates such a scenario.

¹³ *Public Notice*, Appendix B at ¶ 1.

¹⁴ *See* Exhibit 2 *infra*.

III. THE BUREAUS SHOULD NOT REQUIRE CHALLENGERS TO SUBMIT EXTRANEOUS DATA PARAMETERS WHEN DOWNLOAD SPEEDS ARE THE ONLY FACTOR IN DETERMINING AN AREA'S MF-II FUNDING ELIGIBILITY.

In addition to requiring the parameters adopted by the Commission (geographic area, recorded speed, time and date of measurement, and handset used), the Bureaus propose to require challengers to provide other data parameters associated with a speed test. Such parameters include: (1) signal strength; (2) latency; (3) the service provider identity; (4) the device used (which must be from the service provider's list of pre-approved handsets); (5) the international mobile equipment identity (IMEI) of the tested device; (6) the method of the test (i.e., software-based drive test or non-drive test app-based test); and (7) if an app was used to conduct the measurement, the identity and version of the app.¹⁵ The Bureaus state that "[t]his information will improve the ability of challenged parties and Commission staff to analyze the validity and probative value of a speed test."¹⁶

RWA opposes this proposal. The Commission has stated time and time again that an area's eligibility for MF-II support is determined solely by whether or not unsubsidized service is provided in that area at the requisite download speed threshold of 5 Mbps.¹⁷ Challengers will

¹⁵ *Public Notice* at ¶ 12.

¹⁶ *Id.*

¹⁷ *MF-II Challenge Process Order* at ¶ 14 (affirming that the Commission will use a 5 Mbps download speed benchmark to determine what coverage counts as qualified 4G LTE for the purpose of identifying areas eligible for MF-II support); *see also id.* at ¶ 20 (affirming that use of incompatible network technologies should not dictate MF-II support eligibility); *see also id.* at ¶ 24 (affirming that the Commission would determine whether a provider that deploys qualified 4G LTE in an area is subsidized or unsubsidized based only on whether it receives high-cost support for that area using USAC high-cost disbursement data and not based on whether that provider collocates equipment on a tower of another provider receiving universal service support); *see also id.* at ¶ 40 (finding that requiring a specific signal strength benchmark is not necessary for the one-time data collection filings because the cell edge speed threshold requirement subsumes a specific signal strength value depending on specific operating signal bandwidth and the network deployment configurations).

waste limited time and resources recording additional data given that the only eligibility criterion is speed throughput. RWA urged the Commission to consider signal strength and upload speeds (an input critical to latency) in determining an area's eligibility for MF-II support – suggestions that the Commission declined to adopt. The Commission declined to require carriers to provide such information in its one-time data collection, which will be used to determine areas' presumptive MF-II eligibility or ineligibility. The Bureaus should not now impose these extraneous information requirements upon would-be challengers.

Challengers should not be required to provide information that is unnecessary to make an MF-II eligibility determination. Collection of latency and signal level data requires additional phones and data usage, which exponentially increases the cost to raise a challenge and the burdens placed on the challenger. Because the only eligibility criterion is speed throughput, Commission staff should need only the parameters adopted by the Commission (geographic area, recorded speed, time and date of measurement, and handset used). Challenged carriers have ready access to their own network information, and are *welcome* to seek *any* additional data they deem relevant to the provision of their own claimed unsubsidized service when responding to a challenge.

IV. CHALLENGERS AND CHALLENGED CARRIERS SHOULD BE REQUIRED TO COORDINATE DATA SPEED THROTTLING ISSUES BEFORE SPEED TESTING IS COMPLETED.

Noting that some providers may reduce the speed of data on their networks for network management purposes (e.g., in the case of large data usage by particular users), the Bureaus propose to allow a challenged party to submit data that identify a particular device that a challenger used to conduct its speed tests as having been subjected to reduced speeds, along with

the precise date and time the speed reductions were in effect on the challenger's device.¹⁸ RWA opposes this proposal. Under this proposal, a challenger would have two options – neither of them good: (1) constantly monitor the data usage to ensure that they do not go over the data plan limits, and then switch out phones with fully used data plans for phones with fresh data plans;¹⁹ or (2) put forth the time, effort, and resources to mount a full challenge, only to find out later that the phone's data had been throttled.

RWA believes that it would be much more efficient for the challenger and challenged carrier to coordinate this issue *before* the speed test data is recorded. If challengers are going to sign a non-disclosure agreement or similar document in order to receive carrier-specific coverage data,²⁰ it is not a leap for the Bureaus to require the challenger to notify the challenged carrier that it is testing its network and require the challenged carrier to remove the data cap on the phone(s) in question to avoid throttling during the challenge period. Such coordination will allow challengers to review actual speed data as it is compiled, and make reasonable determinations as to whether a particular challenge is likely to be successful. Challengers would be able to do this *before* expending the time, effort, and financial resources necessary to compile *all* of the data, submit it to the FCC, and then wait for the challenged carrier to compile and submit data regarding possible throttling.

¹⁸ *Public Notice* at ¶ 14.

¹⁹ Testing four points per kilometer, a challenger will be able to perform tests on 520 square kilometers with a 20 gigabit plan from a service provider.

²⁰ *Public Notice* at ¶ 5 (stating “[t]he maps of unsubsidized coverage for specific providers would only be made available to challengers through USAC’s online challenge portal (the USAC portal) after challengers agree to keep such maps confidential.”).

V. THE BUREAUS SHOULD REQUIRE SERVICE PROVIDERS TO IDENTIFY A VARIETY OF HANDSET MODELS APPROPRIATE FOR TESTING COVERAGE.

In the *MF-II Challenge Process Order*, the Commission specified that service providers with qualified 4G LTE coverage will be required to identify at least three readily available handset models appropriate for testing those providers' coverage.²¹ Challengers electing to use application-based tests and software-based drive tests must use the applicable handsets specified by each service provider with coverage in the challenged area.²²

It is vital that the Commission provide further guidance on the type of devices that each network provider must identify as appropriate for testing. Of the three devices, there should be a requirement to support both iOS and Android operating systems. Limiting challengers to devices with iOS operating systems will radically decrease the information that may be collected and reduce additional benefits a challenger may receive from performing drive or application-based tests. Further, procuring iOS devices is materially more expensive than procuring Android devices and would place an additional financial burden on challengers.

Relatedly, RWA again urges the Commission to place limits on how expensive the devices are, regardless of operating system.²³ The Commission has stated that it wants to ensure that the evidence submitted by challengers...accurately reflects consumer experience in the challenged area..."²⁴ Subscribers are now paying for their own handsets, and often purchase the most inexpensive device available. Further, an operator that may be challenged could place

²¹ *MF-II Challenge Process Order* at ¶ 47; see also *Public Notice* at ¶ 7.

²² *MF-II Challenge Process Order* at ¶ 50; see also *Public Notice* at ¶ 7.

²³ *Connect America Fund, Universal Service Reform – Mobility Fund; Comments of the Rural Wireless Association, Inc.*, WC Docket No. 10-90, WT Docket No. 10-208 (Apr. 26, 2017) (stating "[i]f a specific group of handsets is proscribed for testing purposes, this group should include some low cost devices").

²⁴ *MF-II Challenge Process Order* at ¶ 49.

undue financial burdens on potential challengers by stipulating that only highest-cost devices compatible with drive test equipment be used. As such, the Bureaus should require service providers to identify at least one low-cost device out of the three that it submits in response to the one-time data collection.

VI. TRANSMITTER MONITORING SOFTWARE DATA IS UNRELIABLE, AND IS NOT “SUBSTANTIALLY SIMILAR” TO SPEED TEST DATA.

Under the MF-II challenge process framework adopted by the Commission, challenged parties may submit device-specific data collected from transmitter monitoring software (“TMS”).²⁵ The Bureaus propose to allow challenged parties to submit transmitter monitoring software data that is “substantially similar” in form and content to speed test data in order to facilitate comparison of such data during the adjudication process.²⁶ RWA is concerned with this proposal given questions regarding TMS accuracy.

TMS is a network performance/planning tool that approximates subscribers’ geo-location. TMS calculates geo-location from the timing and triangulation of each device’s signaling and logs from the switch/ element management system (“EMS”). It is RWA’s understanding that TMS can calculate geo-locations with distance errors of more than ½ mile. As such, the TMS triangulation method is not appropriate to be used to rebut a challenge.²⁷ If a TMS system pulled GPS locations from the end device, the method would be more reliable and could be used. However, the Commission’s Customer Proprietary Network Information

²⁵ *MF-II Challenge Process Order* at ¶ 60; *see also Public Notice* at ¶ 15.

²⁶ *Public Notice* at ¶ 15.

²⁷ *Connect America Fund, Universal Service Reform – Mobility Fund*; [Letter](#) from Rebecca Murphy Thompson, EVP & General Counsel, Competitive Carriers Association, to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission (July 27, 2017) (stating that transmitter monitoring data “can be easily manipulated base on time of day and period of collection and can produce unreliable geo-location results”).

(“CPNI”) rules may be an issue concerning the release of the IMEI for each test being shared if the challenged carrier is using customer data.

VII. THE BUREAUS SHOULD CLARIFY THAT A “QUALIFIED ENGINEER” MAY WORK DIRECTLY FOR AN OPERATOR OR A VENDOR ON BEHALF OF AN ELIGIBLE CHALLENGER.

The Commission has stated that it will “require that the speed test data be substantiated by the certification of a qualified engineer or official under penalty of perjury.”²⁸ RWA urges the Bureaus to clarify that a “qualified engineer” may work directly for an operator or a third party on behalf of an eligible challenger.²⁹ Previous language is ambiguous as to this point, though Commission staff stated on a recent informational webinar that a “qualified engineer” could be employed in either setting.³⁰ RWA urges the Bureaus to formalize this information, given that small and rural wireless carriers often do not retain in-house engineering staff.

VIII. CONCLUSION

RWA urges the Commission to adopt MFII challenge process requirements that avoid imposing egregious costs on rural wireless carriers with already-limited resources. In particular, RWA opposes the Bureaus’ proposals to require challengers to provide several other data parameters associated with a speed test and to allow a challenged party to submit data identifying a particular device that a challenger used as having been subjected to reduced speeds. Further, RWA is concerned about the Bureaus’ proposals to utilize a one square kilometer grid in rural areas where roads are situated directly on the borders of a one *mile* by one *mile* grid, and urges

²⁸ *MF-II Challenge Process Order* at ¶ 49.

²⁹ RWA understands that outside engineering companies must comply with state/local licensing requirements.

³⁰ Federal Communications Commission, *MF-II Challenge Process Webinar*, available at <https://www.fcc.gov/news-events/events/2017/11/mf-ii-challenge-process-webinar> (Nov. 1, 2017).

the adoption of an exception applicable to rural areas where road grids are one square mile or larger. Also, given questions regarding TMS accuracy, RWA is concerned with the Bureaus' proposal to allow challenged parties to submit transmitter monitoring software data that is "substantially similar" in form and content to speed test data. In addition, RWA urges the Bureaus to provide prospective challengers at least 30 days' notice ahead of the USAC challenge portal opening, to require service providers to identify a variety of handset models appropriate for coverage testing, and to clarify that a "qualified engineer" may work directly for an operator or a vendor on behalf of an eligible challenger. RWA looks forward to its continued work with the Chairman, Commissioners, and Commission staff in this proceeding.

Respectfully submitted,

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November 8, 2017

EXHIBIT 1

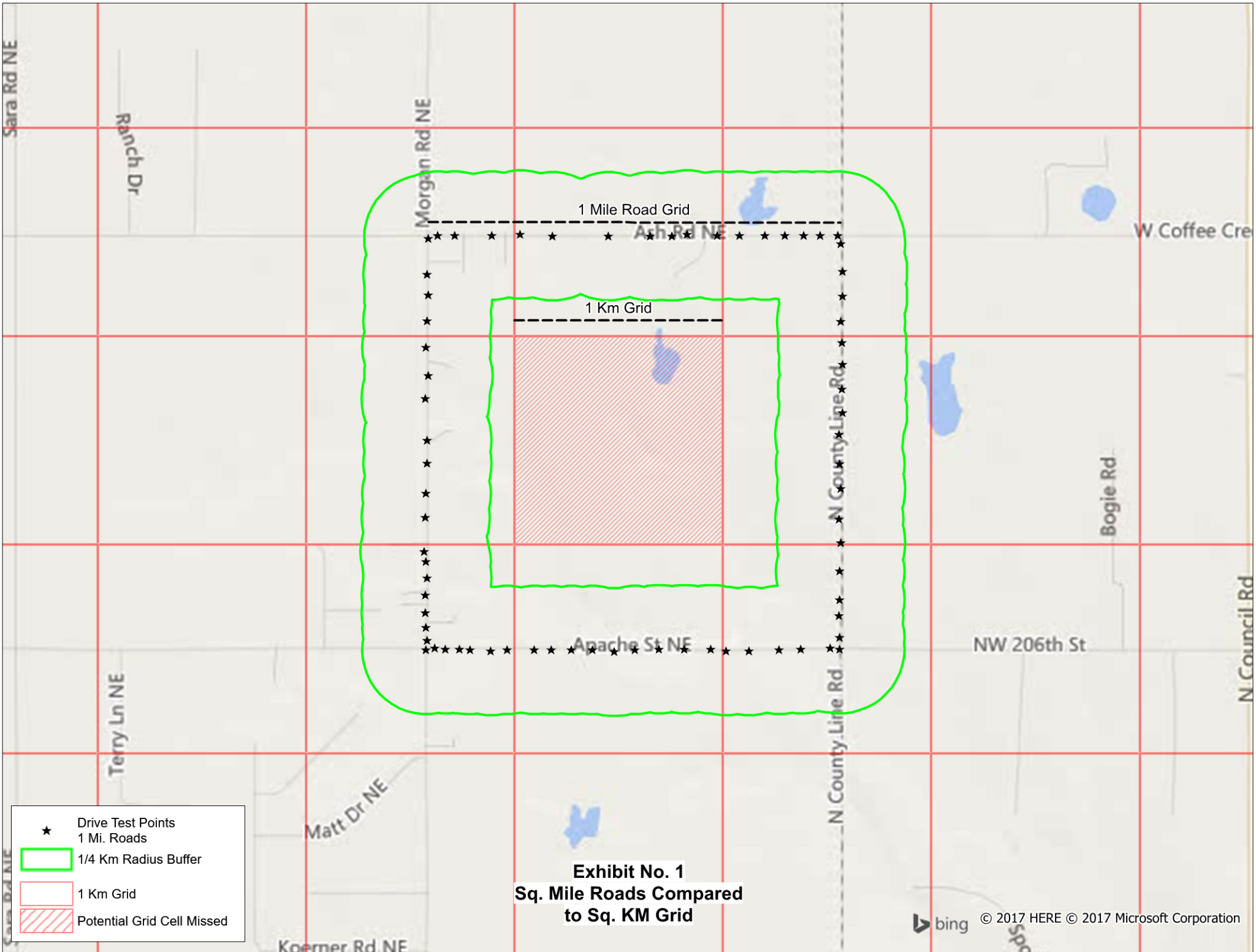


EXHIBIT 2

