The Southern Route Alternative, including laterals, is 198.0 miles long. Both routes would affect similar amounts of perennial waterbodies, forested land, and residential-type structures within 150 feet of the pipeline centerline. The main advantages of the alternative are that it would have 19.3 miles less greenfield construction, cross 12.7 acres less wetlands, no state parks/forests, and 4 fewer county/metro parks. Conversely, the disadvantages of the alternative are that it is 28.2 miles longer, has 3 more wellhead protection areas (WHPA), 407.6 acres more agricultural land, 3 miles more of steep slopes, and 3.5 miles more of sidehill construction. The purpose of the alternative was to route through less densely populated areas; however, given the laterals necessary to reach the required delivery points, only 10 fewer residential-type structures would be affected by the alternative. Therefore, based on these factors, we do not find the Southern Route Alternative provides a significant environmental advantage when compared to the corresponding segment of the proposed route and do not recommend that this alternative be incorporated as part of the Projects.

3.3.3 City of Green Route Alternative

The City of Green Route Alternative was proposed to minimize the impacts of the NGT Project on areas zoned for future development in the vicinity of the City of Green. Prior to the route alternative, NEXUS met with city officials and other stakeholders during the pre-filing planning process to address specific routing issues and siting concerns with the proposed route. NEXUS, however, was not able to address all issues or concerns. Thus, City of Green officials submitted the route alternative to the FERC's docket during the pre-filing period in a letter dated March 23, 2015. After the route alternative was submitted, NEXUS continued to communicate with city officials and other stakeholders regarding issues and concerns. Notwithstanding, NEXUS has not able to address all concerns, and City of Green officials and other stakeholders continue to maintain support for the route alternative.

The City of Green limits extend from about MP 34.2 to 42.1 along the proposed route. As a result of the meetings between NEXUS and stakeholders, about 66 percent of the proposed route within the city limits has been adjusted via minor route variations since NEXUS entered the pre-filing process. During pre-filing, NEXUS realigned the proposed route between MP 36.3 and 37.2 at a landowner's request in order to parallel a property boundary rather than cutting across it. NEXUS incorporated additional route variations at MPs 40.7 to 41.3 and MPs 41.3 to 42.6 to avoid impacts to the Nimisila Reservoir by adding an HDD and maintaining the proper offset from Dominion East Ohio Gas facilities, respectively. NEXUS incorporated two additional minor route variations at MPs 35.8 to 36.6 and MPs 36.7 to 37.0 after the formal application was filed to avoid conflict with proposed business expansions. One additional route variation was then adopted between MP 39.7 and 41.9 based on stakeholder input and to avoid a Category III wetland. NEXUS, however, was not able to avoid all areas of concern that were identified by the City of Green, such as some areas identified for future residential, commercial, and industrial development, as well as Ariss Park, Greensburg Park, and Singer Lake Preserve (see section 4.9.3.1).

The City of Green Route Alternative diverges from the proposed NGT mainline at MP 1.8 in Columbiana County. The alternative heads in a westerly direction for approximately 62 miles, turns north for approximately 40.9 miles, and rejoins the proposed NGT mainline at MP 98.7 in Lorain County (see figure 3.3.3-1 and table 3.3.3-1 for a comparison of the alternative and proposed route). About 33.3 miles of the City of Green Route Alternative would follow the proposed Rover pipeline route. One compressor station would need to be re-sited to accommodate this alternative. Re-siting of the compressor station is discussed further below.

TABLE 3.3.3-1

Analysis of the City of Green Route Alternative

Factor	Alternative	Proposed Route
Length (miles)	102.8	97.3
Greenfield Construction (miles) [a]	78.9	62.7
Wetland Affected (acres) [b]	10.0	21.8
Perennial Waterbody Crossings (no.)	55	49
WHPA (no.)	6	7
Agricultural Land (acres) [c]	1,039.4	1,027.3
Forested Land (acres) [b]	234.5	181.8
State Parks and Forest (no./mile)	0/0.0	1/0.3 [d]
County/Metro Parks (no./mile)	1/0.2 [e]	5/0.6 [f]
Steep Slopes (miles) [g]	5.6	1.0
Sidehill Construction (miles) [h]	7.4	1.6
Dwellings within 50 feet of the Pipe Centerline (no.)	4	1
Dwellings within 100 feet of the Pipe Centerline (no.)	12	12
Dwellings within 150 feet of the Pipe Centerline (no.)	31	66
Other Residential-type Structures within 150 feet (no.) [i]	57	91

a Based on the absence of adjacent or parallel rights-of-way within 300 feet of the pipe centerline.
b Based on a 75-foot-wide construction right-of-way in wetlands and forested land.
c Based on a 125-foot-wide construction right-of-way in agricultural land.
d Portage Lakes State Park.
e Canal Corridor.
f Ariss Park; Greensburg Park; Singer Lake Preserve; Chippewa Lake Nature Area; Buckeye Woods Park.
g Calculated by identifying slopes greater than 20 percent.
h Calculated by identifying slopes greater than 20 percent, and determining if the pipeline direction differed from the direction of the ground aspect.
i Includes detached dwellings, garages, sheds, and other buildings often associated with a residence.

The City of Green Alternative is 102.8 miles in length. The route alternative and proposed route are similar and length and would cross a similar number of perennial waterbodies. The primary advantages of the route alternative are that it would cross 11.8 acres less wetlands, 1 less WHPA, no state parks/forest lands, 4 fewer county/metro parks, and 35 less homes within 150 feet. Conversely, the main disadvantages of the alternative are that it would have 16.2 miles more greenfield construction, 52.7 acres more forested land, 4.6 more miles of steep slopes, and 5.8 more miles of sidehill construction.

Pipeline safety in the proximity to residential, commercial, and industrial development is a primary concern raised by many stakeholders who commented in support of the City of Green Alternative. DOT safety standards are intended to ensure adequate protection regardless of proximity to development. The pipelines and aboveground facilities associated with the NGT and TEAL Projects must be designed, constructed, operated, and maintained in accordance with these safety standards. Therefore, we find that either route is safe, regardless of population density (see section 4.13). However, an important consideration in routing a natural gas transmission pipeline instead is the impact on land use.

Impacts on developed areas include mainly temporary disruption and inconveniences on residents and businesses during construction (see section 4.9.3.1). Some aboveground structures (e.g., fences, sheds, playgrounds, trailers) and landscaping may be removed for construction; however, no residents or businesses would be temporarily or permanently displaced. We are particularly concerned where the construction work area is within 10 feet of residences due to the increased potential for construction to disrupt the residences and to ensure that property owners have adequate input to a construction activity occurring so close to their homes. In these areas, we have recommend in section 4.9.4.1 that, prior to construction, NEXUS should file with the FERC evidence of landowner concurrence with the site-specific residential construction plans.

NEXUS would compensate landowners for an easement on their property. The easement acquisition process is designed to provide fair compensation to the landowner for the right to use the property for pipeline construction and operation (see section 4.9.3.1). Appraisal methods used to value land are typically based on objective characteristics of the property and any improvements. Landowners would continue to have use of their property following construction provided it does not interfere with the easement rights granted to NEXUS for construction and operation of the pipeline facilities. For example, no new trees or structures would be allowed within the permanent right-of-way, including houses, decks, playgrounds, tool sheds, garages, poles, guy wires, catch basins, swimming pools, trailers, leach fields, septic tanks, or other structures not easily removed. Semi-permanent structures that would be permitted to be used on the permanent right-of-way include items such as swing sets, sporting equipment, miniature swimming pools, doghouses, and gardens that are easily removed.

Rerouting the pipeline to less developed areas would shift impacts to other land uses, mainly forest/woodland, open land, and agricultural land. Impacts on forest/woodland would constitute the most pronounced effect (see section 4.9.1). Tree removal and ground disturbance would increase edge effects, and reduce the amount of available wildlife habitat. Trees would be cleared along the construction right-of-way and replaced by herbaceous plants, shrubs, saplings, and other successional species until trees can again flourish, which can take several decades or longer to occur. Forested areas within the permanent right-of-way would not be allowed to reestablish and would be permanently converted to open/edge habitat.

Impact on open land would be less pronounced (see section 4.9.1). Open land would be affected during construction by removing vegetation and disturbing soils. Following construction, open land would be restored to pre-construction conditions. Since the permanent pipeline right-of-way would be maintained as open land, there would be no permanent change in land use. During operations, these areas would continue to function as open land.

Impacts on agricultural land also would be mostly minor and temporary to short-term (see section 4.9.1). Crops within the construction work areas would be taken out of production for one growing season while construction occurs and landowners would be compensated for the lost crops. If irrigation lines are damaged during construction, temporary repairs would be conducted immediately and permanent repairs would be completed following construction. Following construction, impacted agricultural land (except certain specialty crops, such as fruit and Christmas trees) would be restored to pre-construction conditions allowing continued use of farming activities.

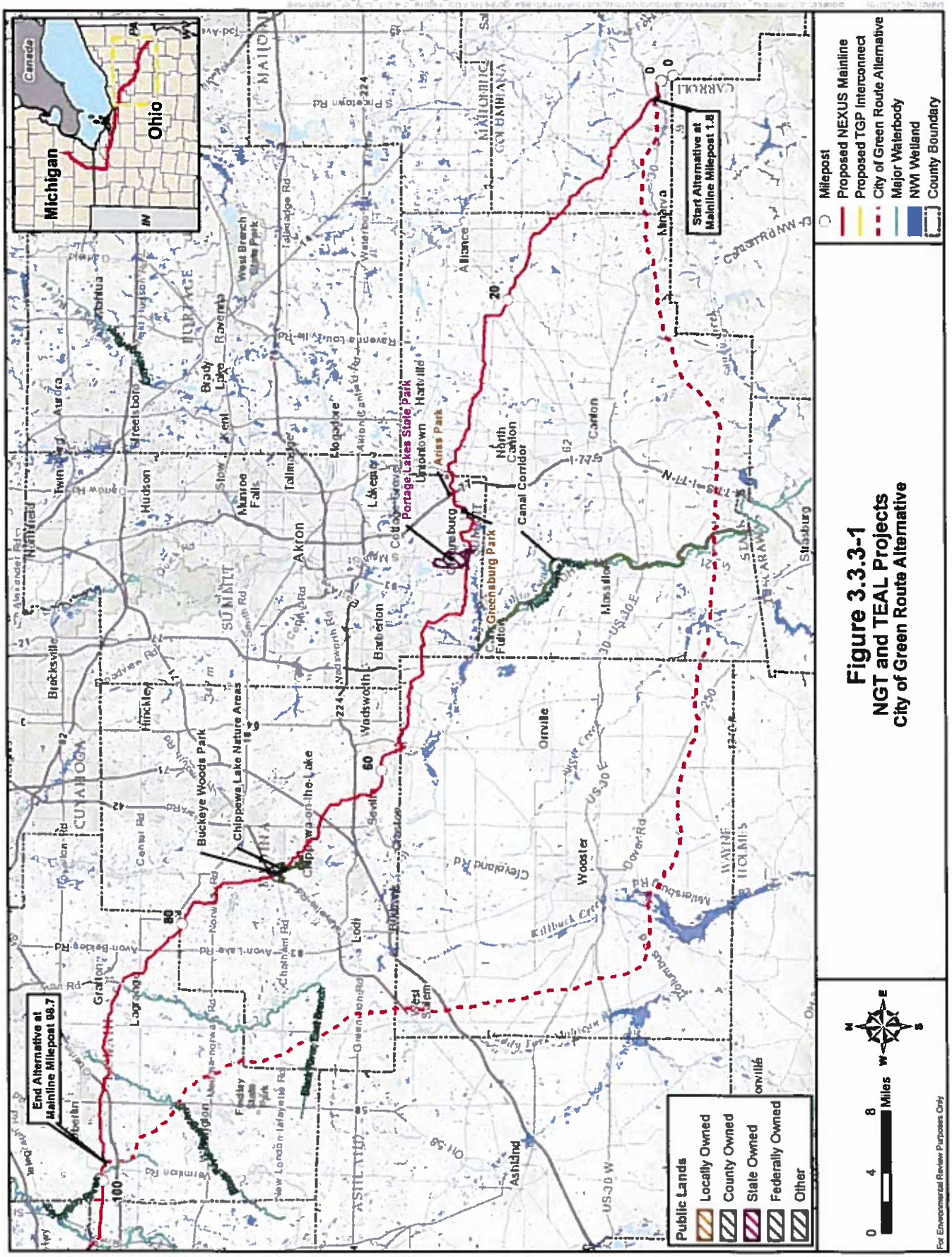

Figure 3.3.3-1
NGT and TEAL Projects
City of Green Route Alternative

One compressor station would need to be re-sited to accommodate the City of Green Route Alternative. According to NEXUS, the Wadsworth Compressor Station would need to be relocated to a site in the vicinity of Millbrook Road southwest of Wooster, Ohio. NEXUS indicated that the current land uses in this area include residential properties, mature forest, and agricultural lands. However, our review of the area suggests there are a number adequate sites in the general vicinity of Millbrook Road where impacts on residential properties and mature forest could be minimized while meeting the engineering and hydraulic requirements of the system.

NEXUS also indicated that four laterals would be required on the City of Green Route Alternative to deliver natural gas to market area connections located along the proposed route. The market area connections referred to by NEXUS are speculative receipt and delivery points based on the potential for future customers. None of these market area connections are based on binding precedent agreements. As such we do not consider them to be essential to the Project's objective and we find the City of Green Route Alternative to be viable as proposed, and we find no basis for evaluating laterals to market area connections that may never occur.

The City of Green commissioned an economic analysis of the impacts of the Projects and submitted it to the FERC. Most of the "highly relevant studies" used in the analysis to estimate the economic effects of the Projects were based on property value changes after pipeline incidents. Three of the five studies involved petroleum pipelines that resulted in surface or groundwater contamination and are not relevant to the type of incidents associated with natural gas pipelines. One of the studies involved a gasoline pipeline that ruptured into a stream and is not relevant to natural gas pipelines. The remaining study involved a natural gas pipeline. It showed no price effect on property values before or after the accident. Although pipelines have inherent risks (see section 4.13), we do not find the studies used in the analysis relevant to assessing the effects of constructing a new natural gas pipeline.

Additionally, we found the evaluation problematic because it appears to assume all developable property would be developed to its maximum potential within 50 years, and that parts of the City of Green development code would be amended in 10 years to allow an even greater density of development than is currently allowed. In making such assumptions, the analysis then fails to consider the additional energy or infrastructure that may be necessary to support this level of development. Furthermore, the analysis appears to assume that property or portions of property could not be developed after pipeline installation, insinuating that driveways or roads cannot be constructed over a pipeline and, therefore, certain portions of the property that otherwise would have been developed become "cut off" from development. This is not necessarily true because, in fact, it is possible to install roads and driveways over pipelines. The pipeline easement generally restricts constructing permanent or immobile buildings or planting/growing trees within 25 feet of the pipeline, but otherwise does not completely restrict use of the property.

Finally, the report seems to suggest that the proposed route would leave the City of Green to disproportionately suffer the effects of the Projects because the city is more affluent than other areas of the state. The report cites higher home values, higher employment rates, more buying power, and faster growth than other parts of the state. Conversely, relocating the route from more affluent areas to those that are less affluent presents an entirely different set of impacts. On the whole, we did not find the economic analysis compelling.

Perhaps the most compelling aspects of the alternative route are that 35 fewer homes would be within 150 feet of the proposed pipeline and 11.8 miles less wetlands would be crossed by the pipeline. Conversely, the most compelling aspects of the proposed route are it has 16.2 miles less greenfield construction and crosses 52.7 acres less forested land. We also note that, based on our review, although the alternative route has fewer home within 150 of the centerline, the proposed route actually has fewer home within a closer proximity that would experience greater construction impacts: both the proposed and alternative routes have 12 homes within 100 feet, and the proposed route has only one home within 50 feet,

whereas the alternative route has four. Based on our analysis, we find both routes acceptable and recognize that the routes have their trade-offs, but overall are comparable. As described earlier in section 3.0, the alternative appears to shifts impacts from one area, group of landowners, and set of resources to another area, group of landowners, and set of resources. Based on the information available to us at this time, the alternative, while comparable, does not present a significant environmental advantage over the proposed route. However, we recognize that a more detailed routing analysis of the alternative route to avoid forested areas and other impacts, including a presentation of a proposed compressor station location, could improve the advantages of the alternative. Therefore, **we recommend that:**

- **Prior to the end of the draft EIS comment period, NEXUS should file with the Secretary:**

  a. **a specific compressor station site on the City of Green Route Alternative between MPs 1.8 and MP 98.7. NEXUS should attempt to avoid or minimize impacts on environmental resources while adequately meeting the engineering and hydraulic requirements of the proposed pipeline system. NEXUS should identify the range of flexibility it has in moving the compressor station site on the route alternative; and**

  b. **minor route adjustments and realignments to the City of Green Route Alternative in order to minimize impacts on residences, forests, and other environmental resources.**

We also note that we have received a fair amount of landowner input along the proposed route because these landowners have been on the Projects' mailing list early in the environmental review process; however, landowners along the City of Green Route Alternative only recently have been added to the mailing list. **We encourage the landowners along the City of Green Route Alternative to provide us additional comments on the proposed route and City of Green Route Alternative during the draft EIS comment period.**

3.3.4 Electric Transmission Line Route Alternative

The Electric Transmission Line Route Alternative was evaluated to address stakeholders' comments requesting the Project follow an existing electric transmission line right-of-way in Columbiana and Stark Counties, Ohio. Many stakeholders suggested that co-locating with the existing power line would be preferable to the proposed route. The Electric Transmission Line Alternative diverges from the proposed NGT mainline at MP 1.8 in Columbiana County. It heads west/southwest to an existing powerline right-of-way and follows the powerline right-of-way for approximately 22.0 miles where rejoins the proposed NGT mainline at MP 29.7 in Stark County (see figure 3.3.4-1 and table 3.3.4-1).