

MEMORANDUM

TO: Eileen M. Donoghue, City Manager *EMD*

FROM: Diane N. Tradd, Assistant City Manager/DPD Director

DATE: February 26, 2019

SUBJECT: MOTION OF 1/29/19 BY COUNCILOR NUON
 REQUEST CITY MANAGER HAVE TRANSPORTATION ENGINEER REVIEW THE “DANGEROUS”
 FLOW OF TRAFFIC AT THE INTERSECTION OF FIRST STREET, BRADLEY STREET AND STATE
 HIGHWAY ROUTE 110

Diane Nichols Tradd
 Assistant City Manager/DPD Director

Craig Thomas
 Deputy Director

The Transportation Engineer met with the concerned resident on site to review the issues and discuss the proposed solution. Currently, a vehicle turning right onto Route 110 off of First Street will essentially perform a U-turn maneuver, from a stopped position. From MassDOT’s crash portal, a total of 37 accidents occurred at the intersection of Route 110 and First/Bradley Streets from 2002-2016. The average crash rate at an unsignalized intersection in MassDOT District 4 is 0.57 crashes per million entering vehicles. The ADT for Route 110 (VFW Highway/Merrimack Avenue at the Lowell/Dracut line) from 2014 is 14,600 vehicles per day. With that limited data, at this intersection, the average crash rate is 0.49, which is below the average. See the attached report.

The suggested change would reroute vehicles on First Street up Christian Street, onto E. Durant or E. Richardson and down Bradley Street which will be extended through the embankment to connect with Route 110 in a Y-shaped intersection. The City’s Engineer’s office has drafted a sketch of the proposed changes. See the attached map for the existing conditions and the attached conceptual proposed plan. The reconfiguration of the intersection is within the footprint of an existing sewer metering station that would require abandonment and reconfiguration of the existing sewer main. The project limits are partially located within the state owned Right-of-Way (ROW), which would require MassDOT’s coordination, review, and commitment to the project.

The City Engineer has created a cost estimate for the project, which is listed below. This is a preliminary estimate based on recent projects and experience because it is not possible to create an accurate cost estimate without the development of a detailed design.

First Street/Route 110 Preliminary Cost Estimate	
Sewer Metering Vault Abandonment/Reconfiguration	\$100,000
Clearing/Tree Removal	\$15,000
Grading/Fill	\$20,000
Curbing	\$19,500
Paving, Mill and Overlay	\$75,000
<i>Subtotal</i>	<i>\$229,500</i>
25% Contingency	\$57,375
Estimated Survey, Traffic Study and Design Fee	\$50,000
Total	\$336,875

Other analyses required to advance this proposal include a traffic study with traffic counts, survey of the project area, review of the conflict points for drivers turning right off of Route 110 onto First/Bradley Street, a swept path analysis for emergency vehicles through the intersection and detailed grading design. Based on this information, the City and Transportation Engineer recommend that this project proposal be forwarded onto MassDOT for evaluation prior to any further City consideration of this becoming a capital project request. Note that the City and Transportation Engineer are planning to set up a meeting with MassDOT to discuss all active and upcoming projects in the City of Lowell.

NV/ns

Attachment

cc: Representative David Nangle
 Representative Thomas Golden
 Representative Rady Mom
 Senator Edward Kennedy
 Natasha Vance, Transportation Engineer
 Christine Clancy, City Engineer

First Street/110 crash portal data



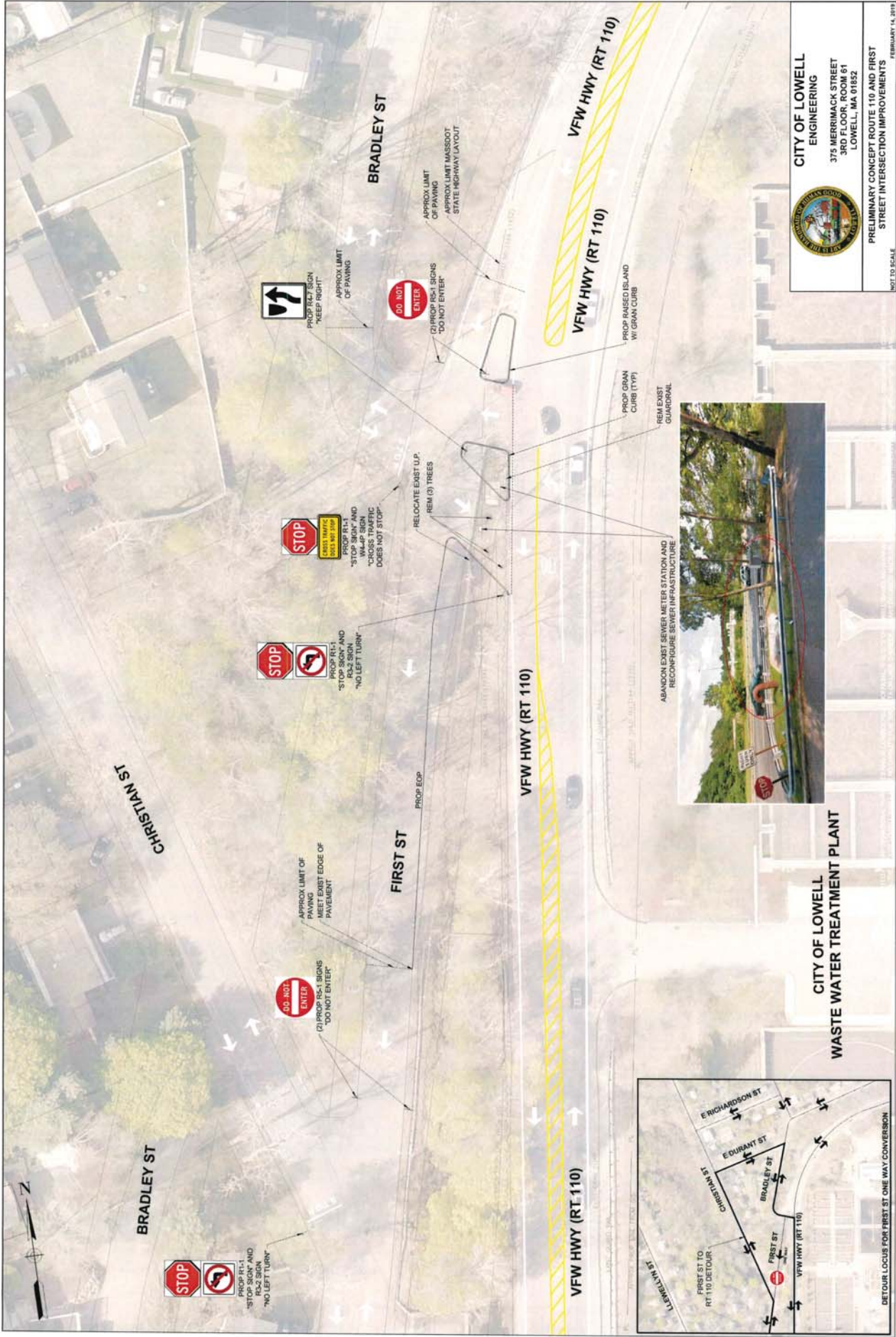
Crash Number	Crash Date	Crash Time	City/Town	Crash Severity	Roadway	Near Intersection Roadway	Landmark	Police Agency
2590222	4/5/2010 12:00:00 AM	3:30 PM	LOWELL	Not Reported	FIRST STREET / FIRST ST BOULEVARD / VETERANS OF FOREIGN WARS HIGHWAY			Local police
2808813	10/27/2011 12:00:00 AM	10:20 PM	LOWELL	Property damage only (none injured)	VETERANS OF FOREIGN WARS HIGHWAY Rte 110 W / FIRST STREET BOULEVARD			Local police
3426649	5/10/2013 12:00:00 AM	1:30 PM	LOWELL	Property damage only (none injured)	Rte 110 / FIRST STREET			Local police
3546160	7/23/2013 12:00:00 AM	2:10 PM	LOWELL	Property damage only (none injured)	FIRST STREET	Rte 110 W	WASTE WATER TREATMENT PLANT	Local police
3689731	11/8/2013 12:00:00 AM	7:15 AM	LOWELL	Property damage only (none injured)	FIRST STREET / FIRST STREET BOULEVARD			Local police
4064879	4/13/2015 12:00:00 AM	3:20 PM	LOWELL	Property damage only (none injured)	FIRST STREET / CHRISTIAN STREET		FIRST STREET BOULEVARD	Local police
4143642	11/7/2015 12:00:00 AM	2:27 AM	LOWELL	Property damage only (none injured)	FIRST STREET / BRADLEY STREET			Local police
1459671	6/9/2002 12:00:00 AM	11:15 PM	LOWELL	Property damage only (none injured)	BRADLEY STREET / FIRST STREET			Local police
1847567	2/11/2005 12:00:00 AM	7:40 PM	LOWELL	Property damage only (none injured)	LOWELL- LAWRENCE BOULEVARD Rte 110 E	FIRST STREET		Local police
3046224	4/4/2012 12:00:00 AM	10:25 AM	LOWELL	Property damage only (none injured)	BRADLEY STREET Rte 110	FIRST STREET Rte 110		Local police

3157084	5/10/2012 12:00:00 AM	8:00 AM	LOWELL	Non-fatal injury	CHRISTIAN STREET / FIRST STREET		Local police
3267759	6/7/2012 12:00:00 AM	4:05 PM	LOWELL	Non-fatal injury	FIRST ST BOULEVARD Rte 110 / BRADLEY STREET / FIRST STREET		Local police
3374080	2/8/2013 12:00:00 AM	3:50 PM	LOWELL	Property damage only (none injured)	FIRST STREET BOULEVARD / BRADLEY STREET		Local police
4147999	11/18/2015 12:00:00 AM	5:50 PM	LOWELL	Property damage only (none injured)	FIRST STREET / CHRISTIAN STREET		Local police
4189624	4/8/2016 12:00:00 AM	11:50 AM	LOWELL	Property damage only (none injured)	FIRST STREET BOULEVARD Rte SR110 W / FIRST STREET		Local police
2118681	11/24/2006 12:00:00 AM	5:00 PM	LOWELL	Non-fatal injury	LOWELL- LAWRENCE BOULEVARD Rte 110 / FIRST STREET		Local police
2119968	11/13/2006 12:00:00 AM	8:00 AM	LOWELL	Property damage only (none injured)	Rte 110 / FIRST STREET		Local police
2369563	8/31/2008 12:00:00 AM	11:06 PM	LOWELL	Property damage only (none injured)	FIRST STREET / BRADLEY STREET		Local police
2373938	5/12/2007 12:00:00 AM	5:00 AM	LOWELL	Not Reported	FIRST STREET / Rte 110		
2618487	6/27/2010 12:00:00 AM	11:09 AM	LOWELL	Property damage only (none injured)	Rte SR110	DUCK ISLAND	Local police
2722654	5/8/2011 12:00:00 AM	11:15 AM	LOWELL	Non-fatal injury	CHRISTIAN STREET / FIRST STREET		Local police
2827573	11/24/2011 12:00:00 AM	9:00 AM	LOWELL	Property damage only (none injured)	CHRISTIAN STREET / FIRST STREET		Local police

3270631	10/1/2012 12:00:00 AM	7:56 AM	LOWELL	Property damage only (none injured)	FIRST STREET / BRADLEY STREET / Rte 110		Local police
3625434	10/14/2013 12:00:00 AM	3:06 AM	LOWELL	Property damage only (none injured)	FIRST STREET BOULEVARD / BRADLEY STREET		Local police
3802433	4/28/2014 12:00:00 AM	8:35 AM	LOWELL	Non-fatal injury	FIRST ST BOULEVARD Rte 110 S / FIRST STREET / BRADLEY STREET		Local police
3825032	5/16/2014 12:00:00 AM	3:05 PM	LOWELL	Non-fatal injury	FIRST ST BOULEVARD Rte 110 S / FIRST STREET / BRADLEY STREET		Local police
3977013	11/17/2014 12:00:00 AM	7:24 AM	LOWELL	Property damage only (none injured)	FIRST ST BOULEVARD / BRADLEY STREET / FIRST STREET		Local police
4031493	1/25/2015 12:00:00 AM	7:50 PM	LOWELL	Property damage only (none injured)	FIRST STREET / Rte 110		Local police
4094234	7/31/2015 12:00:00 AM	7:45 AM	LOWELL	Non-fatal injury	FIRST STREET BOULEVARD Rte SR110 W / FIRST STREET		Local police
4156847	12/15/2015 12:00:00 AM	12:50 PM	LOWELL	Non-fatal injury	FIRST STREET BOULEVARD		Local police
4281823	10/8/2016 12:00:00 AM	10:52 PM	LOWELL	Not Reported	FIRST STREET BOULEVARD Rte 110 E		Local police
1457537	5/22/2002 12:00:00 AM	3:15 PM	LOWELL	Non-fatal injury	Rte 110 / FIRST STREET		Local police
1581772	5/1/2003 12:00:00 AM	2:15 AM	LOWELL	Not Reported	FIRST STREET	Rte 110	Local police

1582042	5/1/2003 12:00:00 AM	5:45 PM	LOWELL	Property damage only (none injured)	FIRST STREET / LOWELL- LAWRENCE BOULEVARD		Local police
1721625	4/21/2004 12:00:00 AM	5:00 PM	LOWELL	Property damage only (none injured)	Rte 110 / FIRST STREET		Local police
2058270	6/18/2006 12:00:00 AM	2:00 PM	LOWELL	Property damage only (none injured)	FIRST STREET / Rte 110		Local police
2143303	1/26/2007 12:00:00 AM	7:20 AM	LOWELL	Non-fatal injury	Rte 110 S / BRADLEY STREET		Local police
2183843	5/5/2007 12:00:00 AM	3:00 AM	LOWELL	Property damage only (none injured)	Rte 110 / FIRST STREET		Local police
2206724	7/15/2007 12:00:00 AM	6:00 PM	LOWELL	Property damage only (none injured)	FIRST ST BOULEVARD / FIRST STREET / BRADLEY STREET		Local police
2297258	3/3/2008 12:00:00 AM	4:15 PM	LOWELL	Property damage only (none injured)	FIRST STREET / Rte 110		Local police
2313299	4/10/2008 12:00:00 AM	8:00 AM	LOWELL	Non-fatal injury	Rte 110 N / FIRST STREET		Local police
2316463	4/27/2008 12:00:00 AM	3:00 AM	LOWELL	Property damage only (none injured)	LOWELL- LAWRENCE BOULEVARD Rte 110 W / FIRST STREET		Local police
2332041	5/29/2008 12:00:00 AM	6:34 AM	LOWELL	Non-fatal injury	FIRST ST BOULEVARD Rte 110	WASTE WATER TREATMENT	Local police
2507477	8/19/2009 12:00:00 AM	11:45 AM	LOWELL	Non-fatal injury	CHRISTIAN STREET / FIRST STREET		Local police
2554968	12/1/2009 12:00:00 AM	2:47 AM	LOWELL	Non-fatal injury	BRADLEY STREET / FIRST STREET		Local police

2555334	12/2/2009 12:00:00 AM	5:40 PM	LOWELL	Property damage only (none injured)	FIRST STREET / Rte 110		Local police
2901815	3/16/2010 12:00:00 AM	5:30 AM	LOWELL	Property damage only (none injured)	/ VETERANS OF FOREIGN WARS HIGHWAY	FIRST STREET	Local police
3661259	10/26/2013 12:00:00 AM	10:15 PM	LOWELL	Property damage only (none injured)	VETERANS OF FOREIGN WARS HIGHWAY Rte 110 W / FIRST STREET BOULEVARD		Local police
3731902	2/3/2014 12:00:00 AM	3:45 PM	LOWELL	Property damage only (none injured)	FIRST STREET / BRADLEY STREET		Local police
3797948	4/1/2014 12:00:00 AM	5:50 AM	LOWELL	Property damage only (none injured)	VETERANS OF FOREIGN WARS HIGHWAY Rte 110 W / FIRST STREET	FIRST STREET BOULEVARD	Local police
3965011	10/11/2014 12:00:00 AM	00:00 AM	LOWELL	Property damage only (none injured)	VETERANS OF FOREIGN WARS HIGHWAY / FIRST STREET	HUNTS FALL ROTARY	Local police
4233829	7/13/2016 12:00:00 AM	7:45 AM	LOWELL	Property damage only (none injured)	FIRST STREET BOULEVARD Rte SR110 W / FIRST STREET		Local police



CITY OF LOWELL
ENGINEERING
375 MERRIMACK STREET
3RD FLOOR, ROOM 61
LOWELL, MA 01852



PRELIMINARY CONCEPT ROUTE 110 AND FIRST STREET INTERSECTION IMPROVEMENTS
NOT TO SCALE
FEBRUARY 14, 2019

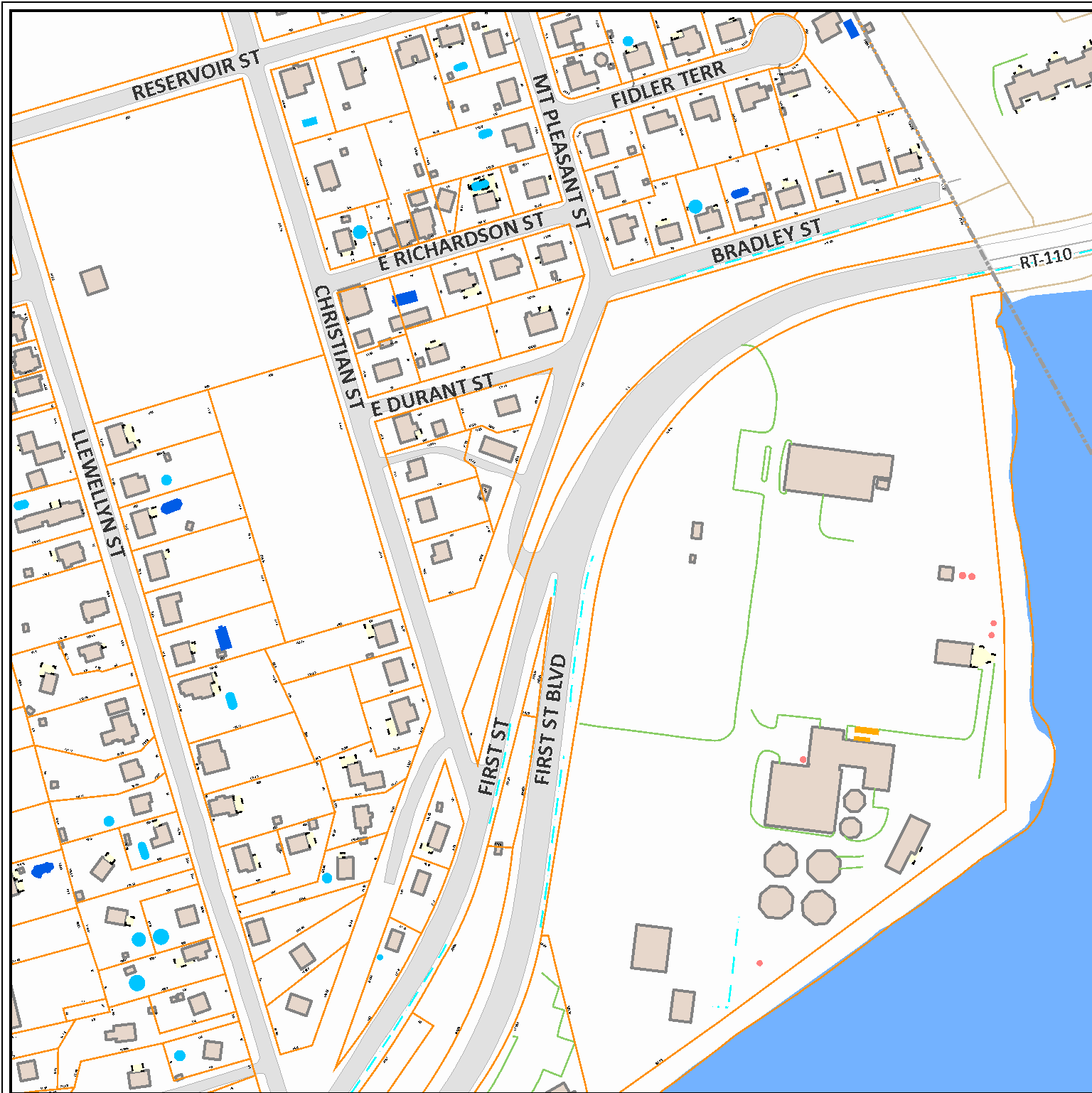
**CITY OF LOWELL
WASTE WATER TREATMENT PLANT**



DETOUR LOCUS FOR FIRST ST ONE WAY CONVERSION



City of Lowell Massachusetts



- Lowell Boundary
- Parcels
- Buildings
 - Building
 - Foundation
 - Mobile Home
 - Tank
 - Deck
- Pool - Above Ground
- Pool - In-Ground
- Paved Roads
- Water Bodies
 - Open Water
 - River
- Border Town Parcels

DISCLAIMER
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1" = 226 ft January 29, 2019