

September 13, 2016

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Re: *NEXUS Gas Transmission, LLC*, Docket No. CP16-22-000
Responses to Comments on Draft Environmental Impact Statement for
the NEXUS Gas Transmission Project

Dear Ms. Bose:

On July 8, 2016, the staff of the Federal Energy Regulatory Commission (“FERC” or “Commission”) issued a draft environmental impact statement (“DEIS”)¹ for the NEXUS Gas Transmission Project (the “Project”) and the Texas Eastern Appalachian Lease Project as proposed by NEXUS Gas Transmission, LLC (“NEXUS”) and Texas Eastern Transmission, LP (“Texas Eastern”). The Commission requested that any person wishing to comment on the DEIS submit comments by August 29, 2016. Several comments were submitted in response to the DEIS.

NEXUS filed a response to the DEIS on August 26, 2016.² With respect to comments submitted by others concerning the DEIS, NEXUS has addressed many of the issues raised in these comments during the National Environmental Policy Act (“NEPA”) review of the Project in the pre-filing docket, Docket No. PF15-10-000, and the certificate proceeding docket, Docket No. CP16-22-000. NEXUS now supplements prior submissions to address certain points raised during the public comment period on the DEIS, where additional information or perspective would assist the Commission in its NEPA review.

1. Purpose and Need for the Project

The Commission’s analysis of the Project under the Natural Gas Act and under NEPA must reflect the Project’s comprehensive purpose and need. As the record shows, the Project’s purpose is to serve the current and future demand for natural gas in multiple consuming markets in Northern Ohio, Southeastern Michigan, and the Dawn Hub in Ontario, Canada, and to reach other markets in northern Illinois and the Midwest through interconnections with other pipelines.³ The Project

¹ *NEXUS Gas Transmission, LLC*, Draft Environmental Impact Statement re the NEXUS Gas Transmission Project and the Texas Eastern Appalachian Lease Project, Docket No. CP16-22-000 *et al.* (filed July 8, 2016).

² *NEXUS Gas Transmission, LLC*, Responses to Draft Environmental Impact Statement for the NEXUS Gas Transmission Project, Docket No. CP16-22-000 (filed August 26, 2016).

³ *See* Certificate Application at 1; RR1 at Section 1.2 (Purpose and Need); and *NEXUS Gas Transmission, LLC*, Response to Draft Environmental Impact Statement, Docket No. CP16-22-000 (filed August 26, 2016).

offers a specific solution to the marketplace by providing access to emerging natural gas supplies from the Appalachian Basin.

A few commenters erroneously assert that the Commission should re-define the Project's purpose and therefore also the scope of its review under the Natural Gas Act and NEPA in order to embrace objectives that are neither proposed by the applicant nor within the Commission's authority to authorize even if these purposes had been proposed.⁴ Such a redefinition would run counter to the Commission's Certificate Policy Statement as well as Commission precedent, which recognize that the Commission does not initiate natural gas transmission projects but rather responds to applications presented to the Commission. As the Commission has explained, "in each application the applicant determines the parameters of the project."⁵

Various commenters also assert that the Project would produce insufficient economic benefit.⁶ To the contrary, NEXUS has repeatedly demonstrated specific market support for the Project, which is well established in the record.⁷ The demand for the Project is reflected in commercial commitments at six receipt-and-delivery points as well as thirteen pipeline taps to allow future interconnections on the route.⁸ The record at the Commission reflects significant, sustained and growing demand for the Project from its inception. NEXUS has also filed economic assessments of the Project estimating the impacts of the Project on the regional economy.⁹ Inputs included detailed project cost and employment data, such as estimated wages for construction and operations employees. The preparation of such studies and the software used in them are customary tools to guide planning by project developers and review by the Commission. Assertions that the studies might not account for all future possibilities fails to recognize that the point of such studies is to provide indicative modeling to inform the certificate process even at its

⁴ See, e.g., *NEXUS Gas Transmission, LLC*, Comment of Sierra Club Michigan Chapter, Docket No. CP16-22-000 (filed August 29, 2016); *NEXUS Gas Transmission, LLC*, Motion to Intervene of Sierra Club, Docket No. CP16-22-000 (filed August 29, 2016).

⁵ *Texas Eastern Transmission LP*, 146 FERC ¶ 61,086 at ¶ 46 (2014).

⁶ See, e.g., *NEXUS Gas Transmission, LLC*, Comment of Sierra Club Michigan Chapter, Docket No. CP16-22-000 (filed August 29, 2016); *NEXUS Gas Transmission, LLC*, Comment of the City of Oberlin, Ohio, Docket No. CP16-22-000 (filed August 29, 2016).

⁷ See, e.g., *NEXUS Gas Transmission, LLC*, Response to Draft Environmental Impact Statement, Docket No. CP16-22-000 (filed August 26, 2016); *NEXUS Gas Transmission, LLC*, Answer of NEXUS Gas Transmission, LLC in Docket No. CP16-22-000 (filed March 21, 2016).

⁸ See DEIS at 2-7, Table 2.1.1-3.

⁹ *Revised Economic Impact Analysis of the NEXUS Gas Transmission Project*, Economic & Policy Resources, May 15, 2015, ("Ohio Economic Study") and *Economic Impacts of the NEXUS Gas Transmission Project in Michigan*, Michigan State University Land Policy Institute and Center for Economic Analysis ("Michigan Economic Study") (both reports filed as Appendix A to Resource Report 5 in *NEXUS Gas Transmission, LLC*, Application of NEXUS Gas Transmission, LLC for Certificate of Public Convenience and Necessity and Related Authorizations, Docket No. CP16-22-000 (filed November 20, 2015)).

earliest stages.¹⁰ The studies filed by NEXUS serve this purpose using appropriate modeling inputs designed to provide indicative outcomes.

Both the Ohio and the Michigan studies use IMPLAN data software to model estimated economic impacts of the Project using inputs provided by Spectra and DTE Energy. The Ohio economic study, originally produced by the Ohio State University Extension faculty in March of 2015 and revised by Economic & Policy Resources in May 2015, found that the total economic benefits associated with the construction and operations of the NEXUS Project within the eleven-county region in Ohio that was studied would include 5,325 new jobs with \$565 million in labor income and \$697 million in value added.¹¹ The Michigan economic study, produced by the Michigan State University Land Policy Institute and Center for Economic Analysis in April 2015, found that the total economic benefits associated with the construction and operations of the NEXUS Project in Michigan would include 1,533 new jobs with \$97 million in labor income and \$135 million in value added.¹²

2. The Alternatives Analysis in the DEIS Is Adequately Broad

As part of its NEPA analysis, the Commission must consider reasonable alternatives to a proposed project, in order to better understand the potential environmental impacts of the project under consideration. The number and scope of alternatives under consideration depends on the nature of the proposal and the facts of each case.¹³ As the DEIS correctly notes, an alternative that does not meet the Project's objectives cannot be considered a reasonable alternative.¹⁴ In this case, the DEIS includes a ninety-four page analysis of dozens of alternatives, including the no-action alternative, six existing pipeline system alternatives, three proposed pipeline system alternatives, twelve major route alternatives, and fifteen minor route variations.¹⁵ In addition, NEXUS has made numerous adjustments to the originally proposed route in order to incorporate alternatives that avoid or reduce impacts or improve constructability.¹⁶ The detailed analysis of these alternatives is more than adequate to support the hard look mandated by NEPA.¹⁷ Expanding the

¹⁰ Socio-economic analysis is required by the Commission in the pre-filing stage. *See* 18 C.F.R. § 380.12(g).

¹¹ *Ohio Economic Study* at p. 4.

¹² *Michigan Economic Study* at 4.

¹³ *See* Council on Environmental Quality, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" 46 Fed. Reg. 18,026 (Mar. 16, 1981)(Question 1b and Answer).

¹⁴ DEIS at 3-1.

¹⁵ *See* DEIS at Section 3.0.

¹⁶ *See, e.g., NEXUS Gas Transmission, LLC*, Response to Data Request, Docket No. CP16-22-000 (filed April 25, 2016); *NEXUS Gas Transmission, LLC*, Response to Environmental Data Request, Docket No. CP16-22-000 (filed March 18, 2016).

¹⁷ Indeed, in one major respect the alternatives analysis is too broad, since it fails to consider the comprehensive purpose and need of the project and therefore considers an alternative (the COG Alternative) that manifestly cannot meet the purpose and need of the Project. *See NEXUS Gas Transmission, LLC*, Response to Draft Environmental Impact Statement, Docket No. CP16-22-000 (filed August 26, 2016).

alternatives analysis to include additional, even conjectural possibilities untethered to the Project's purpose would not meaningfully assist the Commission in its review of the Project.¹⁸

3. The Docket Contains Extensive Analysis of the City of Green Alternative

The City of Green (“City”) asserts that insufficient attention has been given to evaluating the COG Alternative and that more public comment should be solicited concerning the COG Alternative. Over the course of the past two and a half years, NEXUS has held numerous meetings with the City concerning its needs in relation to the NEXUS Project and has incorporated numerous changes to NEXUS’ proposed route in response to these conversations with the City.¹⁹ NEXUS has also reviewed the COG Alternative in great detail and has employed significant technical expertise to interpret the City’s conceptual routing, has identified thirty-seven optimizations to the City’s proposed route, and has extensively evaluated the likely impacts of the COG Alternative, all of which is reflected in the record before the Commission. The COG Alternative was first submitted to FERC as part of the pre-filing process in Docket No. PF15-10 in February 2015 and has received sustained public attention ever since—notwithstanding that the COG Alternative is not located in the market areas identified by NEXUS, is not supported by customer demand in the record, and does not accomplish the Project’s purpose and need.²⁰

Recently, the City proposed more than seventy route modifications for the COG Alternative.²¹ The attached map shows the City’s modifications alongside the optimizations that NEXUS submitted to the docket on August 26.²² The City’s modifications appear to be conceptual, ranging from minor adjustments to a change involving over six miles of deviation. In many instances, the City has proposed multiple modifications *at the same location* along the COG Alternative. This creates dozens of potential route variations and provides no clarity on what the modified COG Alternative route is intended to be. Moreover, the number of modifications alone

¹⁸ One commenter even suggested that FERC consider a “combination” Rover-NEXUS project, without describing what such a project might consist of. *See NEXUS Gas Transmission, LLC*, Comment of Paul L. Gierosky, Docket No. CP16-22-000 (filed August 29, 2016). Such an analysis would be purely speculative and thus uninformative to the Commission. Currently, NEXUS is not engaged in any discussions with Energy Transfer Partners or Rover Pipeline LLC. *Cf. Guidance Regarding NEPA Regulations*, 48 Fed. Reg. 34,263 at 34,267 (July 28, 1983)(“Guidance”)(“NEPA has never been interpreted to require examination of purely conjectural possibilities whose implementation is deemed remote and speculative”).

¹⁹ *See, e.g., NEXUS Gas Transmission, LLC*, Response to Scoping Comments, Docket No. PF15-10-000 (filed June 15, 2015); *NEXUS Gas Transmission, LLC*, Response to Comments Submitted by the Office of the Mayor of the City of Green, Ohio, Docket No. PF15-10-000 (filed August 31, 2015); *NEXUS Gas Transmission, LLC*, Monthly Progress Report Number 9, Docket No. PF15-10-000 (filed October 16, 2015); *NEXUS Gas Transmission, LLC*, Motion for Leave to Answer and Answer, Docket Nos. CP16-22-000 and CP16-23-000 (filed January 12, 2016).

²⁰ *See NEXUS Gas Transmission, LLC*, Responses to Draft Environmental Impact Statement for the NEXUS Gas Transmission Project, Docket No. CP16-22-000 (filed August 26, 2016).

²¹ *NEXUS Gas Transmission, LLC*, Alternate Route Modifications filed by City of Green, Docket No. CP16-22-000 (filed August 29, 2016).

²² *See NEXUS Gas Transmission, LLC*, Responses to Draft Environmental Impact Statement for the NEXUS Gas Transmission Project, Response 13b and Attachment 2, Docket No. CP16-22-000 (filed August 26, 2016).

reflects the many challenges of optimizing the COG Alternative toward a practicable route given the density of constraints along that route—setting aside that the route does not serve the demand that NEXUS is designed to serve.

NEXUS has reviewed the various modifications and has concluded that the adjustments do not substantially improve the route from what has already been analyzed in comparison with NEXUS' proposed route. Neither the original COG Alternative nor the variously modified version presents a significant environmental advantage over NEXUS' proposed route. By all measures, the City's recent suggested modifications would increase the length of the COG Alternative, thus increasing the overall area impacted, compared to the COG Alternative evaluated in the DEIS.²³

The Sierra Club requested that the landowners affected by the COG Alternative be provided with extra time to comment on and analyze that alternative.²⁴ NEXUS notes that there has been extensive analysis of the COG Alternative in the docket, and the COG Alternative has been part of the public record since February of 2015 when the City filed proposed route alternatives to Docket No. PF15-10-000. FERC has already added extra time for potentially affected landowners to participate in the environmental review process by opening a second comment period in April and May 2016.

In addition, multiple commenters along the COG Alternative route have stated their concerns to the Commission about the City's proposal. The reasons for concern include many that are similar to objections that the City has asserted about the proposed NEXUS route.²⁵

In short, the COG Alternative has been studied extensively, both by NEXUS and by the Commission's staff throughout the pre-filing proceeding and the certificate proceeding. Assertions of inadequate attention to the COG Alternative are belied by the ample record amassed in these proceedings showing sustained application of technical and analytical expertise to evaluate the City's proposal notwithstanding its inability to meet the Project's stated purpose and need.

²³ It bears noting that the City mistakenly asserts that the portion of the COG Alternative route that parallels the proposed Rover Pipeline should not be considered greenfield development. This ignores that the Rover project has not been built and that, even if built, co-locating a new pipeline alongside Rover would still require new and independent easements for the facility, new construction workspace, and so forth.

²⁴ See *NEXUS Gas Transmission, LLC*, Motion to Intervene of Sierra Club, filed August 29, 2016 in Docket No. CP16-22-000.

²⁵ See, e.g., *NEXUS Gas Transmission, LLC*, Comment of the Ohio State University, Docket No. CP16-22-000 (filed August 29, 2016)(opposing the City of Green route alternative because it crosses University-owned agricultural land used for subsurface drainage research and agricultural education); *NEXUS Gas Transmission, LLC*, Comment of Wayne County Agriculture Success Team, Docket No. CP16-22-000 (filed August 29, 2016)(opposing the City of Greene route alternative because it would disturb several family farm operations and cross through large Amish communities); *NEXUS Gas Transmission, LLC*, Comment of Wayne Economic Development Council, Docket No. CP16-22-000 (filed August 30, 2016)(opposing the City of Green route alternative because it would divert the pipeline away from industrial natural gas users in the City of Rittman, and because it would adversely affect agricultural areas of Wayne County).

4. FERC's Public Hearing Format Provided an Acceptable Forum for Comments

The Commission has the discretion to establish the format for receiving comments during public meetings. Recent meetings scheduled by the Commission during the DEIS comment period included the opportunity for one-on-one meetings with Commission staff and advisers, with simultaneous transcriptions of comments prepared and posted to the docket. NEXUS appreciates the Commission's effort to provide, over the course of the pre-filing and certificate proceedings, a variety of different formats for public comment in person and in writing, to help ensure that the public's views are elicited and recorded for consideration. Based on the transcripts posted to the docket, we believe the most recent meeting format was effective and allowed for substantive public comment. While we understand that some commenters preferred a wide-open meeting format, we also note that others liked the ability to discuss issues and have questions answered by FERC staff in a small group setting, feeling that delivering testimony and comments on an individual basis made the meetings more comfortable and accessible.²⁶

5. NEXUS Conducted Thorough Analyses of Impacts to Wetlands

Comments were filed in response to the DEIS questioning the use of the Ohio Rapid Assessment Method v. 5.0 ("ORAM") and the crossing of state-defined Category 3 wetland resources.²⁷ NEXUS is working closely with the Ohio Environmental Protection Agency ("OEPA") to demonstrate compliance with Ohio Water Quality Standards pursuant to Ohio Administrative Code ("OAC") 3745-1, in order to support OEPA's issuance of a Water Quality Certification pursuant to Section 401 of the federal Clean Water Act. NEXUS prepared its water quality certification application to OEPA using OEPA's application instructions and provided the supporting documentation required to demonstrate compliance with Ohio's Water Quality Standards. OEPA is currently reviewing the application.

Qualified wetland scientists conducted wetland delineations in accordance with the Routine Determination Method presented in the manuals and guidance of the U.S. Army Corps of Engineers' ("USACE").²⁸ Wetlands were also assessed and scored in accordance with OEPA's *Ohio Rapid Assessment Method ("ORAM") for Wetlands, Manual for Using Version 5.0*.²⁹ Appropriate ORAM categories were determined based on the *ORAM v. 5.0 Quantitative Score Calibration* report, and the completed ORAM forms were provided to OEPA as part of the Section 401 Water Quality Certification review process for each field-delineated wetland crossed by the

²⁶ See *NEXUS Gas Transmission, LLC*, Comment of Ohio Farm Bureau Federation, filed August 29, 2016 in Docket No. CP16-22-000.

²⁷ See *NEXUS Gas Transmission, LLC*, Comment of EnviroScience, Inc., Docket No. CP16-22-000 (filed August 29, 2016).

²⁸ US Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook, USACE and EPA (2007); Regulatory Guidance Letter, Subject: Jurisdictional Determinations, USACE (June 26, 2008).

²⁹ Mack, John J. 2001. Ohio Rapid Assessment Method for Wetlands, Manual for Using Version 5.0. Ohio EPA Technical Bulletin Wetland/2001-1-1. Ohio Environmental Protection Agency, Division of Surface Water, 401 Wetland Ecology Unit, Columbus, Ohio.

Project.³⁰ A local environmental consulting firm based in Ohio provided qualified wetland scientists as part of the field crew team for delineation.

A second review was conducted for wetland areas with an ORAM score in the upper range of Category 2. This additional review was conducted by senior experts to verify each ORAM scoring metric for quality control purposes and to confirm that the wetland did not exceed the Category 2 scoring threshold.

The NEXUS Project has been carefully routed to avoid direct impact to state-defined Category 3 wetland systems. Several Category 3 wetlands were identified by wetland biologists conducting delineations along the Project route during the extensive survey effort. Where necessary, adjustments were incorporated to the Project route to avoid temporary impacts to these Category 3 wetland resources. All above-ground facilities have been sited to avoid any impact to wetlands or waterbodies, and as a result, no permanent wetland loss (fill) is proposed.

6. Safety and Construction Methods of the Project

NEXUS, Texas Eastern and the pipeline operator, Spectra Energy, are committed to building and operating safe Projects through development and application of technically superior, effective practices during design, construction, operation and maintenance of the Project facilities. NEXUS has addressed safety issues extensively in Resource Reports 6, 8, and 11 and in response to scoping comments during the pre-filing process in Docket No. PF15-10.³¹ Spectra Energy is committed to achieving zero incidents on its pipeline systems and inspects more pipeline annually than required by federal and state regulators and has continued to maintain a strong safety record. NEXUS will meet or exceed all FERC and PHMSA safety rules and regulations in its construction and operation of the Project.

Some commenters expressed concerns about NEXUS' construction methods, specifically NEXUS' plans to mitigate impacts on agriculture during construction. NEXUS, Texas Eastern and the pipeline operator, Spectra Energy, are committed to the development and implementation of effective practices during design, construction, operation and maintenance of the Project facilities to mitigate impacts on agricultural lands. In furtherance of this commitment, NEXUS has prepared the following draft or final plans:

- Drain Tile Mitigation Plan
- Erosion & Sediment Control Plans
- SPCC Plan
- Blasting Plan
- HDD Monitoring and Inadvertent Return Contingency Plan

³⁰ Mack, John J. 2000. ORAM v 5.0 Quantitative Score Calibration, Last revised: August 15, 2000. Ohio Environmental Protection Agency, Division of Surface Water, Wetland Ecology Unit, Columbus, Ohio.

³¹ *NEXUS Gas Transmission, LLC*, Application of NEXUS Gas Transmission, LLC for Certificate of Public Convenience and Necessity and Related Authorizations, Resource Reports 6, 8, and 11, Docket No. CP16-22-000 (filed November 20, 2015); *NEXUS Gas Transmission, LLC*, Response to Scoping Comments, at Appendix A pp. 49-56, Docket No. PF15- 10-000 (June 5, 2015).

- Invasive Species Management Plan
- Migratory Bird Conservation Plan
- Site-specific Residential Construction Plans
- Organic Farm Protection Plan
- Fugitive Dust Control Plans
- Public Awareness Program

If applicable, NEXUS will submit final versions of these plans prior to implementation of the plans as part of the construction of the Project, if certificated.

Where individual landowners have provided new comments regarding concerns unique to their properties, NEXUS is working to address these concerns as appropriate. With respect to drain tile mitigation and repair specifically, NEXUS has presented agricultural landowners with various options to meet landowners' preferences. These include the option for the landowner to manage drain tile repair/relocation employing a contractor of their choosing, at NEXUS' expense; or to elect for NEXUS' contractors to conduct such work in close consultation with the landowner, followed by a monitoring and warranty period of not less than three years (as detailed in NEXUS' Drain Tile Mitigation Plan). Landowners have been receptive to this flexible approach for managing their drain tile, and NEXUS has entered into voluntary drain tile mitigation agreements reflecting one of these options with over four hundred landowners to date. NEXUS will continue to work closely with agricultural landowners in this regard.

7. Update on Compressor Station Air Permits

On September 9, 2016, the Ohio Environmental Protection Agency published its final approvals of air permit applications submitted for the installation and operation of the proposed compressor stations for the Project (Clyde, Hanoverton, Wadsworth, and Waterville). These approvals reflect the agency's evaluation of anticipated air emissions from the compressor stations and affirms their conformance with regulatory standards designed to protect human health and the environment.

* * *

Pursuant to Section 385.2010 of the Commission's regulations,³² NEXUS is contemporaneously serving copies of this response to persons whose names appear on the Official Service List in this proceeding.

³² 18 C.F.R. §385.2010 (2016).

Ms. Kimberly D. Bose, Secretary

September 13, 2016

Page 9

Respectfully submitted,

NEXUS Gas Transmission, LLC

By: Spectra Energy NEXUS Management,
LLC in its capacity as operator

/s/ Leanne Sidorkewicz

Leanne Sidorkewicz

Project Director, Rates and Certificates

Attachments

cc: Official Service List, Docket No. CP16-22
Joanne Wachholder (FERC)
John Muehlhausen (Merjent)

Certificate of Service

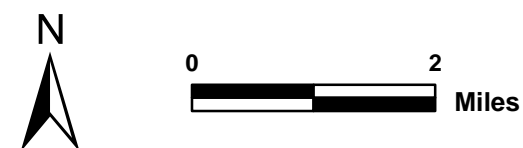
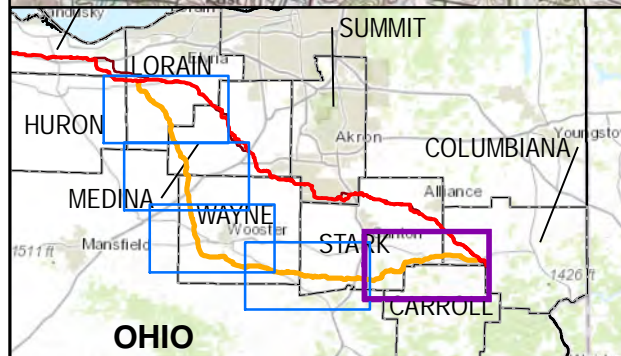
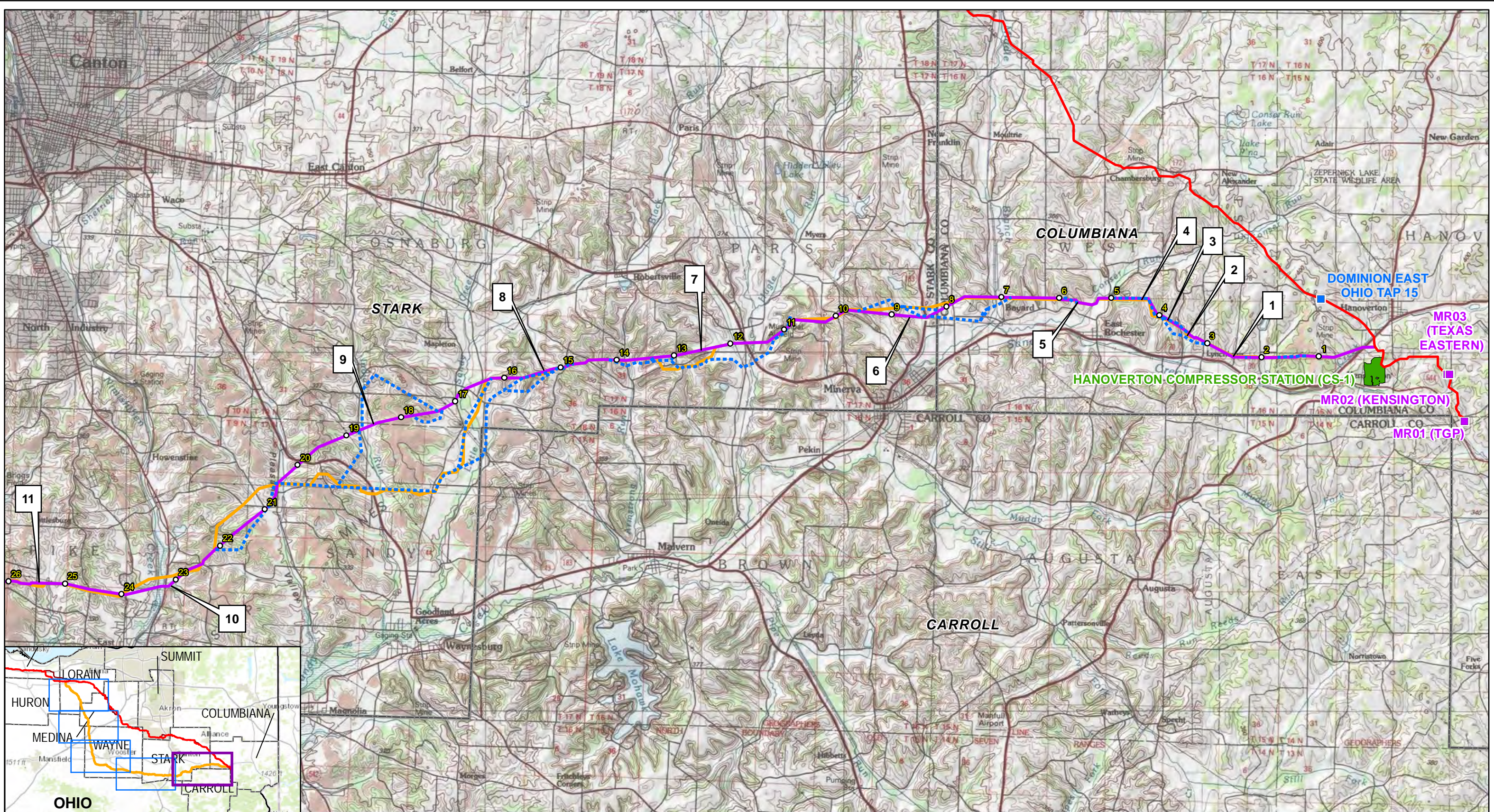
In accordance with the requirements of Section 385.2010 of the Commission's Rules of Practice and Procedures, I hereby certify that I have this day caused a copy of the foregoing document to be served upon each person designated on the official service list compiled by the Commission's Secretary in this proceeding.

/s/ Caitlin E. Tweed

Caitlin E. Tweed

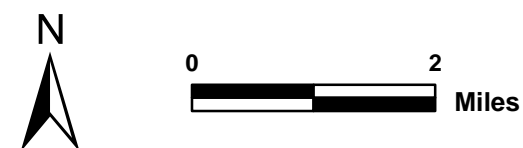
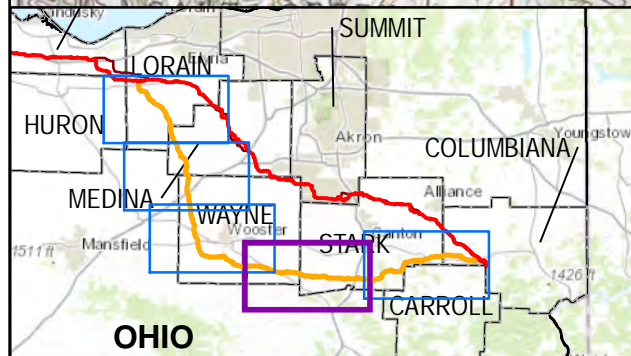
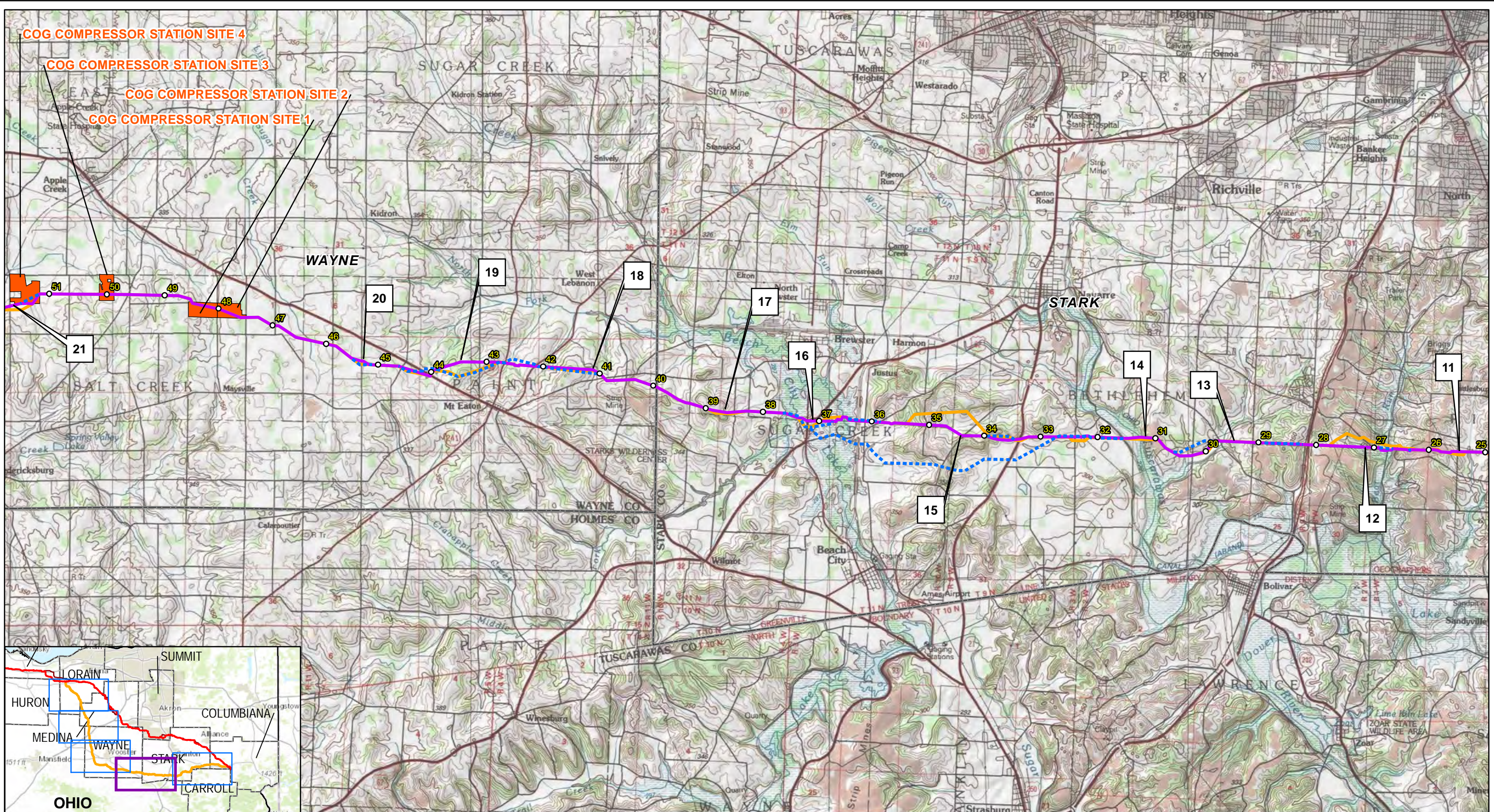
Bracewell LLP

Counsel to NEXUS Gas Transmission, LLC



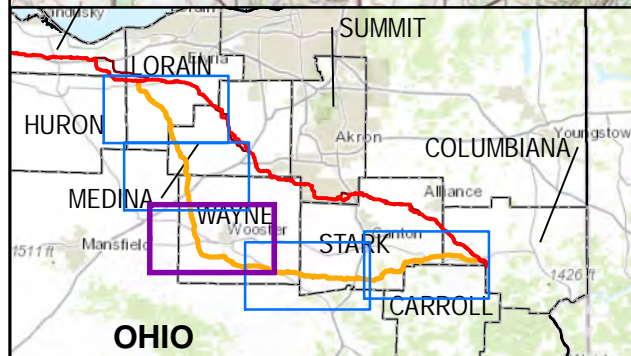
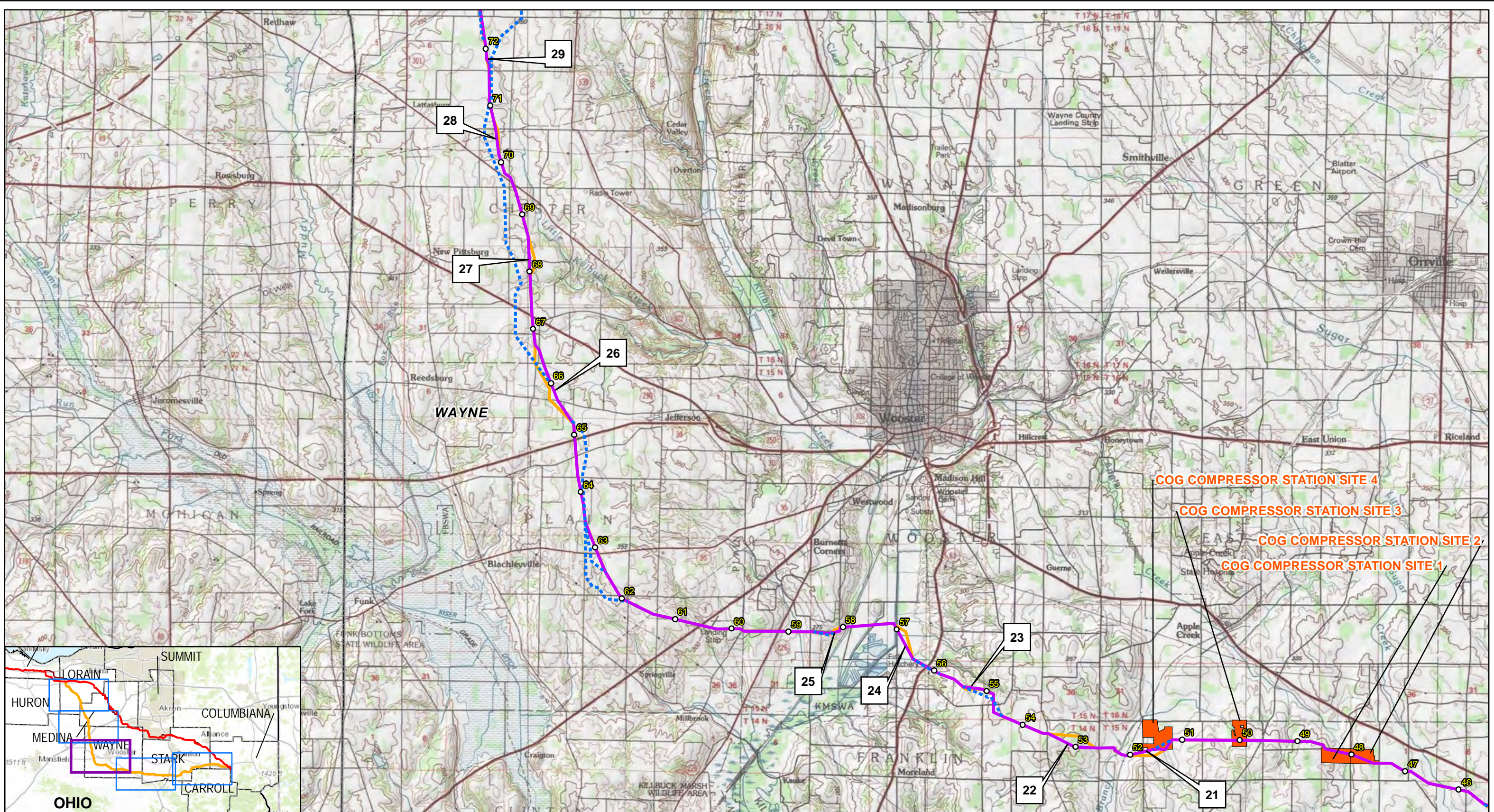
City of Green Alternative Route
 City Proposed Modifications
 1 of 5

- LEGEND**
- Meter Stations
 - Delivery Tap Locations
 - Proposed NEXUS Mainline
 - NEXUS COG Adjusted Route
 - Stakeholder Identified COG Route
 - Milepost (Stakeholder COG Route)
 - City of Green Proposed Modifications
 - Proposed NEXUS Compressor Station Site
 - City of Green Route Compressor Station Site Options
 - County Boundary
 - # NEXUS Route Adjustments- See Table 13b-1

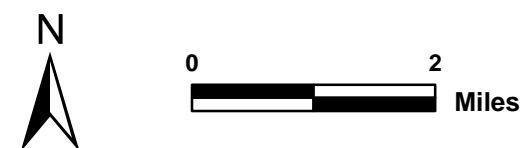


City of Green Alternative Route
City Proposed Modifications
2 of 5

- LEGEND**
- Meter Stations
 - Delivery Tap Locations
 - Proposed NEXUS Mainline
 - NEXUS COG Adjusted Route
 - Stakeholder Identified COG Route
 - Milepost (Stakeholder COG Route)
 - City of Green Proposed Modifications
 - Proposed NEXUS Compressor Station Site
 - City of Green Route Compressor Station Site Options
 - County Boundary
 - # NEXUS Route Adjustments- See Table 13b-1

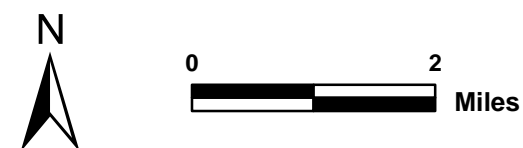
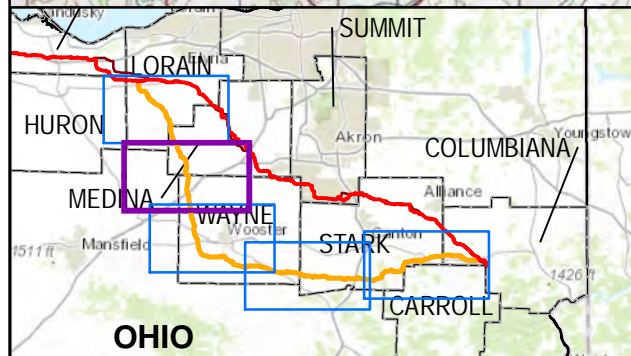
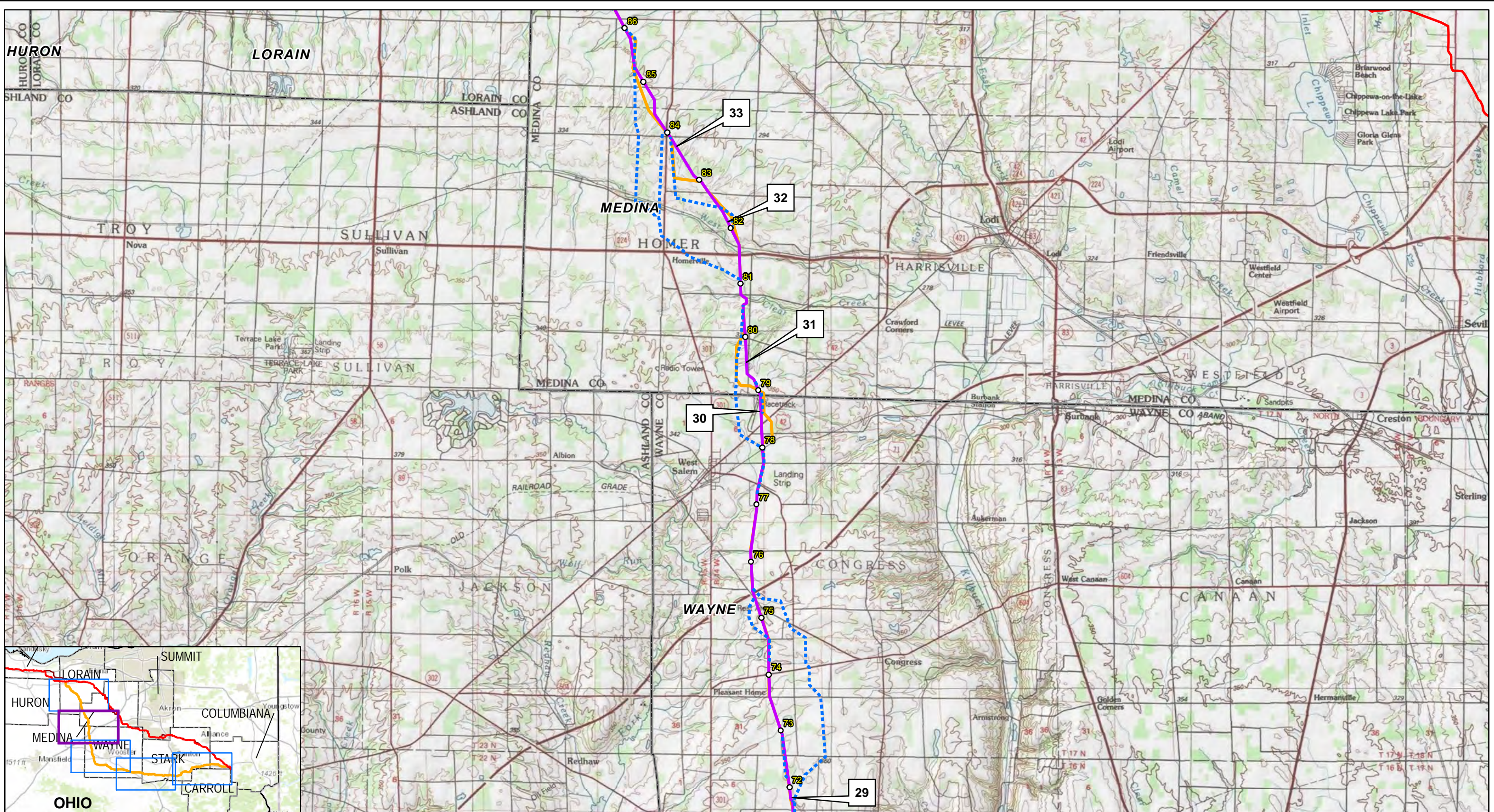


City of Green Alternative Route
City Proposed Modifications
3 of 5



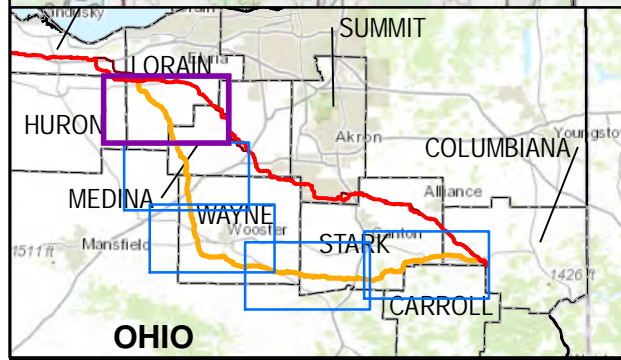
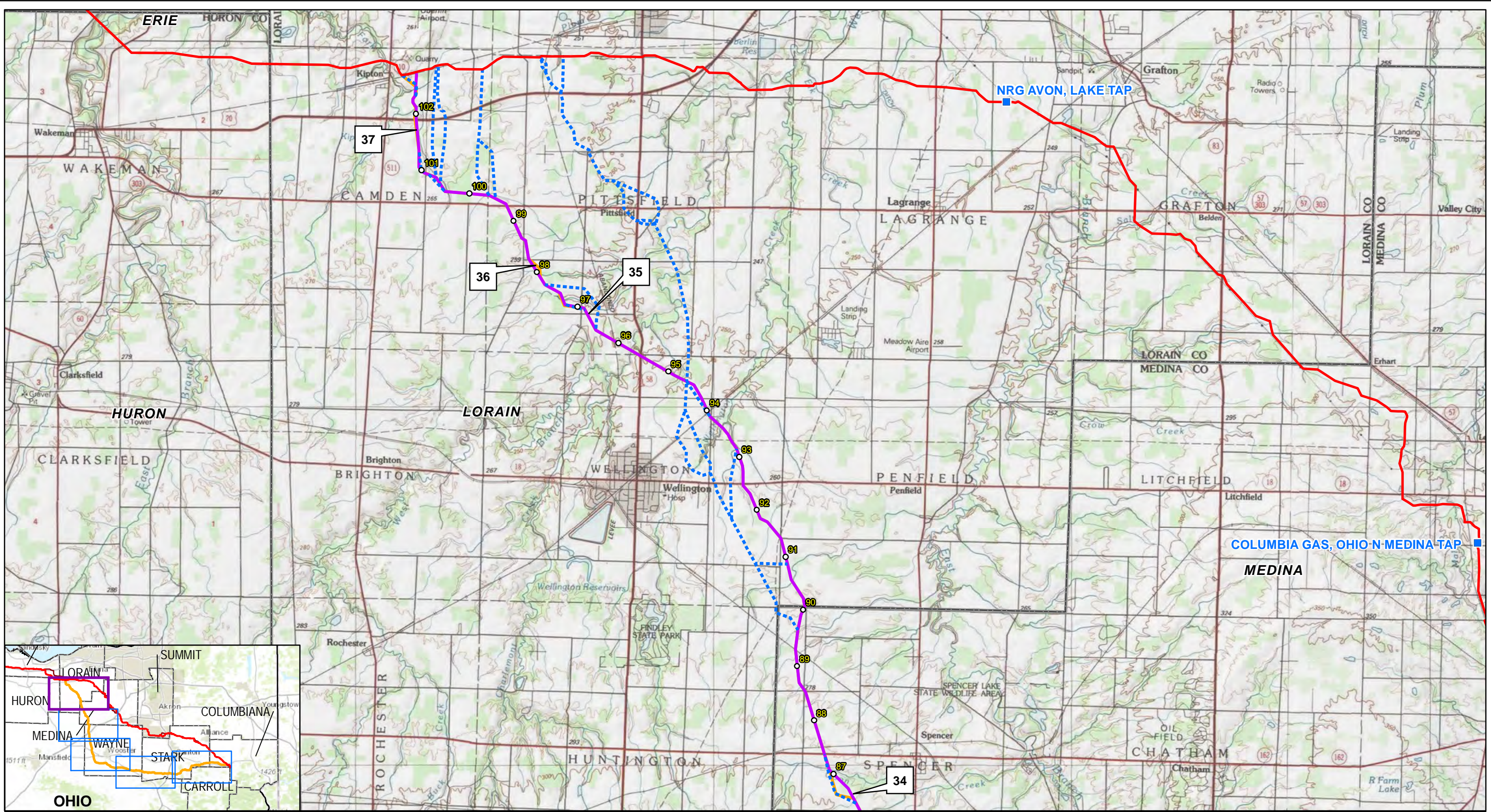
Data Source: SPECTRA, TRC.

- LEGEND**
- Meter Stations
 - Delivery Tap Locations
 - Proposed NEXUS Mainline
 - NEXUS COG Adjusted Route
 - Stakeholder Identified COG Route
 - Milepost (Stakeholder COG Route)
 - City of Green Proposed Modifications
 - Proposed NEXUS Compressor Station Site
 - City of Green Route Compressor Station Site Options
 - County Boundary
 - # NEXUS Route Adjustments- See Table 13b-1



City of Green Alternative Route
City Proposed Modifications
4 of 5

- LEGEND**
- Meter Stations
 - Delivery Tap Locations
 - Proposed NEXUS Mainline
 - NEXUS COG Adjusted Route
 - Stakeholder Identified COG Route
 - Milepost (Stakeholder COG Route)
 - City of Green Proposed Modifications
 - Proposed NEXUS Compressor Station Site
 - City of Green Route Compressor Station Site Options
 - County Boundary
 - # NEXUS Route Adjustments- See Table 13b-1



City of Green Alternative Route
 City Proposed Modifications
 5 of 5

- LEGEND**
- Meter Stations
 - Delivery Tap Locations
 - Proposed NEXUS Mainline
 - NEXUS COG Adjusted Route
 - Stakeholder Identified COG Route
 - Milepost (Stakeholder COG Route)
 - City of Green Proposed Modifications
 - Proposed NEXUS Compressor Station Site
 - City of Green Route Compressor Station Site Options
 - County Boundary
 - # NEXUS Route Adjustments- See Table 13b-1

**Table 13b-1
Descriptions of City of Green ("COG") Minor Route Modifications
for Impact Avoidance and Minimization**

Change ID Number <u>a/</u>	Start COG Alt MP	End COG Alt MP	Summary Description <u>b/</u>
1	2.1	3.0	Minor realignment of the COG Alt route to slightly shift the centerline approximately 65 feet north to follow a field edge and reduce clearing of a forested area west of Myers Road.
2	3.2	3.5	Route realigned to increase distance from an existing well and to avoid an existing powerline structure in an area with large elevation difference.
3	3.7	4.3	Route realigned west of Lippincott Road to reduce impacts to existing forest land by routing through existing open agricultural fields. Realignment results in slight increase in pipeline length.
4	4.3	5.3	Route realigned between MPs 4.3 and 5.3 where the COG route parallels an existing high voltage powerline in the vicinity of the Rochester Road to avoid overlap with existing transmission line towers and to better align and parallel the existing transmission line permanent easement to the north. The adjusted route also avoids a residence and driveway located in close proximity to the north of the transmission line and reduces the distance to a residence located on Rochester Road. This adjustment would require approximately 0.5 mile of additional forest land crossing.
5	5.5	5.7	Minor shift approximately 120 feet to the south to avoid impacting a small section of forested land.
6	6.0	10.8	Route adjusted between COG Alt. route MPs 6.0 and 7.6 by shifting the pipeline approximately 100 feet south to avoid conflicts with existing high voltage powerlines and associated towers and to more effectively align with the existing utility permanent easement in the vicinity of the Lowmiller Road and Baynard Road crossings. Between COG Alt. MPs 7.6 and 9.6 the route was relocated approximately 800 feet north in the vicinity of the Stump Road and Union Avenue Southeast crossings and east of Whitacre Avenue Southeast crossing. This adjustment avoids construction constraints associated with topographic changes at an existing railroad bed that the COG Alt route overlaps. Between MPs 9.6 and 10.8 the COG Alt route was shifted to the south and then to the north at Tunnel Hill Road to minimize the construction constraints associated with the crossing an abandoned railroad bed located within a topographic depression.
7	12.3	13.3	NEXUS adjusted the COG Alt route between MPs 12.3 and 13.3 by relocating the pipeline to the south to avoid impacting a residence located in the vicinity of COG Alt MP 12.6 and to avoid crossing an orchard located in the vicinity of COG Alt MP 13 west of Ridgeport Avenue. The minor route adjustment reduces the impact to forested land but requires an increase in length through residential properties.
8	15.1	15.7	The COG Alt route was shifted to the south approximately 200 feet through an open field to reduce impacts to forested land.
9	16.3	22.1	Minor COG Alt route realignment to the south between MPs 16.3 and 22.1 to avoid an existing abandoned underground mine located in the vicinity of COG Alt MP 18, an existing landfill located at approximate MP 18.4 and existing aboveground storage tanks in the vicinity of approximate MP 18.45. The adjusted route would also eliminate approximately 1,000 feet of construction along the edge of Willowdale Avenue between COG Alt MPs 20.5 and 20.6. Between COG Alt MPs 20.6 and 22.1, the route was realigned to the north of the COG Alt route west of Willowdale Avenue to avoid crossing a strip mine operation. The COG Alt route realignment requires over a mile of additional length to avoid construction constraints.
10	22.4	25.0	COG Alt route realignment to avoid some side slope construction at the site of a reclaimed strip mine. To the west of the reclaimed strip mine the COG Alt route was realigned to the north to avoid crossing Cleveland Avenue where there is a bisecting stream with culvert and to reduce the crossing length of the US Army Corps. of Engineer's Flowage Easement associated with Nimishillen Creek. From COG Alt MP 24.0 the route was also relocated to the south of, and parallel to, the existing powerlines to avoid the powerline towers at approximate COG Alt MPs 24.3, 24.5, and 25.7. These adjustments for constructability would require an increase in forest land crossing distance.
11	25.4	26.0	The COG Alt was realigned to the south to avoid an existing residential structure and driveway at approximate COG Alt MP 25.5. The route was also realigned at approximate COG Alt MPs 25.8 to 25.9 to avoid overlapping an existing utility and adjacent pond.
12	26.3	27.8	Route adjustment to avoid overlapping an approximately 400 feet of stream (Bear Run) and culvert at the crossing of Dueber Ave SW. The realignment also avoids direct impact to a miniature golf course, a campground, and existing dam structure. This route adjustment would increase pipeline length and crossing of forest land.
13	29.7	30.3	Route realigned slightly to the southeast to avoid a small building/structure and two small woodlots.

**Table 13b-1
Descriptions of City of Green ("COG") Minor Route Modifications
for Impact Avoidance and Minimization**

Change ID Number <u>a/</u>	Start COG Alt MP	End COG Alt MP	Summary Description <u>b/</u>
14	30.9	32.5	The COG Alt route was shifted to the south of an existing pipeline to avoid overlapping the existing pipeline, avoid two cross-overs of the existing pipeline and to create an alignment that might facilitate a horizontal directional drill ("HDD") that would likely be needed for the Tuscarawas River crossing. To the west of the river crossing the COG Alt route was adjusted to the south to create a perpendicular crossing of a railroad located at approximate COG Alt MP 32.2 and to avoid an industrialized lot, potentially a meter station, directly adjacent to the existing pipeline. The route adjustment does have some increase to forest impacts.
15	33.2	35.4	The COG Alt route was realigned to avoid multiple landowner structures (COG Alt MPs 33.3, 33.4, and 36.6) and underground mines located between COG Alt MPs 34.6 and 35.0. The realignment will require additional deviation from an existing utility corridor and will increase the route length and forested impacts.
16	36.5	37.4	A minor adjustment to the COG Alt route was required to avoid crossing a pond and direct impacts to multiple residents near COG Alt MPs 37.0 to 37.2. The adjustment increases route length slightly in a residential area.
17	38.3	39.0	Minor realignment required to avoid impact to a residence at approximate COG Alt MP 38.6
18	41.0	42.1	The COG Alt route was shifted to the south approximately 200 feet through an open field to reduce impacts to forested land.
19	42.8	44.7	The COG Alt route was shifted to the south approximately 1,150 feet through existing agricultural fields to the east of Dover Road and by approximately 225 to the west of Dover Road to reduce impacts to forested land.
20	45.2	45.5	The COG Alt route was shifted to the south approximately 300 feet through existing agricultural fields to reduce impacts to forested land.
21	51.4	52.1	A minor realignment was made to avoid a newly constructed structure at approximate COG Alt MP 51.8.
22	52.7	53.6	A realignment of the COG Alt route was required to avoid recently constructed farm structures at approximate CG Alt MP 53.3. The realignment requires shifting the COG Alt to the north approximately 1,000 feet to the north and through forested land, thus resulting in an increase to forest impacts.
23	55.1	55.6	The COG Alt route was shifted to the south approximately 150 feet through existing agricultural field to reduce impacts to forested land and to create a perpendicular crossing of a stream.
24	56.4	57.2	NEXUS adjusted the COG Alt route to create a more perpendicular crossing of Prairie Lane and minimize direct impacts to multiple constructed earthen berms containing several ponded areas along Prairie Lane. However, the route adjustment does not avoid to ponds since the route is bound by Prairie Lane Lake Park directly to the south and west and an active mine to the north.
25	58.1	58.6	The COG Alt route was shifted to the north of Batdorf Road approximately 250 feet through a residential yard to avoid direct impacts to a residential structure to the south at the corner of West Tolbert Rd and Batdorf Road. Routing to the south to avoid the residential structure was not possible due to the presence of an existing railroad, oil well and wetlands. The COG Alt was also adjusted south of Batdorf Road to avoid several structures.
26	65.2	66.7	The COG Alt route was shifted to the west to avoid a residential structure at approximate COG Alt MP 65.7 and a small forested section of land at approximate COG Alt MP 66.5.
27	67.1	68.6	The COG Alt route was shifted to the east approximately 450 feet through existing agricultural field to avoid direct impacts to a residence and associated structures.
28	70.2	70.8	The COG Alt route was shifted to the east approximately 200 feet through existing agricultural field to avoid direct impacts to a residence.
29	71.1	72.7	The COG Alt route was shifted slightly to reduce forested impacts along the edge of existing agricultural fields.
30	78.1	79.0	NEXUS realigned the COG Alt route to the east to avoid the expansion of a race track facility located adjacent to the north side of US Route 42. The COG Route was shifted approximately 900 feet to the east to also avoid a business. The realignment increase the route length and forested impacts.
31	79.0	80.1	The COG Alt route was shifted approximately 1,000 feet to the west to avoid direct impact to multiple farm structures and construction directly adjacent to approximately 1,300 feet of Rivers Corner Road. The minor realignment will have a small increase of forested impact and pipeline length.
32	81.7	82.9	The COG Alt route was shifted to the northeast approximately 450 feet through existing agricultural field to reduce forest clearing and impacts to a small farm pond.
33	83.0	85.9	The COG Alt route was shifted to the southwest and west in various locations through existing agricultural fields to reduce impacts to forested land.

**Table 13b-1
Descriptions of City of Green ("COG") Minor Route Modifications
for Impact Avoidance and Minimization**

Change ID Number <u>a/</u>	Start COG Alt MP	End COG Alt MP	Summary Description <u>b/</u>
34	86.5	87.1	The COG Alt route was shifted to the southwest approximately 1,150 feet through existing agricultural fields to reduce impacts to forested land.
35	96.9	97.5	Route shifted slightly to the west to avoid a parallel crossing of a tributary of the West Branch Black River.
36	97.9	98.3	Route shifted to the northeast approximately 400 feet to reduce forest clearing impacts.
37	101.4	102.8	Route shifted slightly to the west to reduce forest clearing impacts and direct impact to Camden Cemetery.

a/ Change ID numbers correspond to the change ID numbers shown on Figure 13b-1 (see Attachment 2 of the NEXUS Response to DEIS Recommendations dated August 26, 2016).

b/ COG Alternative route adjustments and realignments based on review of existing publicly available Geographic Information System data and aerial photography.