

Appendix A – Flooding Maps

(Technical Report: Climate Projections and Scenario)

Updated April 2017

True to the City’s commitment to issue updated information as new data or maps are available, the current updates are being posted to reflect revised flooding maps caused by extreme precipitation. The model for projecting flooding from extreme precipitation has been updated to integrate manhole and riverine flooding into one model¹, includes flows from tributary regions of Somerville, Belmont, Arlington and Malden River, extends downstream to the Amelia Earhart Dam, and reflects the recent reconstruction of the Cradock Bridge in Medford. The updated model is more reliable in depicting flooding risks.

CONTENTS

10-year Storm..... 2 - 4

Map 7: Present conditions precipitation flooding under the current 10-year 24-hour storm

Map 8: Precipitation flooding scenario under the 10-year 24-hour storm by 2030s

Map 9: Precipitation flooding scenario under the 10-year 24-hour storm by 2070s

100-year Storm 5 - 7

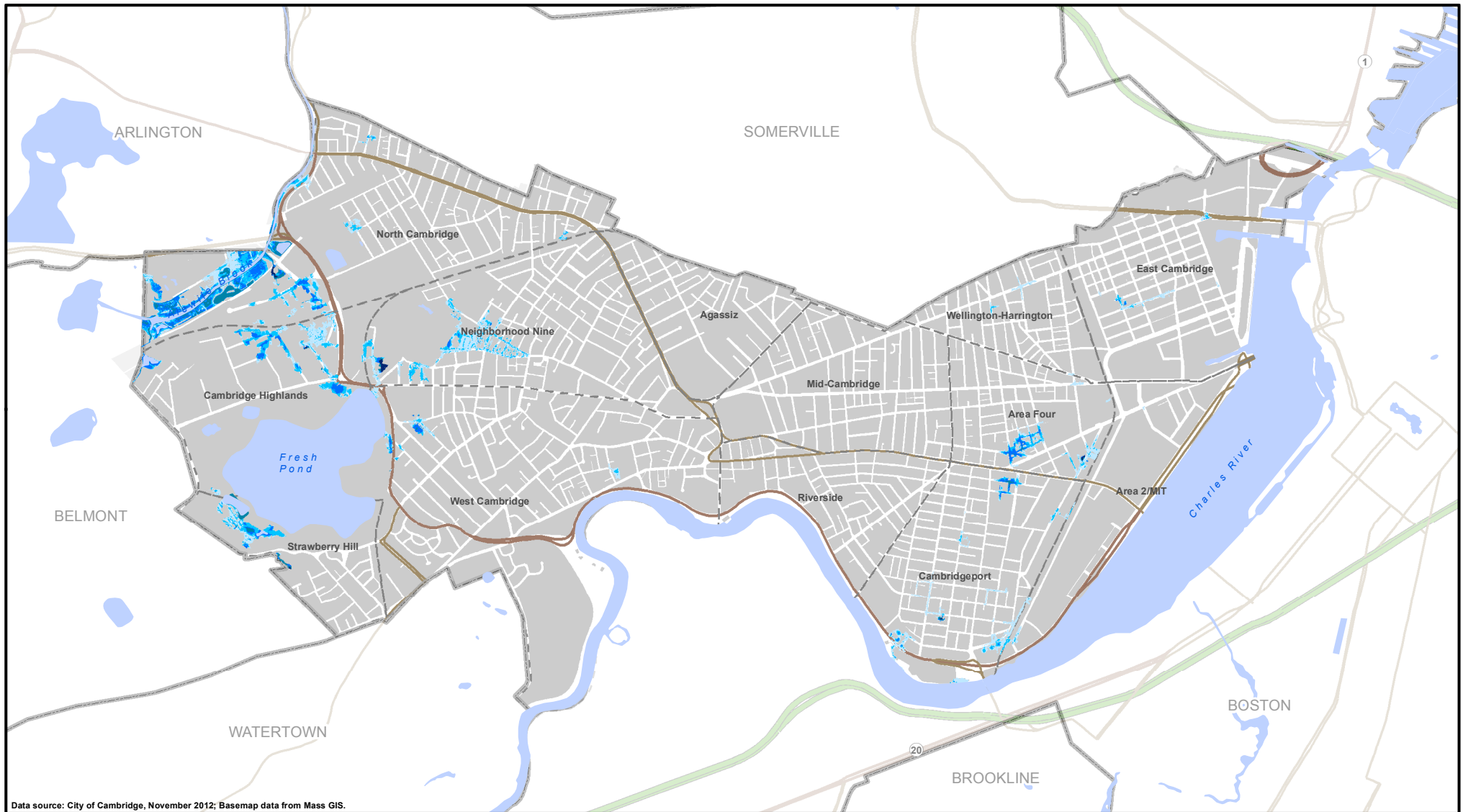
Map 10: Present conditions precipitation flooding under the current 100-year 24-hour storm

Map 11: Precipitation flooding scenario under the 100-year 24-hour storm by 2030s

Map 12: Precipitation flooding scenario under the 100-year 24-hour storm by 2070s

¹The model was updated to integrate the Mystic River basin FEMA HEC-RAS riverine hydraulic model with the City of Cambridge combined sewer model in the Alewife Brook watershed.

Map 7: Present conditions precipitation flooding under the current 10-year 24-hour storm

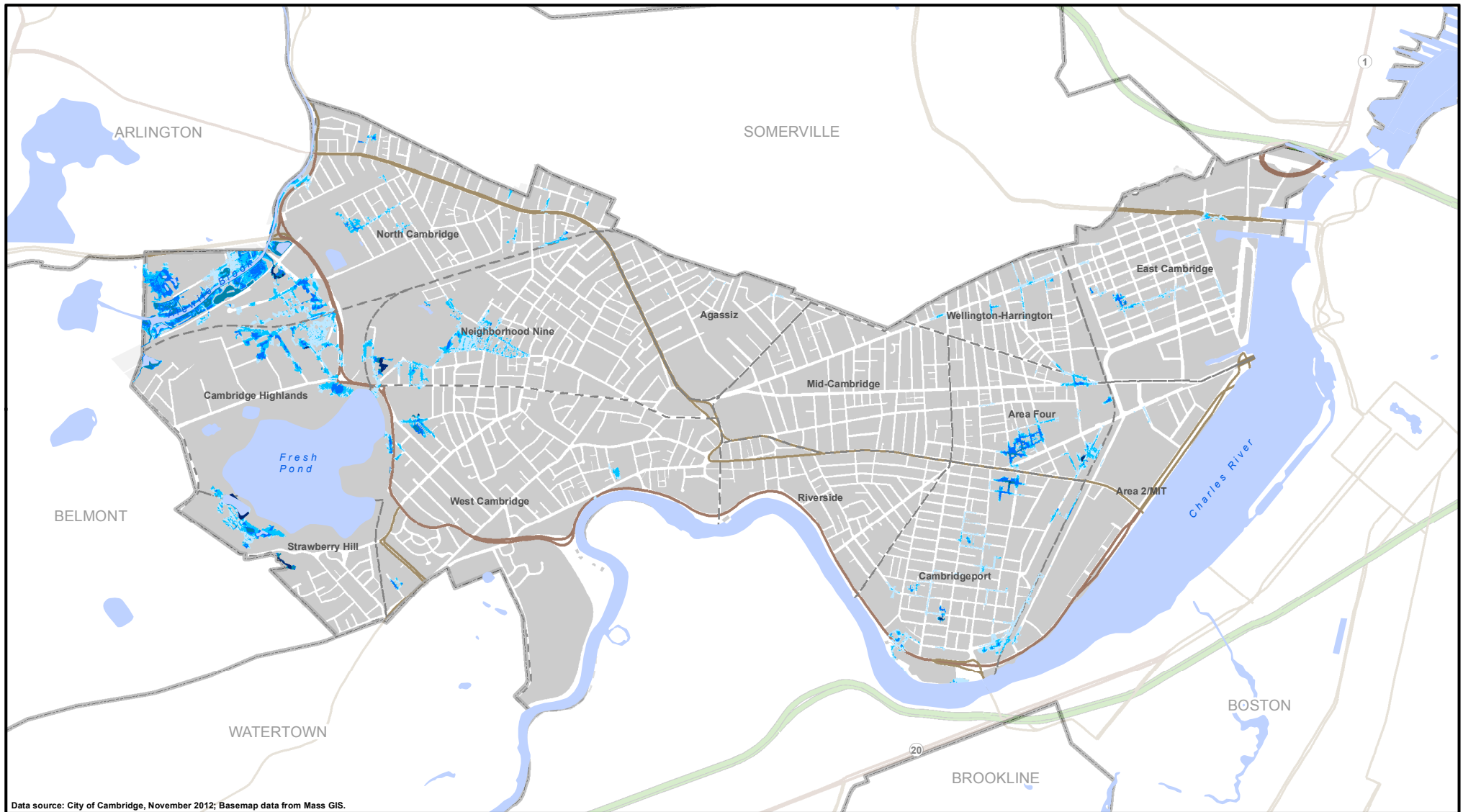


Data source: City of Cambridge, November 2012; Basemap data from Mass GIS.

<p>Depth of flooding above ground (ft)</p> <ul style="list-style-type: none"> 0 - 0.5 0.5 - 1.0 1.0 - 2.0 2.0 - 3.0 > 3.0 	<p>LEGEND</p> <ul style="list-style-type: none"> Water Body City of Cambridge Boundary Neighborhood Boundary Interstate US Highway State Route 	<p>0 1,000 2,000 Feet</p> <p>Locations are approximate</p> <p><small>This information was developed specifically and for the exclusive use for the City of Cambridge's Climate Change Vulnerability Assessment. The materials are not intended to be suitable for reuse on other projects or for any other project. All in-kind, without the prior written verification or authorization by Kleinfelder for the specific purpose intended will be at the user's own risk, without liability or legal recourse to Kleinfelder or the City of Cambridge.</small></p>	 <p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>	<p>PROJECT NO.: 20100259 DRAWN: FEB 2017 DRAWN BY: AD CHECKED BY: NB FILE NAME: 10Year_Present.mxd</p>	<p>PRESENT CONDITIONS 10 YEAR SCENARIO FLOODING FROM PRECIPITATION</p> <p>Climate Change Vulnerability Assessment Cambridge, Massachusetts</p>	<p>MAP 7</p>
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February 2017

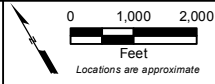
Map 8: Precipitation flooding scenario under the 10-year 24-hour storm by 2030s



Data source: City of Cambridge, November 2012; Basemap data from Mass GIS.

LEGEND

0 - 0.5	2.0 - 3.0	Water Body	Interstate
0.5 - 1.0	> 3.0	City of Cambridge Boundary	US Highway
1.0 - 2.0		Neighborhood Boundary	State Route



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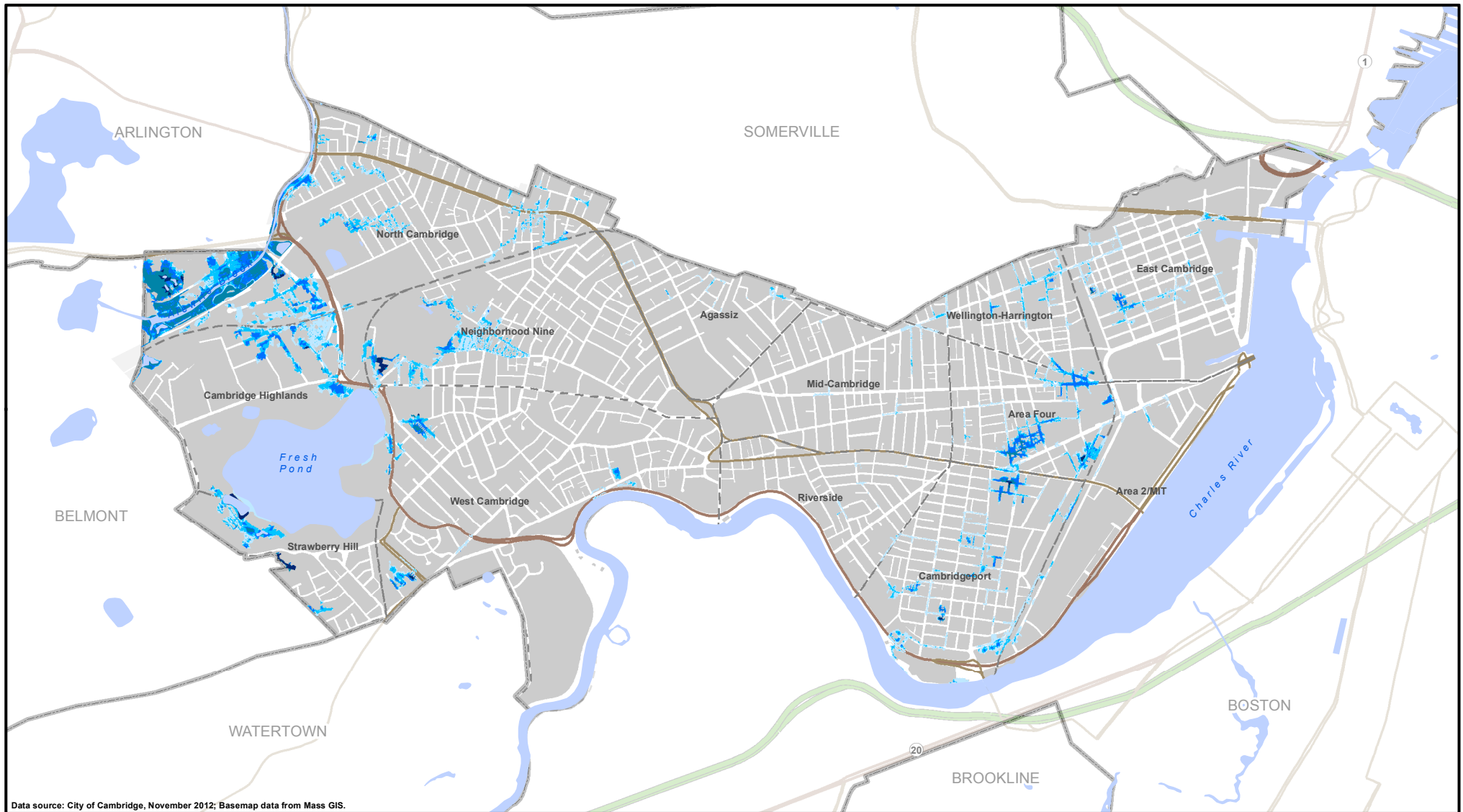
PROJECT NO.:	20100259
DRAWN:	FEB 2017
DRAWN BY:	AD
CHECKED BY:	NB
FILE NAME:	10Year_2030.mxd

2030 CONDITIONS 10 YEAR SCENARIO FLOODING FROM PRECIPITATION
Climate Change Vulnerability Assessment Cambridge, Massachusetts

MAP
8

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Map 9: Precipitation flooding scenario under the 10-year 24-hour storm by 2070s



Data source: City of Cambridge, November 2012; Basemap data from Mass GIS.

LEGEND			
0 - 0.5	2.0 - 3.0	Water Body	Interstate
0.5 - 1.0	> 3.0	City of Cambridge Boundary	US Highway
1.0 - 2.0		Neighborhood Boundary	State Route

0 1,000 2,000
Feet
Locations are approximate

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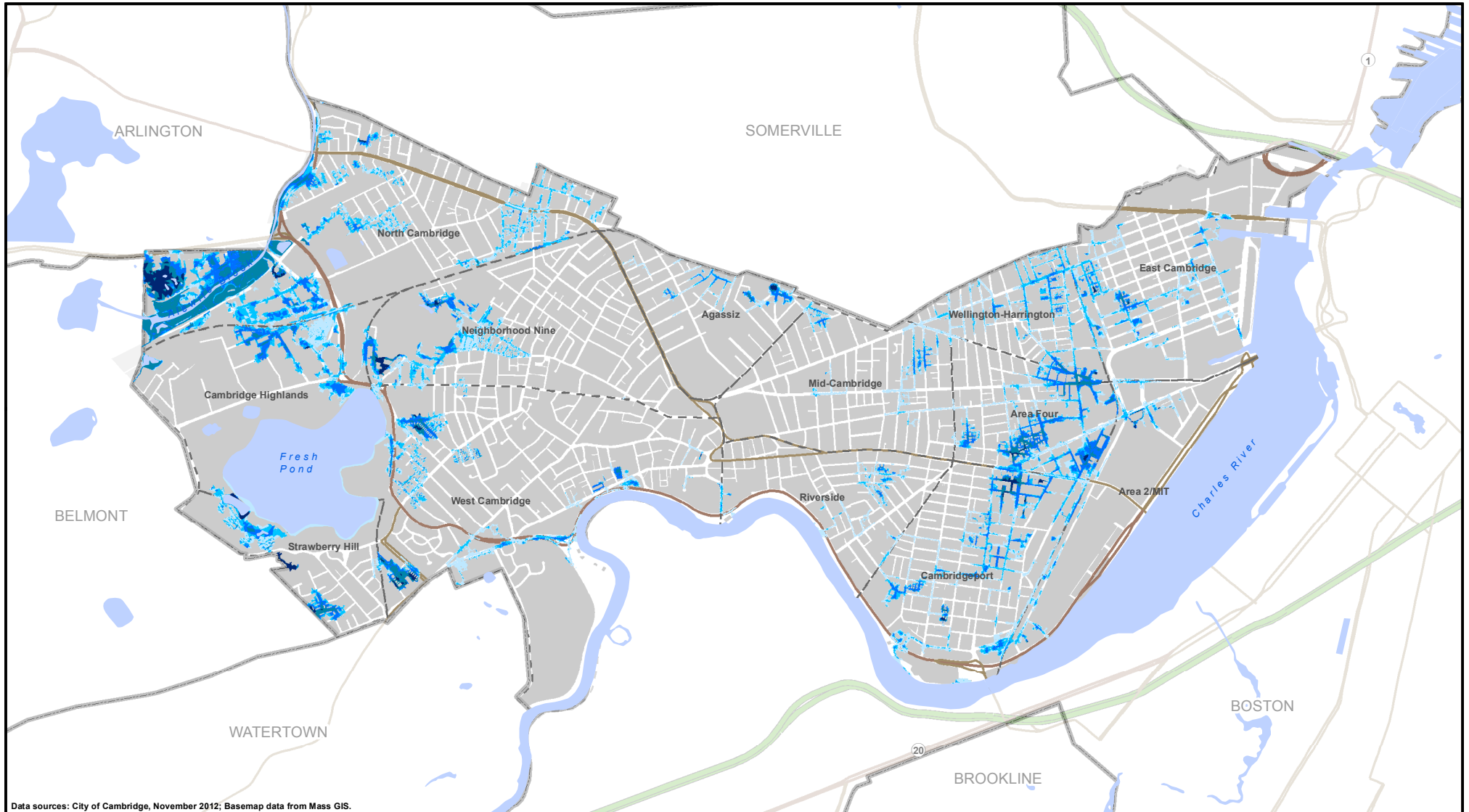
PROJECT NO.:	20100259
DRAWN:	FEB 2017
DRAWN BY:	AD
CHECKED BY:	NB
FILE NAME:	10Year_2070.mxd

2070 CONDITIONS 10 YEAR SCENARIO FLOODING FROM PRECIPITATION
Climate Change Vulnerability Assessment Cambridge, Massachusetts

MAP
9

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Map 10: Present conditions precipitation flooding under the current 100-year 24-hour storm



Data sources: City of Cambridge, November 2012; Basemap data from Mass GIS.

LEGEND			
0 - 0.5	2.0 - 3.0	Water Body	Interstate
0.5 - 1.0	> 3.0	City of Cambridge Boundary	US Highway
1.0 - 2.0		Neighborhood Boundary	State Route

0 1,000 2,000
Feet
Locations are approximate

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PROJECT NO.:	20100259
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FILE NAME:	100Year_Present.mxd

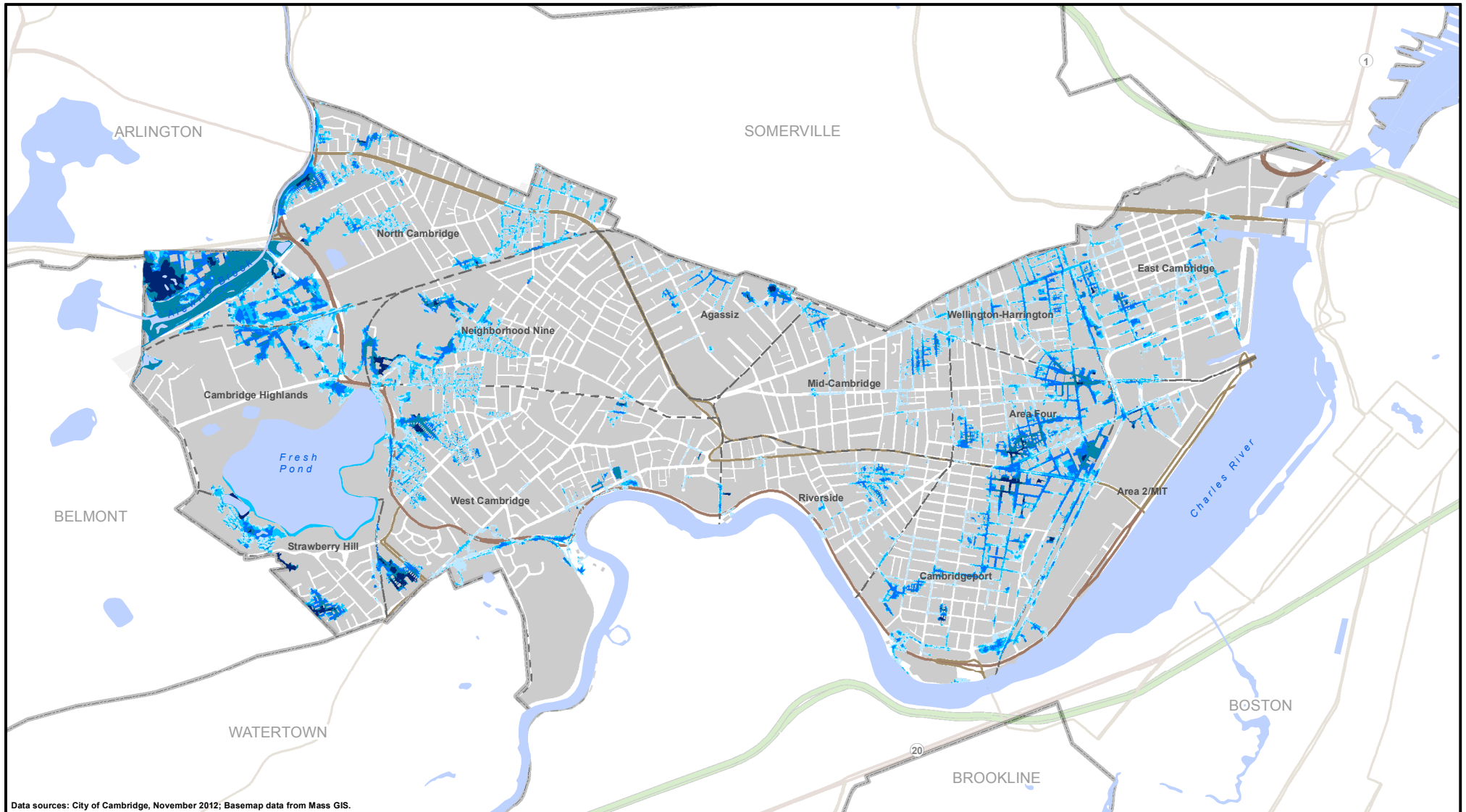
**PRESENT CONDITIONS
100 YEAR SCENARIO
FLOODING FROM PRECIPITATION**

Climate Change Vulnerability Assessment
Cambridge, Massachusetts

MAP
10

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Map 11: Precipitation flooding scenario under the 100-year 24-hour storm by 2030s

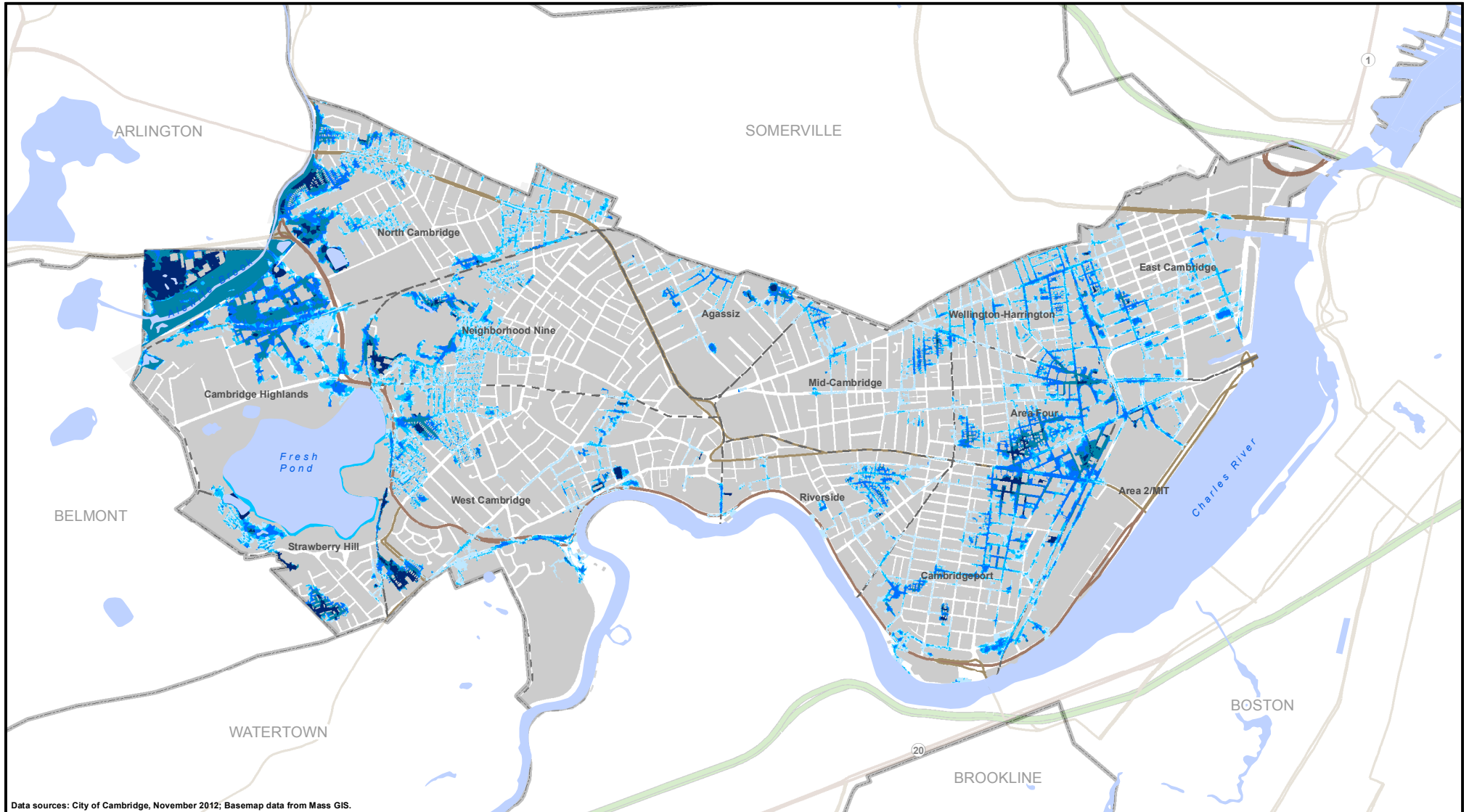


Data sources: City of Cambridge, November 2012; Basemap data from Mass GIS.

Depth of flooding above ground (ft) 0 - 0.5 0.5 - 1.0 1.0 - 2.0 2.0 - 3.0 > 3.0		LEGEND Water Body City of Cambridge Boundary Neighborhood Boundary Interstate US Highway State Route	0 1,000 2,000 Feet Locations are approximate 	 Bright People. Right Solutions. www.kleinfelder.com	PROJECT NO.: 20100259 DRAWN: FEB 2017 DRAWN BY: AD CHECKED BY: NB FILE NAME: 100Year_2030.mxd	2030 CONDITIONS 100 YEAR SCENARIO FLOODING FROM PRECIPITATION	MAP 11 Climate Change Vulnerability Assessment Cambridge, Massachusetts
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February 2017

Map 12: Precipitation flooding scenario under the 100-year 24-hour storm by 2070s



Data sources: City of Cambridge, November 2012; Basemap data from Mass GIS.

<p>Depth of flooding above ground (ft)</p> <ul style="list-style-type: none"> 0 - 0.5 0.5 - 1.0 1.0 - 2.0 2.0 - 3.0 > 3.0 		<p>LEGEND</p> <ul style="list-style-type: none"> Water Body City of Cambridge Boundary Neighborhood Boundary Interstate US Highway State Route 		<p>0 1,000 2,000 Feet Locations are approximate</p>		<p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>		<p>PROJECT NO.: 20100259 DRAWN: FEB 2017 DRAWN BY: AD CHECKED BY: NB FILE NAME: 100Year_2070.mxd</p>		<p>2070 CONDITIONS 100 YEAR SCENARIO FLOODING FROM PRECIPITATION</p>		<p>MAP 12</p>	
<p>Climate Change Vulnerability Assessment Cambridge, Massachusetts</p>													

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