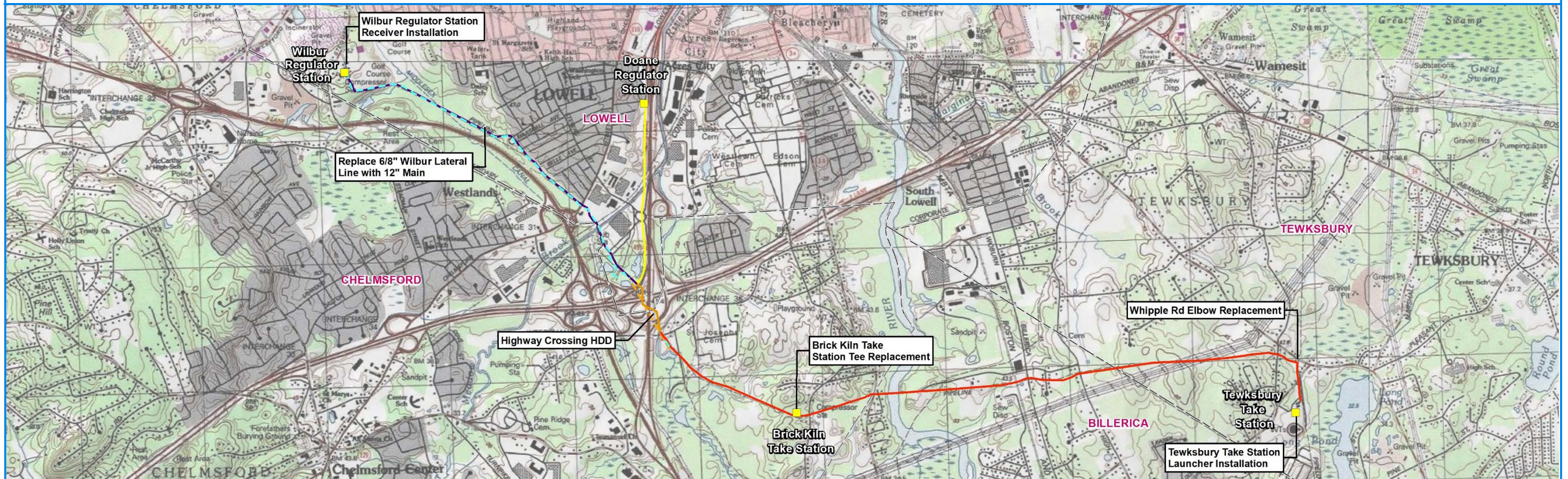


Lowell Area Gas Modernization Project



Colonial Gas Company d/b/a National Grid

Lowell Area Gas Modernization Project
Energy Facility Siting Board Section 69J Petition to Construct
Tewksbury, Chelmsford, and Lowell, Massachusetts

March 2018
Docket # D.P.U. 18-30 and EFSB 18-01

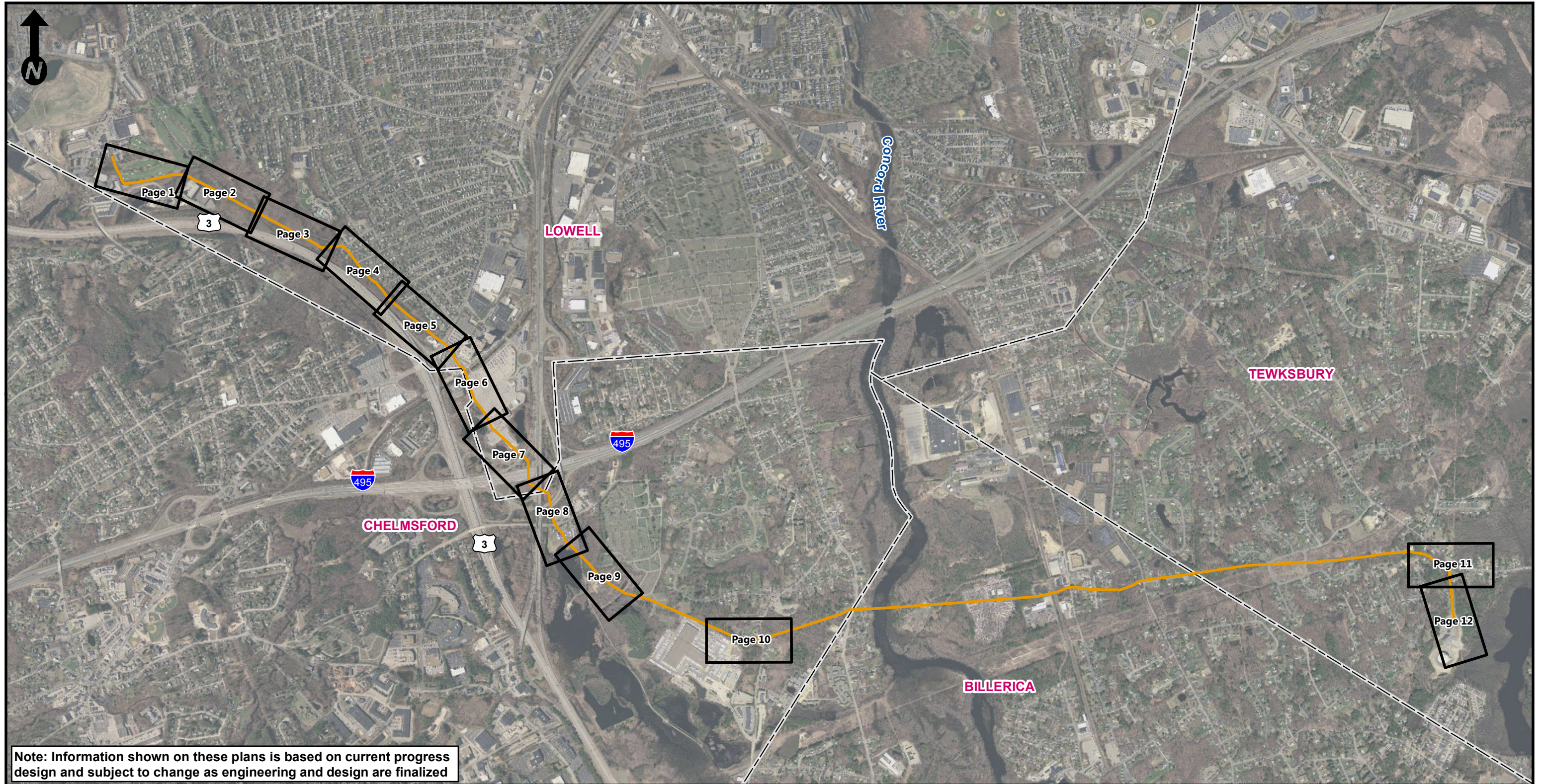
Map Book

nationalgrid

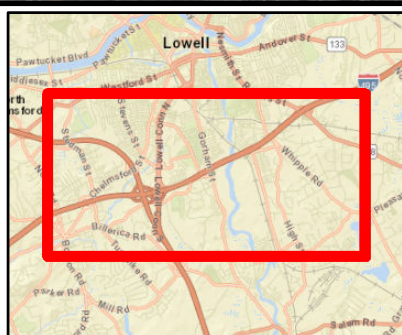
Lowell Area Gas Modernization Project – Map Book Contents

- Appendix 5-1 – Photo Locations Map Book and Photographic Log and Photo
- Figure 5-4 – Project Plans
- Figure 5-5 – Land Use Map Book

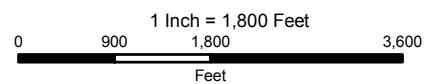
Appendix 5-1 – Photo Locations Map Book and Photographic Log and Photo



Note: Information shown on these plans is based on current progress design and subject to change as engineering and design are finalized



- Page Index
- Town Boudary



Lowell Area Gas Modernization Project

Photo Locations

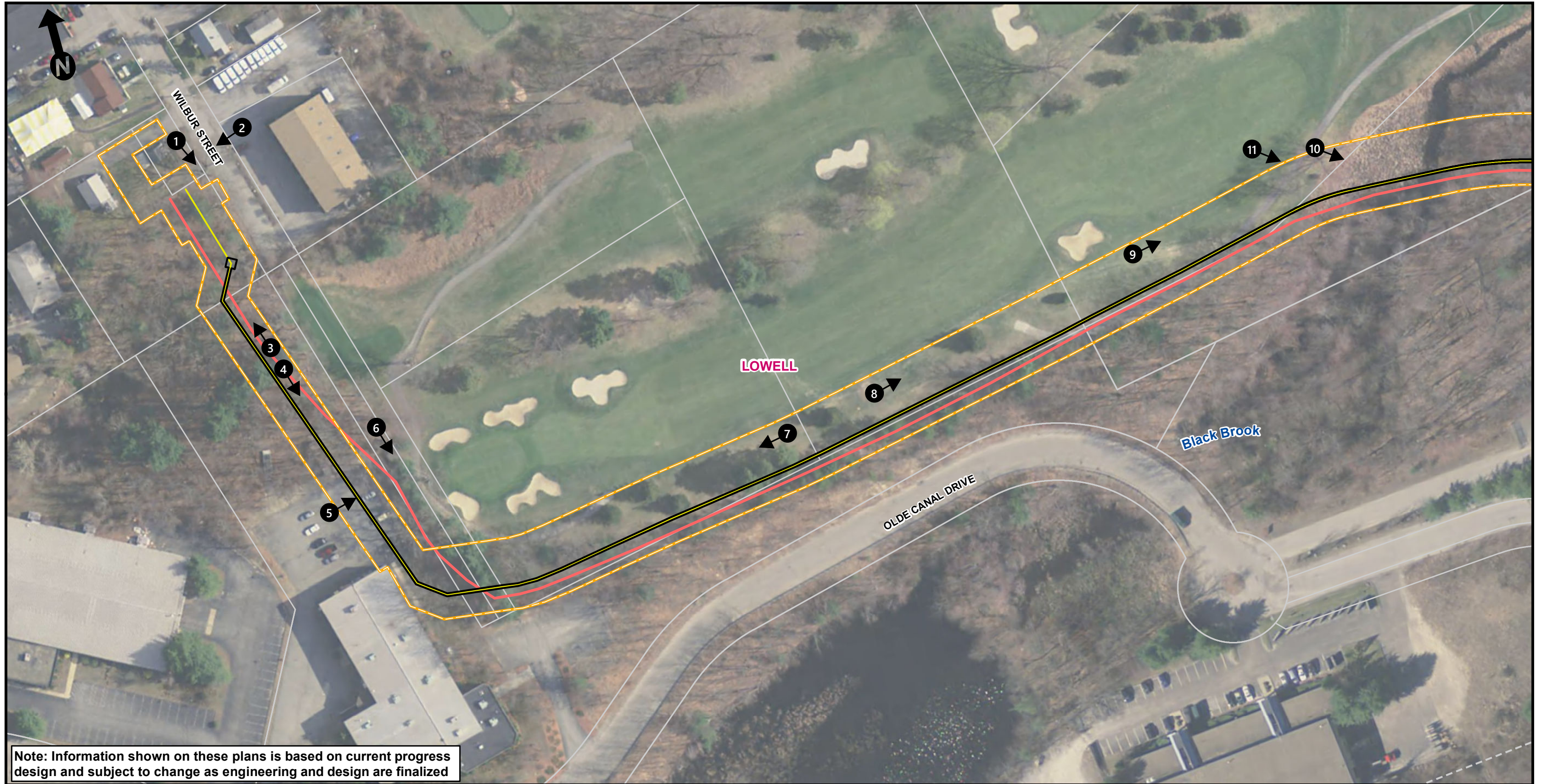
Lowell, Chelmsford and Tewksbury, MA

Index Sheet

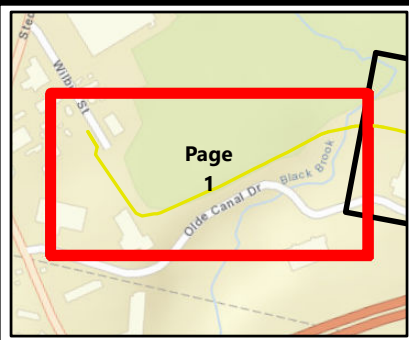
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Date: 2/23/2018

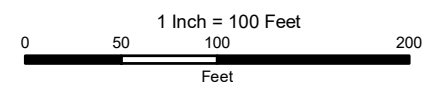




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- Existing Gas Pipeline
- Proposed Gas Pipeline
- Approximate Temporary Work Space
- Proposed Excavation Trench
- HDD Entry/Exit Point
- # ▶ Photo Location/Direction
- Parcel Boundary
- Electrical Utility Easement
- Other Easement
- Town Boundary



Lowell Area Gas Modernization Project

Photo Locations

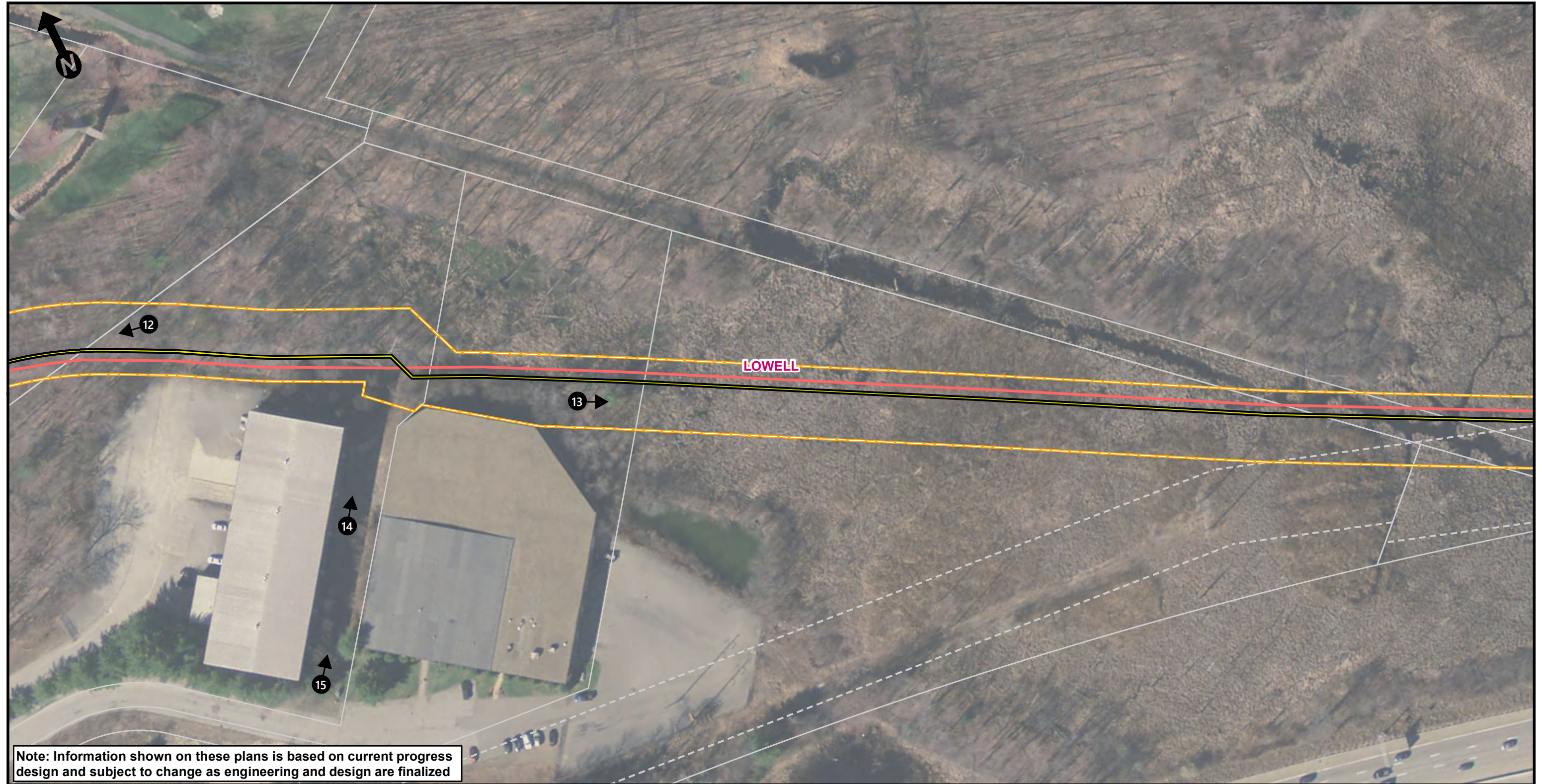
Lowell, Chelmsford and Tewksbury, MA

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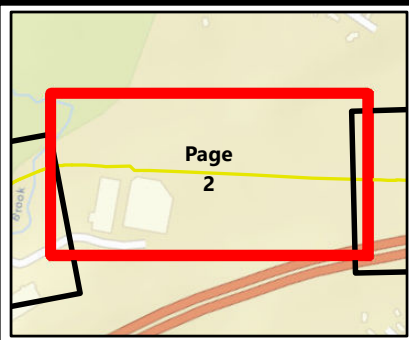
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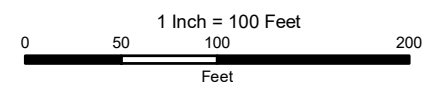




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Lowell Area Gas Modernization Project

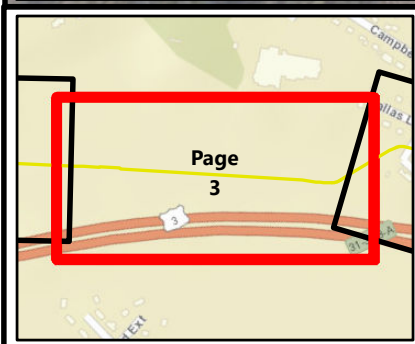
Photo Locations

Lowell, Chelmsford and Tewksbury, MA

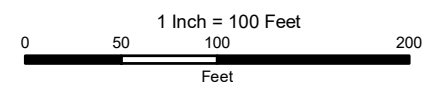




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Lowell Area Gas Modernization Project

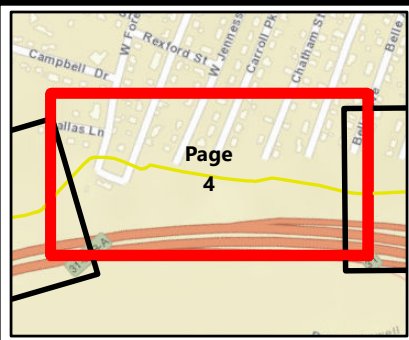
Photo Locations

Lowell, Chelmsford and Tewksbury, MA

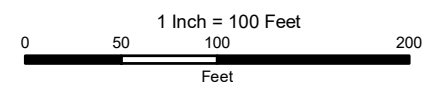




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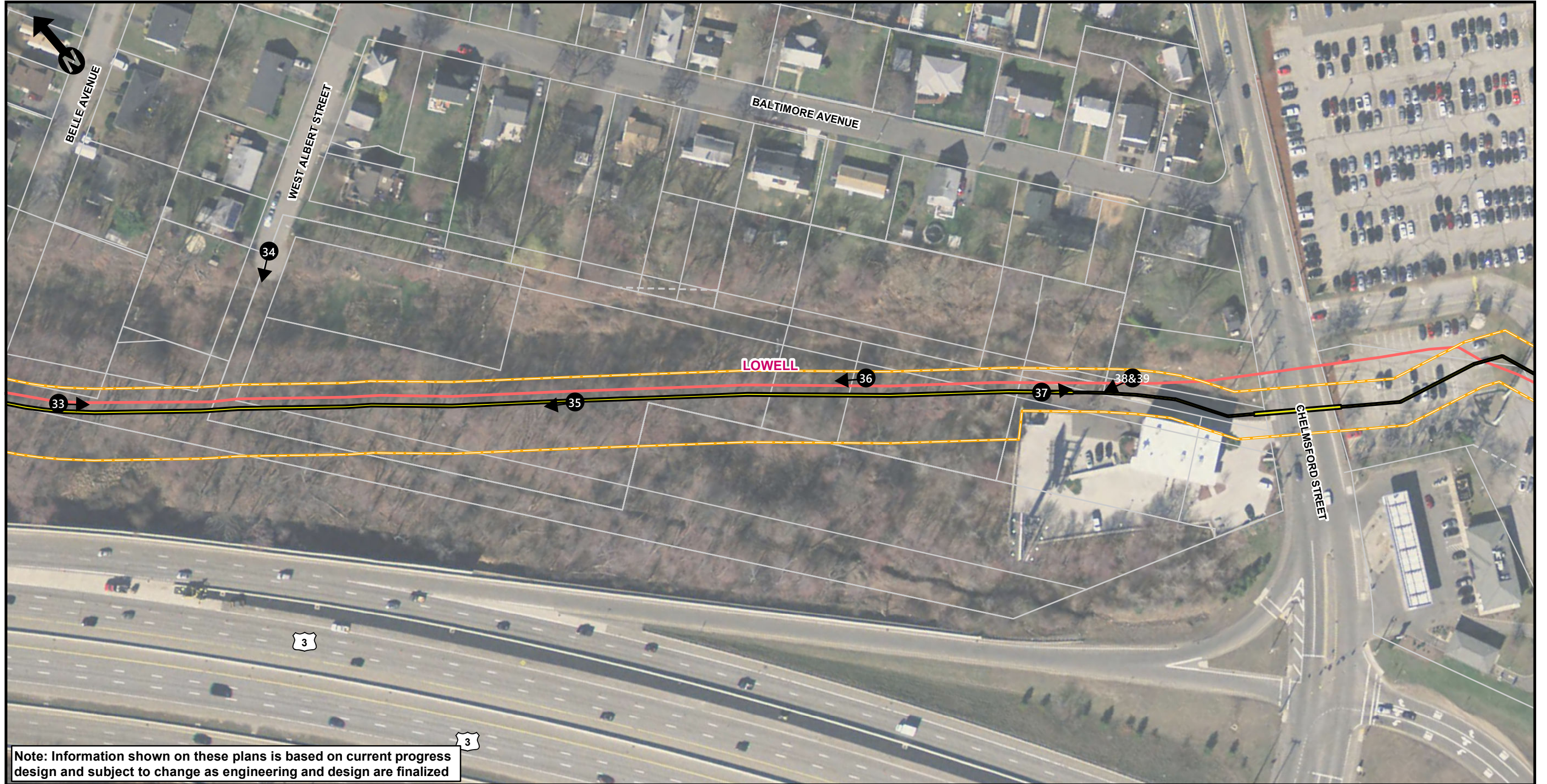


Lowell Area Gas Modernization Project

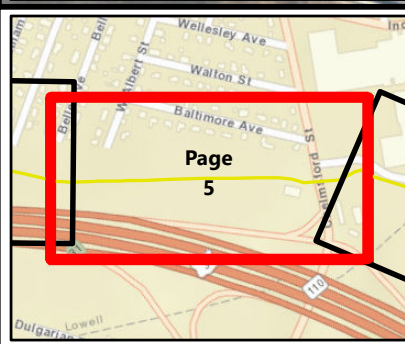
Photo Locations

Lowell, Chelmsford and Tewksbury, MA

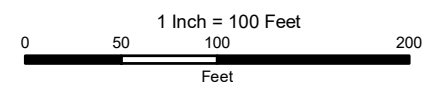




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Lowell Area Gas Modernization Project

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Lowell, Chelmsford and Tewksbury, MA

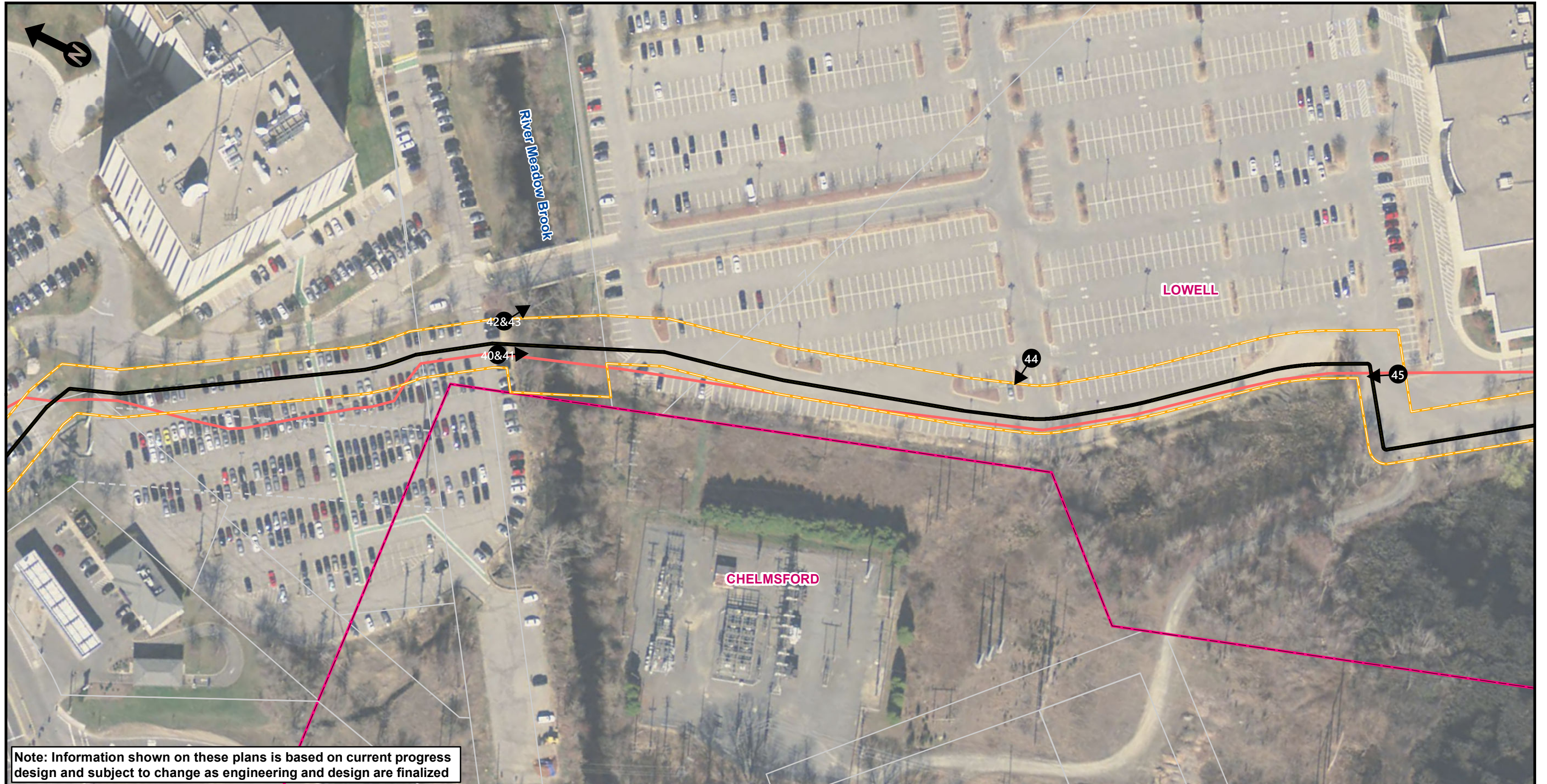
Page 5 of 12

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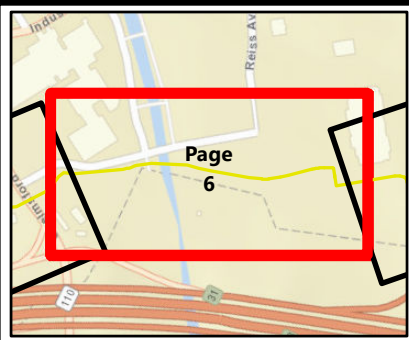
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nationalgrid

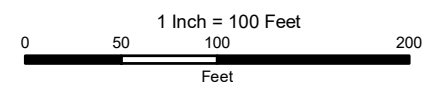




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Lowell Area Gas Modernization Project

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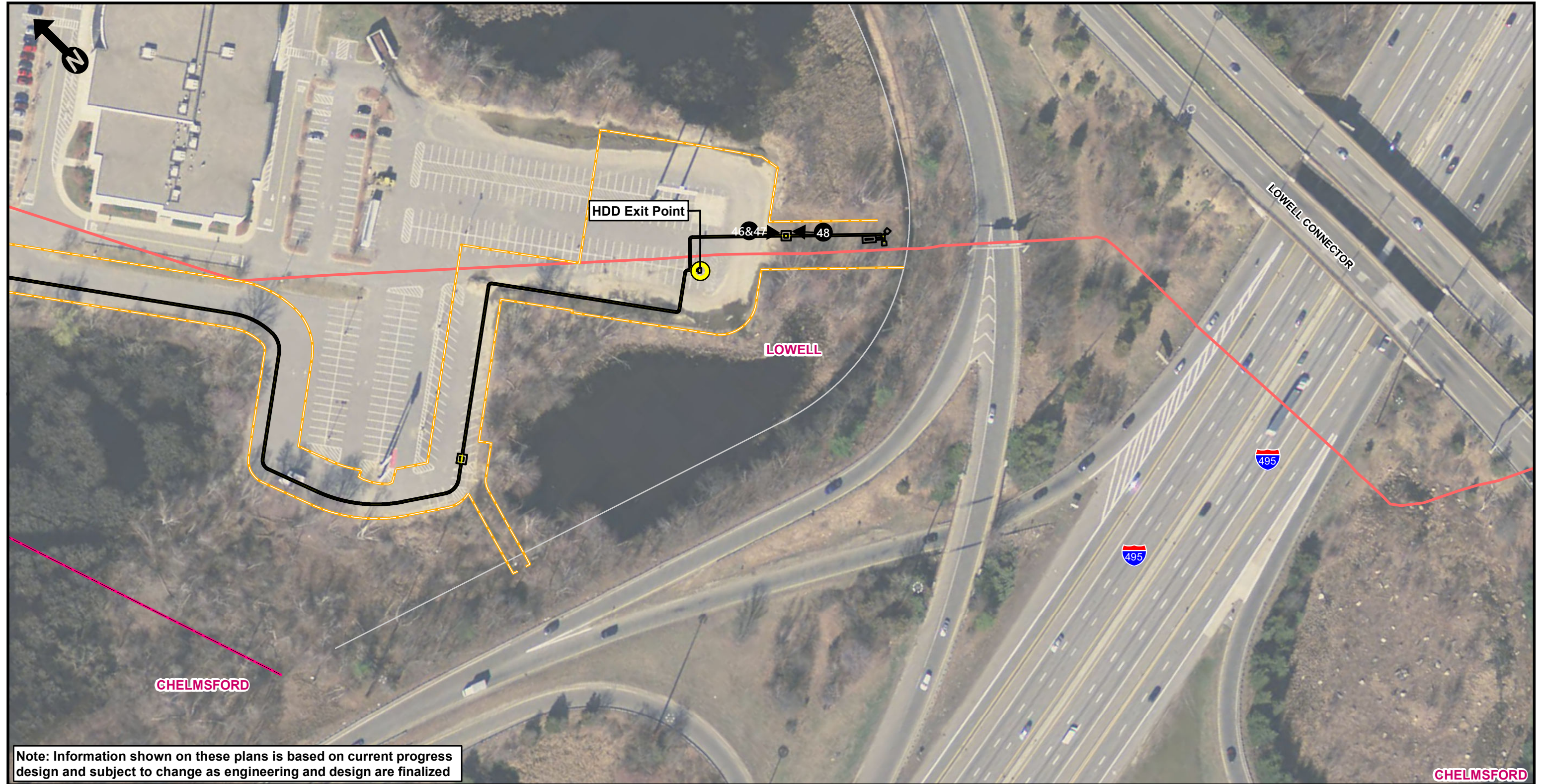
Lowell, Chelmsford and Tewksbury, MA

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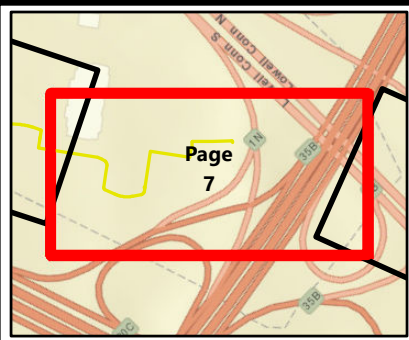
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Source: MassGIS, National Grid, VHB

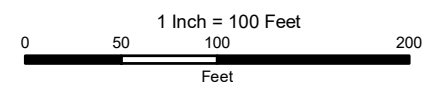




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Lowell Area Gas Modernization Project

Photo Locations

Lowell, Chelmsford and Tewksbury, MA

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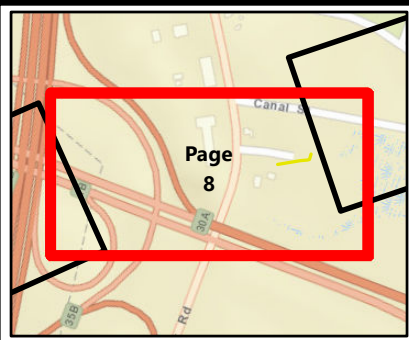
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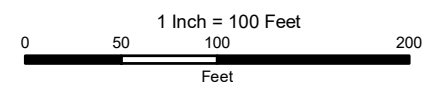




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Lowell Area Gas Modernization Project

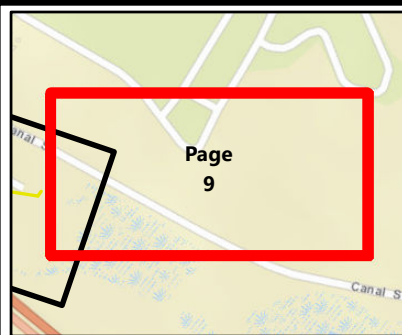
Photo Locations

Lowell, Chelmsford and Tewksbury, MA

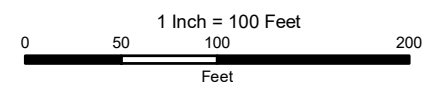




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Lowell Area Gas Modernization Project

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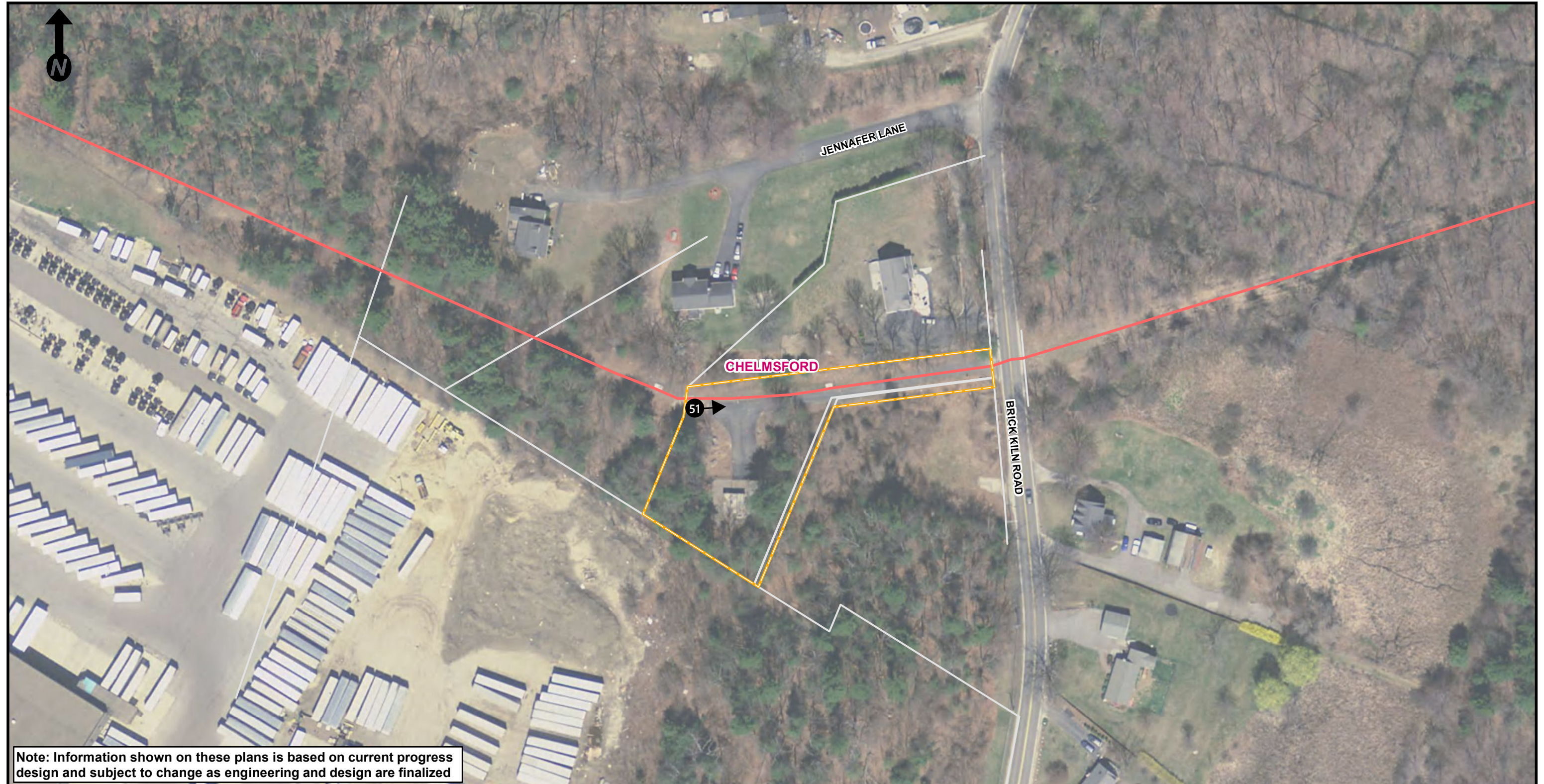
Lowell, Chelmsford and Tewksbury, MA

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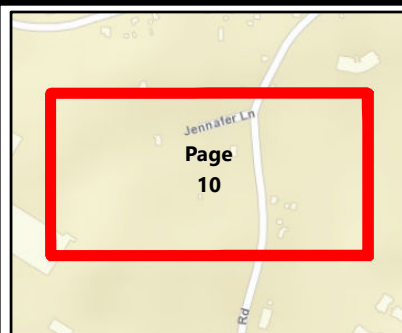
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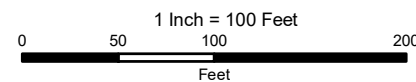




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Lowell Area Gas Modernization Project

Photo Locations

Lowell, Chelmsford and Tewksbury, MA

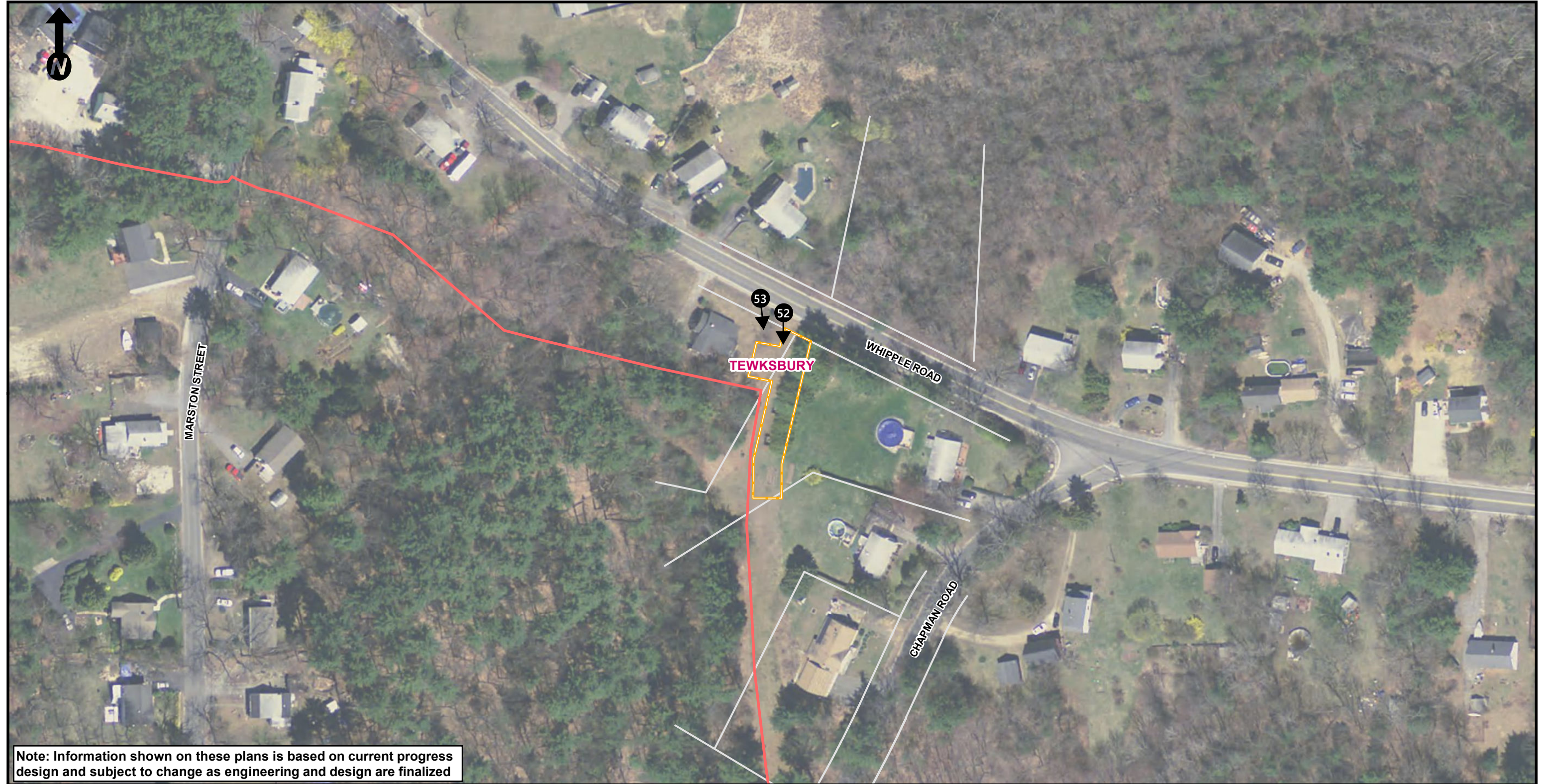
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Date: 3/20/2018

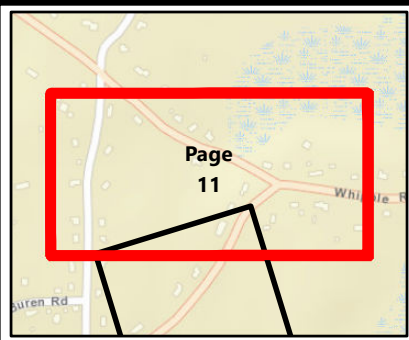
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nationalgrid

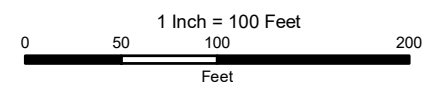




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Lowell Area Gas Modernization Project

Photo Locations

Lowell, Chelmsford and Tewksbury, MA

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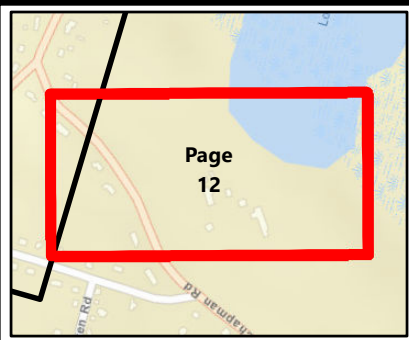
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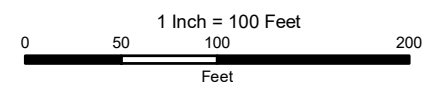




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Lowell Area Gas Modernization Project

Photo Locations

Lowell, Chelmsford and Tewksbury, MA


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Source: MassGIS, National Grid, VHB

Date: 3/20/2018



PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	Project No. 13615.00
Photo No. 1	Date: 1/09/18		
Direction Photo Taken: South			
Description: View of the eastern fence line of the Wilbur GRS looking southward down Wilbur Street.			
Map Page: 1/12			

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No. 3	Date: 10/09/17		
Direction Photo Taken: North			
Description: View of the existing gas pipeline right-of-way during leaf-on conditions looking toward the Wilbur GRS substation.			
Map Page: 1/12			

Photo No. 2	Date: 5/11/17		
Direction Photo Taken: West			
Description: View of the receiver site at the Wilbur GRS station.			
Map Page: 1/12			

Photo No. 4	Date: 10/09/17		
Direction Photo Taken: North			
Description: View of the existing gas line right-of-way during leaf-on conditions.			
Map Page: 1/12			

PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	Project No. 13615.00
Photo No. 5	Date: 1/23/18		
Direction Photo Taken: East			
Description: View of the western edge of the right-of-way, photo taken from the industrial parking lot east of the right-of-way			
Map Page: 1/12			


Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No. 7	Date: 8/11/17		
Direction Photo Taken: Northwest			
Description: View of the existing gas line right-of-way adjacent to golf course.			
Map Page: 1/12			


Photo No. 6	Date: 10/09/17		
Direction Photo Taken: North			
Description: View of the proposed right-of-way along the wooded section between the golf course and the adjacent industrial buildings.			
Map Page: 1/12			

Photo No. 8	Date: 10/09/17		
Direction Photo Taken: East			
Description: View of the edge of the golf course along the existing gas line right-of-way			
Map Page: 1/12			

PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	Project No. 13615.00
Photo No. 9	Date: 10/09/17		
Direction Photo Taken: East			
Description: View of the proposed gas line right-of-way along the edge of the golf course during leaf on conditions			
Map Page: 1/12			


Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No. 11	Date: 10/09/17		
Direction Photo Taken: East			
Description: View of the proposed right-of-way along the golf course in leaf on conditions.			
Map Page: 1/12			

Photo No. 10	Date: 8/17/17	
Direction Photo Taken: Northwest		
Description: View of the existing gas line right-of-way headed away from the gold course into the adjacent wetland.		
Map Page: 1/12		

Photo No. 12	Date: 8/17/17	
Direction Photo Taken: Southwest		
Description: View of leaf-on conditions along the existing gas line right-of-way.		
Map Page: 2/12		

PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	Project No. 13615.00
Photo No. 13	Date: 8/17/17		
Direction Photo Taken: Southeast			
Description: View of the maintained existing gas line right-of-way.			
Map Page: 2/12			

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No. 15	Date: 8/10/17		
Direction Photo Taken: Northwest			
Description: Proposed access road between two buildings on the adjacent industrial development.			
Map Page: 2/12			

Photo No. 14	Date: 8/17/17		
Direction Photo Taken: Southwest			
Description: Proposed gas line access road between the industrial buildings, accessed from Olde Canal Drive			
Map Page: 2/12			

Photo No. 16	Date: 8/10/17		
Direction Photo Taken: Southwest			
Description: Existing gas line right-of-way conditions.			
Map Page: 3/12			

PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	Project No. 13615.00
Photo No. 17	Date: 1/09/18		
Direction Photo Taken: East			
Description: View of the gas line right-of-way during winter leaf-off conditions			
Map Page: 4/12			

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No. 19	Date: 8/11/17		
Direction Photo Taken: Southwest			
Description: View of the existing gas line taken from West Forest Street			
Map Page: 4/12			

Photo No. 18	Date: 1/23/18		
Direction Photo Taken: West			
Description: View of the utility right-of-way from the adjacent residential neighborhood off Lallas Lane in Lowell, MA.			
Map Page: 4/12			

Photo No. 20	Date: 8/11/17		
Direction Photo Taken: Southwest			
Description: View of the existing gas line taken east of West Forest Street in Lowell, MA.			
Map Page: 4/12			

PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company
Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA
Project No.: 13615.00

Client Name: Colonial Gas Company
Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA

Photo No.: 21
Date: 1/09/18

Photo No.: 23
Date: 8/11/17

Direction Photo Taken:
 West

Direction Photo Taken:
 Northwest

Description:
 View of West Forest Street looking toward the gas line and utility right-of-way

Description:
 Gas line access road off West Jenness Street in Lowell, MA.

Map Page:
 4/12

Map Page:
 4/12



Photo No.: 22
Date: 1/09/18

Photo No.: 24
Date: 1/23/18

Direction Photo Taken:
 Southeast

Direction Photo Taken:
 Northwest

Description:
 View of the gas line right-of-way and the overhead utility line.

Description:
 View of the utility ROW where the gas line utility ROW crosses West Jenness Street in Lowell, MA.
 Photo taken from West Jenness Street in Lowell, MA.

Map Page:
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Map Page:
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PHOTOGRAPHIC LOG





Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA		Project No.: 13615.00		Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No.: 25	Date: 1/09/18					Photo No.: 27	Date: 1/09/18		
Direction Photo Taken: Southeast						Direction Photo Taken: Southeast			
Description: View of the right-of-way from West Jenness Street in Lowell, MA.						Description: View of the gas line right-of-way alongside the overhead utility right-of-way representing leaf-off conditions.			
Map Page: 4/12		Map Page: 4/12							

Photo No.: 26	Date: 10/09/17					Photo No.: 28	Date: 1/09/18		
Direction Photo Taken: Southeast						Direction Photo Taken: southwest			
Description: View of the gas line right-of-way alongside the overhead utility right-of-way representing leaf on conditions.						Description: View of the utility right-of-way taken from Chatham Street in Lowell, MA.			
Map Page: 4/12		Map Page: 4/12							

PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	Project No. 13615.00
Photo No. 29	Date: 8/11/17		
Direction Photo Taken: Northwest			
Description: View of the gas line during leaf on conditions			
Map Page: 4/12			


Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA
Photo No. 31	Date: 1/09/17	
Direction Photo Taken: South		
Description: View of the gas line right-of-way where the gas line and overhead line separate behind the residential development. Photo taken during leaf-off conditions.		
Map Page: 4/12		

Photo No. 30	Date: 10/09/17	
Direction Photo Taken: South		
Description: View of the gas line right-of-way during fall leaf-on conditions.		
Map Page: 4/12		

Photo No. 32	Date: 1/09/18	
Direction Photo Taken: West		
Description: View of the overhead utility right-of-way that parallels the gas line right-of-way. Photo taken from Upham Street in Lowell, MA.		
Map Page: 4/12		

PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company
Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA
Project No.: 13615.00

Client Name: Colonial Gas Company
Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA

Photo No.: 33
Date: 1/09/18

Photo No.: 35
Date: 8/11/17

Direction Photo Taken:
 South

Direction Photo Taken:
 East

Description:
 View of the gas line right-of-way during leaf-off conditions of winter.

Description:
 View of the existing gas line right-of-way.

Map Page:
 4/12

Map Page:
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Photo No.: 34
Date: 1/23/18

Photo No.: 36
Date: 8/11/17

Direction Photo Taken:
 West

Direction Photo Taken:
 Northwest

Description:
 View of the utility right-of-way taken from West Albert Street in Lowell, MA.

Description:
 View of the gas line right-of-way.

Map Page:
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Map Page:
 5/12



PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA		Project No.: 13615.00		Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No.: 37	Date: 8/11/17					Photo No.: 39	Date: 1/09/18		
Direction Photo Taken: Southwest						Direction Photo Taken: Northwest			
Description: View of ROW looking toward Chelmsford St in Lowell, MA.						Description: View of the gas line right-of-way paralleling the overhead utility right-of-way taken from the parking lot alongside the right-of-way off Chelmsford Street in Lowell, Ma			
Map Page: 5/12		Map Page: 5/12							

Photo No.: 38	Date: 8/11/17					Photo No.: 40	Date: 10/09/17		
Direction Photo Taken: Northwest						Direction Photo Taken: South			
Description: View of the right-of-way, taken from a similar position as photo 39.						Description: View of the riparian buffer zone along River Meadow Brook within the business development, leaf-on conditions.			
Map Page: 5/12		Map Page: 6/12							

PHOTOGRAPHIC LOG





Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA		Project No.: 13615.00		Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No.: 41	Date: 1/09/18					Photo No.: 43	Date: 2/2/17		
Direction Photo Taken: South						Direction Photo Taken: West			
Description: View of the riparian buffer zone along River Meadow Brook within the business development, leaf-off conditions.						Description: View of River Meadow Brook within the business development, leaf-off conditions.			
Map Page: 6/12		Map Page: 6/12							

Photo No.: 42	Date: 8/11/17					Photo No.: 44	Date: 1/23/18		
Direction Photo Taken: Northwest						Direction Photo Taken: West			
Description: View of the existing right-of-way crossing of River Meadow Brook within the Crosspoint property, leaf-on conditions.						Description: View of the business parking lot along the proposed gas line right-of-way. Landscape plots are located throughout the parking lots as visible in this photo.			
Map Page: 6/12		Map Page: 6/12							

PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	Project No. 13615.00
Photo No. 45	Date: 1/09/18		
Direction Photo Taken: North			
Description: View of the business development parking lot along the centerline of the proposed gas line. The gas line is proposed on the edge of this parking lot.			
Map Page: 6/12			

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No. 47	Date: 8/10/17		
Direction Photo Taken: South			
Description: View of a valve station on the existing gas line right-of-way adjacent to Interstate 495 at the rear of a business development-leaf-on conditions.			
Map Page: 7/12			

Photo No. 46	Date: 1/09/18	
Direction Photo Taken: South		
Description: View of a valve station on the gas line right-of-way adjacent to Interstate 495 at the rear of a business development, leaf-off conditions.		
Map Page: 7/12		

Photo No. 48	Date: 8/10/17	
Direction Photo Taken: Northwest		
Description: Parking lot adjacent to gas pipeline.		
Map Page: 7/12		

PHOTOGRAPHIC LOG

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	Project No. 13615.00
Photo No. 49	Date: 1/09/18		
Direction Photo Taken: West			
Description: View of the existing gas line taken from Canal Street in Chelmsford, MA.			
Map Page: 9/12			

Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No. 51	Date: 5/11/17		
Direction Photo Taken: East			
Description: View of access road looking east toward Brick Kiln Road in Chelmsford, MA. View of the workspace along an access road.			
Map Page: 10/12			

Photo No. 50	Date: 1/09/18		
Direction Photo Taken: Southeast			
Description: View of the existing gas line taken from Canal Street in Chelmsford.			
Map Page: 9/12			

Photo No. 52	Date: 5/11/17		
Direction Photo Taken: West			
Description: View of the elbow replacement site off Whipple Road in Tewksbury, MA under leaf-on conditions.			
Map Page: 11/12			

PHOTOGRAPHIC LOG




Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA		Project No.: 13615.00		Client Name: Colonial Gas Company		Site Location: Tewksbury Line- Chelmsford, Lowell and Tewksbury, MA	
Photo No.: 53	Date:					Photo No.: 55	Date: 1/09/18		
Direction Photo Taken: South						Direction Photo Taken: Southeast			
Description: View of the elbow replacement site off Whipple Road in Tewksbury, MA under leaf-off conditions.						Description: View of Tewksbury Launcher Site during leaf-off conditions.			
Map Page: 11/12		Map Page: 12/12							

Photo No.: 54	Date: 5/11/17					Photo No.:	Date:		
Direction Photo Taken: Southeast						Direction Photo Taken:			
Description: View of the Tewksbury Launcher Site during leaf-on conditions.						Description:			
Map Page: 12/12		Map Page:							