

# Study of the Optimization of the Blue Box Material Processing System in Ontario

April 18, 2012

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**TABLE 1: Change in Per Household Generation**

<b>Material</b>	<b>Assumed Change</b>
Newspaper	-40.0%
Telephone Books	-75.0%
Old Magazines	-25.0%
Other Printed Paper	10.0%
OCC	35.0%
Gable Top & Aseptic Cartons	40.0%
Paper Laminants	25.0%
OBB	0.0%
PET bottles	30.0%
HDPE bottles & jugs	-10.0%
Polystyrene	-50.0%
Film	-10.0%
Plastic Laminants	30.0%
Other Plastics	60.0%
Aluminum – cans & other	-10.0%
Steel Cans	-20.0%
Aerosol	0.0%
Paint Cans	-30.0%
Container Glass Clear & Coloured	-30.0%
<b>Total Generation</b>	<b>-6.0%</b>

**TABLE 2: Change in Blue Box Material Recovery**

<b>Year/Scenario</b>	<b>Recovery Rate - 2025</b>		
<b>Material</b>	<b>Current Recovery</b>	<b>Natural Growth</b>	<b>High Recovery</b>
Newspaper	97.2%	98%	98%
Telephone Books	97.2%	98%	98%
Old Magazines	97.2%	98%	98%
Other Printed Paper	55.6%	60%	75%
OCC	87.2%	88%	95%
Gable Top	34.2%	50%	75%
Paper Laminants	1.0%	5%	30%
Aseptic	11.8%	30%	75%
OBB	55.2%	60%	80%
PET	60.9%	65%	75%
HDPE	56.6%	60%	75%
PS	3.9%	10%	50%
Film	6.4%	15%	40%
Plastic Laminants	1.0%	1%	10%
Other Plastics	19.2%	40%	60%
Aluminum Food & Beverage Cans	49.6%	55%	75%
Foil and Other Aluminum	9.0%	20%	50%
Steel Cans	61.1%	65%	75%
Aerosol	27.7%	30%	50%
Paint Cans from Steward Reports	18.1%	20%	50%
Food and Beverage Glass Clear	88.9%	90%	95%
Food and Beverage Glass Coloured	70.5%	72%	80%
<b>Total</b>	<b>67.6%</b>	<b>67%</b>	<b>78%</b>

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**TABLE 3: 2011 Ontario Blue Box System Direct Haul and Transfer Operations**

Municipal Program	Material Flow	Transfer Station Name/ Owner / Operator	Processing Facility OWNER	Processing Facility OPERATOR
ADDINGTON HIGHLANDS, TOWNSHIP OF	Direct Haul		Beaumen's Waste Management	Renfrew County Recycle Centre
ADMASTON/BROMLEY, TOWNSHIP OF	Direct Haul		Beaumen's Waste Management	Renfrew County Recycle Centre
AKEWESANE, MOHAWK COUNCIL OF	Direct Haul		CORNWALL, CITY OF	HGC Management
ALFRED AND PLANTAGENET, TOWNSHIP OF	Transfer	Moose Creek Landfill - Matrec	Matrec	Matrec
ALGONQUIN HIGHLANDS, TOWNSHIP OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
ALGONQUINS OF PIKWAKANAGAN	Unknown		OTTAWA VALLEY WASTE RECOVERY CENTRE	OTTAWA VALLEY WASTE RECOVERY CENTRE
AMARANTH, TOWNSHIP OF	Transfer	Dufferin Transfer & Recycling Facility - Sandhill Disposal	GUELPH, CITY OF	GUELPH, CITY OF
ARMOUR, TOWNSHIP OF	Direct Haul		ARMOUR, TOWNSHIP OF	ARMOUR, TOWNSHIP OF
ARNPRIOR, TOWN OF	Direct Haul		Beaumen's Waste Management	Renfrew County Recycle Centre
ASHFIELD-COLBORNE-WAWANOSH, TOWNSHIP OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
ATHENS, TOWNSHIP OF	Transfer			
ATIKOKAN, TOWNSHIP OF	Direct Haul		Recool Inc.	Recool Inc.
AUGUSTA, TOWNSHIP OF	Direct Haul/Transfer		Waste Management of Canada	Waste Management of Canada
AUGUSTA, TOWNSHIP OF	Direct Haul/Transfer	Waste Management of Canada	Waste Management of Canada	Waste Management of Canada
AYLMER, TOWN OF	Direct Haul		LONDON, CITY OF	Miller Waste Systems - WMC
BALDWIN, TOWNSHIP OF	Direct Haul		GREATER SUDBURY, CITY OF	Canada Fibres
BANCROFT, TOWN OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
BARRIE, CITY OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
BAYHAM, MUNICIPALITY OF	Direct Haul		BFI Canada Inc.	BFI Canada Inc.
BECKWITH, TOWNSHIP OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
BILLINGS, TOWNSHIP OF	Unknown			
BLIND RIVER, TOWN OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
BLUEWATER RECYCLING ASSOCIATION	Direct Haul		BLUEWATER RECYCLING ASSOCIATION	BLUEWATER RECYCLING ASSOCIATION
BONFIELD, TOWNSHIP OF	Direct Haul		Miller Waste Systems - WMC	Miller Waste Systems - WMC
BRANT, COUNTY OF	Direct Haul		Emterra / Halton Recycling Ltd.	Emterra / Halton Recycling Ltd.
BRANTFORD, CITY OF	Direct Haul		Emterra / Halton Recycling Ltd.	Emterra / Halton Recycling Ltd.
BROCKVILLE, CITY OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
BROCKVILLE, CITY OF	Direct Haul	Waste Management of Canada	Waste Management of Canada	Waste Management of Canada
BRUCE AREA SOLID WASTE RECYCLING	Direct Haul		BRUCE AREA SOLID WASTE RECYCLING	BRUCE AREA SOLID WASTE RECYCLING
BRUDENELL, LYNDON AND RAGLAN, TOWNSHIP OF	Direct Haul		Beaumen's Waste Management	Renfrew County Recycle Centre
CALLANDER, MUNICIPALITY OF	Direct Haul		Miller Waste Systems - WMC	Miller Waste Systems - WMC
CALVIN, MUNICIPALITY OF	Direct Haul		Miller Waste Systems - WMC	Miller Waste Systems - WMC
CARLETON PLACE, TOWN OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
CARLING, TOWNSHIP OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
CARLOW MAYO, TOWNSHIP OF	Direct Haul		HGC Management Inc.	HGC Management Inc.
CASEY, TOWNSHIP OF	Direct Haul		Service Sani-Tri	Service Sani-Tri
CASSELMAN, VILLAGE OF	Direct Haul		NORTH GLENGARRY, TOWNSHIP OF	NORTH GLENGARRY, TOWNSHIP OF
CENTRAL ELGIN, MUNICIPALITY OF	Direct Haul		Emterra / Halton Recycling Ltd.	Emterra / Halton Recycling Ltd.
CENTRAL FRONTENAC, TOWNSHIP OF	Direct Haul		HGC Management Inc.	HGC Management Inc.
CENTRAL MANITOULIN, TOWNSHIP OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
CHARLTON AND DACK, MUNICIPALITY OF	Direct Haul		Service Sani-Tri	Service Sani-Tri
CHATHAM-KENT, MUNICIPALITY OF	Direct Haul		South Buxton Recycling Ltd	Waste Services INC/ BFI
CHATSWORTH, TOWNSHIP OF	Transfer	Dufferin Transfer & Recycling Facility - Sandhill Disposal	GUELPH, CITY OF	GUELPH, CITY OF
CHIPPEWAS OF GEORGINA ISLAND	Unknown		PETERBOROUGH, CITY OF	HGC Management Inc.

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CHIPPEWAS OF KETTLE AND STONY POINT FIRST NATIONS	Unknown		Waste Management of Canada	Waste Management of Canada
CHIPPEWAS OF NAWASH FIRST NATION	Direct Haul		BRUCE AREA SOLID WASTE RECYCLING	BRUCE AREA SOLID WASTE RECYCLING
CHIPPEWAS OF RAMA FIRST NATION	Unknown		Waste Services INC/ BFI	Waste Services INC/ BFI
CHISHOLM, TOWNSHIP OF	Direct Haul		R & D Recycling	R & D Recycling
CLARENCE-ROCKLAND, CITY OF	Transfer	Moose Creek Landfill - Matrec	Matrec	Matrec
COCHRANE TEMISKAMING WASTE MANAGEMENT BOARD	Direct Haul		COCHRANE TEMISKAMING WASTE MANAGEMENT BOARD	COCHRANE TEMISKAMING WASTE MANAGEMENT BOARD
COCHRANE TEMISKAMING WASTE MANAGEMENT BOARD	Direct Haul		COCHRANE TEMISKAMING WASTE MANAGEMENT BOARD	COCHRANE TEMISKAMING WASTE MANAGEMENT BOARD
CONMEE, TOWNSHIP OF	Direct Haul		Recool Inc.	Recool Inc.
CORNWALL, CITY OF	Direct Haul		CORNWALL, CITY OF	HGC Management
CURVE LAKE FIRST NATION	Direct Haul		PETERBOROUGH, CITY OF	HGC Management Inc.
DEEP RIVER, TOWN OF	Direct Haul		OTTAWA VALLEY WASTE RECOVERY CENTRE	OTTAWA VALLEY WASTE RECOVERY CENTRE
DESERONTO, TOWN OF	Unknown			
DRUMMOND-NORTH ELMSLEY, TOWNSHIP OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
DRYDEN, CITY OF	Transfer	Dryden Landfill - DRYDEN, CITY OF	Metro Recycling	Metro Recycling
DURHAM, REGIONAL MUNICIPALITY OF	Direct Haul		DURHAM, REGIONAL MUNICIPALITY OF	Metro Municipal Recycling Services
DUTTON-DUNWICH, MUNICIPALITY OF	Direct Haul		BFI Canada Inc.	BFI Canada Inc.
DYSART ET AL, TOWNSHIP OF	Direct Haul		Mid Ontario Disposal	Mid Ontario Disposal
DYSART ET AL, TOWNSHIP OF	Transfer	Mid Ontario Disposal	Durham Shred & Recycle	Durham Shred & Recycle
EAST FERRIS, TOWNSHIP OF	Direct Haul		R & D Recycling	R & D Recycling
EAST GARAFRAXA, TOWNSHIP OF	Transfer	Dufferin Transfer & Recycling Facility - Sandhill Disposal	GUELPH, CITY OF	GUELPH, CITY OF
EAST LUTHER GRAND VALLEY, TOWNSHIP OF	Transfer	Dufferin Transfer & Recycling Facility - Sandhill Disposal	GUELPH, CITY OF	GUELPH, CITY OF
EDWARDSBURGH CARDINAL, TOWNSHIP OF	Transfer	BFI Canada	Tomlinson Environmental Services	Tomlinson Environmental Services
ELIZABETHTOWN-KITLEY, TOWNSHIP OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
ELLIOT LAKE, CITY OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
EMO, TOWNSHIP OF	Transfer	Asselin Transportation	Cascades Winnipeg	Cascades Winnipeg
ENNISKILLEN, TOWNSHIP OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
ESPANOLA, TOWN OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
ESSEX-WINDSOR SOLID WASTE AUTHORITY	Direct Haul		ESSEX-WINDSOR SOLID WASTE AUTHORITY	ESSEX-WINDSOR SOLID WASTE AUTHORITY
FARADAY, TOWNSHIP OF	Direct Haul		PETERBOROUGH, CITY OF	HGC Management Inc.
FORT FRANCES, TOWN OF	Transfer	FORT FRANCES, TOWN OF	Metro Recycling	Metro Recycling
FRENCH RIVER, MUNICIPALITY OF	Direct Haul		GREATER SUDBURY, CITY OF	Canada Fibres
FRONT OF YONGE, TOWNSHIP OF	Unknown		Waste Management of Canada	Waste Management of Canada
FRONT OF YONGE, TOWNSHIP OF	Unknown	Waste Management of Canada	Waste Management of Canada	Waste Management of Canada
FRONTENAC ISLANDS, TOWNSHIP OF	Direct Haul		KINGSTON, CITY OF	BFI Canada
GANANOQUE, TOWN OF	Transfer	BFI Canada	Tomlinson Environmental Services	Tomlinson Environmental Services
GEORGIAN BLUFFS, TOWNSHIP OF	Direct Haul		Miller Waste Systems - WMC	Miller Waste Systems - WMC
GILLIES, TOWNSHIP OF	Direct Haul		Recool Inc.	Recool Inc.
GREATER MADAWASKA, TOWNSHIP OF	Direct Haul		OTTAWA VALLEY WASTE RECOVERY CENTRE	OTTAWA VALLEY WASTE RECOVERY CENTRE
GREATER NAPANEE, TOWNSHIP OF	Direct Haul		Manco	Manco
GREATER SUDBURY, CITY OF	Direct Haul		GREATER SUDBURY, CITY OF	Canada Fibres
GREY HIGHLANDS, MUNICIPALITY OF	Transfer	Dufferin Transfer & Recycling Facility - Sandhill Disposal	GUELPH, CITY OF	GUELPH, CITY OF
GUELPH, CITY OF	Direct Haul		GUELPH, CITY OF	GUELPH, CITY OF
HALDIMAND, COUNTY OF	Transfer	Canborough Recycling Transfer Station	NIAGARA, REGIONAL MUNICIPALITY OF	Niagara Recycling (MRF Processor)
HALTON, REGIONAL MUNICIPALITY OF	Transfer	Leferink Transfer Limited	Emterra / Halton Recycling Ltd.	Emterra / Halton Recycling Ltd.
HALTON, REGIONAL MUNICIPALITY OF	Transfer	NorJohn Transfer System Ltd. - Walker Industries	Emterra / Halton Recycling Ltd.	Emterra / Halton Recycling Ltd.
HAMILTON, CITY OF	Direct Haul		HAMILTON, CITY OF	Canada Fibers
HANOVER, TOWN OF	Direct Haul		Waste Management of Canada	Waste Management of Canada

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HARLEY, TOWNSHIP OF	Direct Haul		Service Sani-Tri	Service Sani-Tri
HASTINGS HIGHLANDS, MUNICIPALITY OF	Unknown		HGC Management Inc.	HGC Management Inc.
HASTINGS HIGHLANDS, MUNICIPALITY OF	Transfer/Unknown Transfer Facility	Roslin - David Moore & Sons	NORTHUMBERLAND, COUNTY OF	NORTHUMBERLAND, COUNTY OF
HAWKESBURY JOINT RECYCLING	Direct Haul		NORTH GLENGARRY, TOWNSHIP OF	NORTH GLENGARRY, TOWNSHIP OF
HEAD, CLARA AND MARIA, TOWNSHIPS OF	Direct Haul		OTTAWA VALLEY WASTE RECOVERY CENTRE	OTTAWA VALLEY WASTE RECOVERY CENTRE
HIGHLANDS EAST, MUNICIPALITY OF	Transfer	Gooderham Transfer Station	Waste Services INC/ BFI	Waste Services INC/ BFI
HILLIARD, TOWNSHIP OF	Unknown			
HORTON, TOWNSHIP OF	Direct Haul		Beaumen's Waste Management	Renfrew County Recycle Centre
HOWICK, TOWNSHIP OF	Unknown			
HUDSON, TOWNSHIP OF	Direct Haul		Service Sani-Tri	Service Sani-Tri
HURON SHORES, MUNICIPALITY OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
JOHNSON, TOWNSHIP OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
KAWARTHA LAKES, CITY OF	Direct Haul		NORTHUMBERLAND, COUNTY OF	NORTHUMBERLAND, COUNTY OF
KEARNEY, TOWN OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
KENORA, CITY OF	Transfer	Kenora Area Solid Waste Transfer Facility	Metro Recycling	Metro Recycling
KERNS, TOWNSHIP OF	Direct Haul		Service Sani-Tri	Service Sani-Tri
KILLALOE, HAGARTY, AND RICHARDS, TOWNSHIP OF	Direct Haul		Beaumen's Waste Management	Renfrew County Recycle Centre
KILLARNEY, MUNICIPALITY OF	Direct Haul		GREATER SUDBURY, CITY OF	Canada Fibres
KINGSTON, CITY OF	Direct Haul		KINGSTON, CITY OF	BFI Canada
KIRKLAND LAKE, TOWN OF	Direct Haul		Teck Northern Roads	Teck Northern Roads
LANARK HIGHLANDS, TOWNSHIP OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
LAURENTIAN HILLS, TOWN OF	Direct Haul		OTTAWA VALLEY WASTE RECOVERY CENTRE	OTTAWA VALLEY WASTE RECOVERY CENTRE
LEEDS AND THE THOUSAND ISLANDS, TOWNSHIP OF	Unknown			
LONDON, CITY OF	Direct Haul		LONDON, CITY OF	Miller Waste Systems - WMC
LOYALIST, TOWNSHIP OF	Direct Haul		KINGSTON, CITY OF	BFI Canada
MACDONALD, MEREDITH & ABERDEEN ADDITIONAL, TOWNSHIP OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
MACHAR, TOWNSHIP OF	Unknown		Waste Services INC/ BFI	Waste Services INC/ BFI
MADAWASKA VALLEY, TOWNSHIP OF	Direct Haul		OTTAWA VALLEY WASTE RECOVERY CENTRE	OTTAWA VALLEY WASTE RECOVERY CENTRE
MAGNETAWAN, MUNICIPALITY OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
MALAHIDE, TOWNSHIP OF	Direct Haul		BFI Canada Inc.	BFI Canada Inc.
MARATHON, TOWN OF	Direct Haul		Recool Inc.	Recool Inc.
MATTAWA, TOWN OF	Direct Haul		R & D Recycling	R & D Recycling
MCDUGALL, MUNICIPALITY OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
MCKELLAR, TOWNSHIP OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
MCNAB-BRAESIDE, TOWNSHIP OF	Direct Haul		Beaumen's Waste Management	Renfrew County Recycle Centre
MEAFORD, MUNICIPALITY OF	Direct Haul		Miller Waste Systems - WMC	Miller Waste Systems - WMC
MELANCTHON, TOWNSHIP OF	Direct Haul		GUELPH, CITY OF	GUELPH, CITY OF
MERRICKVILLE-WOLFORD, VILLAGE OF	Unknown			
MINDEN HILLS, TOWNSHIP OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
MISSISSAUGAS OF THE NEW CREDIT FIRST NATION	Unknown			
MISSISSIPPI MILLS, TOWN OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
MOHAWKS OF THE BAY OF QUINTE	Direct Haul		HGC Management Inc.	HGC Management Inc.
MONO, TOWN OF	Transfer	Dufferin Transfer & Recycling Facility - Sandhill Disposal	GUELPH, CITY OF	GUELPH, CITY OF
MONTAGUE, TOWNSHIP OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
MULMUR, TOWNSHIP OF	Direct Haul		Mid Ontario Disposal	Mid Ontario Disposal
MULMUR, TOWNSHIP OF	Transfer	Mid Ontario Disposal	Durham Shred & Recycle	Durham Shred & Recycle
MUSKOKA, DISTRICT MUNICIPALITY OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI

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Municipal Program	Material Flow	Transfer Station Name/ Owner / Operator	Processing Facility OWNER	Processing Facility OPERATOR
NAIRN & HYMAN, TOWNSHIP OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
NEEBING, MUNICIPALITY OF	Direct Haul		Recool Inc.	Recool Inc.
NIAGARA, REGIONAL MUNICIPALITY OF	Direct Haul		NIAGARA, REGIONAL MUNICIPALITY OF	Niagara Recycling (MRF Processor)
NORFOLK, COUNTY OF	Direct Haul		NORFOLK, COUNTY OF	HGC Management Inc.
NORTH BAY, CITY OF	Direct Haul		Miller Waste Systems - WMC	Miller Waste Systems - WMC
NORTH DUNDAS, TOWNSHIP OF	Direct Haul		NORTH DUNDAS, TOWNSHIP OF	NORTH DUNDAS, TOWNSHIP OF
NORTH FRONTENAC, TOWNSHIP OF	Direct Haul		Manco	Manco
NORTH GLENGARRY, TOWNSHIP OF	Direct Haul		NORTH GLENGARRY, TOWNSHIP OF	NORTH GLENGARRY, TOWNSHIP OF
NORTH GRENVILLE, MUNICIPALITY OF	Direct		Metro Waste Recycling	Metro Waste Recycling
NORTH HURON, TOWNSHIP OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
NORTH STORMONT, TOWNSHIP OF	Direct Haul		NORTH GLENGARRY, TOWNSHIP OF	NORTH GLENGARRY, TOWNSHIP OF
NORTHEASTERN MANITOULIN & ISLANDS, TOWN OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
NORTHERN BRUCE PENINSULA, MUNICIPALITY OF	Direct Haul		Miller Waste Systems - WMC	Miller Waste Systems - WMC
NORTHUMBERLAND, COUNTY OF	Direct Haul		NORTHUMBERLAND, COUNTY OF	NORTHUMBERLAND, COUNTY OF
OCONNOR, TOWNSHIP OF	Direct Haul		Recool Inc.	Recool Inc.
OLIVER PAIPOONGE, MUNICIPALITY OF	Direct Haul		Recool Inc.	Recool Inc.
ORANGEVILLE, TOWN OF	Transfer	Dufferin Transfer & Recycling Facility - Sandhill Disposal	GUELPH, CITY OF	GUELPH, CITY OF
ORILLIA, CITY OF	Direct Haul		Mid Ontario Disposal	Mid Ontario Disposal
ORILLIA, CITY OF	Transfer	Mid Ontario Disposal	Durham Shred & Recycle	Durham Shred & Recycle
OTTAWA VALLEY WASTE RECOVERY CENTRE	Direct Haul		OTTAWA VALLEY WASTE RECOVERY CENTRE	OTTAWA VALLEY WASTE RECOVERY CENTRE
OTTAWA, CITY OF	Direct Haul		Metro Waste Recycling	Metro Waste Recycling
OWEN SOUND, CITY OF	Direct Haul		Miller Waste Systems - WMC	Miller Waste Systems - WMC
OXFORD, RESTRUCTURED COUNTY OF	Transfer	Woodstock	Canada Fibres	Canada Fibres
OXFORD, RESTRUCTURED COUNTY OF	Direct Haul		HGC Management Inc.	HGC Management Inc.
PAPINEAU-CAMERON, TOWNSHIP OF	Direct Haul		R & D Recycling	R & D Recycling
PARRY SOUND, TOWN OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
PEEL, REGIONAL MUNICIPALITY OF	Direct Haul		PEEL, REGIONAL MUNICIPALITY OF	Waste Management of Canada
PERRY, TOWNSHIP OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
PERTH, TOWN OF	Unknown		Tomlinson Environmental Services	Tomlinson Environmental Services
PETERBOROUGH, CITY OF	Direct Haul		PETERBOROUGH, CITY OF	HGC Management Inc.
PETERBOROUGH, COUNTY OF	Direct Haul		PETERBOROUGH, CITY OF	HGC Management Inc.
PETROLIA, TOWN OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
PLYMPTON-WYOMING, TOWN OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
POWASSAN, MUNICIPALITY OF	Direct Haul		R & D Recycling	R & D Recycling
PRESCOTT, TOWN OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
PRESCOTT, TOWN OF	Direct Haul	Waste Management of Canada	Waste Management of Canada	Waste Management of Canada
PRINCE, TOWNSHIP OF	Direct Haul		Green Circle Environmental	Green Circle Environmental
QUINTE WASTE SOLUTIONS	Direct Haul		QUINTE WASTE SOLUTIONS	Waste Management of Canada
RAINY RIVER FIRST NATIONS	Direct Haul		Greg's Recycling	Greg's Recycling
RAINY RIVER, TOWN OF	Transfer/Unknown Transfer	Asselin Transportation	Cascades Winnipeg	Cascades Winnipeg
RENFREW, TOWN OF	Direct Haul		Beaumen's Waste Management	Renfrew County Recycle Centre
RIDEAU LAKES, TOWNSHIP OF	Transfer			
RUSSELL, TOWNSHIP OF	Direct Haul		NORTH GLENGARRY, TOWNSHIP OF	NORTH GLENGARRY, TOWNSHIP OF
SABLES-SPANISH RIVERS, TOWNSHIP OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
SAGAMOK ANISHNAWBEK FIRST NATION	Unknown			
SARNIA, CITY OF	Direct Haul		Emterra / Halton Recycling Ltd.	Emterra / Halton Recycling Ltd.
SAULT NORTH WASTE MANAGEMENT COUNCIL	Direct Haul		Green Circle Environmental	Green Circle Environmental

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Municipal Program	Material Flow	Transfer Station Name/ Owner / Operator	Processing Facility OWNER	Processing Facility OPERATOR
SAULT STE. MARIE, CITY OF	Direct Haul		Green Circle Environmental	Green Circle Environmental
SEGUIN, TOWNSHIP OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
SERPENT RIVER FIRST NATIONS	Unknown			
SHELBURNE, TOWN OF	Transfer	Dufferin Transfer & Recycling Facility - Sandhill Disposal	GUELPH, CITY OF	GUELPH, CITY OF
SHUNIAH, MUNICIPALITY OF	Direct Haul		Recool Inc.	Recool Inc.
SIMCOE, COUNTY OF	Direct Haul		SIMCOE, COUNTY OF	SIMCOE, COUNTY OF
SIMCOE, COUNTY OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
SIOUX LOOKOUT, TOWN OF	Transfer	Drayton Disposal	Metro Recycling	Metro Recycling
SIOUX NARROWS NESTOR FALLS, TOWNSHIP OF	Transfer	Asselin Transportation	Cascades Winnipeg	Cascades Winnipeg
SMITHS FALLS, TOWN OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
SOUTH DUNDAS, TOWNSHIP OF	Transfer	BFI Canada	Tomlinson Environmental Services	Tomlinson Environmental Services
SOUTH FRONTENAC, TOWNSHIP OF	Direct Haul		KINGSTON, CITY OF	BFI Canada
SOUTH GLENGARRY, TOWNSHIP OF	Direct Haul		CORNWALL, CITY OF	HGC Management
SOUTH STORMONT, TOWNSHIP OF	Direct Haul		CORNWALL, CITY OF	HGC Management
SOUTHGATE, TOWNSHIP OF	Direct Haul		GUELPH, CITY OF	GUELPH, CITY OF
SOUTHWEST MIDDLESEX, MUNICIPALITY OF	Direct Haul		BLUEWATER RECYCLING ASSOCIATION	BLUEWATER RECYCLING ASSOCIATION
SOUTHWOLD, TOWNSHIP OF	Direct Haul		BFI Canada Inc.	BFI Canada Inc.
SPANISH, TOWN OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
ST. CHARLES, MUNICIPALITY OF	Direct Haul		GREATER SUDBURY, CITY OF	Canada Fibres
ST. JOSEPH, TOWNSHIP OF	Direct Haul		GREATER SUDBURY, CITY OF	Canada Fibres
ST. CLAIR, TOWNSHIP OF	Direct Haul		Emterra / Halton Recycling Ltd.	Emterra / Halton Recycling Ltd.
ST. THOMAS, CITY OF	Direct Haul		BFI Canada Inc.	BFI Canada Inc.
STONE MILLS, TOWNSHIP OF	Direct Haul		Manco	Manco
STRATFORD, CITY OF	Direct Haul		Brian Leyser Recycling Inc.	Brian Leyser Recycling Inc.
STRONG, TOWNSHIP OF	Transfer/Unknow facility	Landfill - STRONG, TOWNSHIP OF		
SUNDRIDGE, VILLAGE OF	Direct Haul		ARMOUR, TOWNSHIP OF	ARMOUR, TOWNSHIP OF
TARBUTT & TARBUTT ADDITIONAL, TOWNSHIP OF	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
TAY VALLEY, TOWNSHIP OF	Direct Haul		Tomlinson Environmental Services	Tomlinson Environmental Services
THAMES CENTRE, MUNICIPALITY OF	Direct Haul		Emterra / Halton Recycling Ltd.	Emterra / Halton Recycling Ltd.
THE ARCHIPELAGO, TOWNSHIP OF	Unknown		Waste Services INC/ BFI	Waste Services INC/ BFI
THE BLUE MOUNTAINS, TOWN OF	Direct Haul		Miller Waste Systems - WMC	Miller Waste Systems - WMC
THE NATION MUNICIPALITY	Transfer	Moose Creek Landfill - Matrec	Matrec	Matrec
THUNDER BAY, CITY OF	Direct Haul		Recool Inc.	Recool Inc.
TIMMINS, CITY OF	Transfer	Deloro Landfill Site - TIMMINS, CITY OF	GREATER SUDBURY, CITY OF	Canada Fibres
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Scarborough	Metro Municipal Recycling Services	Metro Municipal Recycling Services
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Bermondsey	Metro Municipal Recycling Services	Metro Municipal Recycling Services
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Disco	Metro Municipal Recycling Services	Metro Municipal Recycling Services
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Vic Park	Metro Municipal Recycling Services	Metro Municipal Recycling Services
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Dufferin	Metro Municipal Recycling Services	Metro Municipal Recycling Services
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Ingram	Metro Municipal Recycling Services	Metro Municipal Recycling Services
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Scarborough	TORONTO, CITY OF	Canada Fibres
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Bermondsey	TORONTO, CITY OF	Canada Fibres
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Disco	TORONTO, CITY OF	Canada Fibres
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Vic Park	TORONTO, CITY OF	Canada Fibres
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Dufferin	TORONTO, CITY OF	Canada Fibres
TORONTO, CITY OF	Transfer	TORONTO, CITY OF - Ingram	TORONTO, CITY OF	Canada Fibres
TRI-NEIGHBOURS	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants



## Study of the Optimization of the Blue Box Material Processing System in Ontario

Municipal Program	Material Flow	Transfer Station Name/ Owner / Operator	Processing Facility OWNER	Processing Facility OPERATOR
TUDOR & CASHEL, TOWNSHIP OF	Direct Haul		QUINTE WASTE SOLUTIONS	Waste Management of Canada
WAHNAPIATAE FIRST NATION	Unknown		GREATER SUDBURY, CITY OF	Canada Fibres
WALPOLE ISLAND FIRST NATION	Unknown			
WATERLOO, REGIONAL MUNICIPALITY OF	Direct Haul		WATERLOO, REGIONAL MUNICIPALITY OF	HGC Management Inc.
WATERLOO, REGIONAL MUNICIPALITY OF	Transfer	Cambridge Landfill - WATERLOO, REGIONAL MUNICIPALITY OF	WATERLOO, REGIONAL MUNICIPALITY OF	HGC Management Inc.
WATERLOO, REGIONAL MUNICIPALITY OF	Transfer	WATERLOO, REGIONAL MUNICIPALITY OF - HGC Management INC.	NIAGARA, REGIONAL MUNICIPALITY OF	Niagara Recycling (MRF Processor)
WELLINGTON, COUNTY OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
WEST ELGIN, MUNICIPALITY OF	Unknown			
WEST GREY, MUNICIPALITY OF	Direct Haul		Waste Management of Canada	Waste Management of Canada
WEST NIPISSING, MUNICIPALITY OF	Direct Haul		West Nipissing Environmental S	WEST NIPISSING, MUNICIPALITY OF
WHITESTONE, MUNICIPALITY OF	Direct Haul		Waste Services INC/ BFI	Waste Services INC/ BFI
WHITEWATER REGION, TOWNSHIP OF	Direct Haul		Beaumen's Waste Management	Renfrew County Recycle Centre
WIKWEMIKONG UNCEDED INDIAN RESERVE	Direct Haul		MWRC	Municipal Waste Services & Recycling Consultants
WOLLASTON, TOWNSHIP OF	Direct Haul		Miller Waste Systems - WMC	Miller Waste Systems - WMC
YORK, REGIONAL MUNICIPALITY OF	Direct Haul		YORK, REGIONAL MUNICIPALITY OF	Miller Waste Systems - WMC
YORK, REGIONAL MUNICIPALITY OF	Transfer	YORK - Miller - Earl Turcott Waste Management Centre	YORK, REGIONAL MUNICIPALITY OF	Miller Waste Systems - WMC
YORK, REGIONAL MUNICIPALITY OF	Transfer	YORK - Dongara	YORK, REGIONAL MUNICIPALITY OF	Miller Waste Systems - WMC

# Study of the Optimization of the Blue Box Material Processing System in Ontario

## Address and CoFA Numbers for Ontario MRFs Handling Blue Box Material in 2011

TABLE 4: Private MRFs Handling Blue Box Materials

Facility OWNER	Facility OPERATOR	Address	City	Province	Postal	Type	CofA Number
Recoil Inc.	Recoil Inc.	RR#3 Highway 61 South	Thunder Bay	ON	P7C 4V2	Private	0729-6QXPC8
Manco	Manco	109 Enviropark Lane	Napanee	ON	K7R 4C6	Private	2234-7QUJMG / 7204-6U7JXF
Metro Municipal Recycling Services	Metro Municipal Recycling Services	45 Thornmount Dr	Toronto	ON	M1B 5P5	Private	4804-5PGPXU / 5162-62UJEC
Brian Leyser Recycling Inc.	Brian Leyser Recycling Inc.	26 Hahn Court	Stratford	ON	NSA 6S4	Private	6746-8NPNFD
HGC Management Inc.	HGC Management Inc.	50 Shaver Road	Brantford	ON	N3T 5M1	Private	7504-5MBKY9
R & D Recycling	R & D Recycling	Highway 17 W	North Bay	ON	P1B 8G5	Private	7651-4KNQ4K
Green Circle Environmental	Green Circle Environmental	86 Sackville Road	Sault Ste. Marie	ON	P6B 4T6	Private	9058-5JAK37
Emterra / Halton Recycling Ltd.	Emterra / Halton Recycling Ltd.	15 Buchanan Court	London	ON	NSZ 4P9	Private	A040147
Waste Management of Canada	Waste Management of Canada	200 Sligo Rd. W	Mount Forest	ON	NOG 2L2	Private	A170404
Beaumen's Waste Management	Renfrew County Recycle Centre	610 Lisgar St	Renfrew	ON	K7V 3N8	Private	A410403
Miller Waste Systems - WMC	Miller Waste Systems - WMC	112 Patton Street	North Bay	ON	P1B 8G4	Private	A530114
Miller Waste Systems - WMC	Miller Waste Systems - WMC	2125 20th Avenue East	Owen Sound	ON	NOH 1V0	Private	A620065
Waste Services INC/ BFI	Waste Services INC/ BFI	580 Esslestone Drive	Bracebridge	ON	P1L 1V7	Private	A620268
Emterra / Halton Recycling Ltd.	Emterra / Halton Recycling Ltd.	1122 Pioneer Rd	Burlington	ON	L7M 1K4	Private	A680142
Metro Waste Recycling	Metro Waste Recycling	2811 Sheffield	Ottawa	ON	K1B 3V8	Private	A710151 / 3460-4UTNR8
BFI Canada Inc.	BFI Canada Inc.	4695 Wellington Road South	London	ON	N6E 0A6	Private	Unable to find online
Canada Fibres	Canada Fibres	322 Horner Ave	Etobicoke	ON	M8W 1Z3	Private	Unable to find online
Greg's Recycling	Greg's Recycling	568 Norris	Devlin	ON	POW 1C0	Private	Unable to find online
HGC Management Inc.	HGC Management Inc.	555 Station Street, RR #6	Belleville	ON	K8N 4Z6	Private	Unable to find online
MWRC	Municipal Waste Services & Recycling Consultants	9 Industrial Park E	Blind River	ON	POR 1B0	Private	Unable to find online
South Buxton Recycling Ltd	Waste Services INC/ BFI	6584 Middle Line Rd	Merlin	ON	NOP 1W0	Private	Unable to find online
Teck Northern Roads	Teck Northern Roads	37 Duncan Ave N	Kirkland Lake	ON	P2N 1X7	Private	Unable to find online
Tomlinson Environmental Services	Tomlinson Environmental Services	2173 Richardson Side Rd	Carp	ON	K0A 1L0	Private	Unable to find online
Waste Management of Canada	Waste Management of Canada	8011 Hwy 15	Beckwith	ON	K7C 3P2	Private	Unable to find online
Waste Management of Canada	Waste Management of Canada	1380 California Road	Brockville	ON	K6V 6K8	Private	Unable to find online
Waste Management of Canada	Waste Management of Canada	4485 Progress Drive	Petrolia	ON	NON 1R0	Private	Unable to find online

TABLE 5: Public MRFs Handling Blue Box Materials

Facility OWNER	Facility OPERATOR	Address	City	Province	Postal	Type	CofA Number
LONDON, CITY OF	Miller Waste Systems - WMC	3438 Manning Drive	London	ON	N6L 1K4	Public	0968-8G4GQA
YORK, REGIONAL MUNICIPALITY OF	Miller Waste Systems - WMC	100 Garfield Wright Blvd	East Gwillimbury	ON	LOG 1V0	Public	1839-5PXLW
West Nipissing Environmental S	WEST NIPISSING, MUNICIPALITY OF	225 Holditch Street	Sturgeon Falls	ON	P2B 2C5	Public	3454-84YKES
NIAGARA, REGIONAL MUNICIPALITY OF	Niagara Recycling (MRF Processor)	4935 Kent Avenue	Niagara Falls	ON	L2H 1J5	Public	3576-5DTNNJ
PEEL, REGIONAL MUNICIPALITY OF	Waste Management of Canada	795 Torbram Road	Brampton	ON	L6S 5Z7	Public	6021-6DBKZ7
ESSEX-WINDSOR SOLID WASTE AUTHORITY	ESSEX-WINDSOR SOLID WASTE AUTHORITY	3560 North Service Road	Windsor	ON	N8W 5R7	Public	A010137
HAMILTON, CITY OF	Canada Fibres	1579 Burlington St E	Hamilton	ON	L8H 3L2	Public	A130213
WATERLOO, REGIONAL MUNICIPALITY OF	HGC Management Inc.	925 Erb Street	Waterloo	ON	N2G 3W7	Public	A140301
GUELPH, CITY OF	GUELPH, CITY OF	110 Dunlop Drive	Guelph	ON	N1L 1E4	Public	A170128
SIMCOE, COUNTY OF	SIMCOE, COUNTY OF	1700 Golf Link Road	Midland	ON	L9M 1R4	Public	A253102
BRUCE AREA SOLID WASTE RECYCLING	BRUCE AREA SOLID WASTE RECYCLING	126 Concession 14	Southampton	ON	NOH 2L0	Public	A273103
TORONTO, CITY OF	Canada Fibres	35 Vanley Crescent	Toronto	ON	M3J 2B7	Public	A280709
NORTHUMBERLAND, COUNTY OF	NORTHUMBERLAND, COUNTY OF	280 Edwardson Road	Grafton	ON	K0K 2G0	Public	A311713
QUINTE WASTE SOLUTIONS	Waste Management of Canada	270 West Street	Trenton	ON	K8V 2N3	Public	A360209
KINGSTON, CITY OF	BFI Canada	196 Lappan's Lane	Kingston	ON	K7K 6Z4	Public	A380107
DURHAM, REGIONAL MUNICIPALITY OF	Metro Municipal Recycling Services	4590 Garrard Rd	Whitby	ON	L1H 7K4	Public	A390509
OTTAWA VALLEY WASTE RECOVERY CENTRE	OTTAWA VALLEY WASTE RECOVERY CENTRE	900 Woito Station Road	Pembroke	ON	K8A 6W5	Public	A411601
NORTH GLENGARRY, TOWNSHIP OF	NORTH GLENGARRY, TOWNSHIP OF	265 Industrial Boulevard	Alexandria	ON	K0C 1A0	Public	A480203
NORTH DUNDAS, TOWNSHIP OF	NORTH DUNDAS, TOWNSHIP OF	12620 Boyne Road	Winchester	ON	K0C 2K0	Public	A482101
ARMOUR, TOWNSHIP OF	ARMOUR, TOWNSHIP OF	141 Chetwynd Rd	Armour	ON	P0A 1C0	Public	A521003
GREATER SUDBURY, CITY OF	Canada Fibres	1825 Frobisher Street	Sudbury	ON	P3A 6C8	Public	A540231
NORFOLK, COUNTY OF	HGC Management Inc.	28 Grigg Drive	Norfolk	ON	L0K 2A0	Public	A650033
PETERBOROUGH, CITY OF	HGC Management Inc.	390 Pido Road	Peterborough	ON	K9J 2J4	Public	A710080
COCHRANE TEMISKAMING WASTE MANAGEMENT BOARD	COCHRANE TEMISKAMING WASTE MANAGEMENT BOARD	181 Brunetville Road	Kapuskasing	ON	P5N 2H2	Public	A770076
BLUEWATER RECYCLING ASSOCIATION	BLUEWATER RECYCLING ASSOCIATION	415 Canada Ave	Huron Park	ON	NOM 1Y0	Public	Unable to find online
COCHRANE TEMISKAMING WASTE MANAGEMENT BOARD	COCHRANE TEMISKAMING WASTE MANAGEMENT BOARD	7 Barr Drive	New Liskard	ON	P0J 1K0	Public	Unable to find online
CORNWALL, CITY OF	HGC Management	2590 Cornwall Centre Road	Cornwall	ON	K6H 5R6	Public	Unable to find online

TABLE 6: Out of Province MRFs Handling ON Blue Box Materials

Facility OWNER	Facility OPERATOR	Address	City	Province	Postal	Type
Service Sani-Tri	Service Sani-Tri	3369 Saguenay	Rouyan-Noranda	QC	J9X 5A3	Private
Matrec	Matrec	5300 Rue Albert Millichamp	St-hubert	QC	J3Y 1B7	Private
Cascades Winnipeg	Cascades Winnipeg	680 Wall St	Winnipeg	MB	R3G 2T8	Private
Metro Recycling	Metro Recycling	100 Omands Creek Blvd	Winnipeg	MB	R2R 1V7	Private

# Study of the Optimization of the Blue Box Material Processing System in Ontario

## Address and CofA Numbers for Ontario Transfer Stations Handling Blue Box Materials in 2011

**TABLE 7: Private Transfer Stations**

Transfer Station Name/Owner/Operator	Transfer Address	Transfer City	Transfer Province	Transfer Postal	Type	CofA Number
Asselin Transportation	401 Keating Ave	Fort Francis	ON	P9A 3T7	Private	2237-6QHRZ4
BFI Canada	4800 Development Drive	Brockville	ON	K6V 5V6	Private	4018-4RHL8D
Dufferin Transfer & Recycling Facility - Sandhill Disposal	473051 County Road 11	Orangeville	ON	L9W 2Z3	Private	8661-5M2PDD
NorJohn Transfer System Ltd. - Walker Industries	5030 Mainway	Burlington	ON	L7L 5Z1	Private	A210114
YORK - Miller - Earl Turcott Waste Management Centre	300 Rodick Road	Markham	ON	L3R 5X8	Private	A230303
Mid Ontario Disposal	24 Kitchener Street	Orillia	ON	L3V 5H5	Private	A252604
Moose Creek Landfill - Matrec	17125 Lafleche Road	Moose Creek	ON	K0C 1W0	Private	A420018
Drayton Disposal	69 Abram Lake Road	Sioux Lookout	ON	P8T 1A5	Private	A900156
Canborough Recycling Transfer Station	499 James Road	Dunnville	ON	N1A 2W4	Private	Unable to find online
Leferink Transfer Limited	57 Armstrong Ave	Georgetown	ON	L0P 1K0	Private	Unable to find online
Roslin - David Moore & Sons					Private	Unable to find online
YORK - Dongara	7251 27 Hwy	Woodbridge	ON	L4L 1A5	Private	Unable to find online

**TABLE 8: Public Transfer Stations**

Transfer Station Name/Owner/Operator	Transfer Address	Transfer City	Transfer Province	Transfer Postal	Type	CofA Number
Kenora Area Solid Waste Transfer Facility	401 Mellick Ave	Kenora	ON	P9N 0E1	Public	3840-4LHJFE
WATERLOO, REGIONAL MUNICIPALITY OF	201 Savage Drive	Cambridge	ON	N1T 1S5	Public	6383-57TPZW
TORONTO, CITY OF - Dufferin	400 Commissioners St.	Toronto	ON	M4M 1A9	Public	A210343
TORONTO, CITY OF - Disco	120 Disco Rd.	Toronto	ON	M9W 1M4	Public	A280303
TORONTO, CITY OF - Scarborough	1 Transfer Place	Toronto	ON	M1S 4A4	Public	A280408
TORONTO, CITY OF - Bermondsey	188 Bermondsey Rd.	Toronto	ON	M4A 1Y1	Public	A280701
TORONTO, CITY OF - Ingram	50 Ingram Dr.	Toronto	ON	M6M 2L6	Public	A280703
TORONTO, CITY OF - Vic Park	3350 Victoria Park Ave.	Toronto	ON	M2H 3K5	Public	A280707
Landfill - STRONG, TOWNSHIP OF	483 Forest Lake Rd	Strong	ON	P0A 1Z0	Public	A522702
Deloro Landfill Site - TIMMINS, CITY OF	2180 Pine Street South	Timmins	ON	P4N 7C2	Public	A580703
Dryden Landfill - DRYDEN, CITY OF	398 HWY-502	Kenora District	ON	P0V 2J0	Public	Unable to find online
Woodstock	201 Savage Drive	Woodstock	ON	N1T 1S5	Public	Unable to find online

FIGURE 1: Current System Infrastructure and Material Flow for the Eastern Region

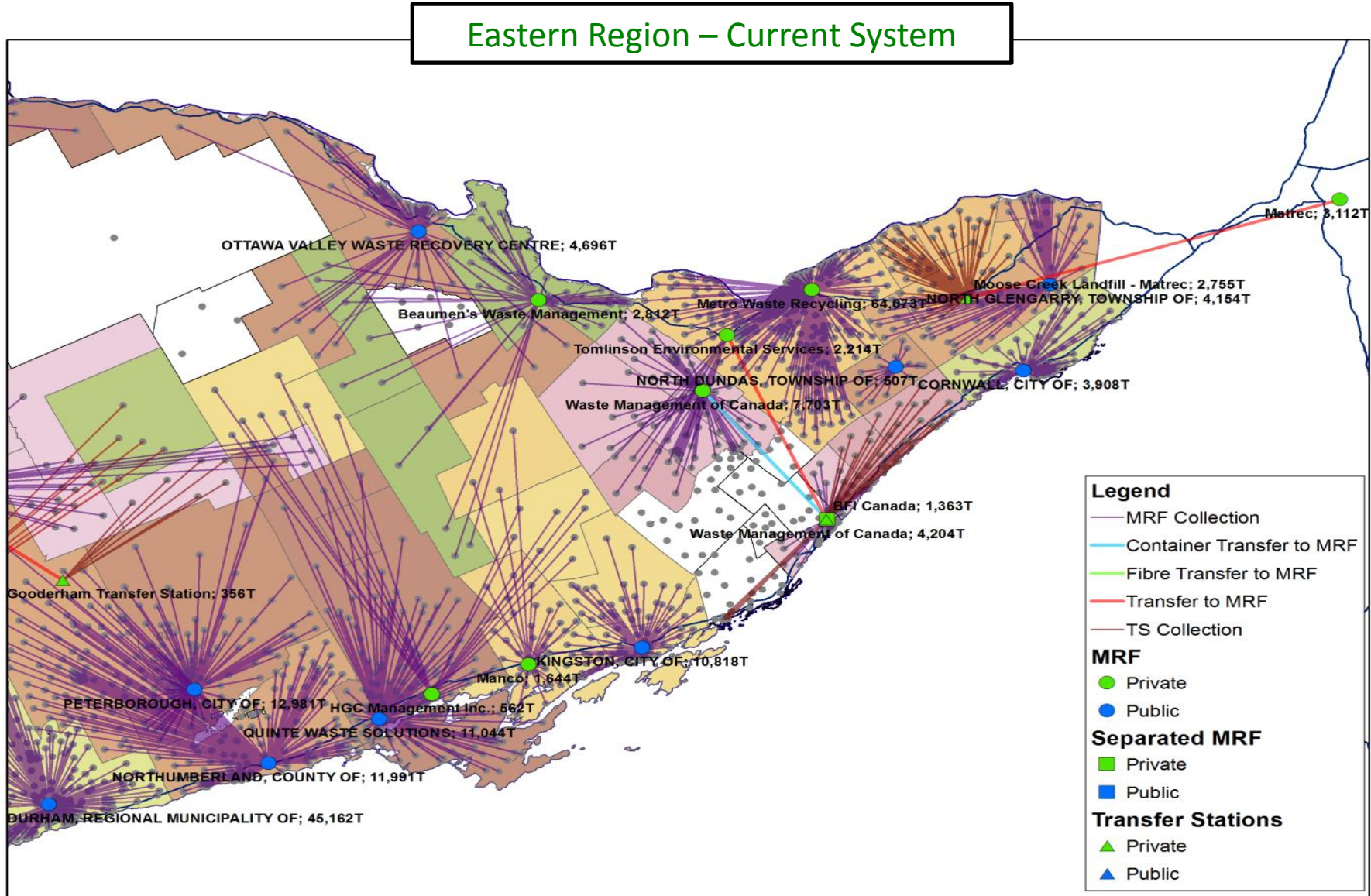


FIGURE 2: Current System Infrastructure and Material Flow for the Southwestern Region

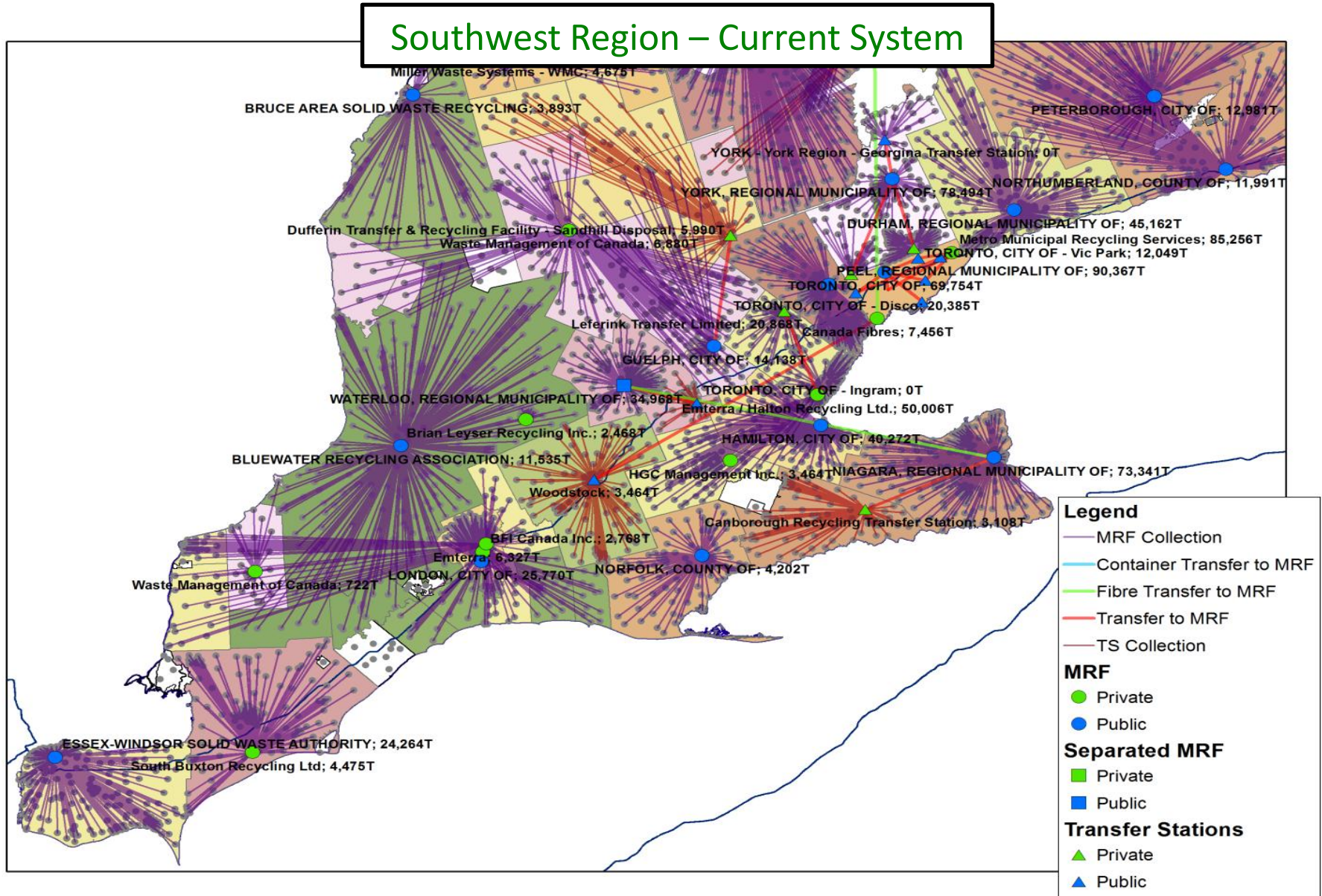


FIGURE 3: Current System Infrastructure and Material Flow for the Central & GTA Region

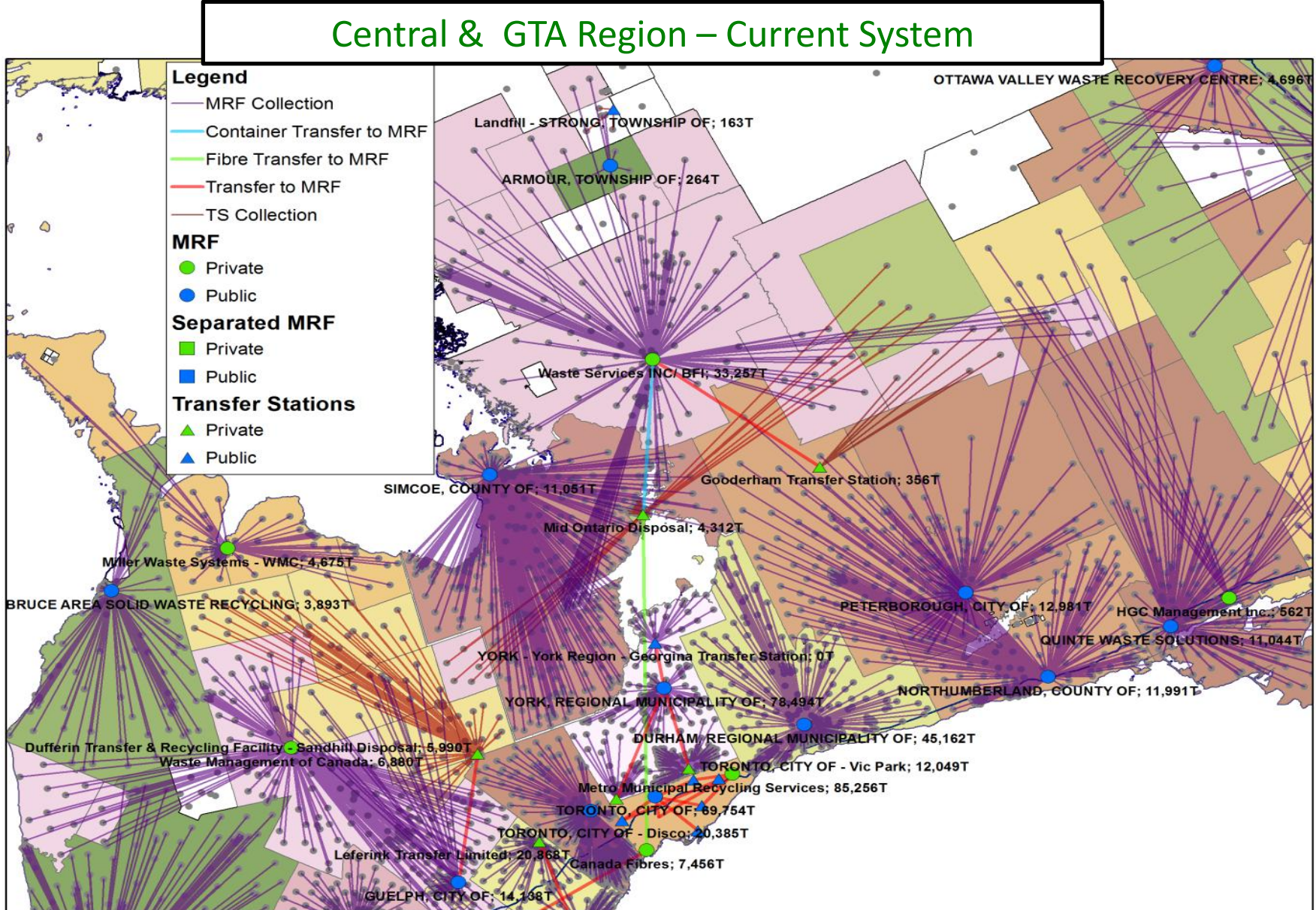


FIGURE 4: Current System Infrastructure and Material Flow for the GTA Region

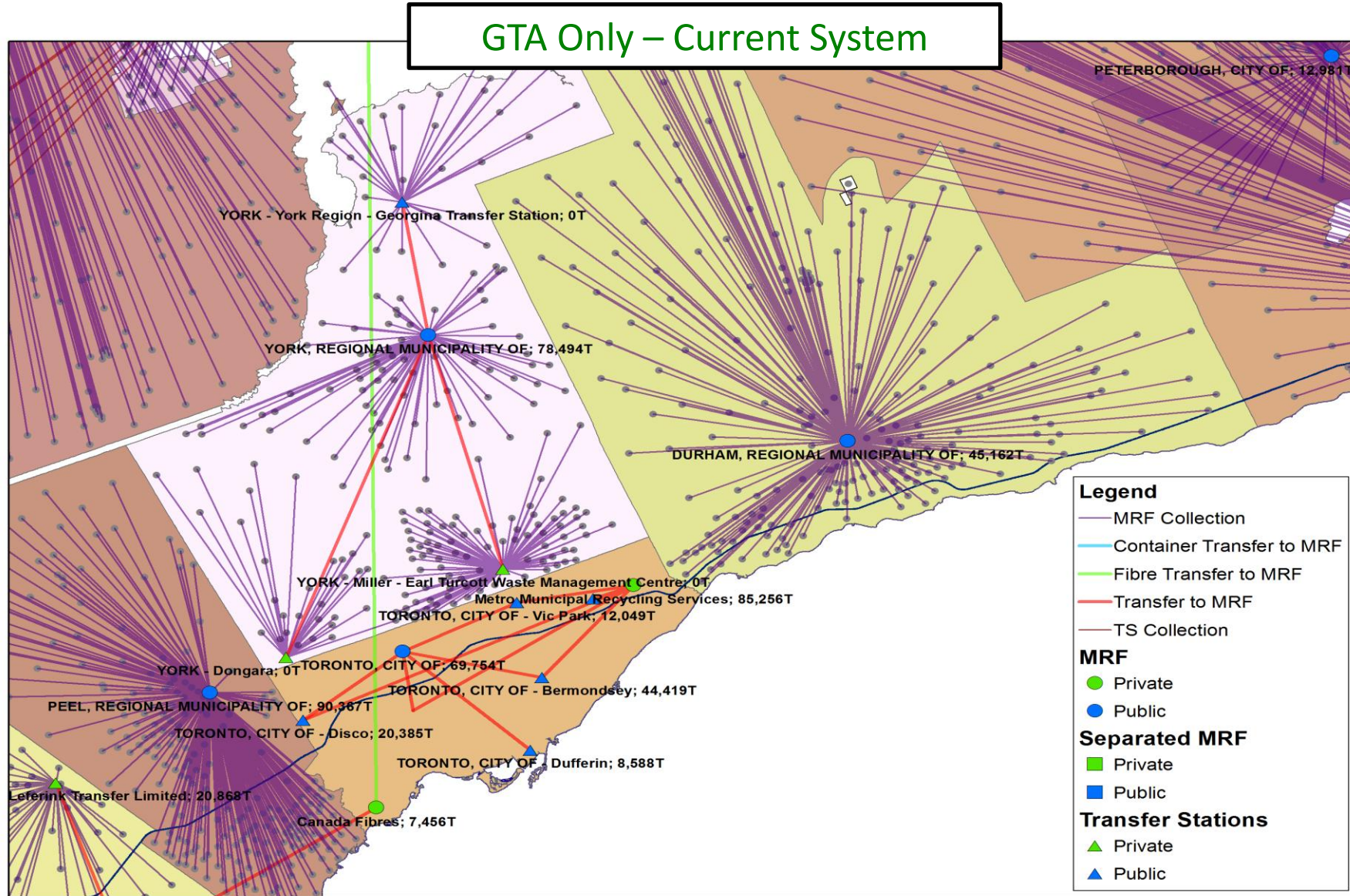
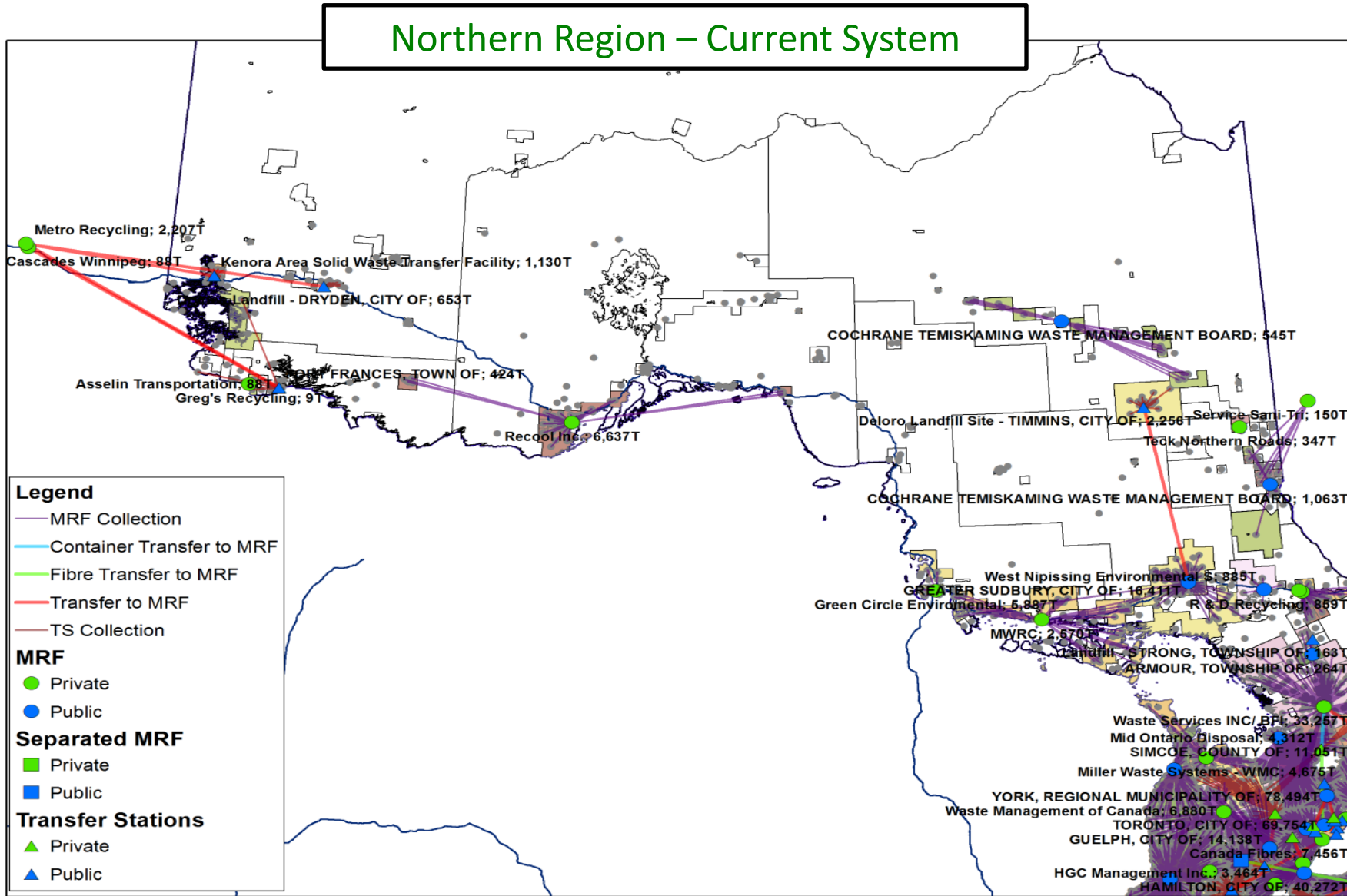


FIGURE 5: Current System Infrastructure and Material Flow for the Northern Region





**TALBE 9: Costing Assumptions**

<b>Labour</b>					
	<b>Wages</b>	<b>Hourly</b>	<b>Annual</b>	<b>Fringes</b>	
				<b>2012 Total</b>	
Sorter		\$15.00	\$31,200	\$9,360	\$40,560
Semi Tractor Driver		\$23.00	\$47,840	\$14,352	\$62,192
Equipment Operator		\$17.50	\$36,400	\$10,920	\$47,320
Maintenance		\$17.50	\$36,400	\$10,920	\$47,320
Scale & Clerical		\$15.00	\$31,200	\$9,360	\$40,560
Management		\$27.00	\$56,160	\$16,848	\$73,008
Benefits/Fringes		30%			
1st Shift capacity		85%			
2nd Shift capacity		85%			
Capacity Utilization		95%			

<b>Building &amp; Operating Costs</b>		
Building & Site Maintenance Costs	\$ 13.45	per m <sup>2</sup>
Building utilities	\$ 6.46	per m <sup>2</sup>
<b>Processing Costs</b>		
Baling Wire Costs	\$ 1.50	per tonne
Processing Fuel Costs	\$ 0.50	per tonne
Maintenance Costs	\$ 4.41	per tonne
Process Utilities Costs	\$ 2.20	per tonne
Transfer Loading Fuel Costs	\$ 0.20	per tonne
Transfer Equipment Maint Cost	\$ 2.25	per tonne
Safety Office Phone Supplies	\$ 2.48	per tonne
Residue Disposal Cost	\$ 80	per tonne of residue
Residue Rate	7%	
Manangement Profit Allowance	20%	
Interest Rate	4%	

<b>Rolling Stock</b>		
Forklift	\$ 35,000	
Skidsteer with Grapple	\$ 50,000	
Small Loader	\$ 85,000	
Large Loader	\$ 180,000	
Yard Mule	\$ 110,000	

<b>Transfer</b>		
Haul Cost Transfer Trailer	\$ 100	per hour
Haul Cost Rolloff	\$ 90	per hour
Load Limit Transfer Truck	24.1	tonnes
Load Limit Rolloff Truck	18.3	tonnes

## Study of the Optimization of the Blue Box Material Processing System in Ontario

**TABLE 10: Costing Assumptions by Type of MRF**

CATEGORIES	DS Small MRF	DS Small MRF 2-Shift	DS Medium MRF	DS Medium MRF 2-Shift	SS Small MRF	SS Small MRF 2-Shift	SS Intermed MRF	SS Intermed MRF 2-Shift	SS Medium MRF	SS Medium MRF 2-Shift	SS Large MRF	SS Large MRF 2-Shift
<b>Rated tonnes/hour</b>	6.40	6.40	13.61	13.61	13.61	13.61	19.96	19.96	31.75	31.75	63.50	63.50
Fibre Tonnage	7,135	14,269	15,180	30,360	15,180	30,360	22,264	44,528	35,420	70,840.06	70,840.06	141,680.12
Container Tonnage	2,623	5,246	5,581	11,162	5,581	11,162	8,185	16,371	13,022	26,044	26,044	52,088
Residue	734	1,469	1,563	3,125	1,563	3,125	2,292	4,584	3,646	7,292	7,292	14,585
<b>Total Tonnage</b>	<b>10,492</b>	<b>20,984</b>	<b>22,324</b>	<b>44,647</b>	<b>22,324</b>	<b>44,647</b>	<b>32,741</b>	<b>65,482</b>	<b>52,088</b>	<b>104,177</b>	<b>104,177</b>	<b>208,353</b>
<b>Capital</b>												
<b>Equipment</b>												
Scale	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Main Baler(s)	\$ 300,000	\$ 300,000	\$ 450,000	\$ 450,000	\$ 450,000	\$ 450,000	\$ 650,000	\$ 650,000	\$ 700,000	\$ 700,000	\$ 1,500,000	\$ 1,500,000
Sorting, Bins, Bunkers, Conveyors	\$ 2,000,000	\$ 2,000,000	\$ 2,700,000	\$ 2,700,000	\$ 3,500,000	\$ 3,500,000	\$ 6,000,000	\$ 6,000,000	\$ 8,500,000	\$ 8,500,000	\$ 16,000,000	\$ 16,000,000
<b>Equipment Total</b>	<b>\$ 2,400,000</b>	<b>\$ 2,400,000</b>	<b>\$ 3,250,000</b>	<b>\$ 3,250,000</b>	<b>\$ 4,050,000</b>	<b>\$ 4,050,000</b>	<b>\$ 6,750,000</b>	<b>\$ 6,750,000</b>	<b>\$ 9,300,000</b>	<b>\$ 9,300,000</b>	<b>\$ 17,600,000</b>	<b>\$ 17,600,000</b>
<b>Rolling Stock</b>												
Loaders & Forklift & Yard Tractor	\$ 170,000	\$ 170,000	\$ 265,000	\$ 265,000	\$ 170,000	\$ 170,000	\$ 265,000	\$ 265,000	\$ 300,000	\$ 300,000	\$ 565,000	\$ 565,000
Rolling Stock	\$ 170,000	\$ 170,000	\$ 265,000	\$ 265,000	\$ 170,000	\$ 170,000	\$ 265,000	\$ 265,000	\$ 300,000	\$ 300,000	\$ 565,000	\$ 565,000
<b>Building Capital</b>												
Site Size (acres)	4.00	6.00	6.00	6.00	9.00	9.00	9.00	9.00	9.00	9.00	15.00	15.00
Building Size (Sq. meter)	2,200	2,200	4,000	4,000	4,000	4,000	5,000	5,000	6,200	6,200	10,500	10,500
Cost per sq meter	\$ 1,292	\$ 1,292	\$ 1,292	\$ 1,292	\$ 1,292	\$ 1,292	\$ 1,292	\$ 1,292	\$ 1,292	\$ 1,292	\$ 1,292	\$ 1,292
Building Cost	\$ 2,842,400	\$ 2,842,400	\$ 5,168,000	\$ 5,168,000	\$ 5,168,000	\$ 5,168,000	\$ 6,460,000	\$ 6,460,000	\$ 8,010,400	\$ 8,010,400	\$ 13,566,000	\$ 13,566,000
<b>Site and Land Capital</b>												
Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Capital</b>	<b>\$ 5,412,400</b>	<b>\$ 5,412,400</b>	<b>\$ 8,683,000</b>	<b>\$ 8,683,000</b>	<b>\$ 9,388,000</b>	<b>\$ 9,388,000</b>	<b>\$ 13,475,000</b>	<b>\$ 13,475,000</b>	<b>\$ 17,610,400</b>	<b>\$ 17,610,400</b>	<b>\$ 31,731,000</b>	<b>\$ 31,731,000</b>
<b>Labour Assumptions (FTE)</b>												
Number of Employees	17	33	29.5	58	24.5	48	28	55	33	65	59	118
<b>Sorter</b>												
(tonnes/hr/sorter)	0.50	0.50	0.60	0.60	0.75	0.75	1.00	1.00	1.35	1.35	1.35	1.35
Sorter	13.00	26.00	23.00	46.00	18.00	36.00	20.00	40.00	24.00	48.00	47.00	94.00
Driver	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equipment Operator	1.00	2.00	3.00	6.00	3.00	6.00	4.00	8.00	5.00	10.00	7.00	14.00
Maintenance	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	2.00	4.00
Scale/Clerical	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00
Management, Clerical & Scale	1.00	2.00	1.50	3.00	1.50	3.00	2.00	4.00	2.00	4.00	2.00	4.00

**TABLE 11: Costing Assumptions by Type of Transfer Station**

CATEGORIES	Small Transfer	Medium Transfer	Large Transfer	Large Transfer Alternative
Fibre Tonnage	1,700	6,800	35,420	35,420.03
Container Tonnage	625	2,500	13,022	13,022
Other Tonnage	-	-	-	-
Residue	175	700	3,646	3,646
<b>Total Tonnage (tonnes)</b>	<b>2,500</b>	<b>10,000</b>	<b>52,088</b>	<b>52,088</b>
<b>Capital</b>				
<b>Equipment</b>				
Compactors	\$ 25,000	\$ 210,000	\$ 420,000	\$ 420,000
Equipment Total	\$ 25,000	\$ 210,000	\$ 420,000	\$ 420,000
<b>Rolling Stock</b>				
Loaders & Forklift & Yard Tractor	\$ 50,000	\$ 290,000	\$ 470,000	\$ 290,000
Rolling Stock	\$ 50,000	\$ 290,000	\$ 470,000	\$ 290,000
<b>Building Capital</b>				
Site Size (acres)	2.00	2.00	2.00	2.00
Assumed Size (sq. meter)	200	500	1,200	900
Cost per sq. meter	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,200
Building Cost	\$ 200,000	\$ 500,000	\$ 1,200,000	\$ 1,080,000
Site and Land Capital Cost	\$ -	\$ -	\$ -	\$ -
<b>Total Capital</b>	<b>\$ 200,000</b>	<b>\$ 500,000</b>	<b>\$ 1,200,000</b>	<b>\$ 1,080,000</b>
<b>Labour Assumptions (FTE)</b>				
Number of Employees	0.40	1.35	4.5	4.5
Sorter Productivity (tonnes/hr/sorter)				
Sorter	0.00	0.00	0.00	0.00
Driver	0.00	0.00	1.00	1.00
Equipment Operator	0.20	0.75	2.00	2.00
Maintenance	0.00	0.10	0.50	0.50
Scale/Clerical			0.50	0.50
Management, Clerical & Scale	0.20	0.50	0.50	0.50

# Study of the Optimization of the Blue Box Material Processing System in Ontario

## SINGLE-STREAM PROCESS FLOW DIAGRAM

