K-1617-90

AGREEMENT FOR SERVICES

Between

Fugro Geospatial, Inc.

And the

City of Norman, Oklahoma

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AGREEMENT FOR SERVICES

This Agreement for Services (**"Agreement"**) is made by and between Fugro Geospatial, Inc., a South Dakota corporation (**"Fugro"**) and City of Norman (**"Norman"**).

Norman desires services to obtain professional surveying and mapping services for the collection of aerial imagery and planimetric mapping (**"Project"**) as described on Attachment "A" and Attachment "B", and the parties wish to set forth the terms and conditions for performance of these services.

In consideration of the mutual promises and covenants of the parties, it is agreed as follows.

1   ARTICLE 1 – FUGRO'S SERVICES AND PERSONNEL

Fugro shall perform services and furnish equipment, labor and other things necessary to complete the services described in Attachment "A" and "B". Upon notification to proceed, Fugro shall promptly commence, and diligently continue the services to completion in compliance with Attachment "A", except as may be otherwise provided herein. Fugro services shall be performed in a manner consistent with the care and skill exercised by practitioners in the same specialty under similar conditions. There are no warranties, expressed or implied, which extend beyond the description in this Agreement.

Fugro shall endeavor to follow, and comply with federal, state and local government laws, rules, regulations, codes, and ordinances; provided, however, and if applicable, since the Americans with Disabilities Act contains general provisions subject to differing interpretations on a case-by-case basis, all services in connection therewith shall be on the basis of Fugro's professional experience and judgment. However, Fugro cannot and does not guarantee, or warrant its services will be in compliance therewith. Fugro shall be responsible for completeness and accuracy of its services, and shall correct defects or errors or omissions at its own expense.

Subject to the approval of Norman, prior to the commencement of Fugro services, certain of Fugro personnel may be designated as key personnel for performance of the services. In the ordinary course of business, and so long as they remain in Fugro employ, designated key personnel shall not be removed from the Project without Norman's prior written consent, which shall not be unreasonably withheld. Norman may require additions, reductions, or substitutions to Fugro employees working on the Project.

The key Project person of Fugro is Megan Blaskovich

2   ARTICLE 2 - COMPENSATION

Norman shall pay Fugro for its basic services as provided in Attachment "B" ("Delivery and Payment Schedule"). If changes to the scope of services or requests for additional services under Article 3 cause an increase or decrease in Fugro services, an equitable adjustment shall be made to Fugro compensation under Article 3 and this Agreement shall be modified in writing accordingly.

Except where the payment provisions of Attachment "B" provide, or require otherwise, Fugro shall submit periodic invoices to Norman with a summary of services performed in accordance with Fugro standard invoicing practices. Norman shall notify Fugro of any objection within 14 calendar days of the invoice date, identifying the reasons therefore in writing, and timely paying that portion of the invoice not in dispute. Invoices will be considered acceptable to Norman if no such objections are made.

NET30 payment by Norman to Fugro is a material part of the consideration of this Agreement. If payment is withheld, Fugro may suspend services, or terminate this Agreement without incurring liability to Norman or others for incidental, special, indirect, or consequential damages.

3   ARTICLE 3 - CHANGES TO SCOPE OF WORK, SUSPENSION

Either party may request changes within the general scope of this Agreement. Any changes to the responsibilities and/or terms and conditions of this Agreement shall be in writing, and executed by both parties to this Agreement. If such changes cause an increase or decrease in the amount of services to be performed by Fugro or in the time required for their performance, equitable adjustment shall be made in the provision of this Agreement for payments to Fugro or for the time performance of service or for both, and this Agreement shall be modified by agreement of the parties accordingly.

Norman may at any time, by written notice to Fugro suspend further performance of the services by Fugro. Upon receiving notice of suspension, Fugro shall promptly suspend performance of the services to the extent specified. During the period of a suspension, Fugro shall care for, and protect its services in progress. For a period of 90 days, Norman may withdraw the suspension of performance of the services as to all or part of the suspended services by written notice to Fugro specifying the effective date and scope of withdrawal. Fugro shall then resume diligent performance of the services for which the suspension was withdrawn.

If suspension or withdrawal of suspension justifies modification of Fugro compensation, an equitable adjustment shall be made under Attachment "B", and this Agreement shall be modified in writing accordingly.

If Fugro disagrees with a request by Norman for a non-compensable correction of defects or errors or omissions in the services, then in addition to, or in lieu of the other provisions of this Agreement, Fugro may invoice Norman for additional compensation in performing the services, and the Dispute Resolution procedures of Article 15 shall apply to such invoiced amounts.

4   ARTICLE 4 - TECHNICAL & CONTRACTUAL REPRESENTATIVES

Authorized representatives of Norman and Fugro are:

City of Norman:		FUGRO:	
Technical	Joyce Green	**Technical**	Megan Blaskovich
Contractual	Joyce Green	**Contractual**	Keith Owens

Modifications or amendments required, or permitted under this Agreement should be coordinated by the Contractual Representatives of the parties. The Technical Representatives of the parties should coordinate technical directions and communications concerning the services.

5   ARTICLE 5 - CITY OF NORMAN RESPONSIBILITIES

Norman shall cooperate with Fugro in all aspects of the Project, and shall provide full information and all criteria of Norman's requirements for the Project, including objectives and constraints, space, capacity and performance requirements, flexibility and expendability, and any time or budgetary limitations. Norman shall furnish copies of all specifications and standards, which it will require to be included in the services, and shall examine and respond promptly to Fugro submissions.

Additional responsibilities of Norman are specified in Attachment "C" ("City of Norman Responsibilities").

6   ARTICLE 6 - INFORMATION FURNISHED BY OTHERS & COST ESTIMATES

Unless the scope of services in Attachment "A" includes an undertaking by Fugro to assure the accuracy of documents or information furnished by Norman or others, Fugro shall be entitled to rely upon as accurate and correct any plans, drawings, specifications, criteria, maps, surveys and other data furnished by Norman or others. If subsequent errors are discovered in data furnished by Norman, which necessitate redoing services, Fugro shall be compensated for such extra services in accordance with Article 3. Fugro shall not be liable to Norman for errors or omissions in data furnished by Norman.

7   ARTICLE 7 - RECORDS, AUDIT, OWNERSHIP OF DOCUMENTS

Fugro shall maintain records of performance under this Agreement, and shall make these records available for inspection and for audit (if the payment provisions herein are of a type capable of audit) by Norman at all reasonable times during the course of services and for a period of two years after completion of services. Audits shall be conducted in accordance with generally accepted auditing principles.

8   ARTICLE 8 - CONFLICT OF INTEREST, NO CONTINGENT FEES

Fugro represents it has no known direct or indirect interest, which would conflict with the performance of its services under this Agreement.

Except as disclosed to Norman, and except for the compensation to be paid hereunder, Fugro warrants it has not directly or indirectly paid or agreed to pay any person or company any fee, commission, contribution, donation, gift, or any other type of consideration to solicit or secure an award of this Agreement.

9   ARTICLE 9 - SOFTWARE RIGHTS, COPYRIGHT, PATENT, TRADEMARK

No title to or ownership of Norman provided data, or any of their parts is transferred to Fugro. Norman shall maintain complete ownership and proprietary rights with regard to its database schema, source data and documents, and deliverable products of this Project, excepting source field survey books and magnetic media, and any software used by Fugro in performance of the Project work.

Fugro shall retain ownership and proprietary rights of any software programs to be used and/or developed under this Agreement, unless otherwise specified in any of the Attachments of this Agreement. The Norman retains ownership of deliverables produced from this Agreement. Fugro shall not reveal, share or sell any of the Project deliverables without written permission of the Norman, excluding any software provided to the Norman by Fugro

Software provided to Norman by Fugro under this Agreement shall be bound by the terms and conditions of Fugro standard software license agreement.

10   ARTICLE 10 - SUBCONTRACTS

Except as provided in the Attachments, Fugro shall not subcontract any part of its services under this Agreement. Fugro shall provide Norman with reasonable advance written notice if subcontract services are required.

Fugro shall obligate each subcontractor of every tier to consent to compliance with all applicable provisions of this Agreement. Nothing contained in any subcontract of any tier shall create a contractual relationship between Norman and any such subcontractor, nor shall any subcontract create any obligation on the part of Norman to pay or to see that payment is made to any subcontractor.

11   ARTICLE 11 - INDEMNIFICATION & RISK ALLOCATION

Fugro agrees to indemnify, and save Norman harmless from any loss, cost, or expense, including reasonable attorney fees, claimed by third parties for property damage or bodily injury, including death, caused by the

negligence of Fugro or its employees in connection with Fugro services. Norman agrees to indemnify and save Fugro harmless from any loss, cost, or expense, including reasonable attorney fees, claimed by third parties for property damage or bodily injury, including death, caused by the negligence of Norman or its employees in connection with the operations of Norman. If the negligence of both Fugro and Norman (or a person identified above for whom each is liable) is the cause of such damage or injury, the loss, cost or expense shall be shared between Fugro and Norman in proportion to their relative degrees of negligence, and the right of indemnity shall apply for such proportion.

It is intended by the parties to this Agreement that performance of Fugro services shall not subject Fugro personnel, including its employees, officers, directors, or shareholders, to any personal legal exposure for any risk associated with the Project. Norman agrees that any claim, demand or suit shall be made only against Fugro a South Dakota corporation, and not against any of Fugro personnel.

Norman and Fugro have discussed the risks and rewards associated with the Project as well as Fugro compensation for services.

Neither party hereto shall be liable to the other for incidental, special, indirect or consequential damages, nor shall Fugro be liable for any cost or expense that provides betterment, upgrade or enhancement of the Project.

12   ARTICLE 12 - INSURANCE

Fugro shall continuously maintain during the term of this Agreement, and for a period of two years after completion of Fugro services, insurance of the kinds and with the limits not less than the amounts below:

Workers' Compensation: As prescribed by the laws of the state in which the work is being conducted.

Comprehensive General Liability: $1,000,000 bodily injury and property damage combined single limit.

Comprehensive Automobile Liability: $1,000,000 per accident bodily injury and property damage combined single limit.

Excess Liability. $1,000,000 bodily injury and property damage combined single limit.

Professional Liability. $1,000,000 annual aggregate.

Certificates of insurance evidencing these minimum coverage's shall be submitted to Norman at the commencement of Fugro services. Failure to submit the certificates or endorsements, or failure of Norman to insist upon submission shall not relieve Fugro of its duty to maintain the required insurance.

13   ARTICLE 13 - TERMINATION

Subject to the other provisions of this Agreement, either party in the event of a substantial failure by the other party to fulfill its obligations under this Agreement may terminate this Agreement in whole or in part in writing. No such termination shall be effective until the other party is given not less than 60 working days written notice of intent to terminate, and an opportunity for consultation with the terminating party prior to termination.

Norman may terminate in whole or in part in writing this Agreement for its convenience. No such termination shall be effective until Fugro is given not less than 60 working days written notice of intent to terminate and an opportunity for consultation with Norman prior to termination.

Upon receipt of a notice of termination, Fugro shall promptly discontinue all services affected (unless the notice directs otherwise). If Norman is not in breach of this Agreement, Fugro shall deliver, or otherwise make available to

Norman all finished services; provided, however, Fugro shall not be responsible for the accuracy, completeness or workability of documents prepared by Fugro if used, changed or completed by Norman or by another party.

Subject to the provisions of Article 2, Fugro shall be paid for its costs and services performed through the effective date of termination, less allowances for errors or services which must be corrected. If this Agreement is terminated for Norman's convenience, Norman shall pay Fugro for costs and services performed through the effective date of termination.

14   ARTICLE 14 - DISPUTE RESOLUTION

If a claim or controversy between Norman and Fugro is not resolved by the designated representatives of the parties, the chief executive officers of Fugro and Norman shall meet within 30 days thereafter to review and discuss such claim or controversy and attempt, in good faith, to settle or resolve the matter.

15   ARTICLE 15 - GENERAL

15.1 Governing Law, Venue & Costs. The laws of the State of Oklahoma shall govern this Agreement, and venue for all disputed matters between the parties shall be Oklahoma. In the event of an action to enforce the terms and conditions of this Agreement or of any of the rights or obligations arising from this Agreement, the prevailing party shall be entitled to an award of the costs of such action, including reasonable attorney fees.

15.2 Entire Agreement, Amendments. This Agreement sets forth the entire agreement of the parties, supersedes all prior negotiations and understandings, and shall govern any services by Fugro on the Project prior to execution of this Agreement. Except as otherwise expressly provided in this Agreement, this Agreement may be modified or amended only upon the signed written agreement of both parties. Fugro shall not be required to execute any documents subsequent to the signing of this Agreement that increase Fugro contractual or legal obligations or risks, or jeopardize the availability of or increase the cost of its professional or general liability insurance. Fugro and Norman have each read, and fully understand the terms of this Agreement, each has had the opportunity to have it reviewed by counsel, and the rule providing that ambiguities in a contract shall be construed against the drafter shall not apply to this Agreement.

15.3 Severability. If any provision of this Agreement is held to be invalid or unenforceable by a court or other authority with like jurisdiction, the remainder of this Agreement shall be unaffected and enforceable, and there shall be deemed substituted for the affected provision(s) a valid and enforceable provision(s) as similar as possible to the affected provision(s).

15.4 Assignment. This Agreement is for personal services, and neither party may assign its rights, nor delegate the performance of its duties hereunder without the prior written approval of the other. Any assignment, voluntary or involuntary, in violation of the foregoing shall be voiding able. This Agreement is not intended to benefit any third party.

15.5 Successors and Approved Assigns. This Agreement shall inure to the benefit of, and shall be binding upon the parties and their respective legal representatives, successors, and approved assigns.

15.6 Non-Waiver. No delay or failure by either party to exercise any right under this Agreement, and no partial or single exercise of that right shall constitute a waiver of that or any other right.

15.7 Independent Contractor. Fugro shall perform its services as an independent contractor and not as an agent, employee, representative, joint venture or partner of Norman.

15.8 Force Majeure. Any delays beyond the control of either party shall automatically extend the time schedule as contained in Attachment C. By mutual consent and two weeks advance notice, the indicated times may fluctuate to suit the needs of either party.

15.9 Notices. Notice required or permitted hereunder shall be in writing and delivered in a manner most efficient under the circumstances. Subject to the foregoing, notice shall be deemed to have been given when received by the party to whom it is directed by hand delivery, fax, or mail delivery as follows:

Fugro, Inc:	Fugro 7320 Executive Way Frederick, Maryland 21704 Attn: Megan Blaskovich
City of Norman:	City of Norman 201 West Gray St, Building A Norman, OK 73069 Attn: Joyce Green

Or at such other address as a party hereto may designate by written notice.

15.10 Headings. The captions and headings of this Agreement are for convenience and reference only and do not limit or define the scope or intent of the clause.

15.11 Counterparts. This Agreement may be executed in several counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

16   ARTICLE 16 - INCORPORATION OF ATTACHMENTS

The following Attachments are incorporated into and made a part of this Agreement:

A - Scope of Work

B – Delivery and Payment Schedules

C - City of Norman Responsibilities
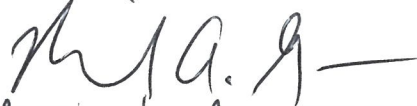
IN WITNESS WHEREOF, the parties execute this Agreement on the date last written below.

City of Norman, OKLAHOMA

Signature: _____   Signature: _____

Print: _____   Print: _____

Title: _____   Title: _____

Date: _____   Date: _____

Fugro Geospatial, Inc.

Signature: _D. White_   Signature: _Michael A. Goss_

Print : _Dave White_   Print : _Michael A. Goss_

Title: _Senior Vice President_   Title: _Treasurer_

Date: _January 18, 2017_   Date: _1/19/18_

Approved as to form and legality this _____ day of _____, 2017

_____
City Attorney

Attachment A –Scope of Work

The Services

Fugro Geospatial, Inc. shall furnish all necessary work, materials, supplies, transportation, plant, labor, and superintendence as may be required, to accomplish digital photogrammetric mapping and surveys for this Mapping Project. The services shall be accomplished according to the specifications contained in the documents listed here in order of precedence in the event of inconsistent or contradictory terms, conditions or provisions among them:

1. **Attachment A: Scope of Work**

2. **Fugro Geospatial Inc.'s Proposal dated December 6, 2016**

3. **COAGA RFP 2017-01**

Tasks to be performed under the Agreement for Services are:

1. Color Orthoimagery collected according to NMAS 1" = 50' standards with .25 foot pixel resolution in urban area and 1" = 100' standards with .5 foot pixel resolution in rural areas.
2. Photogrammetric Update/Collection of the Planimetric Features according to NMAS 1" = 50'and 1"=100' standards.
3. ArcGIS Geodatabase Update

Area of the Project – The imagery portion of the project is 256 square miles shown in Exhibit 1. The planimetric project area is 197 sq. miles and is illustrated in Exhibit 2.

Deliveries - All costs of deliveries shall be borne by Fugro Geospatial, Inc. Each delivery shall be addressed to:

> Joyce J. Green
> Manager, GIS Services Division
> City of Norman
> 201 West Gray St, Building A
> Norman, OK 73069

and shall be accompanied by a letter and/or transmittal form, listing the materials being transmitted, and being properly numbered, dated and signed.

Technical Specifications

The initial planimetric data and most recent aerials followed the National Map Accuracy Standards (NMAS). It is expected that the deliverables from this contract shall have an overall average accuracy of 1 inch = 50 feet in urbanized areas and 1 inch = 100 feet.

Planimetric Features The planimetric data to be updated is road edges (paved, unpaved, trail centerlines, sidewalks and driveways), parking lots, buildings, (minimum size is 10' x 10'), hydrology (including drainage features such as ditches), railroad centerlines, street centerlines, tree mass outlines, single trees, fences, and utility points. At the request of our Engineering Division, we are adding several feature codes to existing layers to assisting in assessing stormwater applications. They are shaded in the data dictionary. All are new except for driveways, which they want separated into paved and unpaved. The identification of driveway material will be required for existing as well new driveways. Exhibit 3 contains the definitions of the features and attributes that

are considered deliverable, and therefore the responsibility of the Contractor to populate into the GIS database as part of the conversion effort.

<u>Scale and Accuracy of Planimetric Data</u> The final scale will be 1" = 50' and 1' = 100'. The respondent shall meet the National Map Accuracy Standard for such scale mapping. All spatial data shall conform to the following:

Coordinates/Projection:	State Plane Coordinate System,
Zone:	Oklahoma South, FIPS Zone 3502
Horizontal Datum:	HARN NAD 83
Map Units:	US Feet

<u>Attribute Data</u> All required nongraphic attributes for the geodatabase are identified in Exhibit 3 of this scope of work. In the event that necessary attribute data is missing, confused, or unreadable on any source material, the Fugro will contact the City of Norman GIS Project Manager for assistance. In cases concerning minor irregularities in the data or source maps where the answer is obvious or defined by precedent, Fugro may act to resolve the problem on its own initiative thereby reducing work stoppages and interruptions. When this occurs, the City of Norman GIS Project Manager shall be informed of the action that the Contractor took within 24 hours and the Contractor will document how the problem was resolved.

Exhibit 1 – Orthophotography Project Map

City of Norman Project Map
Digital Orthophoto Coverage

3 Inch Coverage (92 Sq. Miles)
6 Inch Coverage(164 Sq. Miles)

0 0.5 1 2 Miles

City of Norman
GIS Services Division
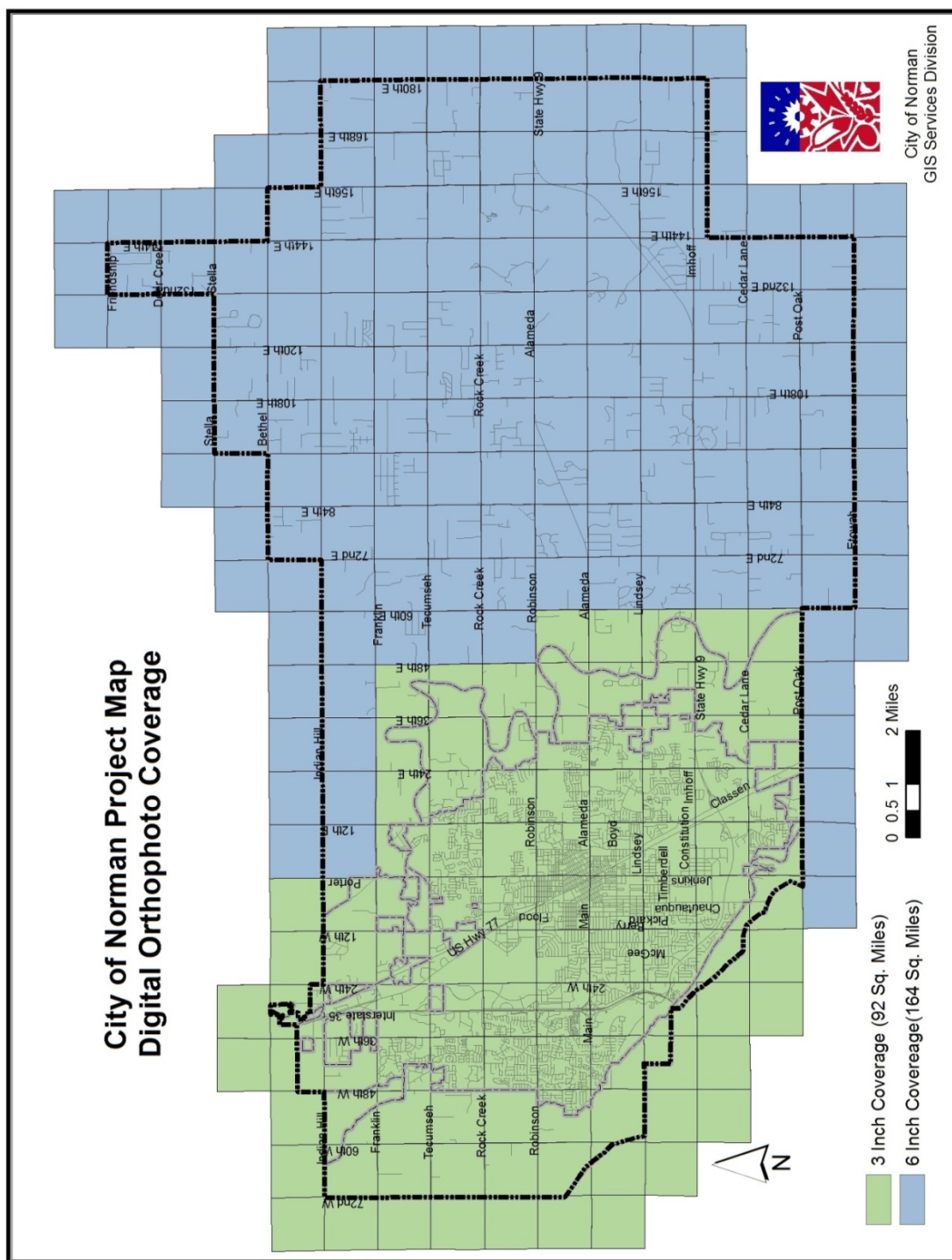
Exhibit 2 – Planimetric Project Map
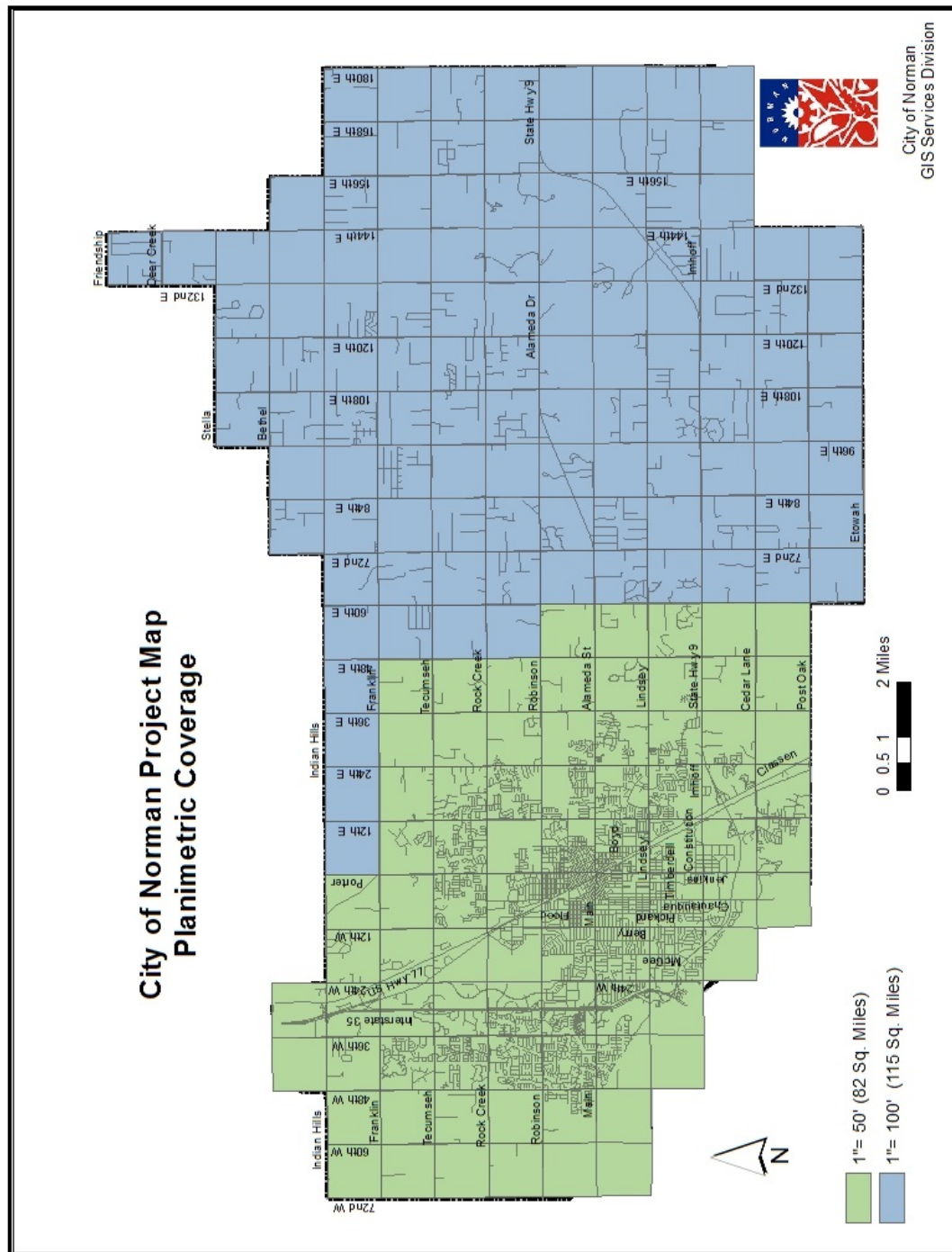
Exhibit 3 – Data Dictionary

TRANSPORTATION FEATURE DATASET

AIRPORT (Polygon)

Properties

Feature Dataset TRANSPORTATION   **Type:** Polygon   **Topology/Network:** n/a

Feature Class AIRPORT

Description

Visible airport runway related infrastructure within the imagery.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap
SHAPE	Geometry		Polygon			S	ArcMap
SHAPE_LENGTH	Double		<not null>			S	ArcMap
SHAPE_AREA	Double		<not null>			S	ArcMap
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor
CODE	Integer	4	0	Y		R	Conversion Vendor

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	Description
1812	Runway	Edge of paved surface
1813	Taxiway	Edge of paved surface
1814	Access Road	Edge of paved surface

ROAD (Polygon)

Properties

Feature Dataset TRANSPORTATION   **Type:** Polygon   **Topology/Network:** n/a

Feature Class ROAD

Description

Visible and hidden road and pavement-related features within the imagery.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap
SHAPE	Geometry		Polygon			S	ArcMap
SHAPE_LENGTH	Double		<not null>			S	ArcMap

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source
SHAPE_AREA	Double		<not null>			S	ArcMap
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor
CODE	Integer	4	0	Y		R	Conversion Vendor

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	Description
1800	Paved Road	Paved road over 100' long, or 10' in width
1801	Paved Shoulder	Shoulder of road that is outside of the visible driving surface (paved road)
1802	Hidden Paved Road	Edge of paved road that is obscured by a bridge or other man-made feature. Collect to continue paved road surface
1803	Unpaved Road	Unpaved road over 100' long, or 10' in width. Unpaved surfaces will include dirt, gravel or other compact surface.
1804	Hidden Unpaved Road	Edge of unpaved road that is obscured by a bridge or other man-made feature. Collect to continue unpaved road surface
1805	Bridge Overpass	Pedestrian or vehicle bridge. Collect outer edge of bridge surface.
1806	Hidden Bridge Overpass	Pedestrian or vehicle bridge obscured by other bridge (interstate interchange is best example).
1807	Paved Alley	Paved alley over 50' long, or 8' in width.
1811	Curb	Edge of paved surface
1814	Road Under Construction	Collect as road under construction only if road is new or re-designed. If only a portion of road is under construction, collect as paved or unpaved surface.

CODE	DESCRIPTION CLASS	Description
1816	Unpaved Alley	Unpaved alley over 50' long, or 8' in width.
1821	Rural Trail	Unpaved paths on rural acreage.
1899	Median	Paved or unpaved median feature wholly contained within the road. Treat islands within roads as medians.

PARKING (Polygon)

Properties

Feature Dataset TRANSPORTATION   **Type:** Polygon   **Topology/Network:** n/a

Feature Class PARKING

Description

Paved or unpaved parking features visible within the imagery.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Polygon			S	ArcMap	Internal geometry (assigned by ArcMap)
SHAPE_LENGTH	Double		<not null>			S	ArcMap	Internal attribute with calculated perimeter length of the polygon (assigned by ArcMap)
SHAPE_AREA	Double		<not null>			S	ArcMap	Internal attribute with calculated area of the polygon (assigned by ArcMap)

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a code identifying the feature. The description of the feature code is displayed.
CODE	Integer	4	0	Y		R	Conversion Vendor	Assigned by Conversion Vendor, this attribute identifies a general feature class code associated with each subtype. The description of the feature subtype is displayed.

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	Description
1809	Paved Parking	Commercial and/or Residential paved surfaces used primarily for parking vehicles. Must have at least 1 side that is 10' or greater to be compiled.
1816	Unpaved Parking	Commercial and/or Residential unpaved surfaces (dirt, gravel, grass, other) used primarily for parking vehicles. Must have at least 1 side that is 10' or greater to be compiled.
1822	Pervious Parking	Engineering code. Conversion vendor may see as paved.
1899	Island	Paved or unpaved island feature wholly contained within the parking feature. Treat medians within parking lots as islands.

UN-CLASSIFIED PAVEMENT (Polygon)

Properties

Feature Dataset TRANSPORTATION   **Type:** Polygon   **Topology/Network:** n/a

Feature Class PAVEMENT

Description

Pavement features visible within the imagery that are not contained in the ROAD or PARKING Feature Classes.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap
SHAPE	Geometry		Polygon			S	ArcMap
SHAPE_LENGTH	Double		<not null>			S	ArcMap
SHAPE_AREA	Double		<not null>			S	ArcMap
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor
CODE	Integer	4	0	Y		R	Conversion Vendor

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	Description
1808	Paved Driveway	Paved commercial and/or residential driveway.
1823	Unpaved Driveway	Unpaved commercial and/or residential driveway.
1810	Public Sidewalk	All public visible paved sidewalks, greater than 3'x10' in area, intended exclusively for pedestrian traffic.
1817	Private Sidewalk	All residential, commercial, or apartment complex paved sidewalks, greater than 3'x10' in area, intended exclusively for pedestrian traffic.
1820	Concrete Pad / Patio	Any miscellaneous concrete slabs such as concrete around swimming pool or a patio.
1825	Concrete Pad / Patio – Not Concreate	Any gravel /bricked area or wood or composite decks

STRUCTURE FEATURE DATASET

BUILDING (Polygon)

Properties

Feature Dataset STRUCTURE   **Type:** Polygon   **Topology/Network:** n/a

Feature Class BUILDING

Description

Buildings and related structural elements visible in the imagery.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Polygon			S	ArcMap	Internal geometry (assigned by ArcMap)
SHAPE_LENGTH	Double		<not null>			S	ArcMap	Internal attribute with calculated perimeter length of the polygon (assigned by ArcMap)
SHAPE_AREA	Double		<not null>			S	ArcMap	Internal attribute with calculated area of the polygon (assigned by ArcMap)
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a code identifying the feature. The description of the feature code is displayed.
CODE	Integer	4	0	Y		R	Conversion	Assigned by Conversion Vendor, this attribute identifies a general feature class

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
							Vendor	code associated with each subtype. The description of the feature subtype is displayed.
BuildingHeight	Numeric					R	Conversion Vendor	Height of Building

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	*Description*
1700	Building	Polygon enclosing all erect (not under construction) buildings; i.e. houses, apartments, outbuildings, commercial. Building must have at least 1 side 10' or greater to be compiled.
1701	Approximate Building	Polygon enclosing all buildings under construction. Building must have at least 1 side 10' or greater to be compiled.
1702	Foundation	Polygon enclosing all building foundations that do not contain a housing unit on top. Does not include buildings under construction but does include ruins.
1703	Single-wide Trailer	Polygon enclosing mobile home. Double-wide trailer shall be shown as building.
1799	Building Courtyard	Artificial polygon created when building is fully encompassing of an open area.

POOL (Polygon)

Properties

Feature Dataset STRUCTURE   **Type:** Polygon   **Topology/Network:** n/a

Feature Class POOL

Description

Swimming pools visible in the imagery.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Polygon			S	ArcMap	Internal geometry (assigned by ArcMap)
SHAPE_LENGTH	Double		<not null>			S	ArcMap	Internal attribute with calculated perimeter length of the polygon (assigned by ArcMap)
SHAPE_AREA	Double		<not null>			S	ArcMap	Internal attribute with calculated area of the polygon (assigned by ArcMap)
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a code identifying the feature. The description of the feature code is displayed.
CODE	Integer	4	0	Y		R	Conversion Vendor	Assigned by Conversion Vendor, this attribute identifies a general feature class code associated with each subtype. The description of the feature subtype is displayed.

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	Description
2003	Public Pool	Polygon enclosing all public swimming pools. Public pools will be evident by their size. Digitize the pool only, not the deck or paved area around the pool.
2004	Private Pool	Polygon enclosing all in-ground private swimming pools. Digitize the pool only, not the deck or paved area around the pool.

UN-CLASSIFIED STRUCTURES (Polygon)

Properties

Feature Dataset STRUCTURE   **Type:** Polygon   **Topology/Network:** n/a

Feature Class MISC_STRUCTURE

Description

Structures visible in the imagery that do not fit logically into the other Feature Classes under the STRUCURE Feature Dataset.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Polygon			S	ArcMap	Internal geometry (assigned by ArcMap)
SHAPE_LENGTH	Double		<not null>			S	ArcMap	Internal attribute with calculated perimeter length of the polygon (assigned by ArcMap)
SHAPE_AREA	Double		<not null>			S	ArcMap	Internal attribute with calculated area of the polygon (assigned by ArcMap)
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a code identifying the feature. The description of the feature code is displayed.
CODE	Integer	4	0	Y		R	Conversion Vendor	Assigned by Conversion Vendor, this attribute identifies a general feature class code associated with each subtype. The description of the feature subtype is displayed.

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	Level	Color	Weight	Style	Description
1709	Dam	41	0	2	2	Barrier across river, creek, or swamp to regulate or obstruct water flow. Visible beaver dams large enough to affect water flow shall be outlined also.
1710	Oil Storage Tank	17	1	1	0	Polygon enclosing oil storage tank.
1711	Signal Controller	35	5	1	0	Square or rectangular metal box found in right of way at intersection used to control overhead traffic signal.
1712	Well House					
1713	Substation					
1714	Cell Phone Tower					
1715	Other Oil/Gas Facility					

BARRIER (Line)

Properties

Feature Dataset STRUCTURE

Type: Line

Topology/Network: n/a

Feature Class BARRIER

Description

This feature class includes all man-made barriers such as walls and/or fences.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Line			S	ArcMap	Internal geometry (assigned by ArcMap)
SHAPE_LENGTH	Double		<not null>			S	ArcMap	Internal attribute with calculated length of the Line (assigned by ArcMap)
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a code identifying the feature. The description of the feature code is displayed.
CODE	Integer	4	0	Y		R	Conversion Vendor	Assigned by Conversion Vendor, this attribute identifies a general feature class code associated with each subtype. The description of the feature subtype is displayed.

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	Description
1704	Wall	Line showing fixed structure of concrete or brick not used for retention of earth
1705	Head Wall	Concrete on the end of a transverse drain or pipe culvert.
1706	Fence	Commercial or residential fence meant to show distinction between adjacent properties.
1707	Retaining Wall	Fixed structure retaining earth. Structure can be concrete or other man-made surface.

LAND USE FEATURE DATASET

LAND USE (Polygon)

Properties

Feature Dataset LAND USE   **Type:** Polygon   **Topology/Network:** n/a

Feature Class LAND USE

Description

Features relating to land use that are visible in the imagery.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Polygon			S	ArcMap	Internal geometry (assigned by ArcMap)
SHAPE_LENGTH	Double		<not null>			S	ArcMap	Internal attribute with calculated perimeter length of the polygon (assigned by ArcMap)
SHAPE_AREA	Double		<not null>			S	ArcMap	Internal attribute with calculated area of the polygon (assigned by ArcMap)
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a code identifying the feature. The description of the feature code is displayed.
CODE	Integer	4	0	Y		R	Conversion Vendor	Assigned by Conversion Vendor, this attribute identifies a general feature class code associated with each subtype. The description of the feature subtype is displayed.

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	Level	Color	Weight	Style	Description
1500	Wooded Area	50	2	1	0	Polygon indicating a tree line or edge of a forest
1501	Cemetery	25	3	1	5	Approximate polygon boundary enclosing a cemetery. If cemetery is bound by fence or wall, that feature shall have precedence over cemetery.
1502	Quarry / Borrow Pit	28	2	1	2	Mining area. No distinction is made between rock (consolidated) material mines and loose (unconsolidated) material mines.

TREE (Point)

Properties

Feature Dataset LAND USE   **Type:** Point   **Topology/Network:** n/a

Feature Class TREE

Description

Points showing individual street trees.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Point			S	ArcMap	Internal geometry (assigned by ArcMap)

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
SYMBOL	Integer		0	Y		S	ArcMap/ Conversion Vendor	Internal attribute storing the symbol of the point feature (used by ArcMap)
ANGLE	Integer		0			S	ArcMap/ Conversion Vendor	Internal attribute storing the rotation angle for the symbol (used by ArcMap)
FEATURE_SUBTYPE	Text	30	1	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a code identifying the feature. The description of the feature code is displayed.
CODE	Integer	4	0	Y		R	Conversion Vendor	Assigned by Conversion Vendor, this attribute identifies a general feature class code associated with each subtype. The description of the feature subtype is displayed.

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	*Description*
1503	Tree	Point showing single tree (on public or private property) that has a canopy diameter of at least 20' – do not show small ornamental trees or shrubs.

HYDROLOGY FEATURE DATASET

HYDROLOGY_WATERBODY (Polygon)

Properties

Feature Dataset HYDROLOGY   **Type:** Polygon   **Topology/Network:** Topology

Feature Class HYDROLOGY _WATERBODY

Description

Visible double line hydrology and standing water bodies within the imagery.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		\<not null\>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Polygon			S	ArcMap	Internal geometry (assigned by ArcMap)
SHAPE_LENGTH	Double		\<not null\>			S	ArcMap	Internal attribute with calculated perimeter length of the polygon (assigned by ArcMap)
SHAPE_AREA	Double		\<not null\>			S	ArcMap	Internal attribute with calculated area of the polygon (assigned by ArcMap)
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a code identifying the feature. The description of the feature code is displayed.
PK_COM_ID	Long Integer		\<not null\>		PK	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a unique common identifier assigned to each hydro shape feature to support NHD modeling.

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
CODE	Integer	4	0	Y		R	Conversion Vendor	Assigned by Conversion Vendor, this attribute identifies a general feature class code associated with each subtype. The description of the feature subtype is displayed.
NAME	Text	50	<null>			O		Common/Local Name for water body. Not intended for GNIS compatibility.

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	Description
1602	River / Stream	Well-defined shoreline of streams and rivers with an average width greater than 10' wide.
1603	Approximate River / Stream	Approximate shoreline of streams and rivers with an average width greater than 10' wide. River / Stream takes precedence over this feature. Entire feature must have undefined or approximate shoreline to qualify.
1604	Lake	Shoreline of natural lake. Determination of actual feature type is subjective and assigned by Conversion Vendor staff.
1605	Farm Pond	Shoreline of non-industrial pond not found in a residential or commercial development. Determination of actual feature type is subjective and assigned by Conversion Vendor staff.
1606	Industrial Pond	Shoreline of industrial pond used for treating industrial or man-made refuse. Determination of actual feature type is subjective and assigned by Conversion Vendor staff.
1607	Reservoir	Shoreline of man-made reservoir. Reservoir will be defined as a water body containing an Earthen dam or man-made damn feature on one end of the water body. Determination of actual feature type is subjective and assigned by Conversion Vendor staff.
1610	Hidden River / Stream	Shoreline of stream or river with an average width greater than 10' wide obscured by an overhead feature.
1611	Natural Channel	

CODE	DESCRIPTION CLASS	Description
1699	Island	Shoreline of feature and collected *only* if necessary to produce contiguous features (i.e. clarification of a void area).
2400	Detention Pond	Shoreline of non-industrial pond found in a residential or commercial development. Determination of actual feature type is subjective and assigned by Conversion Vendor staff.
2401	Retention Pond	
2402	Paved Channel	Paved ditch or channel designed to constrict the flow of water.
2403	Pipe / Culvert	Large culverts or above-ground pipes that tie into the hydrographic network. Determination of actual feature type is subjective and assigned by Conversion Vendor staff.

HYDROLOGY DRAIN (Line)

Properties

Feature Dataset HYDROLOGY   **Type:** Line   **Topology/Network:** Topology

Feature Class HYDROLOGY_DRAIN

Description

The visible centerline of a hydrology feature within the imagery that is less than 10' wide. Additionally, centerline abstractions oriented in the direction of flow through all open water bodies captured in the hydrology_waterbody feature class. The resulting lines are designed to create a geographic network compatible with the National Hydrological Dataset (NHD) modeling standards for representing NHD drainage network.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Line			S	ArcMap	Internal geometry (assigned by ArcMap)
SHAPE_LENGTH	Double		<not null>			S	ArcMap	Internal attribute with calculated length of the Line (assigned by ArcMap)
FEATURE_SUBTYPE	Text	30	0	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a subtype identifying the feature. The description of the feature subtype is displayed.
NHD_FTYPE	Text	24	<null>	Y		O	NHD	Type of NHD network element. NHD feature types include: Artificial Path, Canal/Ditch (1-dimensional), Connector, Pipeline, and Stream/River (1-dimensional)
NHD_FCODE	Integer	5	<null>			O	NHD	Numeric value that encodes the type and values for a set of characteristics for an NHD feature. This five-digit code has two parts: the first three digits encode the feature type; the last two digits encode values for a set of characteristics associated with the feature.
PK_COM_ID	Long Integer	10	<not null>		PK	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a unique identifier of each hydrology drain element in the network to support NHD modeling.
CODE	Integer	4	0	Y		R	Conversion Vendor	Assigned by Conversion Vendor, this attribute identifies a general feature class code associated with each subtype. The description of the feature subtype is displayed.
NAME	Text	50	<null>			O		Common/Local Name for drain feature.

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
								Not intended for GNIS compatibility.
FK_WB_COM_ID	Long Integer	10	-9999		FK	R	NHD	Unique identifier of the waterbody that the network element (artificial path only) flows through. (-9999 FOR Not Applicable)
FK_NHD_RCH_COM_ID	Long Integer	10	<null>		FK	O	NHD	Unique identifier of the transport reach and coastline reach of which the network element is part. (Tie to NHD)

Feature Subtype Definitions (Domain)

CODE	DESCRIPTION CLASS (NHD_FTYPE)	*Description*
1600	Single Line Stream	Centerline of creek or stream with an average width LESS than 10' wide.
1601	Hidden Single Line Stream	Centerline of creek or stream with an average width LESS than 10' wide obstructed by an overhead feature.
1602	River / Stream	A centerline abstraction to facilitate hydrologic modeling through open water bodies.
1603	Approximate River / Stream	A centerline abstraction to facilitate hydrologic modeling through open water bodies.
1604	Lake	A centerline abstraction to facilitate hydrologic modeling through open water bodies.
1605	Farm Pond	A centerline abstraction to facilitate hydrologic modeling through open water bodies.
1606	Industrial Pond	A centerline abstraction to facilitate hydrologic modeling through open water bodies.
1607	Reservoir	A centerline abstraction to facilitate hydrologic modeling through open water bodies.
1610	Hidden River / Stream	A centerline abstraction to facilitate hydrologic modeling through open water bodies.
1611	Natural Channel	A centerline abstraction to facilitate hydrologic modeling through open water bodies.

CODE	DESCRIPTION CLASS (NHD _FTYPE)	*Description*
2400	Detention Pond	A centerline abstraction to facilitate hydrologic modeling through open water bodies.
2401	Retention Pond	A centerline abstraction to facilitate hydrologic modeling through open water bodies.
2402	Paved Channel	A centerline abstraction to facilitate hydrologic modeling through open water bodies.
2403	Pipe / Culvert	A centerline abstraction to facilitate hydrologic modeling through open water bodies.

HYDROLOGY POINT SOURCE (Point)

Properties

Feature Dataset HYDROLOGY   **Type:** Line   **Topology/Network:** n/a

Feature Class HYDROLOGY _POINT_SOURCE

Description

Single points showing source of input into the hydrographic model.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Point			S	ArcMap	Internal geometry (assigned by ArcMap)
SYMBOL	Integer		0	Y		S	ArcMap/ Conversion	Internal attribute storing the symbol of the point feature (used by ArcMap)

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
							Vendor	
ANGLE	Integer		0			S	ArcMap/ Conversion Vendor	Internal attribute storing the rotation angle for the symbol (used by ArcMap)
FEATURE_SUBTYPE	Text	30	1	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a code identifying the feature. The description of the feature code is displayed.
CODE	Integer	4	0	Y		R	Conversion Vendor	Assigned by Conversion Vendor, this attribute identifies a general feature class code associated with each subtype. The description of the feature subtype is displayed.

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	*Description*
2404	Storm Inlet	Catch basin or inlet located within a curb, road or parking feature.

UTILITY FEATURE DATASET

UTILITY POINT (Point)

Properties

Feature Dataset UTILITY   **Type:** Point   **Topology/Network:** n/a

Feature Class UTILITY_POINT

Description

Single point features showing location of visible utility features.

Attributes

Name (Alias)	Type	Length	Default Value	Domain	Index	System, Required, Optional	Data Source	Description
OBJECTID (FID)	Object ID		<not null>		Y	S	ArcMap	Internal object / feature ID number (assigned by ArcMap)
SHAPE	Geometry		Point			S	ArcMap	Internal geometry (assigned by ArcMap)
SYMBOL	Integer		0	Y		S	ArcMap/ Conversion Vendor	Internal attribute storing the symbol of the point feature (used by ArcMap)
ANGLE	Integer		0			S	ArcMap/ Conversion Vendor	Internal attribute storing the rotation angle for the symbol (used by ArcMap)
FEATURE_SUBTYPE	Text	30	1	Y	Y	R	Conversion Vendor	Assigned by Conversion Vendor, this attribute is a code identifying the feature. The description of the feature code is displayed.
CODE	Integer	4	0	Y		R	Conversion Vendor	Assigned by Conversion Vendor, this attribute identifies a general feature class code associated with each subtype. The description of the feature subtype is displayed.

Feature Subtype Domain Definitions

CODE	DESCRIPTION CLASS	Description
1901	Utility Pole	Point indicating a single feature.
1902	Street Light	Point indicating a single feature

ATTACHMENT B – DELIVERY AND PAYMENT SCHEDULES

**Delivery
Schedule**

Product	Date
6", 3" Ortho	7/31/2017
Ground Control shp and report	7/31/2017
Flight plan, AT report	7/31/2017
Metadata	7/31/2017
Planimetrics Pilot	8/14/2017
MRSID/JP2000	8/31/2017
Planimetrics Remainder	9/14/2017

**Payment
Schedule**

Inv.	Work	Date (Approx)	%	Ammount
Inv 1	Acquisition Complete	3/22/2017	30%	$23,263.50
Inv2	ortho Production 50%	5/24/2017	30%	$23,263.50
Inv3	Main Product Delivery	7/31/2017	30%	$23,263.50
Inv4	Planimetrics Delivery	9/14/2017	10%	$7,754.50

$77,545.00

ATTACHMENT C - CITY OF NORMAN RESPONSIBILITIES

City of Norman Responsibilities

- Provide final approved project boundary
- Approval on flight plan design and ground control layout
- If available – provide most recent DEM, DSM, Contours, etc.
- If available – provide existing photo identifiable ground control points (for blind check points)
- Provide a purchase order
- Provide fully executed contract