

PIPELINE EASEMENT AGREEMENT

This Pipeline Easement Agreement ("**Agreement**") is dated effective as of 11/30, 2018 ("**Effective Date**"), and is between **Eastern Hills, LLC**, a Colorado limited liability company, whose address is 3033 East First Avenue, Suite 725, Denver, CO 80206, and **ACJ Partnership**, a Colorado general partnership, whose address is 7800 East Union, Suite 420, Denver, CO 80237 (jointly, "**Grantor**") and **Bronco Pipeline Company**, a Colorado corporation ("**Grantee**"), whose address is 34501 E. Quincy Ave., Bldg. 1-B, Watkins, CO 80137.

1. Grantor owns the following lands (the "**Lands**"):

NW4 of Section 21, Township 4 South, Range 65 West;
6th P.M., Arapahoe County, CO;

And being the same tract of land more fully described in that certain Special Warranty Deed dated August 25, 1985, from Jewell Associates, LTD as Grantor, to ACJ Partnership as Grantee, and being filed of record in Book 4590, Page 375, Official Public Records, Arapahoe County, Colorado and Alpert Corporation, as Grantors, to Eastern Hills, LLC, as Grantee and being filed at reception number B2130702, Official Public Records, Arapahoe County, Colorado.

2. Grantee desires to acquire an easement to install and operate up to three pipelines on the Lands in accordance with and subject to the terms of this Agreement.

The parties agree as follows:

1. **Grant.** Grantor grants Grantee a 50 foot wide, non-exclusive easement on the Lands ("**Easement**"), the route of which is described in **Exhibit A** and **Exhibit B**, to survey, construct, install, lay, maintain, inspect, erect, alter, operate, protect, repair, replace (with same or different size pipe not exceeding the diameter stated below), relocate, mark, remove and abandon the following (collectively, the "**Facilities**"):

- a. up to three pipelines not greater than 14 inches inside nominal diameter (the "**Pipelines**"); and
- b. appurtenances customarily used in connection with the construction, inspection, maintenance, repair, removal, and replacement of the Pipelines, including but not limited to:
 - above ground valves;
 - cathodic protection equipment (including necessary electric rectifiers, mounted above ground on poles not exceeding 8 feet in height or buried underground with wires connecting to a source of AC or DC electricity); ground beds, deep-well beds, and electric cables (collectively, "**Cathodic Protection Equipment**");
 - communication lines;
 - temporary above ground water supply line;

- electric lines and appurtenances; and,
- fences and structures to enclose any above-ground facilities.

2. **Temporary Workspace.** Grantee may use the additional temporary workspace described in **Exhibit A** and **Exhibit B** during construction, inspection, maintenance, repair, removal, and replacement operations on the Easement. The right of use granted in this Section 2 will expire upon the first to occur of: (a) the completion of the initial installation of the Pipelines; or (b) the recording of a final plat of the Lands affected by the temporary workspace, except to the extent provided in such final plat. Upon termination of Grantee's right to use the temporary workspace, upon the written request of Grantor, Grantee will promptly execute an instrument in recordable form acknowledging such termination and deliver the same to Grantor.

3. **Access.**

- Grantee may travel across the Lands (and any adjacent lands owned or controlled by Grantor) within the Easement, on roads in existence as of the date of entry, where Easement intersects any public road or public right-of-way, or within any other easement that Grantee has the right to use.
- Grantee will promptly repair any damage to Grantor's roads caused by Grantee in order to maintain the roads in as good or better condition as existed before Grantee's use.
- Grantee will give notice to Grantor at least 10 days prior to its entry upon the Lands to conduct excavation operations. Except in cases of emergency, Grantee will notify Grantor at least three days prior to entry upon the Lands for other purposes such as surveying, maintenance or repair operations. Notwithstanding the provisions of Section 8 of this Agreement, such notice may be given by telephone or email to the property manager for the Lands as designated by Grantor in a notice to Grantee pursuant to Section 8.

4. **Operational Requirements.**

- Grantee will obtain all permits necessary to perform work upon the Facilities in compliance with regulations imposed by the United States of America, the State of Colorado, County of Arapahoe, City or Aurora, agencies of the foregoing, or other governmental or quasi-governmental entity having jurisdiction over such work (collectively, "**Governmental Authorities**"). All work will be conducted in a workmanlike fashion and in compliance with applicable regulations of Governmental Authorities.
- Except as provided in subsection (m) below, Grantee will initially bury the Pipelines so that the top of the Pipelines are buried a minimum of four feet below the existing ground level.
- With the exception of minor above ground Facilities such as pipeline markers, vent pipes at fence lines, and Cathodic Protection Equipment, above ground Facilities will be limited to the types and

locations specified on **Exhibits A or B** and will be enclosed within a fence or other structure approved by Grantor in writing, which approval will not be unreasonably withheld, delayed or conditioned.

- d. Grantee may remove trees, undergrowth, brush, structures, or obstructions from the Easement.
- e. To prevent damage to existing fences, before Grantee cuts any fence, H-braces will be placed and properly braced on either side of the cut and the fence will be securely attached to the H-braces before the cut occurs.
- f. Grantee will set aside up to 12 inches of topsoil removed from the ditch associated with the construction of Facilities and place topsoil over the ditch following construction. Grantee will add additional topsoil as necessary to repair any subsequent settling of the fill in the ditch, or will remove fill as necessary to avoid any permanent ridge or mound.
- g. Upon completion of any activity by Grantee that disturbs the Lands, Grantee shall restore the Lands, to the extent reasonably practicable, to the condition that existed before the disturbance and will comply with regulations imposed by Governmental Authorities, including but not limited to revegetation of the surface.
- h. Within 120 days after completion of a Pipeline, Grantee will provide Grantor an "as-built survey" of all Facilities then in existence, including their type, location, size and depth.
- i. Grantee will make reasonable efforts to prevent the introduction or spread of noxious weeds on the Easement and will comply with weed abatement regulations imposed by Governmental Authorities.
- j. Grantee will use the Easement and will utilize the Facilities solely for the purposes specified.
- k. There shall be no hunting or fishing on the Easement or on any of Grantor's lands by Grantee. No firearms or fishing equipment shall be taken on the Lands by Grantee.
- l. Grantee shall not impound water or place any obstruction (other than the Facilities) on the Easement that interfere with Grantor's use of the land subject to the Easement.
- m. In areas in which the Easement premises cross or are in the proximity of the existing or projected rights of way for Powhatan Road or Mississippi Avenue, Grantee will provide plan and profile designs of the Pipelines and a written request for approval of the same to Grantor no later than twenty days prior to submitting permit and license agreement materials to the local Government Authority, and shall obtain Grantor's written consent, not to be unreasonably withheld, conditioned, or delayed. Grantor will not be deemed to have unreasonably withheld its consent if its objection(s) are based upon reasonable engineering concerns regarding the elevation of the Pipelines in relation to streets or utilities required to serve Grantor's Lands or adjacent properties. Grantor and Grantee acknowledge that final profile plans at road crossing are subject to Governmental Authority final approvals.

n. It is anticipated that, in the future, the City of Aurora may require that Powhaton Road be relocated within the Lands in the manner depicted on **Exhibit C** attached hereto and that the prior alignment of the road will be vacated. In connection with the foregoing, Grantor may give notice to Grantee (the “**Relocation Notice**”) regarding a corresponding relocation of the Facilities in a manner that may be agreed upon by the parties or, in the absence of agreement, to the approximate location depicted on **Exhibit C**. Upon the giving of the Relocation Notice, Grantee will promptly prepare a plan for such a relocation of the Facilities, including the type and location of valves or other major above ground Facilities and the legal description of the easement required to accommodate the relocated Facilities (the “**Relocation Plan**”) for approval by Grantor, which approval will not be unreasonably withheld, delayed or conditioned. Upon approval of the Relocation Plan, Grantor, without additional compensation from Grantee, will grant a 50 foot non-exclusive easement and 25 foot temporary workspace to Grantee in accordance with the legal description in the Relocation Plan. Such easement will be substantially upon the same terms as this Agreement and will constitute an encumbrance upon the easement area that is prior to other utility easements and monetary liens of record. Thereupon, Grantee, at its expense, will diligently proceed to apply for necessary permits and proceed to construct the Facilities described in the Relocation Plan. Upon completion of the relocated Facilities, this Agreement will terminate as to the Facilities that have been replaced by the relocation and the provisions of Section 11 will apply as to such replaced Facilities.

5. **Grantor’s Use of Lands.** Subject to the provisions of Section 6, Grantor shall have the full use and enjoyment of the Lands within the Easement and temporary workspace as long as such use does not unreasonably interfere with Grantee’s use of the Easement or impact the safety of the Facilities.

6. **Encroachment.** Unless the prior written consent of Grantee is obtained (which consent, in each case, will not be unreasonably withheld, delayed or conditioned), Grantor’s use of the Easement is limited by the following constraints:

- a. Grantor may dedicate or grant other non-exclusive easements, licenses and rights of way across the Easement as long as such use does not unreasonably interfere with Grantee’s use of the Easement or impact the safety of the Facilities. For the avoidance of doubt, Grantee agrees that crossing the Easement with streets and appurtenant improvements such as curb and gutter is permitted.
- b. Any new underground utilities crossing the Easement will be as close as possible to a 90-degree angle (and must be at least a 60-degree angle) and must be installed with at least 24 inches of vertical clearance between the new utility and Grantee’s Facilities.

Utilities shall be encased in non-conductive conduit across the Easement and the conduit will have red concrete put in place on top of the conduit 10 feet either side of where the conduit crosses a Pipeline.

- c. Any new underground utilities installed by Grantor within the Easement that travel parallel to or along the Facilities shall be located a distance horizontally of at least 15 feet from parallel existing Facilities. If Grantee has not installed all of its planned Facilities at the time the new utility is constructed, the location of the parallel utility shall require Grantee's written consent, which consent will not be unreasonably withheld, delayed or conditioned
- d. New underground utilities will be installed below Grantee's Facilities whenever it is feasible to do so.
- e. Any overhead power lines shall be at least twenty feet above the ground.
- f. Grantor will not impound water, plant trees, or construct buildings within the Easement or permit others to do the same. Grantor may plant crops within the Easement or may landscape the Easement with grass and shallow-rooted shrubs. Grantor may install a landscaping sprinkler system, street signs, fencing, mailboxes, and similar minor improvements within the Easement provided that Grantee shall not be responsible for repairing or replacing such improvements if they are damaged as a result of Grantee's exercise of its rights under this Agreement.
- g. Grantor may not change the grade of the Easement such that the ground cover over a Pipeline is less than 36 inches or greater than 6 feet without the express written consent of Grantee. Consent may be withheld or conditioned based upon Grantee's determination of whether the requested change in grade materially impairs Grantee's rights to use the Easement or impact the safety of the Facilities, such determination is at the reasonable discretion of Grantee.
- h. Grantee's generally applicable operating and safety standards will be controlling standards used to determine the reasonableness of withholding any consent that Grantor requests or of any conditions imposed by Grantee regarding its consent.

7. **Indemnification.** Grantee agrees to indemnify, defend and hold Grantor harmless from and against all losses, damages, claims, demands and suits (including court costs and reasonable attorney's fees) that Grantor may incur or be liable for (including but not limited to environmental remediation and mechanic's liens asserted against any portion of the Lands) (collectively, "**Claims**") that arise out of the exercise of Grantee's rights under this Agreement, EXCEPT to the extent any Claims are attributable to the negligence, gross negligence, willful misconduct, violation of law, or malicious acts of Grantor, its agents, employees or contractors. The provisions of this Section will survive the termination of this Agreement.

- 8. Notice.** Any notice required, or which may be given under this Agreement (including any notice to change contact information in this section) must be in writing and delivered personally or sent by certified mail (postage prepaid, return receipt requested) to the recipient at its respective address stated below. Notices given personally will be effective upon delivery to a person eligible to receive the service of process upon the notice recipient pursuant to the Colorado Rules of Civil Procedure. Notices given by mail will be effective three days after deposit of the notice in the United States mails.

If to Grantor: Eastern Hills, LLC
3033 East First Avenue, Suite 725
Denver, CO 80206
Attention: Leland J. Alpert

ACJ Partnership
7800 East Union, Suite 420
Denver, CO 80237
Attention: Marc L. Cooper

If to Grantee: Bronco Pipeline Company
Attn: Surface Land
34501 E. Quincy Ave.
Bldg. 1-B
Watkins, CO 80137

- 9. Damages.** Subject to Grantee's compliance with the provisions of Section 4, the consideration for this Agreement includes full payment for all damage to the portion of the Lands within the Easement resulting from the initial construction of the Facilities. Grantee shall pay Grantor for actual damage to the Lands or any growing crops that results from Grantee's use of the Easement after initial construction; provided that, to the extent that such work is performed in a workmanlike fashion, Grantee shall not be liable for any damages caused within the Easement by keeping said Easement clear of trees, undergrowth, brush or obstructions in the exercise of the rights herein granted.
- 10. Taxes.** Grantee will pay all taxes levied or assessed due to the installation, use or operation of the Facilities.
- 11. Release.** Grantee shall record a release of this Agreement: (a) when Grantee notifies Grantor that the Easement is no longer useful to Grantee or (b) if the Facilities are not operated for a continuous period of three years. Following the termination of this Agreement, Grantee will have 180 days to remove all above ground Facilities and to either remove underground Facilities or abandon them in place. If Pipelines are abandoned in place, Grantee will remove all hydrocarbons from the

Pipelines and fill them with an inert material such as sand. Any underground Facility that is abandoned in place pursuant to the foregoing will become Grantor's property; provided, however, that Grantor shall not be deemed to have accepted ownership of or responsibility for any violation of hazardous materials laws by virtue of such ownership and all such violations shall remain the responsibility of Grantee and be subject to the provisions of Section 7.

12. Assignment. Grantee may assign this Agreement in whole or in part upon notice to (but without the prior consent of) Grantor in connection with: (a) a transfer of ownership of Grantee to a third party; (b) the merger of Grantee or its parent corporation with a third party; (c) the acquisition of all or substantially all of Grantee's assets in the Denver metropolitan area by a third party; or (d) an assignment to a third party with a net worth of at least \$50,000,000. All other assignments of this Agreement will require the prior written consent of Grantor, which consent will not be unreasonably withheld, delayed or conditioned.

13. Miscellaneous Provisions.

- a. **Modification.** This Agreement cannot be modified, except by an instrument in writing signed by Grantor and Grantee.
- b. **Covenant Runs with Land.** This Agreement is a covenant running with the Lands and shall be binding on and inure to the benefit of the parties and their respective successors and permitted assigns.
- c. **Exhibits.** The following exhibits are attached and made a part of this Agreement.
 - i. Exhibit A
 - ii. Exhibit B
 - iii. Exhibit C
- d. **Counterparts.** The parties may execute this Agreement in one or more counterparts, each of which is an original, and all of which constitute only one agreement between the parties.
- e. **Governing Law.** Colorado law, without giving effect to its conflicts-of-law principles, governs all matters arising under this Agreement, including torts.
- f. **Deemed Consent.** In each instance in which this Agreement calls for consent or approval by a party (the "**Consenting Party**"), if the Consenting Party fails to respond with twenty business days after receipt of the other party's notice requesting such consent or approval, then the Consenting Party shall be deemed to have granted its consent or given its approval as requested in the other party's notice.

[Signature Pages follow]

[Signature Page – Pipeline Easement Agreement]

Each party is signing this Agreement on the date stated in the acknowledgments but effective for all purposes as of the Effective Date.

Grantor

Eastern Hills, LLC, a Colorado limited liability company


By: Alpert Corporation, Manager



By: Leland J. Alpert
Its: President

Grantor

ACJ Partnership, a Colorado general partnership

By: Cooper/Alpert #1, LLP, a Colorado limited liability partnership, Partner



By: Leland J. Alpert
Its: Managing Partner (Alpert Group)


By: Marc L. Cooper
Its: Managing Partner (Cooper Group)


By: Shawn Cooper
Its: Managing Partner (Cooper Group)

Grantee

Bronco Pipeline Company


By: Lindsay B. Weddle VT
Its: Attorney-in-fact

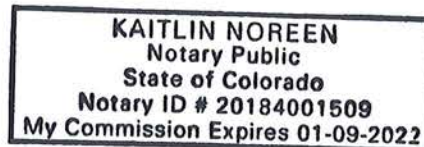
ACKNOWLEDGEMENTS

STATE OF COLORADO

CITY AND COUNTY OF DENVER

This Agreement was acknowledged before me on November 30, 2018 by Leland J. Alpert as President of Alpert Corporation, as Manager of Eastern Hills, LLC, a Colorado limited liability company.

Kaitlin Noreen
Notary Public, State of Colorado
My commission expires: 1.9.2022

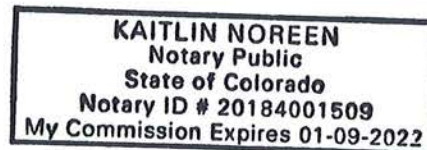


STATE OF COLORADO

CITY AND COUNTY OF DENVER

This Agreement was acknowledged before me on November 30, 2018 by Leland J. Alpert as Managing Partner (Alpert Group) of Cooper/Alpert #1, LLP, a Colorado limited liability partnership, as a partner of ACJ Partnership, a Colorado general partnership.

Kaitlin Noreen
Notary Public, State of Colorado
My commission expires: 1.9.2022

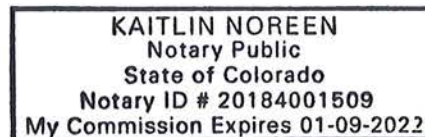


STATE OF COLORADO

COUNTY OF Denver

This Agreement was acknowledged before me on November 30, 2018 by Marc L. Cooper as Managing Partner (Cooper Group) of Cooper/Alpert #1, LLP, a Colorado limited liability partnership, as a partner of ACJ Partnership, a Colorado general partnership.

Kaitlin Noreen
Notary Public, State of Colorado
My commission expires: 1.9.2022



STATE OF COLORADO

COUNTY OF Denver

This Agreement was acknowledged before me on November 30, 2018 by Shawn Cooper as Managing Partner (Cooper Group) of Cooper/Alpert #1, LLP, a Colorado limited liability partnership, as a partner of ACJ Partnership, a Colorado general partnership.

Kaitlin Noreen

Notary Public, State of Colorado

My commission expires: 1-9-2022

KAITLIN NOREEN
Notary Public
State of Colorado
Notary ID # 20184001509
My Commission Expires 01-09-2022

STATE OF TEXAS

COUNTY OF HARRIS

This Agreement was acknowledged before me on December 20, 2018 by Lindsay Weddle, as Attorney-in-fact of Bronco Pipeline Company, a Colorado Corporation.

Linda Shannon

Notary Public, State of Texas

My commission expires: 10-20-2019

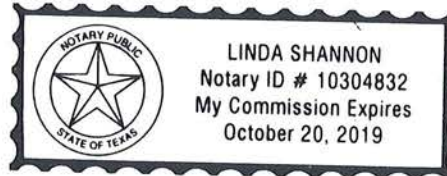
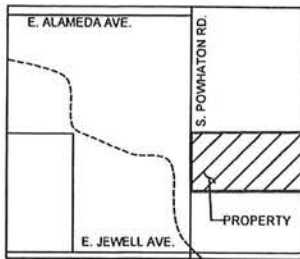
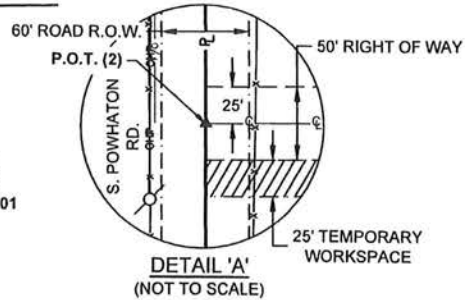
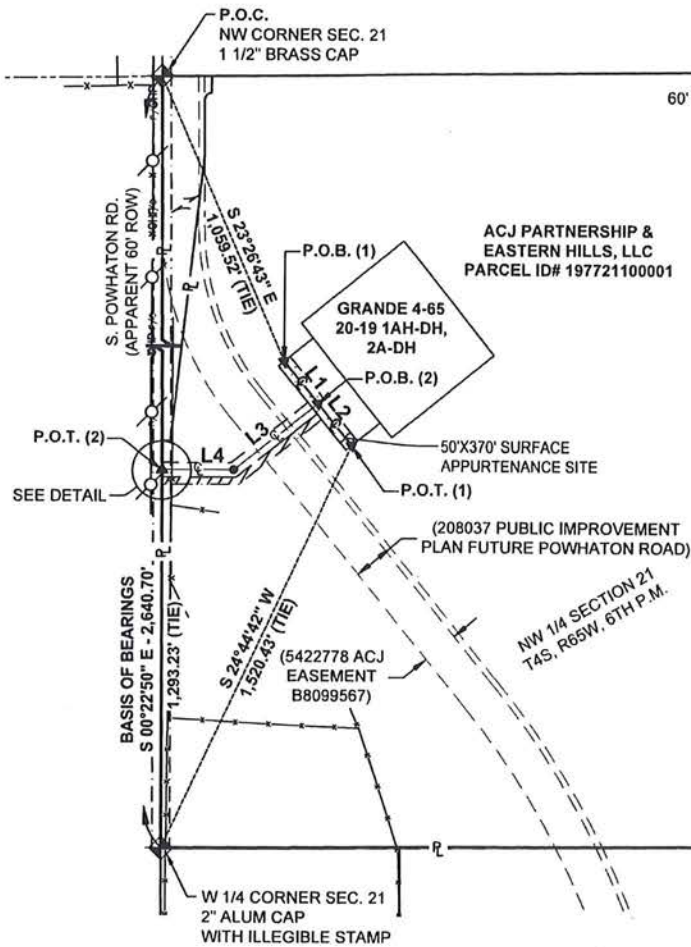
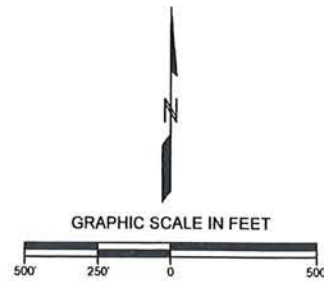


EXHIBIT A

IN A PART OF THE NW 1/4 OF SECTION 21
TOWNSHIP 4 SOUTH, RANGE 65 WEST, 6TH P.M.
ARAPAHOE COUNTY, COLORADO



VICINITY MAP
N.T.S.



LINE TABLE		
NUMBER	BEARING	DISTANCE
L1	S38°55'30\"E	184.95'
L2	S38°55'30\"E	184.95'
L3	S51°04'30\"W	365.89'
L4	S89°37'10\"W	244.17'



LEGEND

P.O.C.	POINT OF COMMENCEMENT
P.O.B. & ▲	POINT OF BEGINNING
P.O.T. & ●	POINT OF TERMINUS
◆	POINT OF INTERSECTION
◆	SECTION CORNER
---	TIE LINE
---	CENTERLINE OF RIGHT OF WAY
---	EDGE OF RIGHT OF WAY
---	PROPERTY LINE
---	ADJOINING PROPERTY LINE
---	ROAD RIGHT OF WAY (R.O.W.)
---	BURIED FIBER OPTIC LINE
---	OVERHEAD POWER LINE
---	FENCE LINE
---	EXISTING EASEMENT
---	POWER POLE
---	TEMPORARY WORKSPACE
---	SURFACE APPURTENANCE

THE LENGTH OF THE 50' PERMANENT RIGHT OF WAY SHOWN HEREON
THE ACJ PARTNERSHIP & EASTERN HILLS, LLC PROPERTY IS 979.96 FEET
(59.39 RODS).

THE TOTAL AREA OF THE PERMANENT RIGHT OF WAY SHOWN HEREON IS
47,747 SQUARE FEET (1.10 ACRES).

THE TOTAL AREA OF THE TEMPORARY WORKSPACE SHOWN HEREON IS
15,289 SQUARE FEET (0.35 ACRES).

THE TOTAL AREA OF THE 50'X370' SURFACE APPURTENANCE IS
18,500 SQUARE FEET (0.42 ACRES).

NOTES

1. THIS EXHIBIT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE
COMMITMENT AND THEREFORE ENCOMPASS ENERGY SERVICES
HAS NOT RESEARCHED OR SHOWN ANY OTHER EASEMENTS,
RIGHTS-OF-WAY, VARIANCES AND OR AGREEMENTS OF RECORD
EXCEPT AS SHOWN HEREON.

2. THIS EXHIBIT IS NOT A LAND SURVEY PLAT, OR AN IMPROVEMENT
SURVEY PLAT.

3. SEE ATTACHED LEGAL DESCRIPTION WHICH BY THIS REFERENCE
IS MADE PART HEREOF.

4. NOTICE: ACCORDING TO COLORADO LAW, YOU MUST COMMENCE
ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY
WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT.
IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS
SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE
OF THE CERTIFICATION SHOWN HEREON.

5. THE DISTANCE SHOWN HEREON ARE GRID VALUES WITH A
COMBINED SCALE FACTOR OF 0.999712030.

**BRONCO PIPELINE
COMPANY**

EXHIBIT A - RIGHT OF WAY

ACJ PARTNERSHIP & EASTERN HILLS, LLC

IN PART OF THE NW 1/4 OF SECTION 21, TOWNSHIP 4 SOUTH,
RANGE 65 WEST, 6TH P.M., ARAPAHOE COUNTY, COLORADO

SCALE: 1"=500'

DRAWN BY: RTL 11/19/2018

CHECKED BY: HS 11/19/2018

REV: 4

encompass

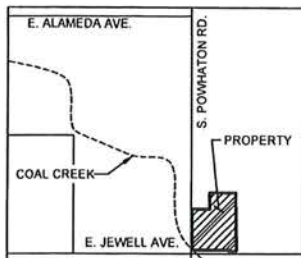
ENCOMPASS ENERGY SERVICES
350 INTERLOCKEN BLVD, SUITE 350
BROOMFIELD, CO 80021

DWG NO. PIPELINE EXHIBIT-A
61297 - ACJ PARTNERSHIP & EASTERN HILLS,
LLC 001 - REV4

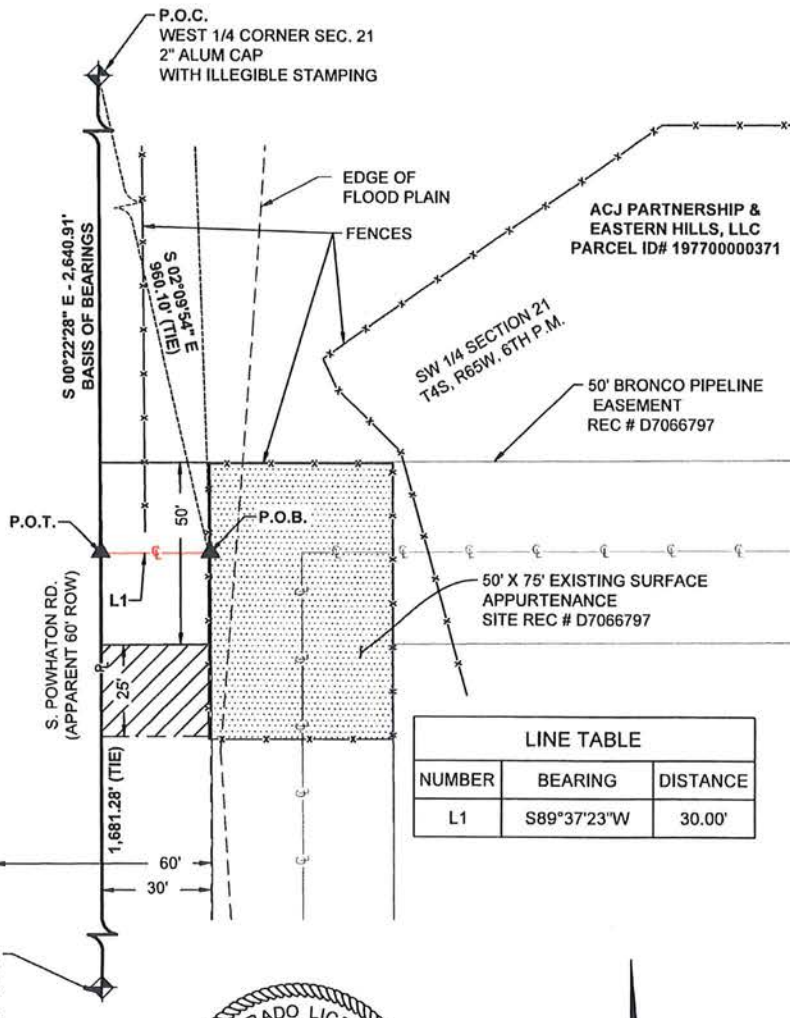
SHEET
1 OF 2

EXHIBIT A

IN A PART OF THE SW 1/4 OF SECTION 21
TOWNSHIP 4 SOUTH, RANGE 65 WEST, 6TH P.M.
ARAPAHOE COUNTY, COLORADO



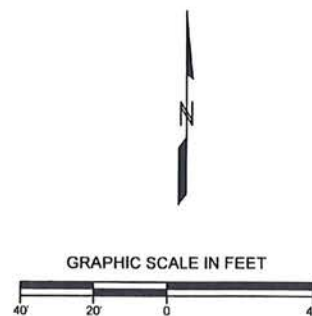
VICINITY MAP
(NOT TO SCALE)



LINE TABLE		
NUMBER	BEARING	DISTANCE
L1	S89°37'23"W	30.00'

LEGEND

P.O.C.	POINT OF COMMENCEMENT
P.O.B. & ▲	POINT OF BEGINNING
P.O.T. & ●	POINT OF TERMINUS
◆	POINT OF INTERSECTION
—	SECTION CORNER
---	SECTION LINE
---	TIE LINE
—+—	CENTERLINE OF RIGHT OF WAY
— —	EDGE OF RIGHT OF WAY
— —	PROPERTY LINE
---	ROAD ROW (60')
—x—	FENCE LINE
	TEMPORARY WORKSPACE
	EXISTING SURFACE APPURTENANCE



THE LENGTH OF THE 50' RIGHT OF WAY SHOWN HEREON THE ACJ PARTNERSHIP & EASTERN HILLS, LLC PROPERTY IS 30.00 FEET (1.82 RODS).

THE TOTAL AREA OF THE RIGHT OF WAY SHOWN HEREON IS 1,500 SQUARE FEET (0.03 ACRES).

THE TOTAL AREA OF THE TEMPORARY WORKSPACE SHOWN HEREON IS 754 SQUARE FEET (0.02 ACRES).

NOTES

1. THIS EXHIBIT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND THEREFORE ENCOMPASS ENERGY SERVICES HAS NOT RESEARCHED OR SHOWN ANY OTHER EASEMENTS, RIGHTS-OF-WAY, VARIANCES AND OR AGREEMENTS OF RECORD EXCEPT AS SHOWN HEREON.

2. THIS EXHIBIT IS NOT A LAND SURVEY PLAT, OR AN IMPROVEMENT SURVEY PLAT.

3. SEE ATTACHED LEGAL DESCRIPTION WHICH BY THIS REFERENCE IS MADE PART HEREOF.

4. NOTICE: ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

5. THE DISTANCE SHOWN HEREON ARE GRID VALUES WITH A COMBINED SCALE FACTOR OF 0.999712030.

**BRONCO PIPELINE
COMPANY**

EXHIBIT A - RIGHT OF WAY

ACJ PARTNERSHIP & EASTERN HILLS, LLC

IN PART OF THE SW 1/4 OF SECTION 21, TOWNSHIP 4 SOUTH,
RANGE 65 WEST, 6TH P.M., ARAPAHOE COUNTY, COLORADO

SCALE: 1"=40'

DRAWN BY: RTL 11/19/2018

CHECKED BY: HS 11/19/2018

REV: 4

encompass

ENCOMPASS ENERGY SERVICES
350 INTERLOCKEN BLVD, SUITE 350
BROOMFIELD, CO 80021

DWG NO. PIPELINE EXHIBIT - A
61297 - ACJ PARTNERSHIP & EASTERN HILLS,
LLC 371 - REV4

SHEET
2 of 2

EXHIBIT B

PARCEL DESCRIPTION

A STRIP OF LAND ON A PARCEL OF LAND OWNED BY ACJ PARTNERSHIP & EASTERN HILLS, LLC AND IS LOCATED IN A PART OF THE NW 1/4 OF SECTION 21, TOWNSHIP 4 SOUTH, RANGE 65 WEST, OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF ARAPAHOE, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

A 50 FEET WIDE RIGHT OF WAY, BEING 25 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

CENTERLINE DESCRIPTION

COMMENCING AT THE NW CORNER OF SAID SECTION 21 (AS MONUMENTED BY A 1 1/2" BRASS CAP), FROM WHICH THE W 1/4 CORNER SAID SECTION 21 (AS MONUMENTED BY A 2" ALUMINUM CAP WITH ILLEGIBLE STAMP) BEARS S 00°22'50" E, A DISTANCE 2,640.70 FEET, FORMING THE BASIS OF BEARINGS USED FOR THIS DESCRIPTION;

THENCE, S 23°26'43" E, A DISTANCE OF 1,059.52 FEET TO THE POINT OF BEGINNING (1);

THENCE ALONG SAID CENTERLINE THE FOLLOWING FOUR (4) COURSES;

- L1) S 38°55'30" E, A DISTANCE OF 184.95 FEET TO AN INTERSECTION POINT, SAID POINT BEING THE POINT OF BEGINNING (2);
L2) S 38°55'30" E, A DISTANCE OF 184.95 FEET TO THE POINT OF TERMINUS (1);

AND:

BEGINNING AT THE POINT OF BEGINNING (2);

THENCE CONTINUING ALONG SAID CENTERLINE;

- L3) S 51°04'30" W, A DISTANCE OF 365.89 FEET;
L4) CONTINUING S 89°37'10" W, A DISTANCE OF 244.17 FEET TO A POINT ON THE WESTERLY LINE OF SAID PARCEL OF LAND, SAID POINT BEING THE POINT OF TERMINUS (2), FROM WHICH THE SAID W 1/4 CORNER OF SECTION 21 BEARS S 00°22'50" E, A DISTANCE OF 1,293.23 FEET.

THE SIDE LINES OF SAID RIGHT OF WAY ARE LENGTHENED OR SHORTENED TO MEET AT ANGLE POINTS AND TO TERMINATE ON SAID PARCEL BOUNDARY LINES AND PERPENDICULAR TO POINT OF BEGINNING (1) AND POINT OF TERMINUS (1).

THE TOTAL LENGTH OF THE ABOVE DESCRIBED CENTERLINE IS 979.96 FEET (59.39 RODS), WITH THE TOTAL AREA OF THE 50 FEET WIDE RIGHT OF WAY BEING 47,747 SQUARE FEET OR 1.10 ACRES, MORE OR LESS.

TOGETHER WITH:

A 25 FEET WIDE TEMPORARY WORKSPACE FOR CONSTRUCTION PURPOSES AS SHOWN ON THE ACCOMPANYING EXHIBIT.

SURVEYOR'S STATEMENT:

I, HEATH A. SMITH, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY STATE THAT THIS RIGHT OF WAY DESCRIPTION AND ACCOMPANYING EXHIBIT WERE PREPARED UNDER MY SUPERVISION AND THAT THE RIGHT OF WAY LOCATION SHOWN HEREON IS CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF AND IS NOT A LAND SURVEY PLAT OR IMPROVEMENT SURVEY PLAT.



HEATH A. SMITH, CO PLS #38643
FOR AND ON BEHALF OF ENCOMPASS ENERGY SERVICES, LLC

NOTES

1. THIS LEGAL DESCRIPTION AND EXHIBIT WERE PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND THEREFORE ENCOMPASS ENERGY SERVICES HAS NOT RESEARCHED OR SHOWN ANY OTHER EASEMENTS, RIGHTS-OF-WAY, VARIANCES AND OR AGREEMENTS OF RECORD EXCEPT AS SHOWN HEREON.

2. THIS LEGAL DESCRIPTION AND EXHIBIT ARE NOT A LAND SURVEY PLAT, OR AN IMPROVEMENT SURVEY PLAT.

3. SEE ATTACHED EXHIBIT WHICH BY THIS REFERENCE IS MADE PART HEREOF.

4. NOTICE: ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

BRONCO PIPELINE COMPANY			
EXHIBIT B - RIGHT OF WAY			
ACJ PARTNERSHIP & EASTERN HILLS, LLC			
IN PART OF THE NW 1/4 OF SECTION 21, TOWNSHIP 4 SOUTH, RANGE 65 WEST, 6TH P.M., ARAPAHOE COUNTY, COLORADO			
SCALE: NA	DRAWN BY: RTL	11/19/2018	CHECKED BY: HS 11/19/2018
encompass		ENCOMPASS ENERGY SERVICES 350 INTERLOCKEN BLVD, SUITE 350 BROOMFIELD, CO 80021	DWG NO. PIPELINE EXHIBIT - B 61297 - ACJ PARTNERSHIP & EASTERN HILLS, LLC 001 - REV4
			SHEET 1 of 2

EXHIBIT B

PARCEL DESCRIPTION

A STRIP OF LAND ON A PARCEL OF LAND OWNED BY ACJ PARTNERSHIP & EASTERN HILLS, LLC AND IS LOCATED IN A PART OF THE OF THE SW 1/4 OF SECTION 21, TOWNSHIP 4 SOUTH, RANGE 65 WEST, OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF ARAPAHOE, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

A 50 FEET WIDE RIGHT OF WAY, BEING 25 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

CENTERLINE DESCRIPTIONS:

COMMENCING AT THE W 1/4 CORNER OF SAID SECTION 21 (AS MONUMENTED BY A 2" ALUMINUM CAP WITH ILLEGIBLE STAMPING), FROM WHICH THE SW CORNER OF SAID SECTION 21 (AS MONUMENTED BY A 2" ALUMINUM CAP WITH ILLEGIBLE STAMPING) BEARS S 00°22'28" E, A DISTANCE OF 2,640.91 FEET, FORMING THE BASIS OF BEARINGS USED FOR THIS DESCRIPTION;

THENCE S 02°09'54" E, A DISTANCE OF 960.10 FEET TO A POINT ON THE WESTERLY LINE OF AN EXISTING PIPELINE EASEMENT, SAID POINT BEING THE POINT OF BEGINNING;

THENCE S 89°37'23" W, A DISTANCE OF 30.00 FEET TO A POINT ON THE WESTERLY LINE OF SAID PARCEL OF LAND, SAID POINT BEING THE POINT OF TERMINUS, FROM WHICH THE SAID SW CORNER OF SECTION 21 BEARS S 00°22'28" E, A DISTANCE OF 1,681.28 FEET.

THE SIDE LINES OF SAID RIGHT OF WAY ARE LENGTHENED OR SHORTENED TO MEET AT ANGLE POINTS AND TO TERMINATE ON SAID EXISTING PIPELINE EASEMENT LINE AND AT SAID PARCEL BOUNDARY LINE.

THE TOTAL LENGTH OF THE ABOVE DESCRIBED CENTERLINE IS 30.00 FEET (1.82 RODS), WITH THE TOTAL AREA OF THE 50 FEET WIDE RIGHT OF WAY BEING 1,500 SQUARE FEET OR 0.03 ACRES, MORE OR LESS.

TOGETHER WITH:

A 25 FEET WIDE TEMPORARY WORKSPACE FOR CONSTRUCTION PURPOSES AS SHOWN ON THE ACCOMPANYING EXHIBIT.

SURVEYOR'S STATEMENT:

I, HEATH A. SMITH, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY STATE THAT THIS RIGHT OF WAY DESCRIPTION AND ACCOMPANYING EXHIBIT WERE PREPARED UNDER MY SUPERVISION AND THAT THE RIGHT OF WAY LOCATION SHOWN HEREON IS CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF AND IS NOT A LAND SURVEY PLAT OR IMPROVEMENT SURVEY PLAT.



HEATH A. SMITH, CO PLS #38643
FOR AND ON BEHALF OF ENCOMPASS ENERGY SERVICES, LLC



NOTES

1. THIS LEGAL DESCRIPTION WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND THEREFORE ENCOMPASS ENERGY SERVICES HAS NOT RESEARCHED OR SHOWN ANY OTHER EASEMENTS, RIGHTS-OF-WAY, VARIANCES AND OR AGREEMENTS OF RECORD EXCEPT AS SHOWN HEREON.

2. THIS LEGAL DESCRIPTION IS NOT A LAND SURVEY PLAT, OR AN IMPROVEMENT SURVEY PLAT.

3. SEE ATTACHED EXHIBIT WHICH BY THIS REFERENCE IS MADE PART HEREOF.

4. NOTICE: ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT, IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

 BRONCO PIPELINE COMPANY			
EXHIBIT B - RIGHT OF WAY			
ACJ PARTNERSHIP & EASTERN HILLS, LLC			
IN PART OF THE SW 1/4 OF SECTION 21, TOWNSHIP 4 SOUTH, RANGE 65 WEST, 6TH P.M., ARAPAHOE COUNTY, COLORADO			
SCALE: NA	DRAWN BY: RTL 11/19/2018	CHECKED BY: HS 11/19/2018	REV. 4
	ENCOMPASS ENERGY SERVICES 350 INTERLOCKEN BLVD, SUITE 350 BROOMFIELD, CO 80021	DWG NO. PIPELINE EXHIBIT- A 61297 - ACJ PARTNERSHIP & EASTERN HILLS, LLC 371 - REV4	SHEET 2 OF 2

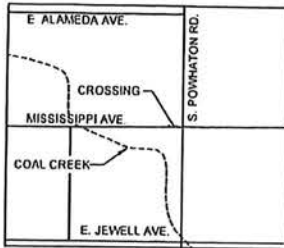
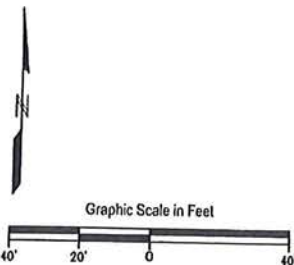
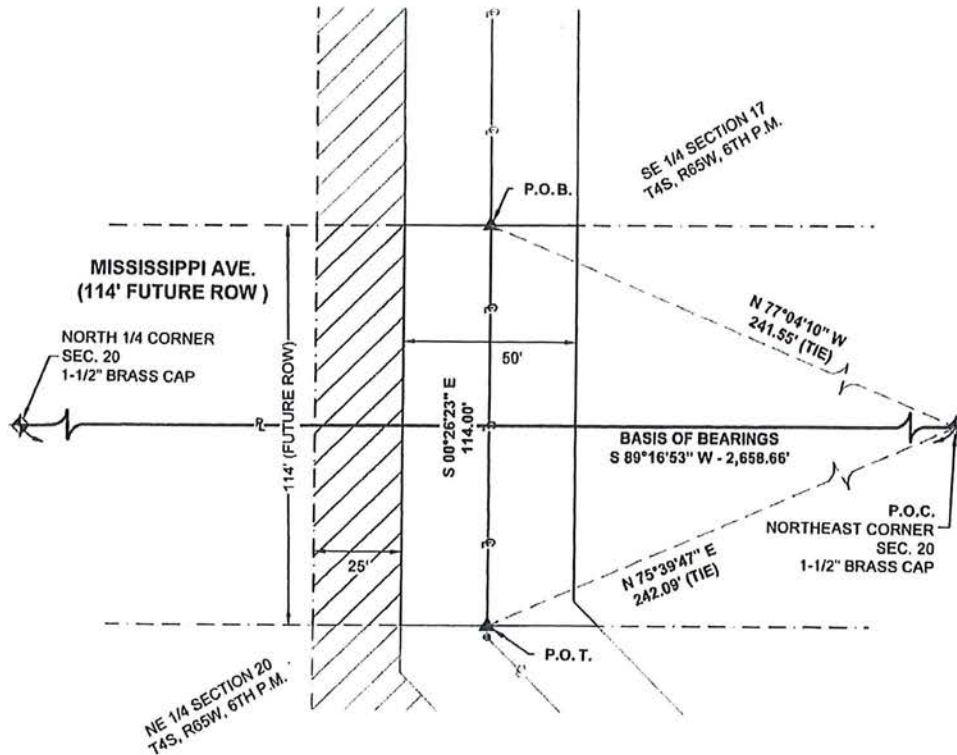


EXHIBIT C

IN A PART OF THE NE 1/4 OF SECTION 20 & SE 1/4 OF SECTION 17
TOWNSHIP 4 SOUTH, RANGE 65 WEST, 6TH P.M.
ARAPAHOE COUNTY, COLORADO



LEGEND

•	POINT OF INTERSECTION
P.O.C.	POINT OF COMMENCEMENT
P.O.B. & ▲	POINT OF BEGINNING
P.O.T. & ▲	POINT OF TERMINUS
◆	SECTION CORNER
—	PROPERTY LINE / SECTION LINE
—	STRIP OF LAND
—	CENTERLINE OF STRIP OF LAND
---	FUTURE ROAD RIGHT OF WAY (114' ROW)
---	TIE LINE
---	TEMPORARY WORKSPACE

THE CENTERLINE LENGTH OF THE 50' WIDE STRIP OF LAND SHOWN HEREON
THE MISSISSIPPI AVE. FUTURE RIGHT OF WAY IS 114.00 FEET (6.91 RODS).

THE TOTAL AREA OF THE 50' WIDE STRIP OF LAND SHOWN HEREON IS 5,724
SQUARE FEET OR 0.13 ACRES.

NOTES

1. THIS EXHIBIT WAS PREPARED WITHOUT THE BENEFIT OF A
TITLE COMMITMENT AND THEREFORE ENCOMPASS ENERGY
SERVICES HAS NOT RESEARCHED OR SHOWN ANY OTHER
EASEMENTS, RIGHTS-OF-WAY, VARIANCES AND OR AGREEMENTS
OF RECORD EXCEPT AS SHOWN HEREON.

2. THIS EXHIBIT IS NOT A LAND SURVEY PLAT, OR AN
IMPROVEMENT SURVEY PLAT

3. SEE ATTACHED LEGAL DESCRIPTION WHICH BY THIS
REFERENCE IS MADE PART HEREOF.

4. NOTICE ACCORDING TO COLORADO LAW, YOU MUST
COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN
THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER
SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY
DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN
YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

5. THE DISTANCE SHOWN HEREON ARE GRID VALUES WITH A
COMBINED SCALE FACTOR OF 0.999712030

**BRONCO PIPELINE
COMPANY**

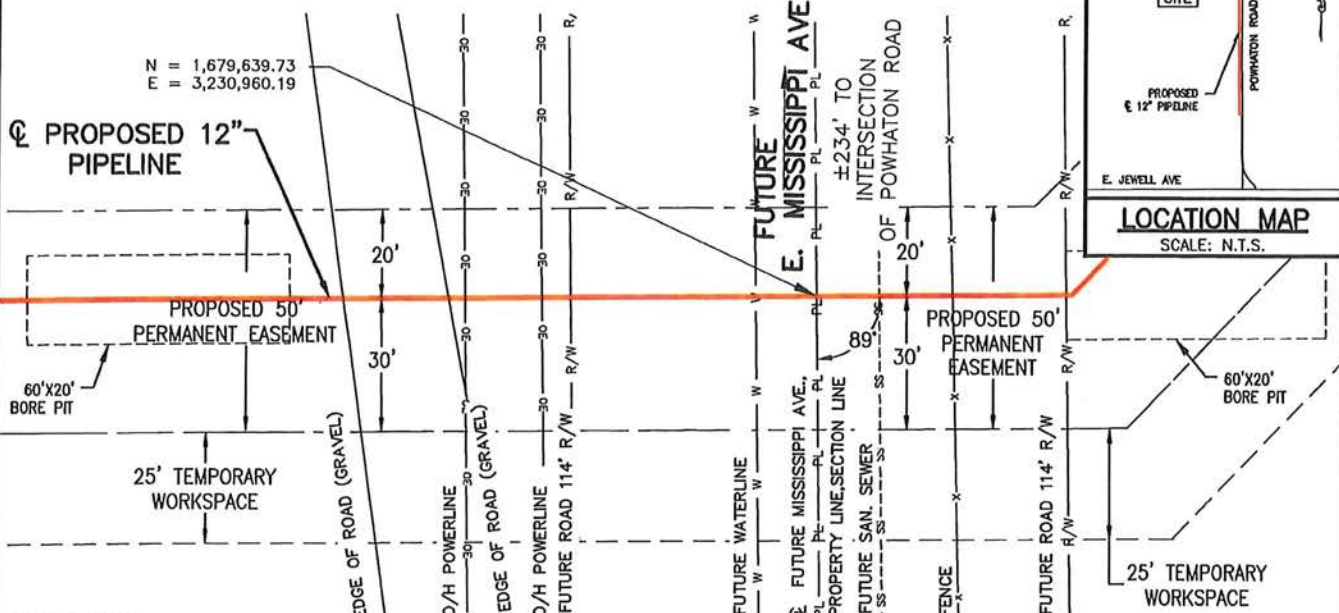
EXHIBIT C

MISSISSIPPI AVE. CROSSING EXHIBIT

IN A PART OF THE NE 1/4 OF SECTION 20 & SE 1/4 OF SECTION 17, TOWNSHIP 4 SOUTH,
RANGE 65 WEST, 6TH P.M., ARAPAHOE COUNTY, COLORADO

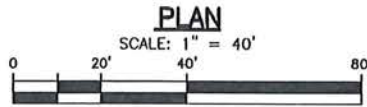
SCALE: 1"=40'	DRAWN BY: RTL 10/29/2018	CHECKED BY: HS 10/29/2018	REV: 0
encompass		ENCOMPASS ENERGY SERVICES 350 BIVIER LOCKEN BLVD. SUITE 350 BROOKFIELD, CO 80501	MISSISSIPPI AVE. CROSSING EXHIBIT 61297 - EXHIBIT C
			SHEET 1 OF 6

EXHIBIT C



GENERAL NOTES:

- COORDINATES ARE BASED ON COLORADO STATE PLANES, CENTRAL ZONE, NAD83, US FOOT.
- ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1983 (NAD).
- PIPELINE MARKERS SHALL BE INSTALLED AT EACH R/W LINE.
- TEST LEAD SHALL BE INSTALLED AT BOTH SIDES OF THE ROAD CROSSING.



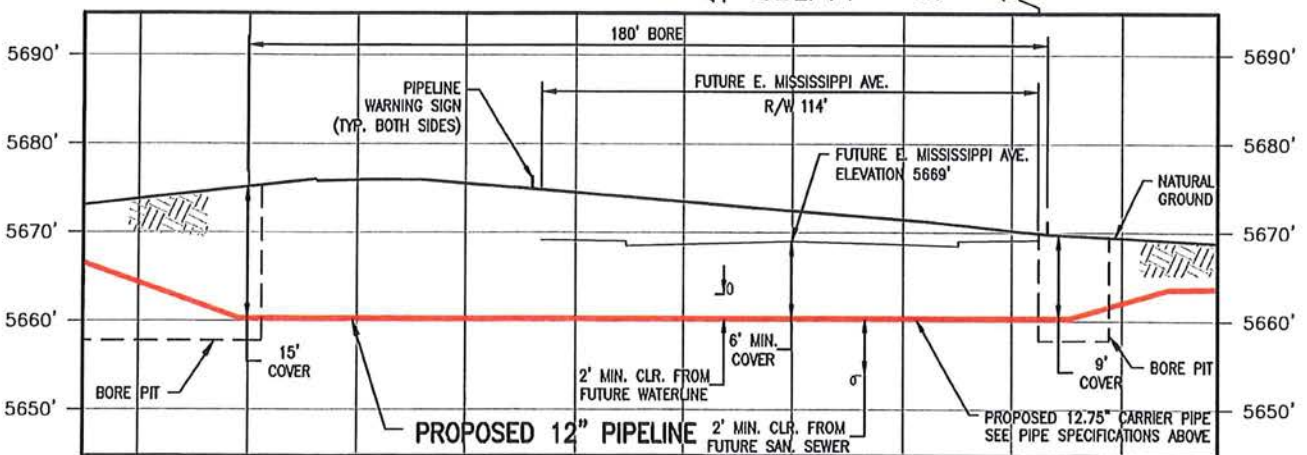
GAS PIPE SPECIFICATIONS:

CARRIER PIPE: 12.75" O.D. X 0.375" W.T., HF-ERW
 API 5L X60, W/14-16 MILS FBE
 MAOP: 700 PSIG, DESIGN FACTOR = 0.5
 INSTALLATION METHOD: OPEN-CUT
 PRODUCT: NATURAL GAS

BARLOW'S FORMULA:

$$P = (2 \times S \times t / D) \times F \times E \times T$$

$P = 1,765 \text{ PSIG} \gg 700 \text{ PSIG (MAOP)}$
 $S = 60,000 \text{ PSI}$
 $D = 12.75 \text{ IN.}$
 $t = 0.375 \text{ IN.}$
 $F = 0.50$
 $E = 1.00$
 $T = 1.00$



PROFILE

HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 20'

REVISIONS

NO.	DATE	DESCRIPTION	ENG.	DRAWN	CHK.
0	10/29/18	ISSUED FOR CONSTRUCTION	JN	LL	AK
1	11/14/18	REVISED PER MISSISSIPPI ROAD ELEVATION	JN	HF	AK



AECOM JOB NO. 31424
 CLIENT JOB NO.
 DATE 10/29/2018
 ANIL KUMAR, P.E.
 PROJECT ENGINEER



**EASTERN HILLS 12" PIPELINE
 ROAD CROSSING PERMIT
 FUTURE E. MISSISSIPPI AVE.
 ARAPAHOE COUNTY, COLORADO**

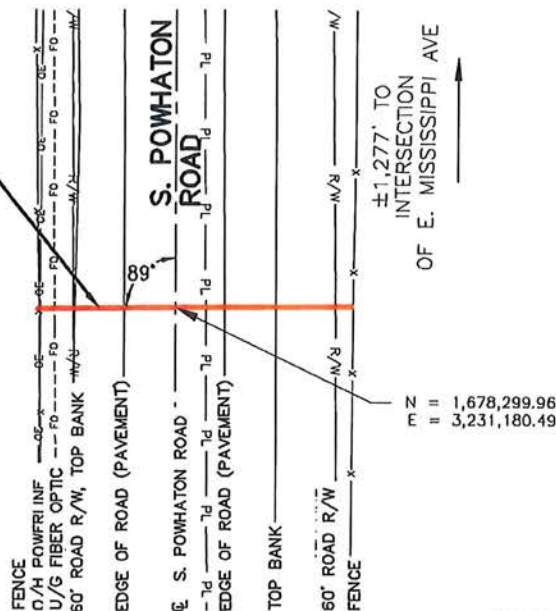
DRAWN BY: LL	CHECKED BY: AK	APPROVED BY: JN	SCALE: NOTED
DATE: 10/29/2018	DRAWING NO: DEN-62002-00-094-0025	SHEET 2 OF 6	1

C:\P\Projects\Colorado\Permitting\334452-2018\10-29-18\Drawings\01_Pipeline\01_Pipeline.dwg 10/29/2018 2:12pm nicholas.kerr



EXHIBIT C

PROPOSED 6" PIPELINE



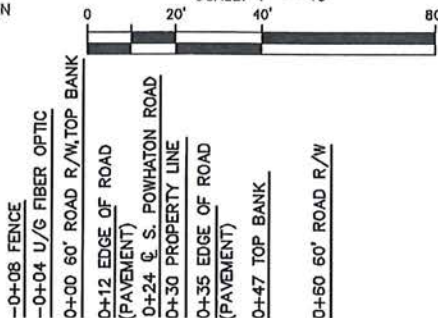
GENERAL NOTES:

- COORDINATES ARE BASED ON COLORADO STATE PLANES, CENTRAL ZONE, NAD83, US FOOT.
- ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1983 (NAD).
- PIPELINE MARKERS SHALL BE INSTALLED AT EACH R/W LINE.
- TEST LEAD SHALL BE INSTALLED AT BOTH SIDES OF THE ROAD CROSSING.



PLAN

SCALE: 1" = 40'

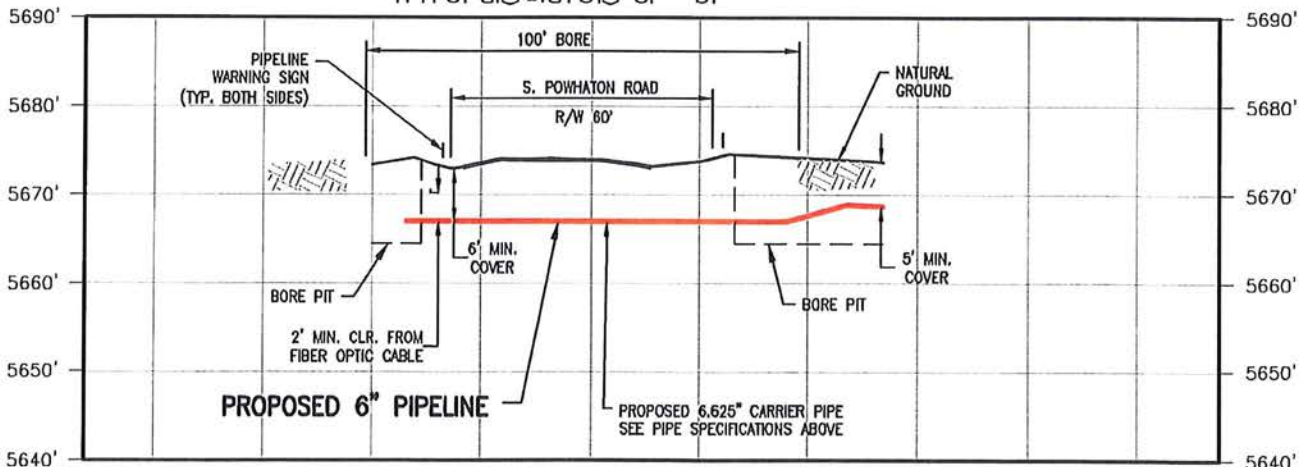


GAS PIPE SPECIFICATIONS:

CARRIER PIPE: 6.625" O.D. X 0.280" W.T., HF-ERW OR SMLS
API 5L X-52, W/14-16 MILS FBE & W/30-40 MILS
ABRASIVE RESISTANT COATING
MAOP: 700 PSIG, DESIGN FACTOR = 0.5
INSTALLATION METHOD: BORE
PRODUCT: NATURAL GAS

BARLOW'S FORMULA:

$P = (2 \times S \times t / D) \times F \times E \times T$
 $P = 2,196 \text{ PSIG} >> 700 \text{ PSIG (MAOP)}$
 $S = 52,000 \text{ PSI}$
 $D = 6.625 \text{ IN.}$
 $t = 0.280 \text{ IN.}$
 $F = 0.50$
 $E = 1.00$
 $T = 1.00$



PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 20'

REVISIONS

NO.	DATE	DESCRIPTION	ENG.	DRAWN	CHK.
A	09/17/18	ISSUED FOR REVIEW	JN	LL	AK
B	09/21/18	ISSUED FOR CITY OF AURORA	JN	LL	AK
C	10/20/18	ISSUED FOR REVIEW	JN	LBT	AK

AECOM

AECOM JOB NO. 31424
CLIENT JOB NO.

10/19/2018

DATE

ANIL KUMAR, P.E.

PROJECT ENGINEER



**BRONCO PIPELINE
COMPANY**

**GRANDE 6" LATERAL
ROAD CROSSING PERMIT
S. POWHATHON ROAD
ARAPAHOE COUNTY, COLORADO**

DRAWN BY:

LL

CHECKED BY:

AK

APPROVED BY:

JN

SCALE:

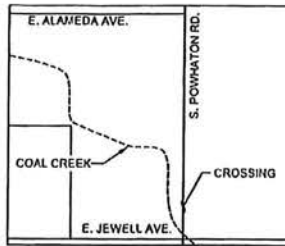
NOTED

DATE: 06/14/2018

DRAWING NO: DEN-62002-00-094-0021

SHEET 4 OF 6

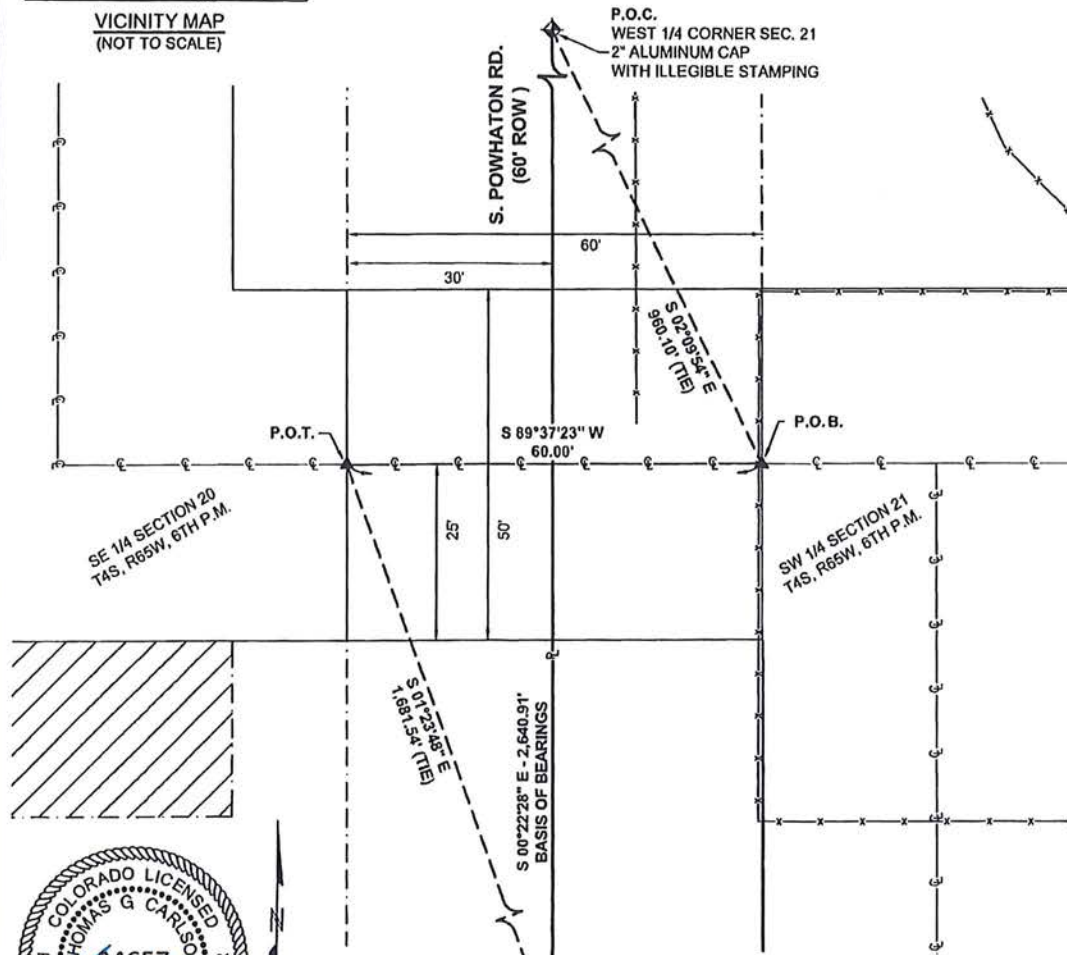
C



VICINITY MAP
(NOT TO SCALE)

ILLUSTRATION TO EXHIBIT C

IN A PART OF THE SE 1/4 OF SECTION 20 & SW 1/4 OF SECTION 21
TOWNSHIP 4 SOUTH, RANGE 65 WEST, 6TH P.M.
ARAPAHOE COUNTY, COLORADO



Graphic Scale In Feet



THE CENTERLINE LENGTH OF THE 50' WIDE STRIP OF LAND SHOWN HEREON
THE S. POWHATHON ROAD RIGHT OF WAY IS 60.00 FEET (3.64 RODS).

THE TOTAL AREA OF THE 50' WIDE STRIP OF LAND SHOWN HEREON IS 3,000
SQUARE FEET OR 0.07 ACRES.

NOTES:

1. THIS ILLUSTRATION WAS PREPARED WITHOUT THE BENEFIT
OF A TITLE COMMITMENT AND THEREFORE ENCOMPASS ENERGY
SERVICES HAS NOT RESEARCHED OR SHOWN ANY OTHER
EASEMENTS, RIGHTS-OF-WAY, VARIANCES AND OR AGREEMENTS
OF RECORD EXCEPT AS SHOWN HEREON.

2. THIS ILLUSTRATION IS NOT A LAND SURVEY PLAT, OR AN
IMPROVEMENT SURVEY PLAT.

3. SEE ATTACHED LEGAL DESCRIPTION WHICH BY THIS
REFERENCE IS MADE PART HEREOF.

4. NOTICE: ACCORDING TO COLORADO LAW, YOU MUST
COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN
THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER
SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY
DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN
YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

6. THE DISTANCE SHOWN HEREON ARE GRID VALUES WITH A
COMBINED SCALE FACTOR OF 0.999712030.

LEGEND

P.O.C.	POINT OF COMMENCEMENT
P.O.B. & ▲	POINT OF BEGINNING
P.O.T. & ▲	POINT OF TERMINUS
◆	SECTION CORNER
—	PROPERTY LINE
—	STRIP OF LAND
—	CENTERLINE OF STRIP OF LAND
- - -	ROAD RIGHT OF WAY (60' ROW)
x - x	FENCE
- - -	TIE LINE
///	TEMPORARY WORKSPACE

**BRONCO PIPELINE
COMPANY**

ILLUSTRATION TO EXHIBIT C

S. POWHATHON RD CROSSING EXHIBIT

IN A PART OF THE SE 1/4 OF SECTION 20 & SW 1/4 OF SECTION 21, TOWNSHIP 4 SOUTH,
RANGE 65 WEST, 6TH P.M., ARAPAHOE COUNTY, COLORADO

SCALE: 1"=20'

DRAWN BY: RTL 9/18/2018

CHECKED BY: HS 9/24/2018

REV: 0

encompass

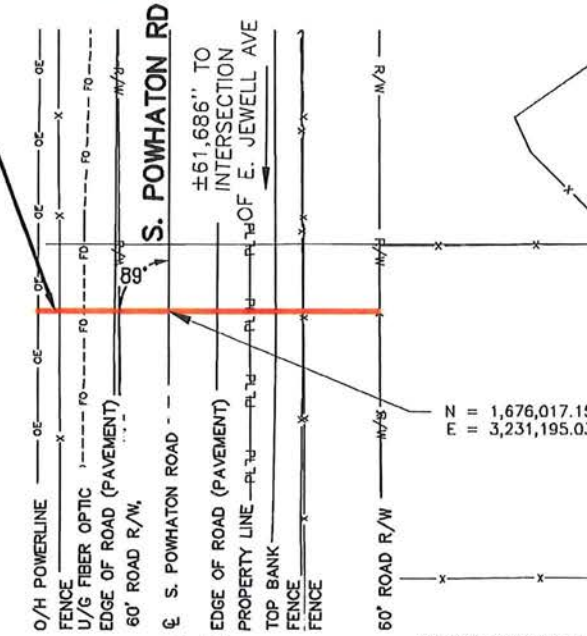
ENCOMPASS ENERGY SERVICES
350 PETERLOCKER BLVD. SUITE 350
BIRCHFIELD, CO 80011

S. POWHATHON RD CROSSING SOUTH EXHIBIT

SHEET
5 of 6

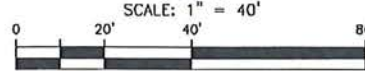
EXHIBIT C

PROPOSED 12" PIPELINE



LOCATION MAP
SCALE: N.T.S.

PLAN



GAS PIPE SPECIFICATIONS:

CARRIER PIPE: 12.75" O.D. X 0.375" W.T., HF-ERW
API 5L X60, W/14-16 MILS FBE & W/30-40 MILS
ABRASIVE RESISTANT COATING
MAOP: 700 PSIG, DESIGN FACTOR = 0.5
INSTALLATION METHOD: BORE
PRODUCT: NATURAL GAS

BARLOW'S FORMULA:

$$P = \frac{2 \times S \times t \times F}{D} \times E \times T$$

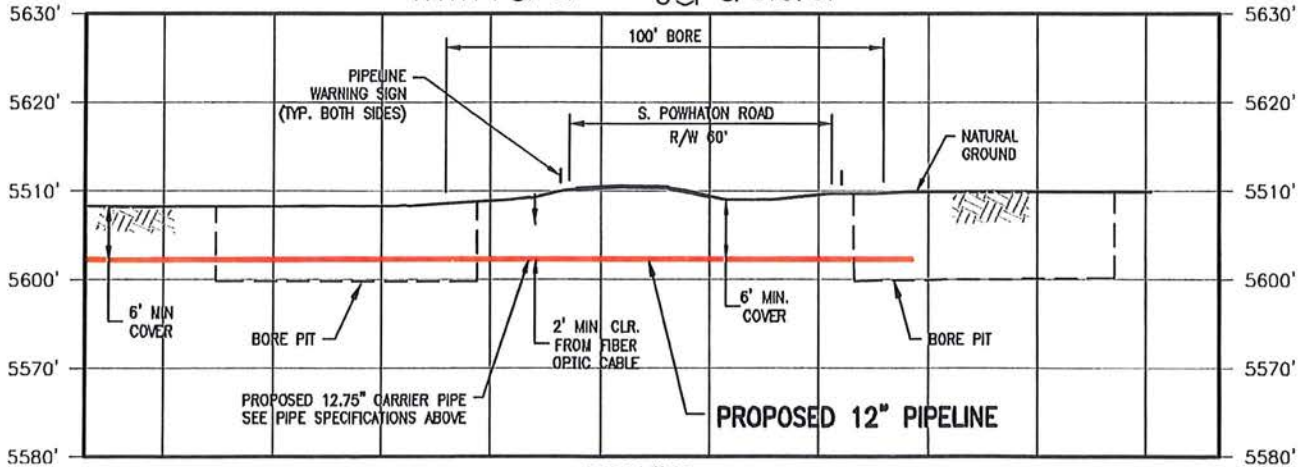
P = 1,765 PSIG >> 700 PSIG (MAOP)
S = 60,000 PSI F = 0.50
D = 12.75 IN. E = 1.00
t = 0.375 IN. T = 1.00

GENERAL NOTES:

- COORDINATES ARE BASED ON COLORADO STATE PLANES, CENTRAL ZONE, NAD83, US FOOT.
- ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1983 (NAD).
- PIPELINE MARKERS SHALL BE INSTALLED AT EACH R/W LINE.
- TEST LEAD SHALL BE INSTALLED AT BOTH SIDES OF THE ROAD CROSSING.



0+18 O/H POWERLINE
0+13 FENCE
0+08 U/G FIBER OPTIC
0+01 EDGE OF ROAD (PAVEMENT)
0+00 60' ROAD R/W
0+11 & S. POWHASTON ROAD
0+22 EDGE OF ROAD (PAVEMENT)
0+30 PROPERTY LINE
0+36 TOE OF SLOPE
0+42 FENCE
0+60 60' ROAD R/W



PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 20'

REVISIONS

NO.	DATE	DESCRIPTION	ENG.	DRAWN	CHK.
A	09/17/18	ISSUED FOR REVIEW	JN	LL	AK
B	09/21/18	ISSUED FOR CITY OF AURORA	JN	LL	AK
C	10/20/18	ISSUED FOR REVIEW	JN	LBT	AK

AECOM

AECOM JOB NO. 31424
CLIENT JOB NO.
10/19/2018
DATE
ANIL KUMAR, P.E.
PROJECT ENGINEER

**BRONCO PIPELINE
COMPANY**

**EASTERN HILLS 12" PIPELINE
ROAD CROSSING PERMIT
POWHASTON ROAD
ARAPAHOE COUNTY, COLORADO**

DRAWN BY: LL	CHECKED BY: AK	APPROVED BY: JN	SCALE: NOTED
DATE: 06/14/2018	DRAWING NO: DEN-62002-00-094-0020	SHEET 6 OF 6	C