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ENERGYPLEX PARK

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ENERGYPLEX PARK PLANNING REPORT

PREPARED FOR:
Lea County
100 N Main
Lovington, NM 88260

Date: February 27, 2015
Project Number: 2013.1355

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Introduction

This report is a conceptual planning document for expanding and/or improving existing infrastructure to serve the EnergyPlex Park (EPP). In order for the park site to be accessible and equipped for development, the existing infrastructure in the vicinity will need to be expanded. Various conceptual options and recommendations for such infrastructure improvements are presented in this report. Below is a list of infrastructure elements that need to be expanded to support future development at the EPP.

Infrastructure Elements Needing Expansion:

- **Transportation Routes**
    - **Roadways**
    - **Railway**
- **Utilities**
    - **Water well fields and distribution**
    - **Sanitary sewer**
    - **Power**
    - **Fiber Optic**
    - **Natural Gas**

Transportation Routes

Roadways

There are several major roadways adjacent to the park site. The EPP is 1.2 miles from NM 18 on the north and east, 5 miles from US 62/180 on the south, and adjacent to NM 483 on the west. However, at this time there are no roadways that provide routes completely through the site. Various areas of the park are accessible via dirt roads. For the purposes of accessibility, it is desirable to have at least one north-south route and one east-west route passing through the park.

There are a few potential options for creating a north-south route through the site. One such option is to extend NM 8 north to connect the EPP directly to US 62/180. This will require a 6 mile extension in the eastern third of the park. Also, Maddox Road and Twombly Lane currently extend north from US 62/180 to provide access to the Maddox Generating Station and the Hobbs Generating Station. This road ends approximately 1.6 miles from the south edge of the park in the western third.

A third option may include a connection to the future City of Hobbs northwest loop from the eastern edge of the park. This future route may use a portion of the HIAP runway system, or be located adjacent to it, and run south to connect across Millen to a future extension of the city of Hobbs Northwest loop.

Similarly, there are multiple options for creating a new east-west route through the site. A centrally located east west route between NM 483 and NM 18 lies along the township line between T17S and T18S. This alignment closely approximates the location of Kansas Ave east of the site between NM 18 and NM 132(Denver City Hwy). Kansas Avenue would be extended west from NM 18 to accomplish this. It will require approximately 8.6 miles of new roadway from NM 18 to HWY 483 along with NM 18 intersection upgrades and potential realignment east of NM 18.

Alabama Street, which lies one section line north of the township line between T17S and T18S extends from the State line Hwy at New-Mexico Texas Border, westward across NM 18 and is paved to the northeast corner of the EPP site. The road continues along an improved caliche road for 1 mile into the site and ends at the existing caliche pit in the north half of section 32. A second unimproved dirt road extends southwest from Alabama at the same northeast corner of the site for approximately 2.4 miles into the center of the site. Several other dirt roads provide limited access into various portions of the site. Extending and relocating the existing Alabama street and using the existing paved portion to the northeast corner of the site will require approximately 6.7 miles of new road and 2 miles of upgrade to the existing Alabama Street in addition to intersection upgrades at NM 18 and a likely upgrade/realignment of Alabama east of NM 18. This option is very challenging due to existing development along the route.

A third and easier option entails relocating Alabama between NM18 and the east boundary of the site to align with the township line (currently Kansas extended). This will require approximately 8.25 miles (dependent on alignment) of new roadway, intersection realignment and also likely new roadway alignment east of NM 18 for a proper intersection with the Highway. This alignment has the advantage of a complete connection to State line road and eventually a complete bypass of Hobbs for destinations east along US 62-180.

Railway

The Texas-New Mexico Railroad (TNMR) lies on the west side of NM 18 between Lovington and Hobbs. For this railroad to be accessible to businesses in the EPP, a branch line should be constructed. A possible location for this branch line is be along the township 17S line, adjacent to a new east-west roadway through the site. In that configuration, the railway will be centrally-located within the EPP, allowing for easy access for businesses in the site.

Appendix A provides a map illustrating possible options for creating additional transportation routes through the EPP site.

Utilities

Water

Several existing Lea County and City of Hobbs water sources are located near the EPP site. A Lea County water well and 8″ distribution line currently lie within the site, making the system a potential candidate for providing water to the EPP. However, additional wells and distribution lines are needed to meet the industrial demands of the park. Similarly, the City of Hobbs' well field at the Hobbs Industrial Air Park (HIAP) is located directly to the east of the proposed industrial park site. This well field is part of the North Hobbs Pressure Zone. The City of Hobbs Water and Wastewater Master Plan (dated February 2012) states that the North Hobbs Pressure Zone currently lacks sufficient ground storage to support fire flow demands and recent growth in the community. The City's 5-year capital improvement plan (CIP) includes booster pump upgrades of 1,850 gallons per minute (GPM) and an additional 1.7 million gallons of ground storage. The 20-year CIP includes an elevated storage upgrade of 0.5 million gallons. Therefore, in order to support the additional growth generated by the EPP, it is possible that a new well field will need to be constructed on the EPP property, along with a ground storage tank, booster pump station, elevated storage tank, and distribution pipe network. If the EPP has a significant fire demand, the new system can be connected to the existing City of Hobbs distribution system to provide redundancy. The recommended connection point is at the north end of the existing 24″ line along NM 18 east of HIAP. Additional considerations regarding the connection to the Hobbs system include the size and length of the transmission line connecting the two systems, the difference in elevation between the two systems, and maintaining acceptable water quality.

Appendix B shows a map with options for providing water service to the EPP site.

Sanitary Sewer

East of the EPP site, a 10" City of Hobbs sewer line extends east from the Lea County Correctional Facility through HIAP. Additionally, there is a 15" sewer line along NM 18 east of HIAP. These sewer lines are part of the City's Trunk F system, which is the City's largest trunk line. Serving HIAP, as well as a developing area along NM 18 and a commercial corridor along US 62/180, Trunk F primarily serves commercial and industrial connections. According to the City of Hobbs Water and Wastewater Master Plan, the Trunk F service area covers a significant amount of expected growth and development in Hobbs. The total capacity of the limiting segment of the trunk line is 6.54 million gallons per day (MGD). In 2011, the peak flow was 2.54 MGD, leaving an available capacity of 4 MGD. The growth projections for Hobbs anticipate a peak flow increase of 1.12 MGD in Trunk F by 2031. Although the growth projections did not include the industrial park, it is possible that Trunk F has sufficient capacity to support additional flows from the EPP. If a connection to the existing City of Hobbs Trunk F system is made, the recommended solution would likely be to extend the existing 15" line along NM 18 north to Kansas Street and to make the connection at that point the current available capacity of the 15"segment along NM 18 nearest the EPP is 1.82 MGD. A tie in to either location will likely require a force main or lift station to overcome depth and slope limitations.

While it is possible that the existing trunk line can support development in the industrial park, the current capacity of the City of Hobbs Wastewater Reclamation Facility may be a limiting factor. The design capacity of the facility is 4.8 MGD. In the Water and Wastewater Master Plan, it is reported that the Hobbs wastewater system experienced a total peak flow of 4.15 MGD in 2011. Furthermore, it projects that the total peak flow in the system will increase by 2.76 MGD by 2031, resulting in a total peak flow of 6.91 MGD. Therefore, the City of Hobbs Wastewater Reclamation Facility will most likely have insufficient capacity to support the expected growth in Hobbs and potential development in the EPP without the construction of additional biological trains.

Given the capacity limitations of the City of Hobbs Wastewater Reclamation Facility and the fact that the growth projections in the Water and Wastewater Master Plan did not include the EPP as a factor, facilities in the industrial park may be best served by a wastewater collection system and/or package treatment system treatment facility of their own. This is highly dependent on type and quantity of waste, and length/depths of line required and costs of facilities to connect to Hobbs system. Under those circumstances, development in the industrial park would be supported without impacting the wastewater system in Hobbs.

Appendix C shows a map with possible options for providing sanitary sewer service to the industrial park site.

Power

Electrical service to the location of the proposed EPP site is provided by Xcel Energy. At this time, there are 115 kV and 230 kV transmission lines extending from the Cunningham and Maddox Stations through the site. In order to support industrial development at the EPP, it is possible that the existing distribution system will need to be improved to increase its current carrying capacity.

To provide power to businesses that develop in the industrial park, new distribution lines and substation may be constructed. Another option, although limited, is to extend existing distribution lines in the immediate vicinity of the park. On the west side of the site, there is a 3-phase, 12.5-kV line serving a Lea County water well within the park area. Southwest of the site, there is a 3-phase, 12.5-kV line crossing NM 483. At the northeast corner of the site, there are two 12.5-kV lines that run along and across Alabama St. and extend into the park site. One of these lines is 3-phase, and the other is a single-phase line. However, the capacity of the latter is limited and will not serve an industrial development. Finally, there is a 3-phase, 12.5-kV line southeast of the site running along Millen Dr to the Lea County Correctional Facility. The carrying capacities of these lines range from 4.3 MW to 12 MW. It is possible that these existing lines can be re-conductored and/or extended through the site to serve the industrial park. Each individual line listed above will need to be analyzed for current load versus capacity to determine if they are available for additional load.

Depending on the electrical loads of the industries that develop in the EPP, a new substation may need to be constructed to service the industrial park. This endeavor is an 18 month to two year process. Another solution includes dividing the load requirements of the park among the four substations that currently feed the distribution lines serving the area (Buckeye, Monument, W. Bender, and Millen), assuming capacity is available in those substations. Currently these four substations are providing 63.4 MVA of a total capacity of 86.8 MVA leaving 20.4 MVA available. This amount is fluctuating with current loads and growth and suggests that the four substations and existing distribution lines serving the area are near capacity. Significant additional loads will likely require additional infrastructure be constructed.

Appendix D shows a map with a few potential options for providing electrical service to the site.

Fiber Optic

Multiple options exist for providing fiber optic service to the EPP. One possibility is to bring service into the site from the west by connecting to Leaco's existing fiber optic cables along NM 18. Currently, there is a 288-count fiber on the east side of the highway and a 24-count

fiber on the west side. This configuration allows for the possibility of creating a redundant ring for customers in the EPP. If service is provided by connecting to Leaco's line, approximately 1.6 miles of fiber optic cable will be required to extend from NM 18 to the easternmost boundary of the EPP site.

Alternatively, service can be brought in from the south by connecting to Windstream's 48-count fiber or PVT's 144-count fiber along US 62/180. Currently, Windstream has a fiber switch located at the intersection of US 62/180 and NM 483. It is fiber fed, and fiber can be run directly out of it. However, at this time, there are no Windstream or PVT fiber optic cables running along NM 483. If service was provided by installing a fiber optic cable along NM 483, approximately 5 miles of cable will be required to extend from US 62/180 to the southernmost boundary of the EPP along NM 483.

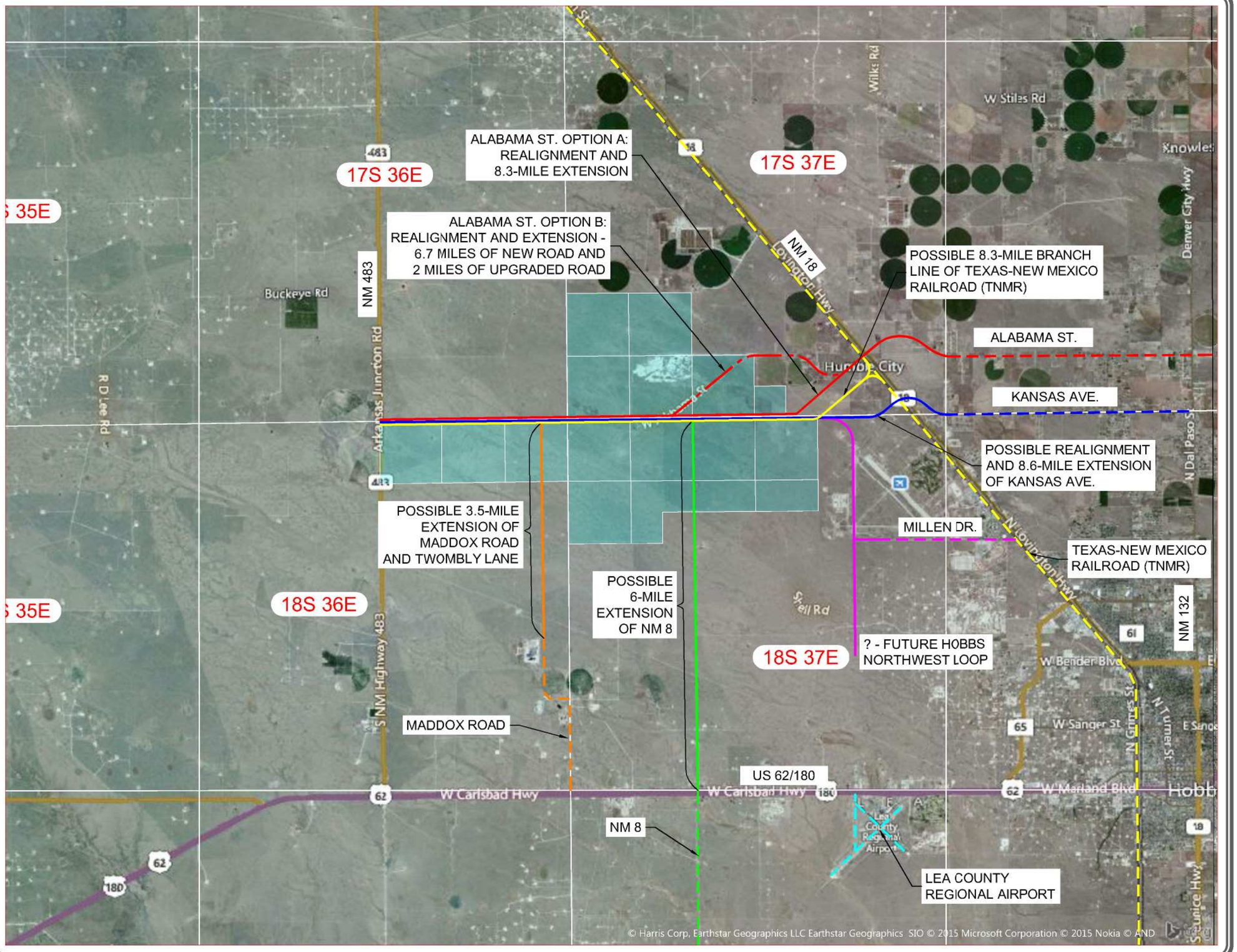
Appendix E provides a map showing possible options for extending fiber optic service to the EPP site.

Natural Gas

The EPP site as situated crosses the boundary of service territories for Zia Gas Company and New Mexico Gas Company. The approximate boundary is the township line between T17S and T18S which is also the location of Kansas Avenue, with Zia Gas typically serving south of Kansas and New Mexico Gas typically serving north of Kansas, although the New Mexico Gas transmission line crosses through the site northeasterly in the western portion of the site. Existing facilities include at the southeast corner of the site, a 4" Zia Natural Gas line serving the Lea County Correctional Facility is the closest existing line approximately 0.8 miles from the easternmost boundary of the EPP. On the south side of the site, a service extension, approximately 3 miles in length, can be created by connecting to the existing 8" Zia Natural Gas Transmission line lying on the north side of US 62/180. A regulator station would be required at this connection to reduce the operating pressure to a level suitable for businesses in the EPP (most likely 35 lbs in a 4" line). Similarly, a 1.5-mile service extension can be constructed on the east side of the site connecting to the existing 6" Zia Natural Gas line lying on the west side of NM 18. As before, this connection would require a regulator station to reduce the operating pressure and line size to a level appropriate for the EPP.

New Mexico Gas Company can provide service by connecting to the existing 8" New Mexico Gas Company transmission line that extends northeasterly through the center of the site. Again, a regulator station would be required to reduce the operating pressure and line size.

Appendix F provides a map showing possible options for providing Natural Gas service to the EPP site.



NORTH

SCALE 1" = 8000'

0' 4000' 8000' 16,000'

PROJECT ENGINEER:	DPH
PROJECT DESIGNER:	CSC, JMC
DRAWN BY:	JMC

REVISIONS

No.	DATE	DESCRIPTION

APPENDIX A

OPTIONS FOR EXPANDING TRANSPORTATION ROUTES

ENERGYPLEX PARK

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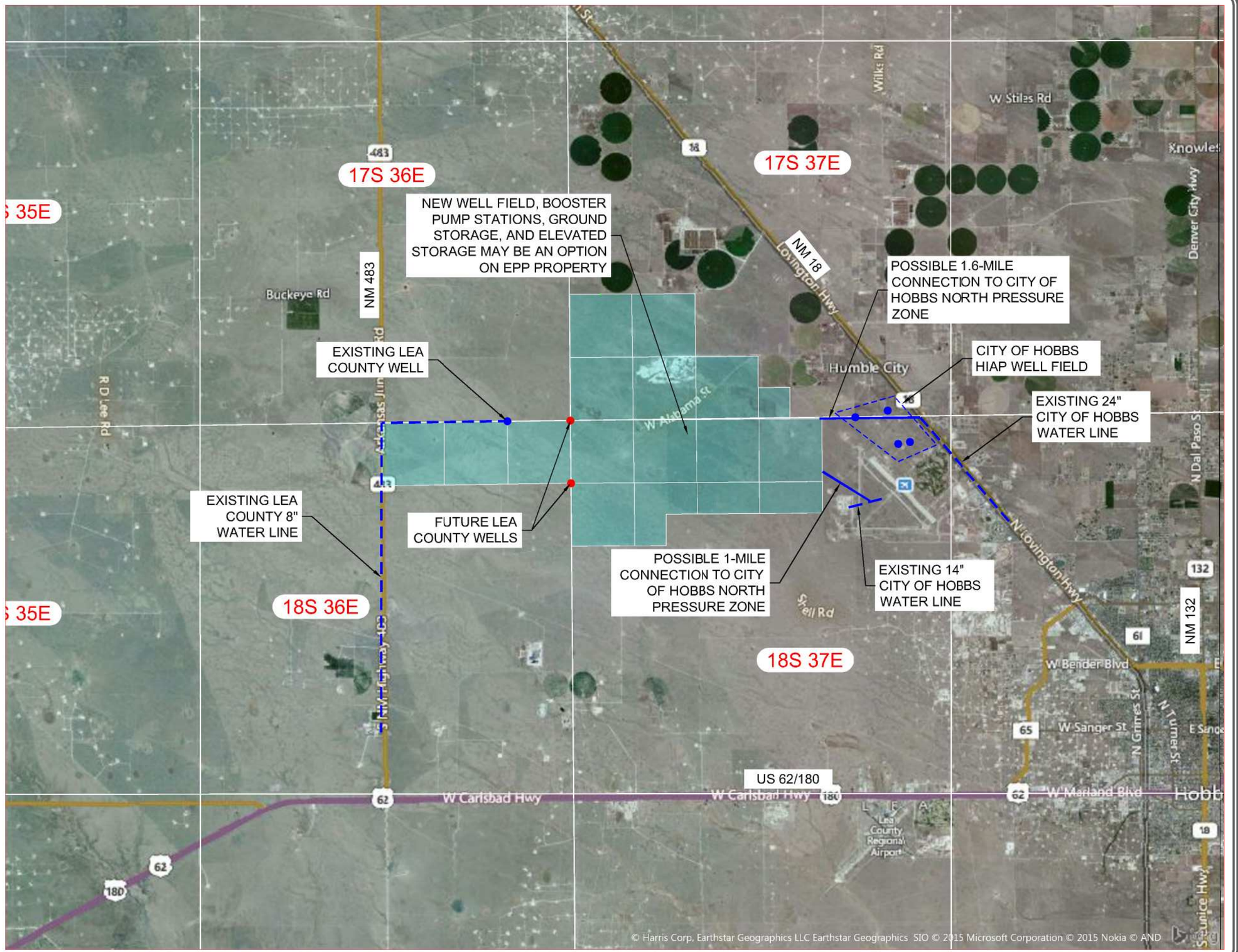
PROJECT NUMBER:	SHEET
2013.1355	C-001



NORTH

SCALE 1" = 8000'

0' 4000' 8000' 16,000'

PROJECT ENGINEER:	DPH
PROJECT DESIGNER:	CSC, JMC
DRAWN BY:	JMC

REVISIONS

No.	DATE	DESCRIPTION

APPENDIX B

OPTIONS FOR PROVIDING WATER SERVICE

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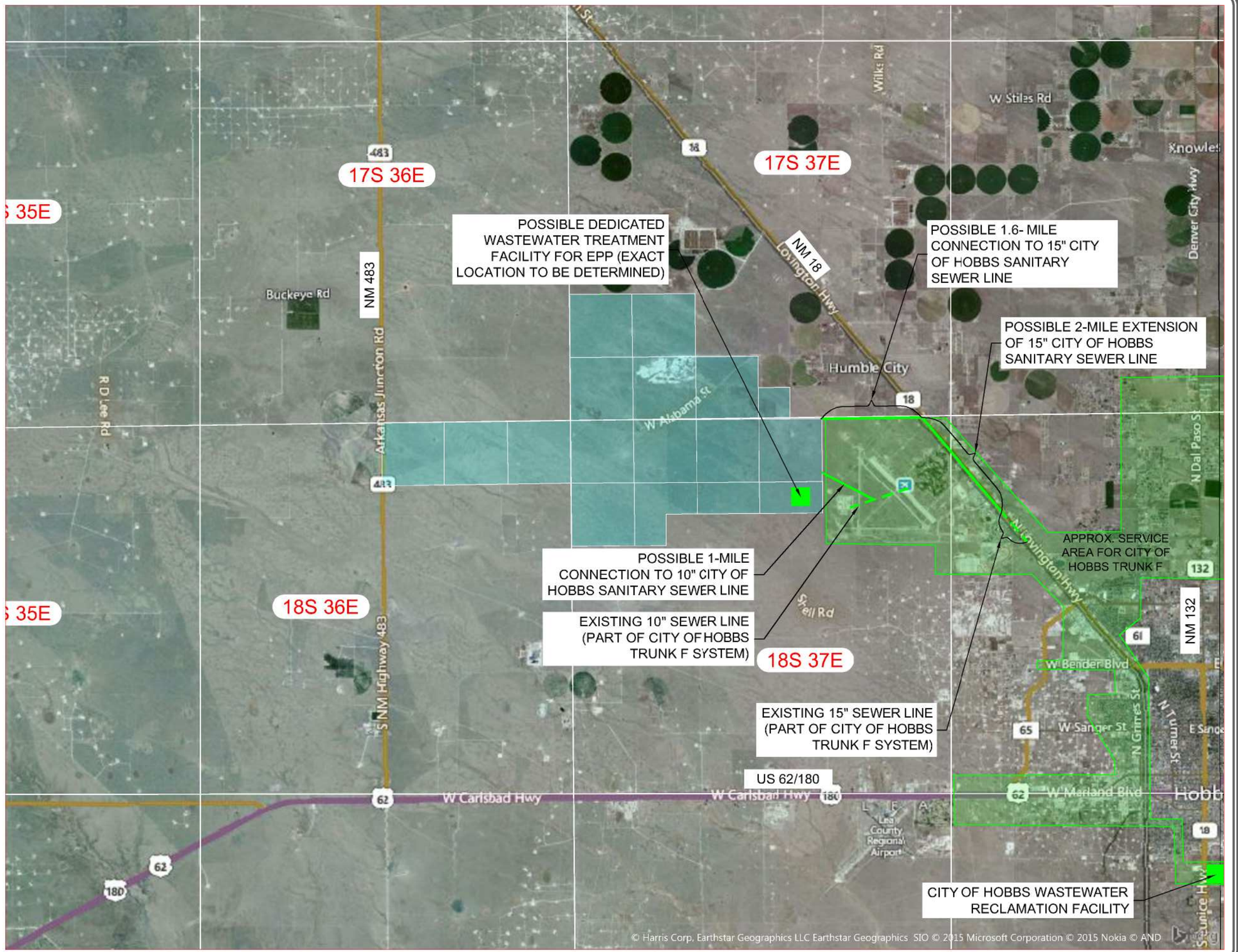
PROJECT NUMBER:	SHEET
2013.1355	C-002



NORTH

SCALE 1" = 8000'

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PROJECT ENGINEER:	DPH
PROJECT DESIGNER:	CSC, JMC
DRAWN BY:	JMC

REVISIONS

No.	DATE	DESCRIPTION

APPENDIX C

OPTIONS FOR PROVIDING SANITARY SEWER SERVICE

ENERGYPLEX PARK

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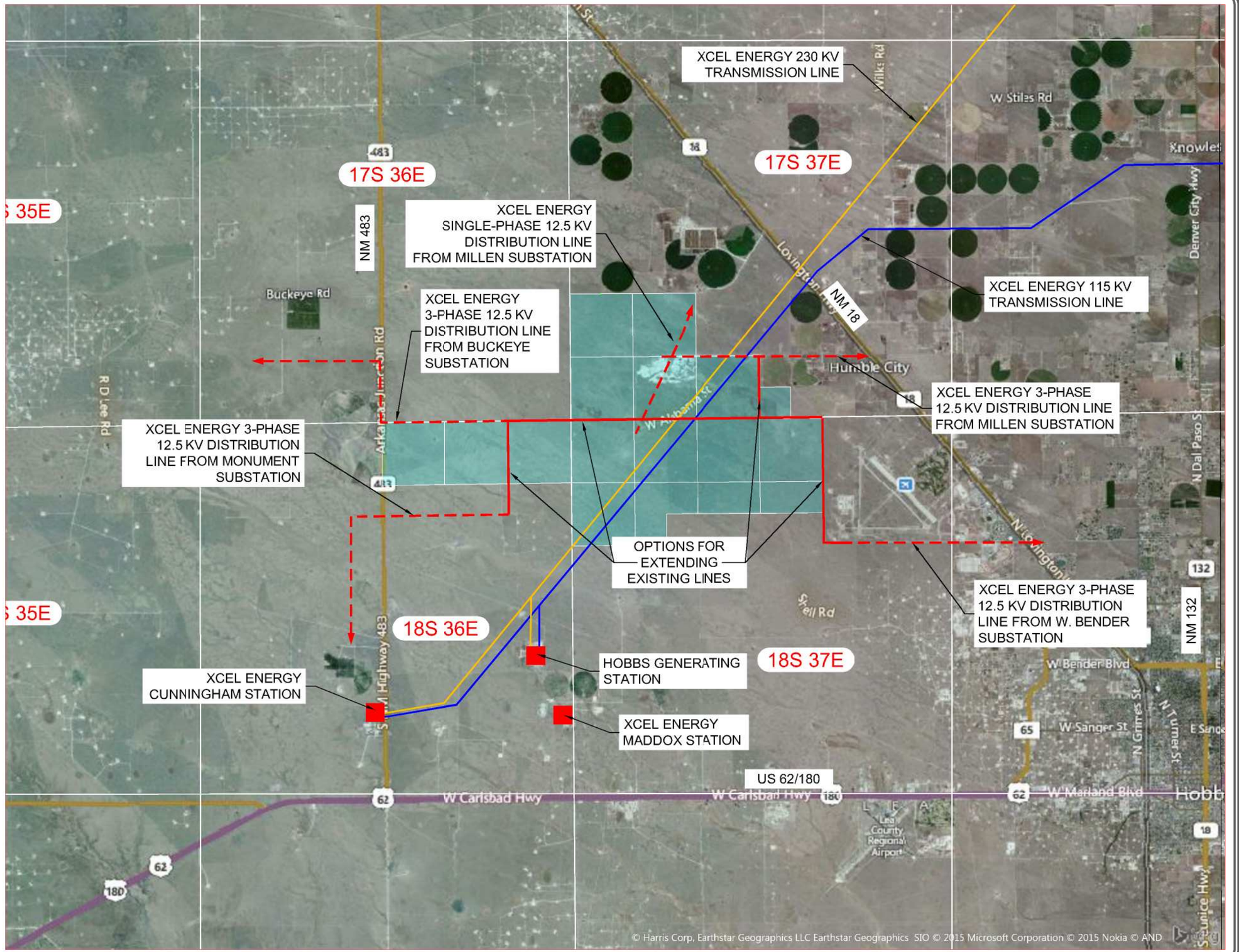
PROJECT NUMBER:	SHEET
2013.1355	C-003



NORTH

SCALE 1" = 8000'

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PROJECT ENGINEER:	DPH
PROJECT DESIGNER:	CSC, JMC
DRAWN BY:	JMC

REVISIONS

No.	DATE	DESCRIPTION

APPENDIX D

OPTIONS FOR PROVIDING ELECTRICAL SERVICE

ENERGYPLEX PARK

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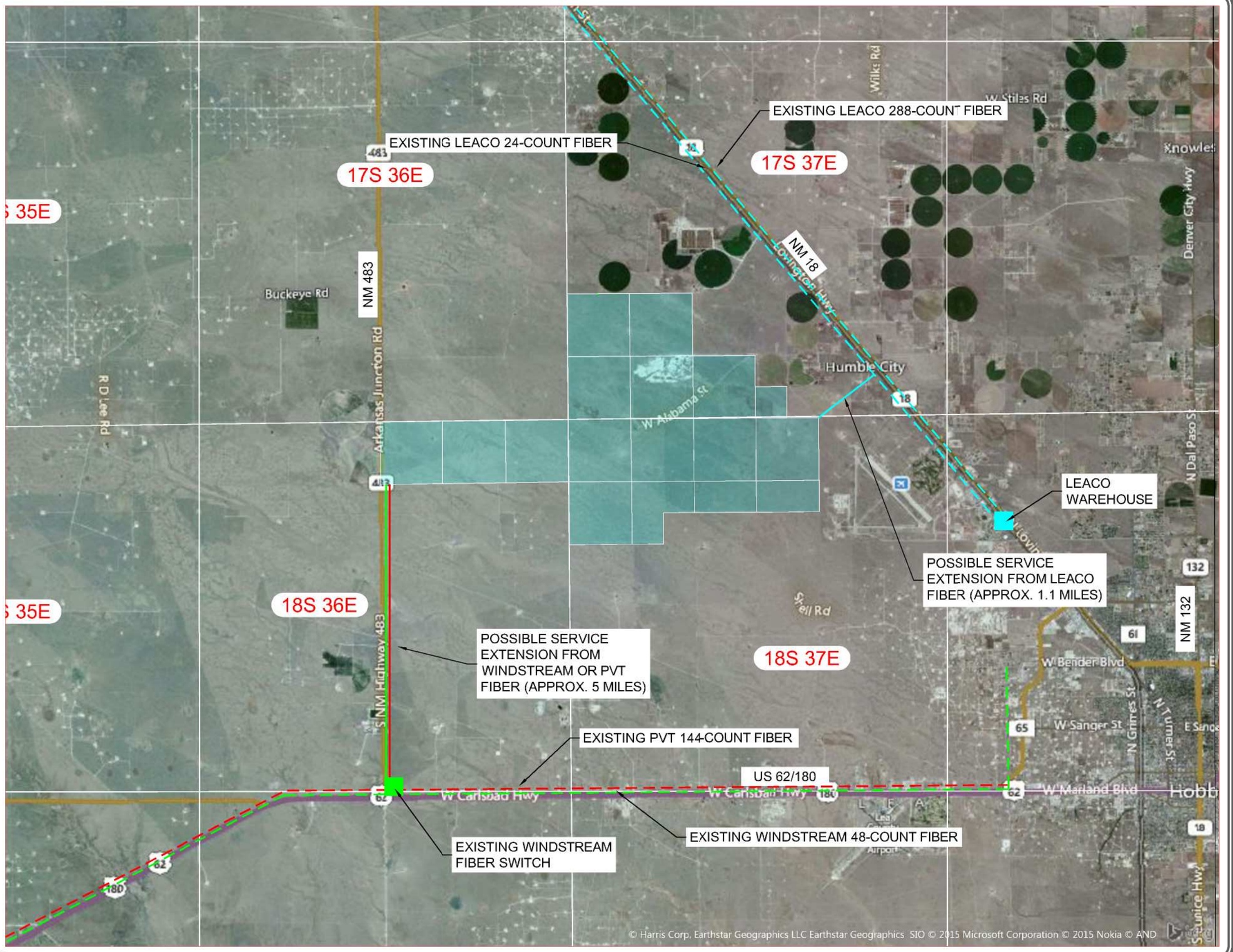
PROJECT NUMBER: 2013.1355

SHEET C-004



NORTH

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PROJECT ENGINEER:	DPH
PROJECT DESIGNER:	CSC, JMC
DRAWN BY:	JMC

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APPENDIX E

OPTIONS FOR PROVIDING FIBER OPTIC SERVICE

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PROJECT NUMBER:	SHEET
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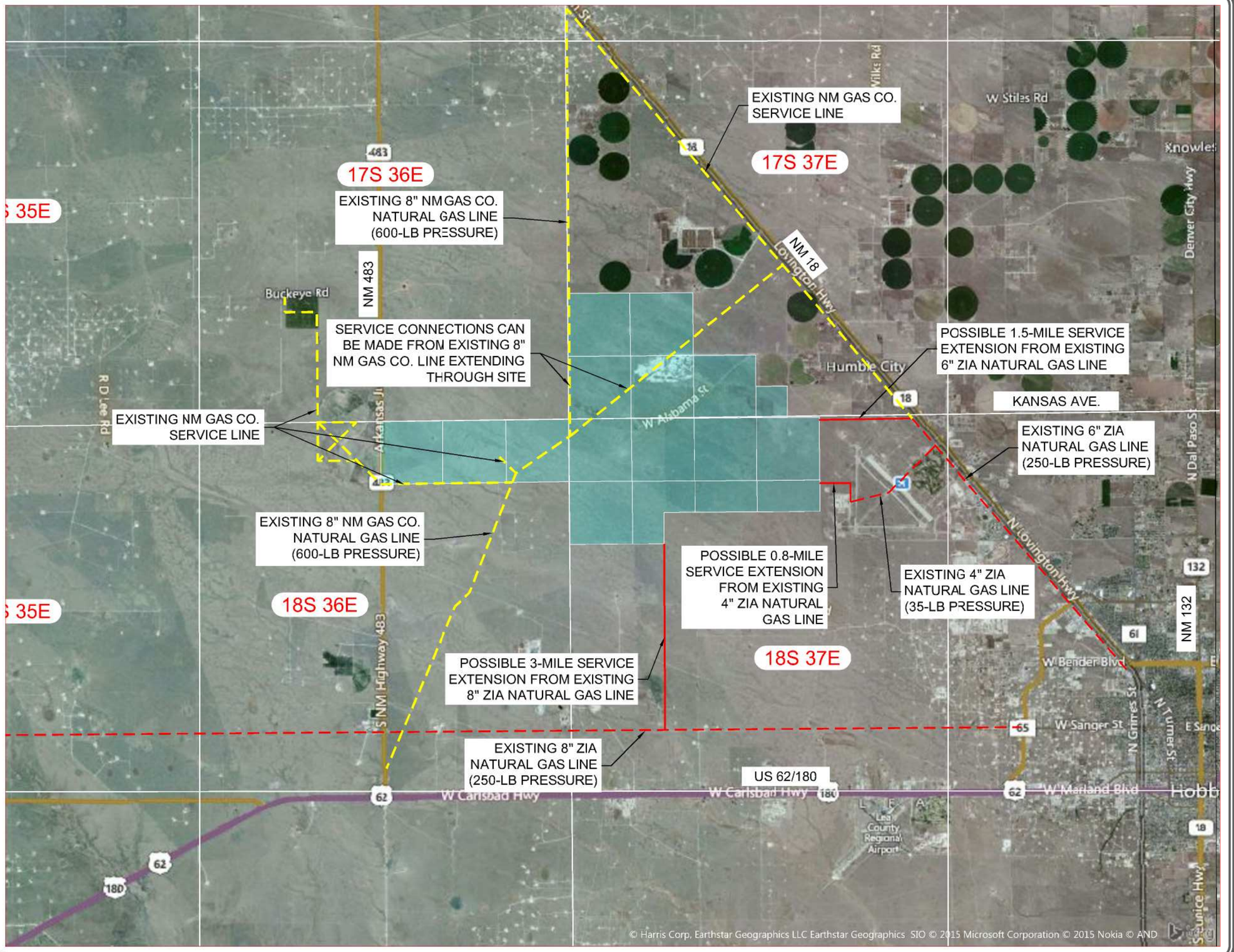

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PROJECT ENGINEER:	DPH
PROJECT DESIGNER:	CSC, JMC
DRAWN BY:	JMC

REVISIONS

No.	DATE	DESCRIPTION

APPENDIX F

OPTIONS FOR PROVIDING NATURAL GAS SERVICE

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PROJECT NUMBER:	SHEET
2013.1355	C-006