

Design Summary

The following is a block by block summary including typical sections of a basic street reconstruction project on East Ninth Street from Delaware to New Hampshire. The [city standard typical design](#) of a "collector" street without bike lanes in Lawrence has a width of 31' (back of curb to back of curb) and a "local" street has a width of 27' (back to back). The existing ninth street right-of-way is 80' which is typical of a "collector" street. East Ninth street is classified as a "collector" street from Massachusetts to Connecticut and a "local" street from Connecticut to Delaware.

The project includes 8" concrete pavement, curb and gutter, storm sewer and new sidewalks on both sides of the street. Brick sidewalks (approximately 705 LF) could be reconstructed with existing brick to meet historical requirements. The cost to reconstruct the existing brick sidewalks is approximately \$10,000; long term maintenance costs of brick sidewalks to meet ADA compliance should be expected. All sidewalk ramps will be replaced to meet ADA requirements.

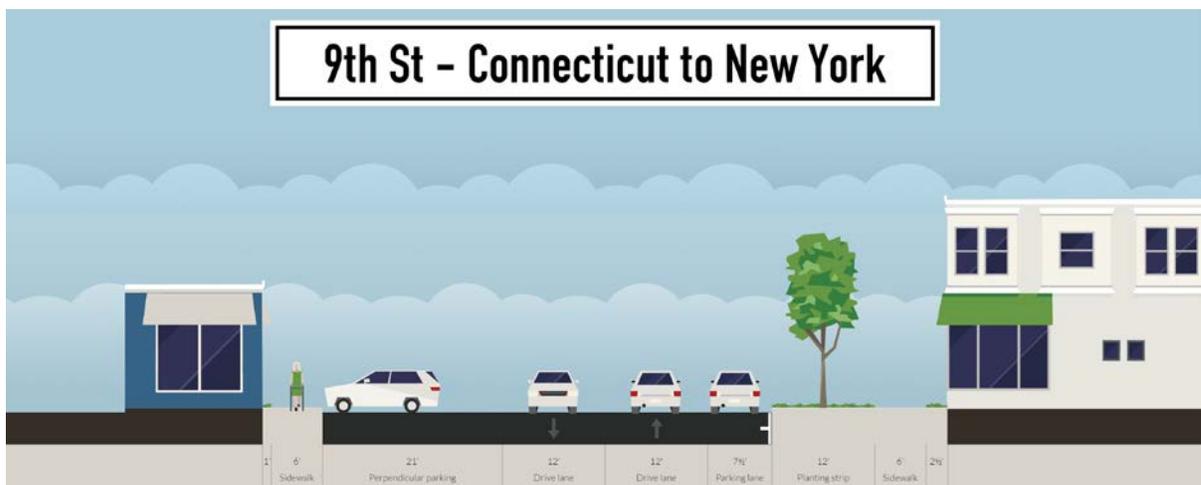
- Pennsylvania to Delaware (PCI 100) - This block was reconstructed in 2013 with new concrete pavement, curb and gutter and storm sewer. No changes are proposed to the street width; existing street width is 31' (back of curb to back of curb). Includes recommendation to add sidewalk to complete 100' gap on north side of 9th Street and 275' sidewalk gap on south side.
- New Jersey to Pennsylvania (PCI 47) - Reconstruct pavement to 31' wide street (existing street width is 31'). Retain existing parallel parking on north side and no parking on south side. A 16' green space is available between the sidewalk and street on both sides of 9th Street.



- New York to New Jersey (PCI 43) - The existing street width is 39' with parallel parking on both sides. Recommended reconstruction would be 39' with parallel parking. The four head in on-street parking spaces on the north side of 9th Street would need to be removed to provide a 6' ADA compliant sidewalk without making modifications to the entrance of the building (two parallel parking spaces could fit between the alley and parking lot entrance). A 12' green space is available on both sides of the street.



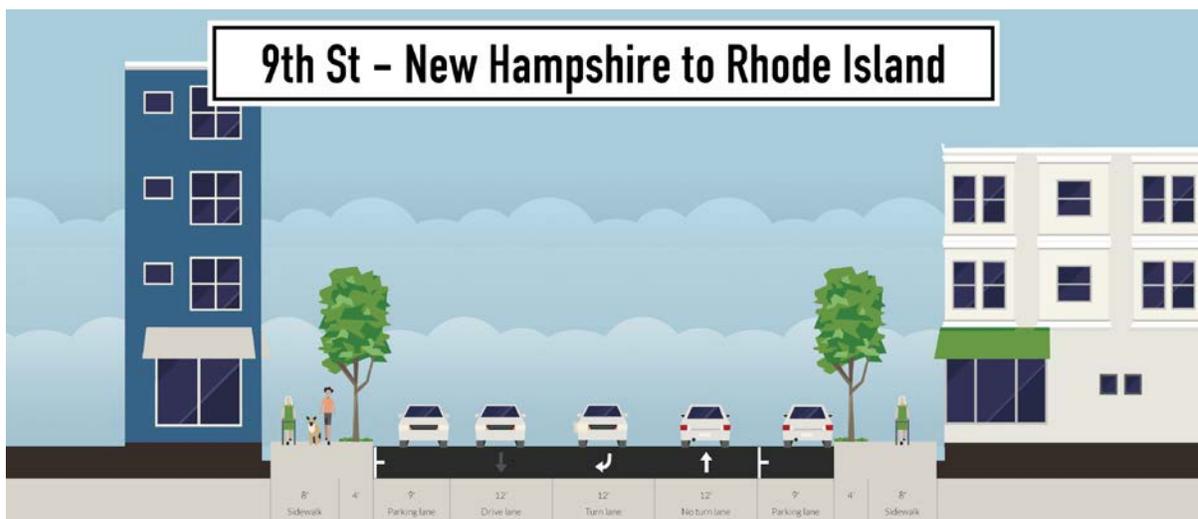
- Connecticut St to New York St. (PCI 43) - The existing street width is 39' with parallel parking on both sides. Recommended reconstruction would be 39' with parallel parking. No changes are proposed to intersection 9th & New York brick street intersection. There is adequate space to reconstruct the existing head-in street parking on the north side of the street; staff recommendation would be to adjust head-in parking from 90 degree to 60 degree angled parking. A 12' green space is available in areas.



- Rhode Island to Connecticut St. (PCI 31)- The existing street width is 60' with parallel parking on both sides. Recommended reconstruction width would be 39' with parallel parking. A 12' green space is available on both sides of the street.



- New Hampshire to Rhode Island (PCI 31) - The existing street width is 60' with parallel parking on both sides. The proposed street width would be 54' (similar to 9th St between Mass St. and New Hampshire St.) including curb bulb outs at intersections. The typical section includes 8' sidewalks and a 4' green space similar to downtown streets. Curbs and sidewalk reconstructed with the recently completed projects at 888 New Hampshire and 900 New Hampshire would remain.



Cost Estimate

The cost estimate including engineering is \$1,883,000. The estimate does not include underground utilities, waterline replacement (if needed) or a bicycle facility. Installation of decorative street lights (similar to 12th Street lighted pathway from KU to downtown) on both sides of 9th Street would add \$200,000.

ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	L.S.	1	\$ 50,000.00	\$ 50,000.00
2	CONTRACTOR STAKING	L.S.	1	\$ 20,000.00	\$ 20,000.00
3	DEMOLITION (INCLUDING BRICK HAUL TO WEST 40)	L.S.	1	\$ 150,000.00	\$ 150,000.00
4	EARTHWORK	L.S.	1	\$ 50,000.00	\$ 50,000.00
5	AB-3	SY	7,840	\$ 10.00	\$ 78,397.00
6	CONCRETE CURB AND GUTTER	L.F.	3,500	\$ 20.00	\$ 70,000.00
7	CONCRETE PAVEMENT (8") (NRDJ)	SY	7,127	\$ 70.00	\$ 498,890.00
8	CONCRETE DRIVEWAYS/ALLEYS (8")	SY	1,997	\$ 50.00	\$ 99,850.00
9	SIDEWALKS (CONCRETE) (4")	SY	1,370	\$ 40.00	\$ 54,800.00
10	SIDEWALK (REMOVE & REPLACE BRICK)	SY	500	\$ 60.00	\$ 30,000.00
11	SIDEWALK RAMP (6")	EACH	36	\$ 1,000.00	\$ 36,000.00
12	STORM SEWER STRUCTURE (STANDARD CURB INLET)	EACH	14	\$ 4,000.00	\$ 56,000.00
13	STORM SEWER PIPE (CLASS III RCP)	LF	1,700	\$ 120.00	\$ 204,000.00
14	FLOWABLE FILL	CY	400	\$ 125.00	\$ 50,000.00
15	WATER METER / MANHOLE ADJUST / VALVE BOX	EACH	5	\$ 500.00	\$ 2,500.00
16	SIGNS AND PAVEMENT MARKING	L.S.	1	\$ 20,000.00	\$ 20,000.00
17	CONDUIT (2")	LF	2,000	\$ 15.00	\$ 30,000.00
18	SEEDING, MULCHING, FERTILIZING	L.S.	1	\$ 10,000.00	\$ 10,000.00
19	EROSION CONTROL	L.S.	1	\$ 10,000.00	\$ 10,000.00
20	TRAFFIC CONTROL	L.S.	1	\$ 50,000.00	\$ 50,000.00
21	STREET TREES	EACH	50	\$ 500.00	\$ 25,000.00
				Construction total	\$ 1,595,437.00
				10% Contingency	\$ 159,543.70
				Engineering (8%)	\$ 127,634.96
				Project Total	\$ 1,882,615.66
	DECORATIVE STREET LIGHTS (OPTIONAL)	EACH	40	\$ 5,000.00	\$ 200,000.00

For reference, the cost estimate provided with the final el dorado design documents is below:

EAST NINTH DESIGN DEVELOPMENT BUDGET

EAST NINTH					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	DEMOLITION AND REMOVAL	1	LSUM	\$50,000.00	\$50,000.00
2	CLEARING & GRUBBING	1	LSUM	\$50,000.00	\$50,000.00
3	PAVEMENT REMOVAL	11,069	SQYD	\$10.00	\$110,694.11
4	LIMESTONE CURB REMOVAL & STOCKPILE	452	LNFT	\$7.00	\$3,165.40
5	BRICK SIDEWALK REMOVAL & STOCKPILE	171	SQYD	\$7.00	\$1,195.58
6	UNCLASSIFIED EXCAVATION	2,000	CUYD	\$25.00	\$50,000.00
7	EMBANKMENT	1,000	CUYD	\$35.00	\$35,000.00
8	STRAIGHT CURB (TYPE C-1)	8,520	LNFT	\$27.00	\$230,031.90
9	BRICK SIDEWALK REMOVE & RESET	59	SQYD	\$40.00	\$2,346.18
10	SIDEWALK REPAIR	185	SQYD	\$40.00	\$7,403.96
11	SIDEWALK RAMP (6")	234	SQYD	\$210.00	\$49,140.00
12	CONCRETE SIDEWALK (4")	2,040	SQYD	\$55.00	\$112,217.72
13	6" AGGREGATE BASE (AB-3)	7,502	SQYD	\$14.00	\$105,027.07
14	6" CONCRETE PAVEMENT	2,124	SQYD	\$55.00	\$116,806.56
15	6" CONCRETE PAVEMENT COLOR/STAMPED	728	SQYD	\$120.00	\$87,401.33
16	8" CONCRETE PAVEMENT	1,087	SQYD	\$60.00	\$65,211.33
17	8" CONCRETE PAVEMENT COLOR/STAMPED	216	SQYD	\$128.00	\$27,690.67
18	10" CONCRETE PAVEMENT	5,095	SQYD	\$65.00	\$331,165.03
19	10" CONCRETE PAVEMENT COLOR/STAMPED	745	SQYD	\$135.00	\$100,544.70
20	PERMEABLE PAVERS	1,126	SQYD	\$160.00	\$180,135.11
21	4" CRUSHED GRANITE SURFACE	234	SQYD	\$20.00	\$4,680.67
22	RETAINING WALL	1,500	SQYD	\$150.00	\$225,000.00
23	CURB INLETS	10	EACH	\$3,000.00	\$30,000.00
24	DOME INLET OVERFLOW	16	EACH	\$2,000.00	\$32,000.00
25	STORM SEWER PIPE	230	LNFT	\$80.00	\$18,400.00
26	STONE INFILTRATION PAVERS	478	SQYD	\$55.00	\$26,277.78
27	STONE INFILTRATION SUBGRADE AGGREGATE	637	CUYD	\$50.00	\$31,851.85
28	ADJUST SANITARY MANHOLE TOP	4	EACH	\$500.00	\$2,000.00
29	EROSION CONTROL	1	LSUM	\$50,000.00	\$50,000.00
30	LANDSCAPING	1	LSUM	\$150,000.00	\$150,000.00
31	NEIGHBORHOOD LANDSCAPING INITIATOR	1	LSUM	\$75,000.00	\$75,000.00
32	TEMPORARY TRAFFIC CONTROL	1	LSUM	\$65,000.00	\$65,000.00
33	LIGHTING SYSTEM	1	LSUM	\$300,000.00	\$300,000.00
34	INTEGRATED STREET FURNITURE (SEATIN WALLS)	408	SQYD	\$150.00	\$61,200.00
35	PAVEMENT MARKING & SIGNING	1	LSUM	\$100,000.00	\$100,000.00
36	FIBER OPTIC CONDUIT	2,250	LNFT	\$12.00	\$27,000.00
37	WESTAR ENERGY RELOCATION OF POWER UNDER GROUND	1	LSUM	\$250,000.00	\$250,000.00
38	UNDER GROUND POWER TRENCHING	1	LSUM	\$80,000.00	\$80,000.00
SUBTOTAL					\$3,243,586.95
10% CONTINGENCY					\$324,358.69
CONSTRUCTION BUDGET					\$3,567,945.64