Innovations in Pavement Technology

THE CITY OF EDMONTON

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EDMONTON, ALBERTA

WHAT IS INNOVATION?
INNOVATION

ATTITUDES

IDEAS

DEMANDS

TECHNOLOGIES

PRODUCTS
ENGINEERING SERVICES
CITY OF EDMONTON

LAB TESTING
URBAN ENVIRONMENTS

- 883 km of arterial roads
- 677 km of collector roads
- 3,991 km of local roads
- 1,151 km of alleys

- Rutting
- Cracking
- Utility Cut Restorations
- Traffic Noise
SIR, WE’RE ENTERING ENEMY AIRSPACE NOW.

THE DRONE IS BEGINNING TO SEND BACK SURVEILLANCE FOOTAGE.

THE ROADS ARE FULL OF CRATERS AND HOLES.

ALMOST UNDRIVEABLE.

THEIR INFRASTRUCTURE HAS COLLAPSED.

WAIT A MINUTE! THESE COORDINATES ARE WRONG!

THAT’S NOT NORTH KOREA!

THAT’S EDMONTON, ALBERTA!

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RECONSTRUCTION

58 St. - 162 Ave. to 162 A Ave.
May 01/06
FDR: FULL DEPTH RECLIMATION WITH FOAMED BITUMEN
FDR
WEATHER PATTERNS
HOLDING STRATEGIES

- OVERLAYS
- MICRO SURFACING
POTHOLES

MATERIALS USED

- HOT AND COLD PATCH
- PROPRIETARY PRODUCTS

METHODS USED

- SPRAY PATCHING
- THROW AND ROLL, THROW AND GO
- ROLLER COMPACTED AND HAND TAMING
RUTTING
RCC: ROLLER COMPACTED CONCRETE

- 13-15% Cement
- 12.5-20mm Crushed Aggregate
- Mixed in a continuous mix plant
- Asphalt paver with dual tamping bar screed
- Compacted at optimum moisture
- Smooth drum Vibratory rollers
- Pneumatic tired rollers
- 30-40% of the cost of Cast-in-place concrete
- Capped with 50mm ACP
UTWT: ULTRA-THIN WHITE TOPPING

- Concrete overlay, 100mm thick or less
- Synthetic Fiber Reinforced Concrete
- Saw cut into 1m by 1m panels
SMA: STONE MASTIC ASPHALT
SMA: STONE MASTIC ASPHALT

- Gap graded
- Cellulose Fibers
- Mineral filler
NEW SUPERPAVE GYRATORY MIXES

- 10 mm HT (High Traffic)
- 10 mm LT (Low Traffic)
- 20 mm B (Base Course)
THE BAILEY METHOD

[Image of a chart with data]

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<th>Heritage Research Group</th>
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<th>Fine-Graded Mixes, where the % CA LW is ≥ 80%</th>
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<td>CA</td>
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For Fine-Graded Mixes, where the % CA LW is ≥ 80%
NEED INNOVATION
THANK YOU