



Core City and Irondale Infrastructure Improvements



Overview

- Purpose and Need
- Principles
- Maintenance Types
- Process
- Condition Ranges
- Type/Condition
- Methodology
- Recommendations
- Funding

Purpose and Need

- To preserve and extend the useful life of paved surfaces throughout the City and optimize the available funds to meet the roadway network condition needs.
 - Maximize performance and safety standards of City roadways
 - Minimize overall long-term costs of managing the network roadway system.

Principles

- Repairing streets when still in fair condition ultimately costs less over their lifetime than waiting until they have fallen in poor condition.

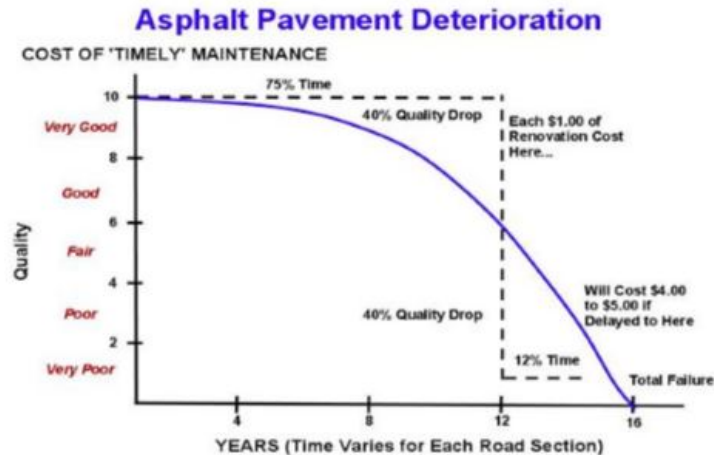


Figure 1-1 - Pavement Life Cycle Curve

- Delaying until the road is in “Fair” condition or worse, the cost of rehabilitation becomes 4 to 5 times more expensive than for those roads in “Good” condition.

Maintenance Types

Routine:

- Planned; cyclical
- Reactive to problems; performed after a deficiency occurs in the pavement
- Does not extend service life

Examples:

- Crack sealing/filling
- Full depth crack repair with mastic material
- Joint sealing (concrete)
- Pothole patching
- Leveling low spots

Maintenance Types

Preventive:

- Performed to protect the existing pavement through surface treatments
- Extends the service life
- Does not add any structural strength
- Proactive/applied to pavements in good condition

Examples:

- Slurry Seal
- Chip Seal
- Microsurfacing

Maintenance Types

Corrective:

- Reactive
- Extends the service life through structural enhancements
- Performed when deficiencies are so significant that preventive maintenance no longer is effective
- More extensive and more expensive

Examples:

- Mill and Overlay (Resurfacing)
- Full Depth Reclamation
- Hot mix overlay (with or without leveling course)

Process



Figure 1-2 - The Pavement Management Process

- System Configuration – Identify all roadways, their physical characteristics (length, width, etc.), pavement type, and road classification – link to GIS map.
- Data Collection/Field Survey – Condition is assessed based on surface distress (such as cracking, potholes, raveling, etc.) as well as severity (Low, Moderate, High) and is attached to the appropriate road segment and its count (e.g. number of potholes), square footage (area covered by cracking), and linear feet (length of specific crack) are added.
- Analysis and Reporting – Provide a quantitative performance score (Pavement Condition Index (PCI)) representing the surface condition of the pavement on a scale of 0 to 100 – the higher the score the better the condition of the roadway.

Typical PCI Condition Ranges

PCI Range	Work Type	Rehabilitation Options
86-100 Good	Rejuvenation	Little or no maintenance E.g. Crack Seal, Reclimite, fog seal
71-85 Satisfactory	Global	Routine Maintenance E.g. Seals such as slurry seal
56-70 Fair	Critical	Non-structural overlay, cape seal
41-55 Poor	Conventional	Structural overlay Overlay, Mill and overlay
26-40 Very Poor	Conventional	Structural Overlay Overlay, Mill and overlay
11-25 Serious	Reconstruction	Reconstruction, rebuild, full depth reclamation
0-10 Failed	Reconstruction	Reconstruction, rebuild, full depth reclamation

Type/Condition

- Commerce City has 260.89 miles of paved roads

Distribution of Roads by Pavement Type

Pavement Type	# of Sections	# of Miles	# of Square Yards	% by # of Square Yards	Weighted Average PCI
Asphalt	2,861	250.73	4,818,180	93%	79
Concrete	54	10.16	381,047	7%	95
Total	2,915	260.89	5,199,228	100%	80

Distribution of Asphalt Roads by Functional Class

Functional Class/ Paver Designation	# of Sections	# of Miles	# of Square Yards	% by # of Square Yards	Weighted Average PCI
Arterial & Collector/ B & C	759	94.17	2,121,064	44%	78
Local/ E	2,102	156.57	2,697,116	56%	79
Total	2861	250.74	4,818,180	100%	79



Methodology

- Asphalt roadways were divided into 2,861 sections and then evaluated based on Average PCI, as well as;
 - Current Traffic volumes
 - Roadway Classification
 - Snow routes
 - Proximity to schools, transit, parks, and commercial businesses
 - Economic development potential
 - Coordinated with SAWSD water line replacement schedule
- Several sections eliminated from this program because more extensive work (reconstruction) is needed

Recommendations

- Focus on roadways with PCI less than 70
 - Majority of those streets south of 76th Avenue
- Most work would be mill and overlay
- Recommend slurry of streets
 - River Run West
- Crack sealing is completed continuously
 - Areas that receive slurry seal are crack sealed first

Recommendations

Maintenance Type	Area	Average PCI	Estimated Cost	Fund
Corrective (Mill & Overlay)	E 60th Place - Oneida to Pontiac	60	\$26,484	Core City
Corrective (Mill & Overlay)	E 60th Way - Pontiac to Quebec	59	\$30,899	Core City
Corrective (Mill & Overlay)	E 61st Avenue - Niagara to Oneida	72	\$28,692	Core City
Corrective (Mill & Overlay)	E 61st Place - Niagara to Oneida	42	\$8,828	Core City
Corrective (Mill & Overlay)	E 62nd Avenue - Monaco to Olive	55	\$79,453	Core City
Corrective (Mill & Overlay)	E 62nd Place - Monaco to E 62nd Way	64	\$22,070	Core City
Corrective (Mill & Overlay)	E 62nd Way - Monaco to E 62nd Place	32	\$33,106	Core City
Corrective (Mill & Overlay)	E 63rd Avenue - Pontiac to Quebec	58	\$30,899	Core City
Corrective (Mill & Overlay)	Gifford Drive - Monaco to Niagara	60	\$26,484	Core City
Corrective (Mill & Overlay)	Monaco Street - E 63rd Avenue to E 64th Avenue	63	\$22,070	Core City
Corrective (Mill & Overlay)	Niagara Street - E 60th Avenue to Gifford Drive	62	\$33,106	Core City
Corrective (Mill & Overlay)	Olive Street - E 60th Avenue to E 64th Avenue	72	\$110,352	Core City
Corrective (Mill & Overlay)	Oneida Street - E 60th Avenue to E 64th Avenue	59	\$110,352	Core City
Corrective (Mill & Overlay)	Pontiac Street - E 60th Place to E 64th Avenue	59	\$97,110	Core City
Corrective (Mill & Overlay)	Porter Way - E 61st Place to 62nd Avenue	82	\$22,070	Core City
Corrective (Mill & Overlay)	Poplar Place - E 61st Place to 62nd Avenue	83	\$22,070	Core City
	Total Estimated Cost		\$704,045	



Recommendations

Maintenance Type	Area	Average PCI	Estimated Cost	Fund
Hot-In-Place Recylce & Repave	112th Ave - UPRR to Peoria	63	\$175,000	Pavement Mgt
Full Depth Reclamation	E 64th Ave - Colorado Blvd to Brighton Rd	5	\$83,531	Pavement Mgt
Full Depth Reclamation	E 64th Ave - Monroe St to O'Brian Canal	9	\$81,740	Pavement Mgt
Full Depth Reclamation	Sand Creek Drive - Krameria to Newport	12	\$204,186	Pavement Mgt
Corrective (Mill & Overlay)	Colorado Blvd - 72nd Ave to E 74th Ave	38	\$57,383	Pavement Mgt
Corrective (Mill & Overlay)	E 96th Ave - 750' west of Chamber to Concrete Pvmt	52	\$269,259	Pavement Mgt
Corrective (Mill & Overlay)	Holly Street - E 60th Ave to E 65th Way	67	\$146,237	Pavement Mgt
Corrective (Mill & Overlay)	Olive Street - E66th Ave to East 70th Ave	63	\$110,352	Pavement Mgt
Corrective (Mill & Overlay)	E 81st Ave - Telluride to Tower Rd	65	\$112,559	Pavement Mgt
Slurry Seal	River Run Filing No. 4		\$300,000	Pavement Mgt
	Total Estimated Cost		\$1,540,247	



Recommendations

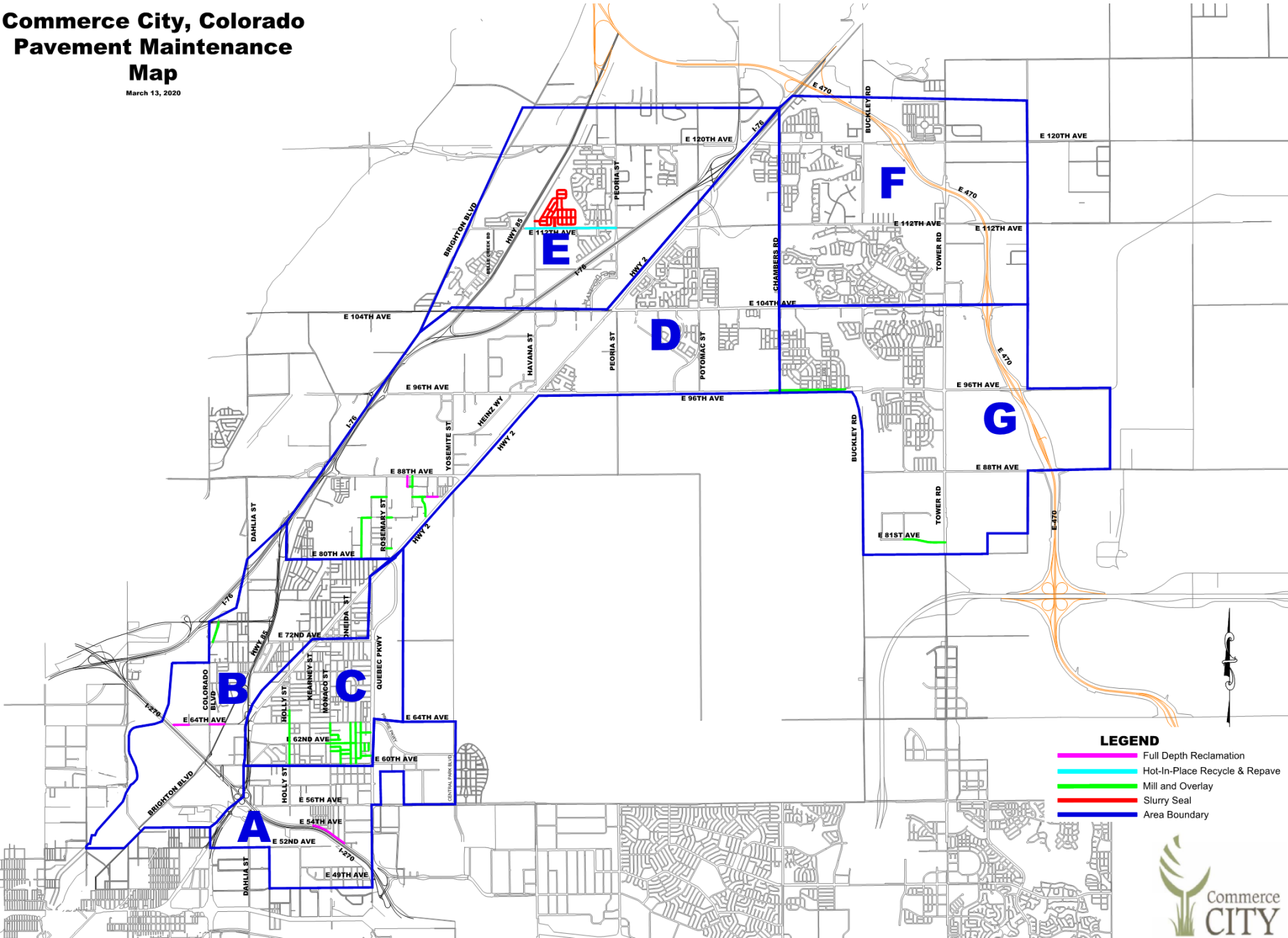
Maintenance Type	Area	Average PCI	Estimated Cost	Fund
Corrective (Mill & Overlay)	E 81st Ave - Rosemary St to Syracuse St	67	\$13,242	Irondale
Full Depth Reclamation	E 83rd Ave - Quebec St to Rosemary St	12	\$41,934	Irondale
Corrective (Mill & Overlay)	E 86th Ave - Quebec St to Quince St	44	\$13,242	Irondale
Full Depth Reclamation	E 86th Ave - Ulster St to Willow St	31	\$139,218	Irondale
Full Depth Reclamation	Tamarac St - E 87th Ave to E 88th Ave	15	\$28,692	Irondale
Corrective (Mill & Overlay)	Pontiac St - E 81st Ave to E 84th Ave	68	\$59,590	Irondale
Corrective (Mill & Overlay)	Ulster St - E 87th Ave to E 88th Ave	64	\$41,934	Irondale
Corrective (Mill & Overlay)	Valentia St - E 85th Ave to E 86th Ave	67	\$26,484	Irondale
	Total Estimated Cost		\$364,336	



Commerce City, Colorado Pavement Maintenance

Map

March 13, 2020

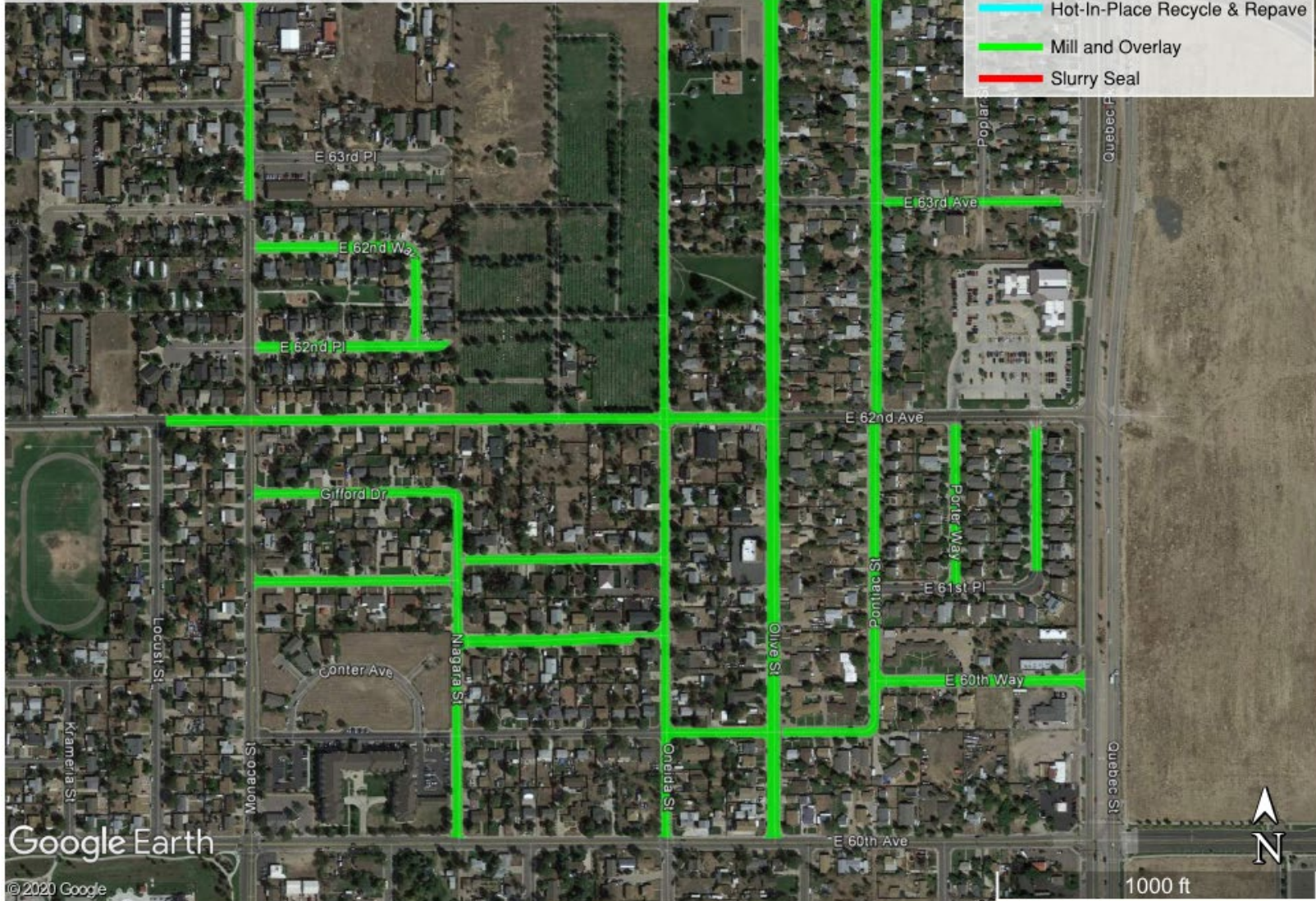


LEGEND

- Full Depth Reclamation
- Hot-In-Place Recycle & Repave
- Mill and Overlay
- Slurry Seal
- Area Boundary



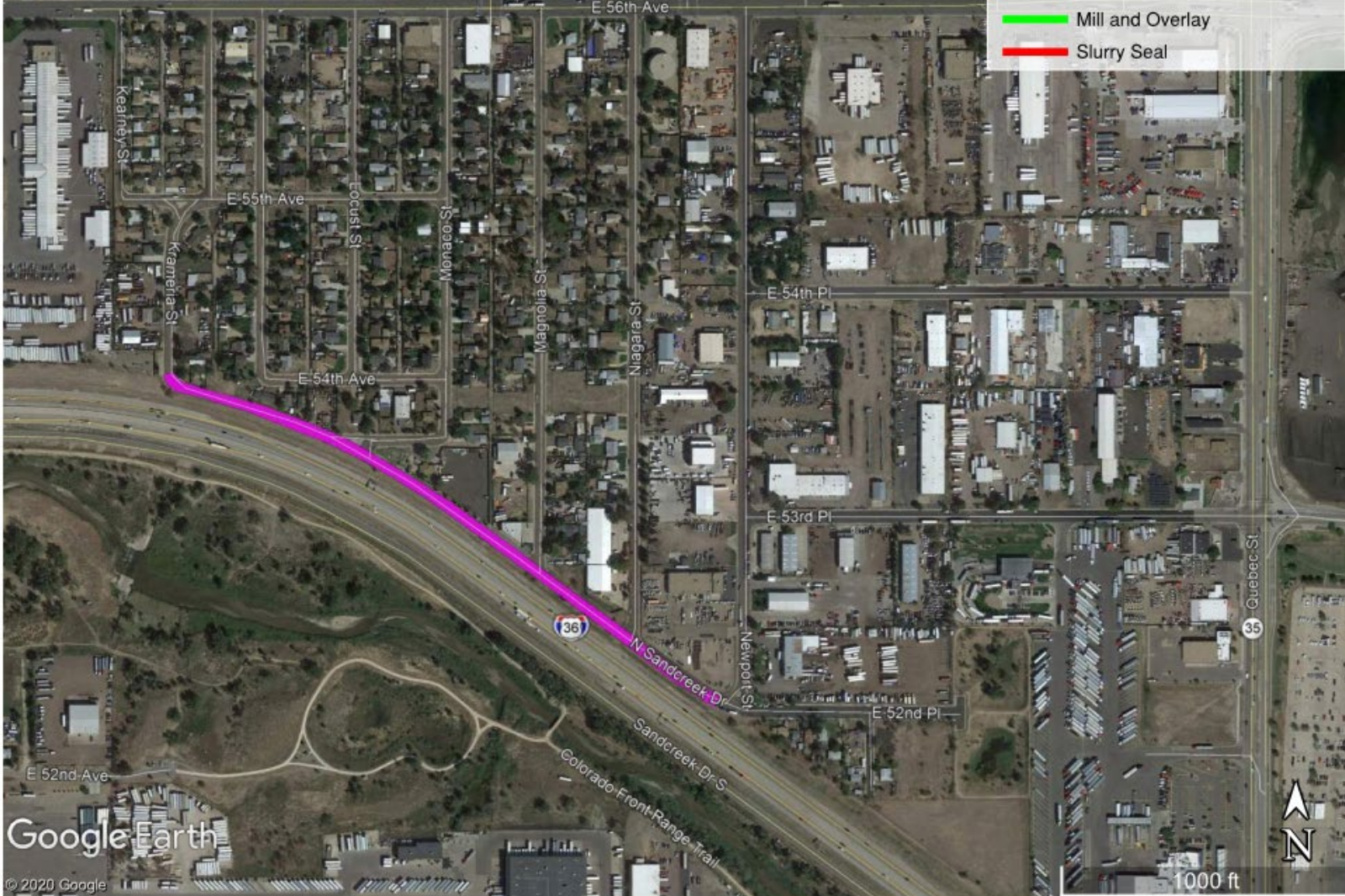
CORE City - Monaco St to Quebec Pkwy and 60th Ave to 64th Ave



CORE City - Sand Creek Dr - Krameria St to Newport St

LEGEND

- Full Depth Reclamation
- Hot-In-Place Recycle & Repave
- Mill and Overlay
- Slurry Seal

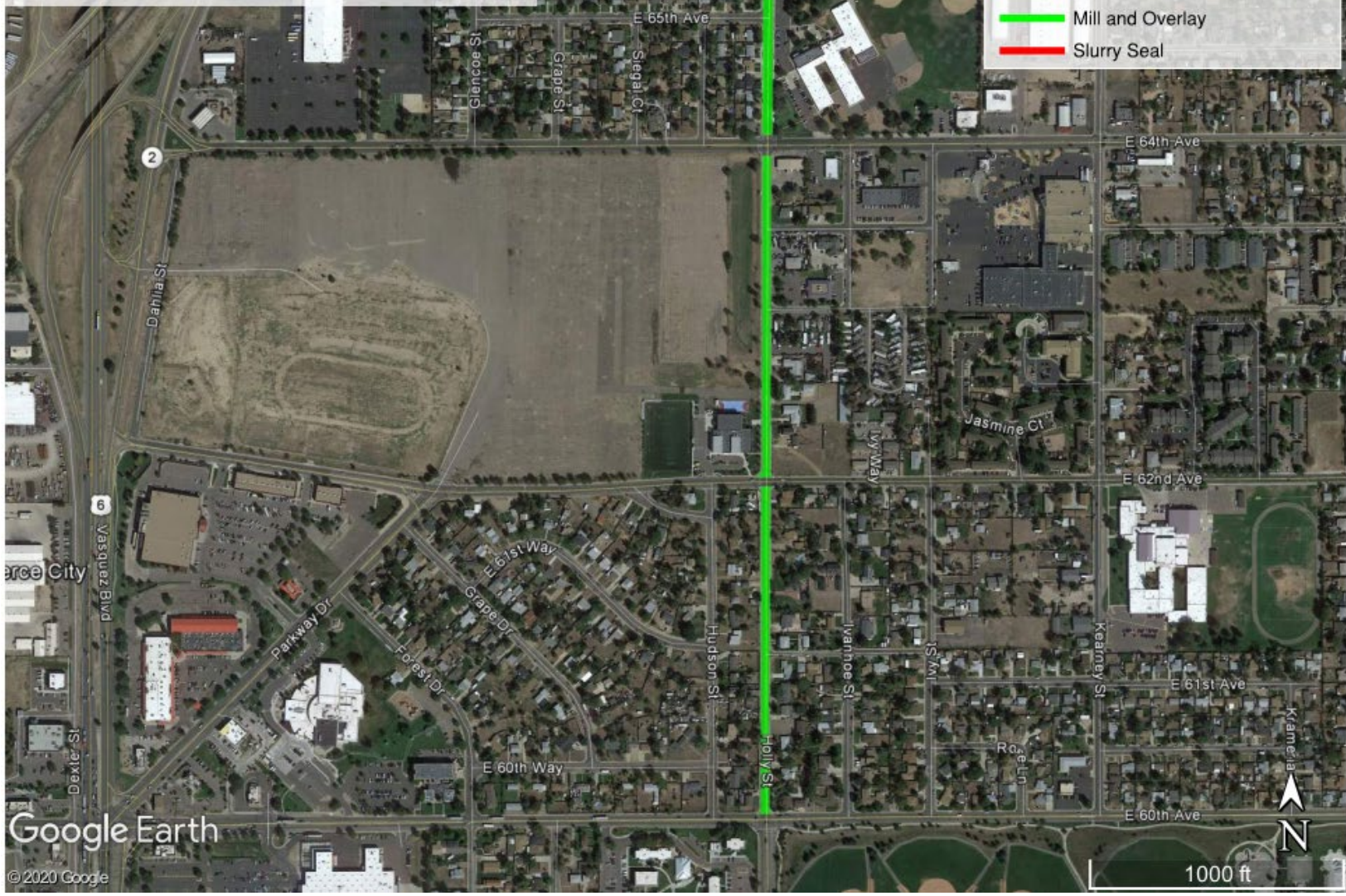


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Holy St - 64th Ave to 65th Way
Holly St - 60th Ave to 64th Ave
Alternative

LEGEND

- Full Depth Reclamation
- Hot-In-Place Recycle & Repave
- Mill and Overlay
- Slurry Seal



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64th Ave - Canal to Monroe St and Colorado Blvd to Brighton Rd

LEGEND

- Full Depth Reclamation
- Hot-In-Place Recycle & Repave
- Mill and Overlay
- Slurry Seal



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Colorado Blvd - 72nd Ave to 74th Ave Alternative



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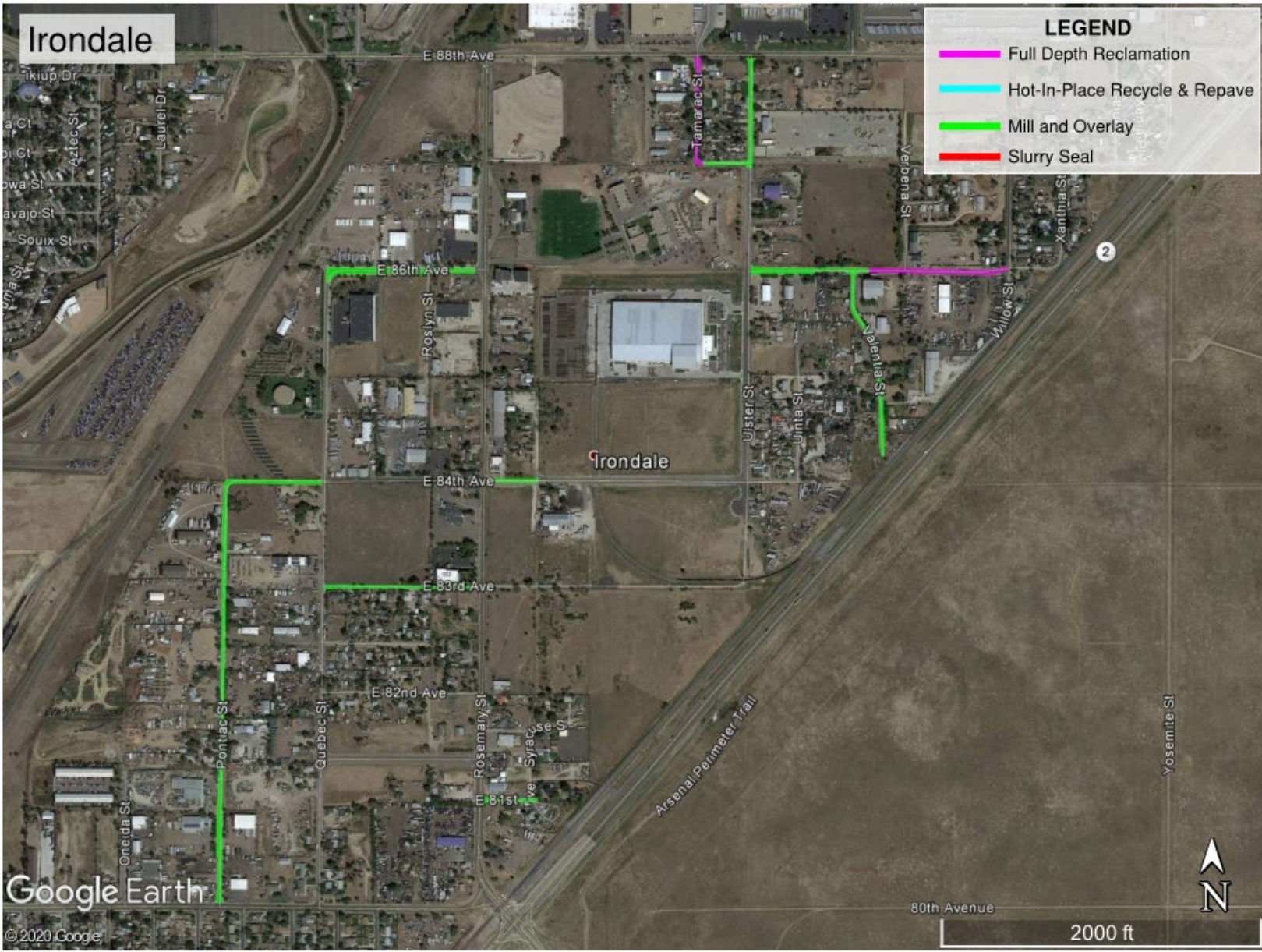
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Irondale

LEGEND

- Full Depth Reclamation
- Hot-In-Place Recycle & Repave
- Mill and Overlay
- Slurry Seal



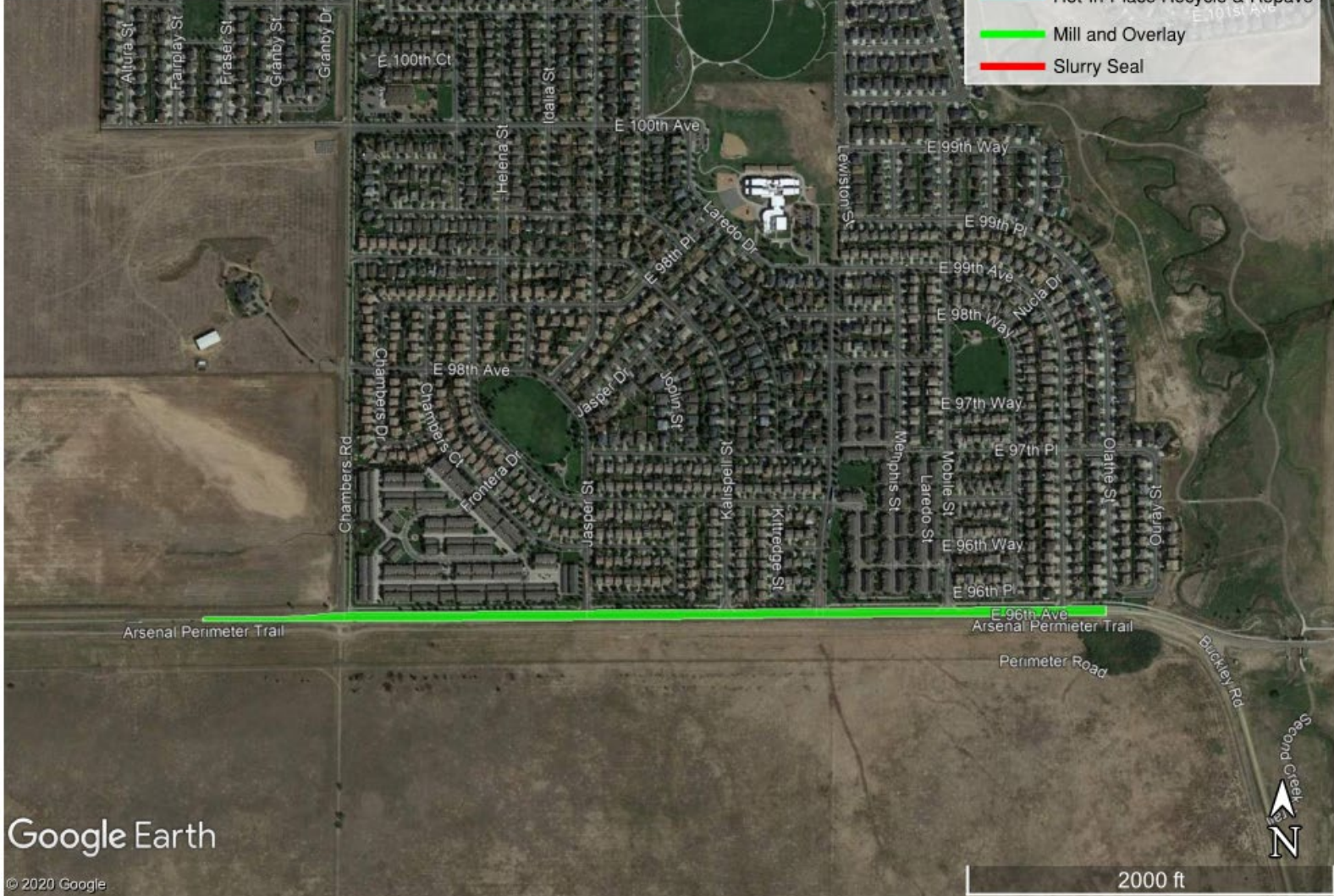
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96th Ave - 750 ft west of Chambers to Concrete Limits

LEGEND

- Full Depth Reclamation
- Hot-In-Place Recycle & Repave
- Mill and Overlay
- Slurry Seal



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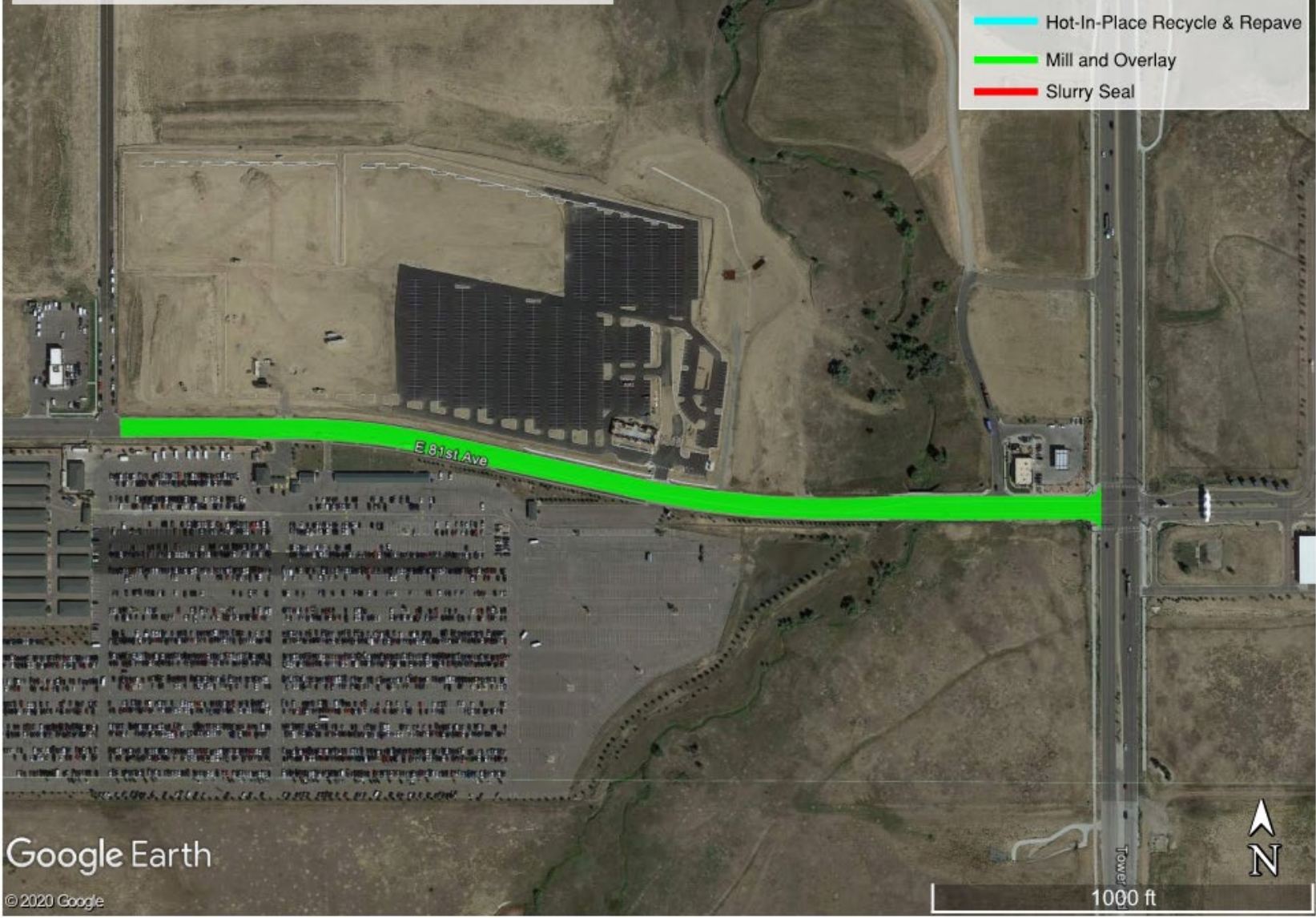
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81st Ave - Telluride St to Tower Rd

LEGEND

- Full Depth Reclamation
- Hot-In-Place Recycle & Repave
- Mill and Overlay
- Slurry Seal



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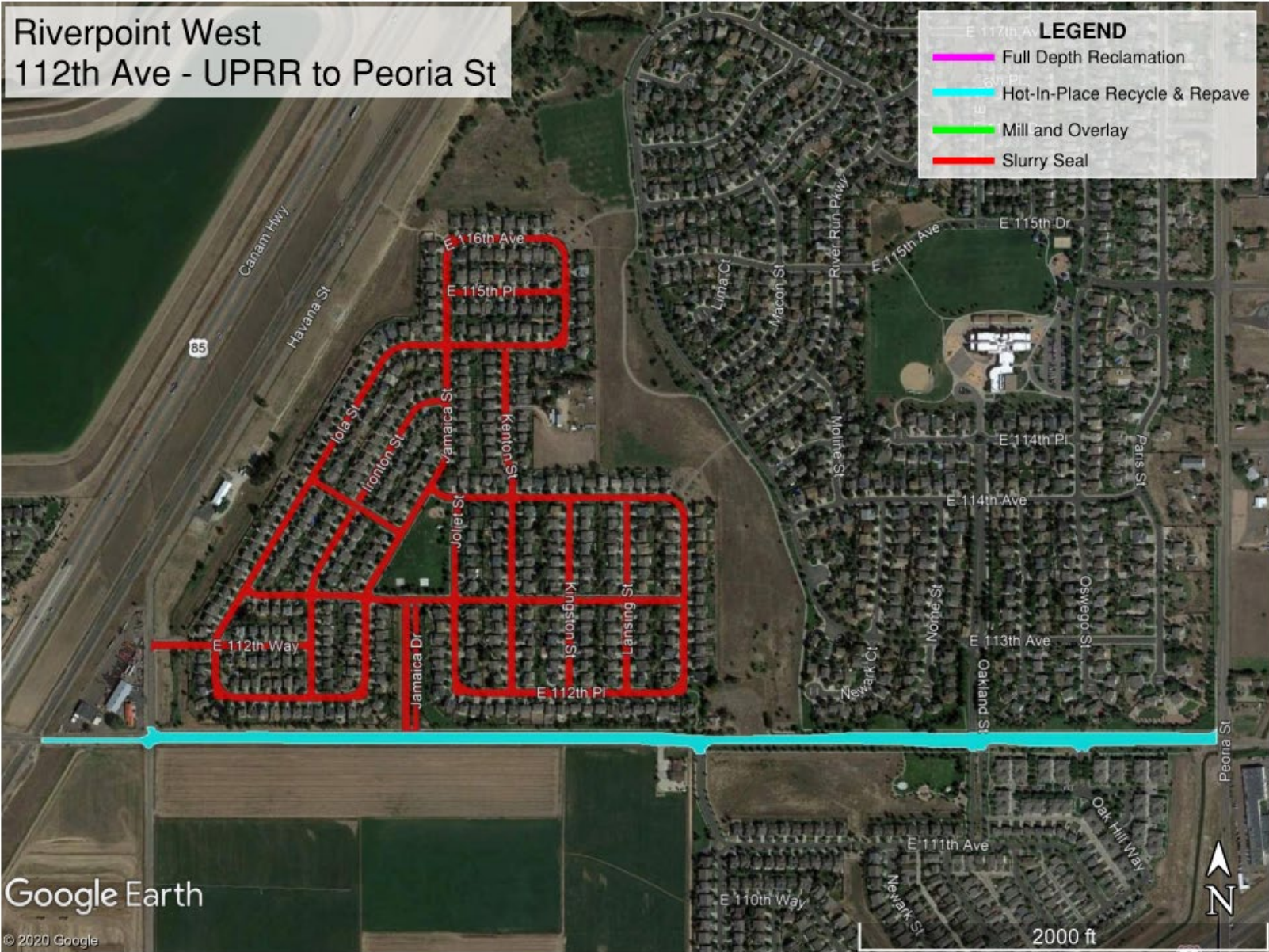
1000 ft



Riverpoint West 112th Ave - UPRR to Peoria St

LEGEND

- Full Depth Reclamation
- Hot-In-Place Recycle & Repave
- Mill and Overlay
- Slurry Seal



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Commerce
CITY

Funding

Fund	Amount (\$)
Pavement Management	\$1,540,247
Core City Infrastructure	\$704,045
Irondale	\$364,336
Total	\$2,608,628

- Pavement Management Budget - \$1,500,000
- Pavement Management Budget – \$265,771 from 2019
- Core City Infrastructure Improvements Budget - \$750,000
- Irondale Neighborhood Plan - \$374,287 from 2019
- Irondale Neighborhood Plan - \$871,200 for 2020 (Land Acquisition for Drainage Ponds)
- Total Budget = \$2,890,058 (Doesn't include 2020 Irondale Land Acquisition Budget)





Questions?

