



Metropolitan Council Meeting

Wednesday, July 14, 2010

Robert Street Council Chambers

4:00 P.M.

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Metropolitan Council Meeting

Wednesday, July 14, 2010

Council Chambers

4:00 P.M.

Part I - Narrative

Attendance:

Peter Bell, Chair; Roger Scherer, Robert McFarlin, Craig Peterson, Annette Meeks, Lynette Wittsack, Natalie Steffen, Kris Sanda, Georgeanne Hilker, Sherry Broecker, Rick Aguilar, Kirstin Sersland Beach, Daniel Wolter, Wendy Wulff

Members absent: Tony Pistilli, Polly Bowles, Peggy Leppik

Call to Order and Approval of Agenda

A quorum being present, the Chair called the regular meeting of the Metropolitan Council to order at 4:06 p.m. It was moved by Wolter seconded by Wulff to approve the agenda. Motion carried.

Minutes

It was moved by Hilker seconded by Wulff to approve the amended minutes of the Metropolitan Council Meeting of May 26, 2010 and the minutes of June 23, 2010. Motion carried.

Public Invitation

Peter Hansen Roess, St. Paul, addressed the Council regarding his interest in creating an environmentally friendly community on the Twin Cities Army Ammunition Plan (TCAAP) property located in Arden Hills. The TCAAP is a U.S. Army owned facility that has long been considered prime redevelopment property.

Steve Gardner, Plymouth, expressed concern about the number of trees, Savannah Oak in particular, that are being destroyed as land is cleared to make way for community developments. Mr. Gardner believes more thoughtful consideration should be given to preserving this natural resource.

Chair Bell thanked Mr. Roess and Mr. Gardner for appearing before the Council and sharing their views.

Part II - Exhibits

Business

Joint Report of Transportation and Management Committees

2010-193 - 2010 Unified Operating Budget Amendment

It was moved by Scherer and seconded by Steffen

"That the Metropolitan Council amend the 2010 Unified Operating Budget as indicated and in accordance with attached tables.

Motion carried on the following roll call vote:

					Yes	No	Absent	
	Scherer	Wittsack	Broecker	Wolter			Pistilli	
	McFarlin	Steffen	Aguilar	Wulff			Bowles	
	Peterson	Sanda	Sersland Beach	Bell			Leppik	
	Meeks	Hilker						
TOTAL							3	

Committee Consent List

2010-191 - Anoka County 2030 Comprehensive Plan Update, Review No. 20688-1

It was moved by Steffen and seconded by Meeks

"That the Metropolitan Council adopt the attached Advisory Comments and Review Record and take the following recommended actions:

1. Authorize Anoka County to put its 2030 Comprehensive Plan Update into effect;
2. Implement the advisory comments under forecasts and Critical Area Plan."

Motion carried.

2010-225 - Technical Amendments to Legal Services Agreements: No Budget Impacts

It was moved by Steffen and seconded by Meeks

"That the Metropolitan Council authorizes the General Counsel to amend legal services agreements to increase the maximum contract prices as follows:

Law Firm	Services	Term	Current Price	Proposed Increase	New Price
Best Flanagan	Legal Services related to Eminent Domain and Real Property Matters Contract No. 06P154	1/1/07- 12/31/10	\$600,000	\$125,000	\$725,000
Cousineau McGuire	Legal Services related to Workers Compensation	5/16/08- 6/30/11	\$125,000	\$125,000	\$250,000

	Contract No. 07P219A				
Brown Carlson	Legal Services related to Workers Compensation Contract No. 07P219C	5/16/08-6/30/11	\$125,000	\$125,000	\$250,000

Motion carried.

2010-229 - Agricultural Preserves Report

It was moved by Steffen and seconded by Meeks

"That the Metropolitan Council Accept the 2009 Status Report to forward to the Minnesota Legislature and to the Minnesota Department of Agriculture."

Motion carried.

2010-230 - City of Lakeland 2010 Comprehensive Plan Update (Review File No. 20519-1)

It was moved by Steffen and seconded by Meeks

"That the Metropolitan Council adopt the Advisory Comment and Review Record and take the following actions:

1. Authorize the City of Lakeland to put its 2030 Comprehensive Plan Update into effect;
2. Change the planning area designation for the City from Diversified Rural to Rural Residential in the *2030 Regional Development Framework*;
3. Advise the City to:
 - a. Send to the Council the dates that the watershed management organization approved the City of Lakeland's local surface water management plan.
 - b. Implement the advisory comments in the Review Record for Local Surface Water Management and Land Use.

Motion carried.

2010-231 - Washington County 2010 Comprehensive Plan Update, Review File No. 20610-1

It was moved by Steffen and seconded by Meeks

"That the Metropolitan Council adopt the attached Advisory Comments and Review Record, and the following:

1. Authorize the County to put its 2030 Comprehensive Plan Update into

- effect;
- 2. Authorize the County to put its 2030 Comprehensive Plan Update into effect;
- 3. Implement the advisory comments in the Review Record for Forecasts and Land Use."

Motion carried.

2010-233 - City of Waconia East Lake Neighborhood Comprehensive Plan Amendment, Review No. 20423-2

It was moved by Steffen and seconded by Meeks

"That the Metropolitan Council adopts the attached Review Record, and the following:

- 1. Authorize the City of Waconia to put its Comprehensive Plan Amendment (CPA) into effect for the proposed East Lake Neighborhood;
- 2. Finds that the CPA does not change the City's forecasts."

Motion carried.

2010-237 - Authorization to Purchase Passenger Waiting Shelters

It was moved by Steffen and seconded by Meeks

"That the Metropolitan Council Council authorize the Regional Administrator to execute a purchase order with Brasco International, Inc. for 85 passenger waiting shelters in an amount of \$366,225."

Motion carried.

2010-241 - 2010-2013 TIP Amendment: Hennepin County SP#27=753=13, Lowry Avenue Bridge Replacement Phase II (TAB Action 2010-40)

It was moved by Steffen and seconded by Meeks

"That the Metropolitan Council concur with the Transportation Advisory Board (TAB) action to amend the 2010-2013 Transportation Improvement Program (TIP) to include SP#27-753-13, Lowry Avenue Bridge Replacement Phase II."

Motion carried.

2010-242 - 2010-2013 TIP Amendment: Dakota County, Add local funds for SP #19-623-25, and enhancement-funded SP#19-623-28 and reflect a change in scope for SP# 19-623-23 (TAB Action 2010-41)

It was moved by Steffen and seconded by Meeks

"That the Metropolitan Council concur with the Transportation Advisory Board (TAB) action to amend the 2010-2013 Transportation Improvement Program (TIP) to make the following changes to these Cedar Avenue BRT related projects:

- add local funds for project #190623-25 (roadwork from 164th St. to 181st St. in Lakeville);
- add project #19-623-28 to the TIP in SFY 2011 with local funds used to advance construct a SFY2013 Enhancements funded project (lighting, landscaping and amenities in Lakeville and Apple Valley);
- show new costs for project #19-623-24 (roadwork between CSAH 42 and north of 138th St.);
- reflect a change in scope and revise project costs for project #19-623-23 (roadwork from 147th St., Apple Valley to 181st St., Lakeville)."

Motion carried.

Report of the Management Committee

Management Committee items on are on the Consent List and Joint Report

Report of the Transportation Committee

2010-244 - Initiate Eminent Domain Proceedings for the Acquisition of Parcel 5D (former Bremer Building) for Central Corridor Light Rail Transit Civil East Construction

It was moved by McFarlin and seconded by Peterson

"That the Metropolitan Council authorize the initiation of eminent domain proceedings for the acquisition of the property rights for Parcel 5D (Former Bremer Building) in downtown St.Paul for the Central Corridor Light Rail Transit (CCLRT) Civil East Construction."

Motion carried, with Meeks and Wulff dissenting and Wolter recusing himself from the discussion and vote

2010-245 - Central Corridor Light Rail Transit: Independent Testing Services during Construction

It was moved by McFarlin and seconded by Broecker

"That the Metropolitan Council Authorize the Regional Administrator to negotiate and execute a contract with Stork Twin City Testing Corporation to conduct independent testing services during construction of the Central Corridor Light Rail Transit (CCLRT) Project for an amount not to exceed \$435,000."

Motion carried, with Wolter recusing himself from the discussion and vote.

2010-246 - Subrecipient Grant Agreement with Hennepin County Regional Rail Authority for the Interchange

It was moved by McFarlin and seconded by Scherer

"That the Metropolitan Council Authorize the Regional Administrator to negotiate and execute a subrecipient grant agreement (SGA) with the Hennepin County Regional Rail Authority (HCRRRA) passing through a \$500,000 Federal Transit

Administration (FTA) Section 5309 Bus and Bus Facilities grant for project management/administration and engineering and design activities associated with the Interchange project."

Chair Bell said the Interchange project is necessary at this time to accommodate, in a reasonable way and efficient manner, the transit projects this Administration has supported and implemented. Support for this agreement does not imply anything more than studying engineering and design activities associated with the Interchange project.

Motion carried, with Meeks and Sersland Beach dissenting.

2010-247 - Central Corridor Light Rail Transit: Construction Change Order Greater than 5% for the Advanced Traffic Improvements Contract with Graham Construction Services to Cover Costs of university of Minnesota Betterments

It was moved by McFarlin and seconded by Scherer

"That the Metropolitan Council authorize:

1. an additional \$360,000 above the standard 5% allowable contract change order contingency to acknowledge University requested betterments under the Advanced Traffic Improvements contract;
2. the Regional Administrator to negotiate and execute a subordinate funding agreement with the University of Minnesota in an amount not to exceed \$360,000 for University requested betterments under the Advanced Traffic Improvements contract."

Motion carried, with Wolter recusing himself from the discussion and vote.

Report of the Community Development Committee

2010-228 - Tax Base Revitalization Account Funding Recommendations

It was moved by Aguilar and seconded by Broecker

"That the Metropolitan Council award 8 Tax Base Revitalization Account grants totaling \$1,318,200 to redevelopment projects in the cities of Minneapolis and Saint Paul."

Projects recommended for Spring 2010 TBRA funding	Recommended amount
Minneapolis – 4 th Street Flats	\$347,500
Minneapolis – Linden Hills	\$35,900
Minneapolis – New French Bakery Expansion	\$137,100
Minneapolis – New Millennium Charter School	\$50,000

Minneapolis – North Loop Gateway	\$213,500
Saint Paul – Renaissance Box III	\$84,200
Saint Paul Port Authority – Pelham Business Center	\$100,000
Saint Paul Port Authority – Beacon Bluff (Phase 2)	\$350,000
Total	\$1,318,200

Motion carried.

Report of the Environment Committee

There is no report.

Other Business

Report – Algae Research Project

Jason Willett and Dr. Bob Polta, Environmental Services presented an update on the Metropolitan Council Algae Research Project, one of three energy related projects being studied collaboratively by Environmental Services and University of Minnesota staff.

Reports

Chair

Chair Bell reported he:

- named Council Member Steffen to the Coon Rapids Dam Commission, created by the Legislature to study options and make recommendations for the future of the Coon Rapids Dam;
- named Council Member McFarlin as the Council liaison to the Metropolitan Airports Commission;
- has met with the Legislative Auditors who are studying Transit governance issues;
- testified before the Legislative Advisory Commission regarding the Council's procurement of the Civil West Construction Contract;
- and other staff continue working with University of Minnesota officials on CCLRT issues

Council Members

There were no reports.

Regional Administrator

There was no report.

General Counsel

There was no report.

Metropolitan Council Algae Research Project Update

Presented to the Metropolitan Council Management Committee

July 14, 2010

Jason Willett, MCES Finance Director
& Bob Polta, Ph.D. and P.E.

Energy Collaboration

- **Met Council and the U of M**
 - Algae research
 - Super bus
 - Biofuel demonstration project

MCES Interest in Algae

- **Phosphorus limits**
 - Current 1 mg/l based on 12 month average
 - Sept 2008 MPCA suggested 0.3 mg/l
 - New limit = ?
- **Nitrogen limits**
 - Seasonal ammonia removal (nitrification)
 - Hypoxia in Gulf of Mexico
- **Greenhouse gases**
 - Some limits for WWTP possible
 - Cap & trade => value for reduction
- **Renewable fuel**

3

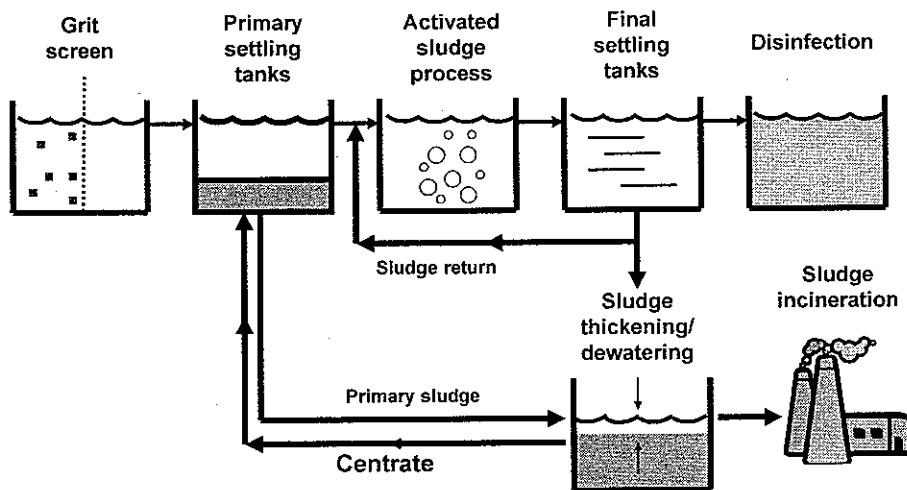
Project Timeline

Phase	Period	Tasks
1	2006-08	Lab scale investigations at UM
2	2008-09	Construction & operation of small pilot plant at Metro plus additional laboratory investigations at UM
3	2009-10	Continuation of Phase 2 with focus on performance of bioreactor A
4	2010-13	Construction & operation of demonstration scale facility (LCCMR \$)

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Bob Polta, Ph.D., PE

Metro Plant Schematic

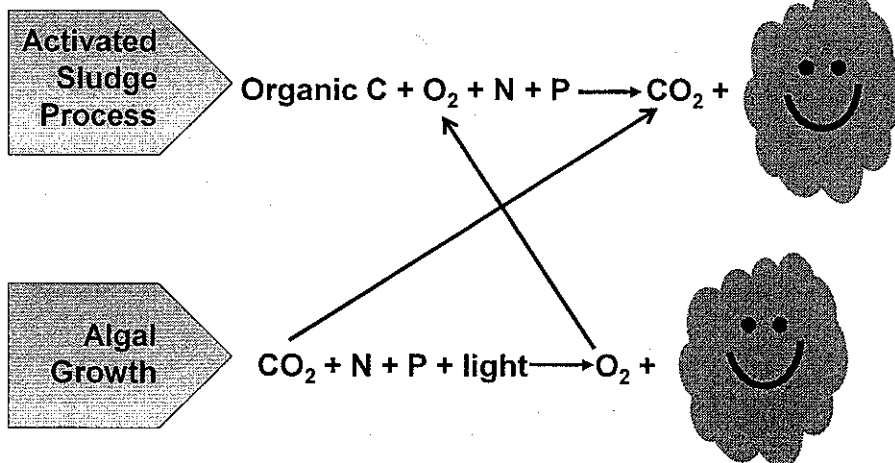


Centrate P Recycle

- Metro inf soluble P load ~ 4,100 lb/day
- Centrate soluble P ~ 2,000 lb/day
- Centrate = 49% of influent SP load
- Metro inf soluble COD load ~ 125 ton/day
- Centrate soluble COD ~ 10 ton/day
- Centrate = 8% of influent COD load

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Concept



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Accomplishments

■ Phases 1 and 2

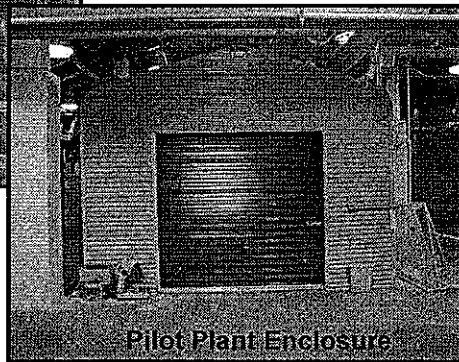
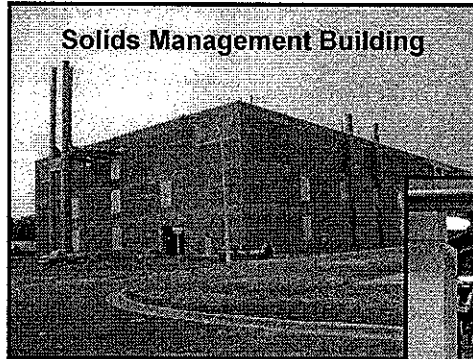
- Identified and quantified key factors and processing parameters for microalgae growth and wastewater treatment
- Constructed pilot-scale reactor at Metro Plant
- Determined removal efficiencies for soluble phosphorus, nitrogen, and COD over 30 day batch feed experiment

Accomplishments, cont.

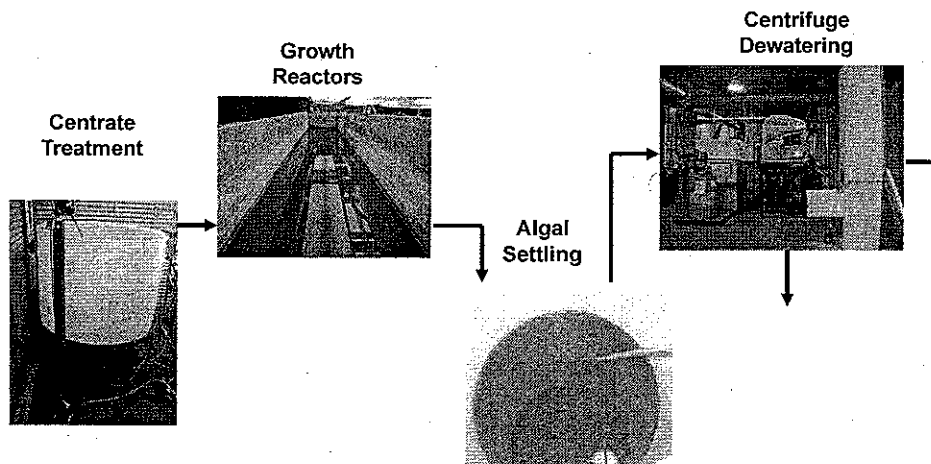
■ Phase 3

- Verified:
 - Biomass growth rates
 - P, N and COD removals
- Determined:
 - Biomass energy content
 - Biomass total extractable material (oil is subset)
 - P removal mechanism

Pilot Plant Location



Pilot Plant Schematic



Reactor Details*

Volume - liters	840
Harvest – liters/day	220
Area – ft ² (<u>m²</u>)	128 (<u>11.9</u>)
Fluorescent light - watts	1,920
Light intensity - umole/m ² /sec	25**
Daylight – umole/m ² /sec	170-1800**

*BRA most recent experiment

**photosynthetically active radiation (400–700 nm)

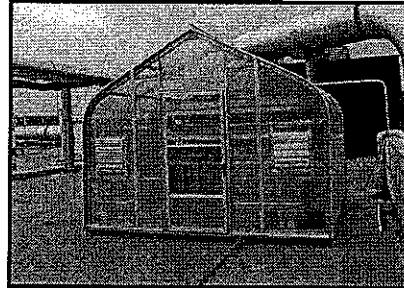
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Performance Summary

Total solids production – gm/m ² /day	23
Volatile content of solids - %	50
Ave energy content – BTU/lb	3,980
Ave extractable content - %	20
Ave soluble P removal - %	69
Ave soluble N removal - %	62
Ave soluble COD removal - %	93

Current Council Efforts

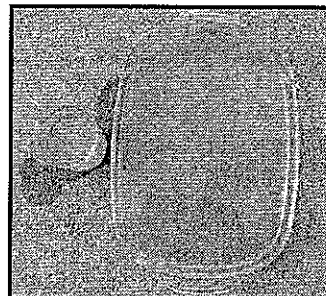
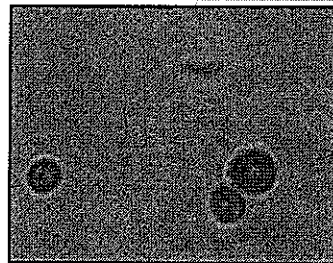
- **Modified bioreactor operating in small greenhouse at Metro**
 - Seeded with new UM algal strain reported to yield higher oil content
 - To be operated using natural light only
- **Second experiment in SMB pilot plant to determine the impact of light (photosynthetically active radiation) on biomass growth, biomass characteristics, and nutrient removal performance**



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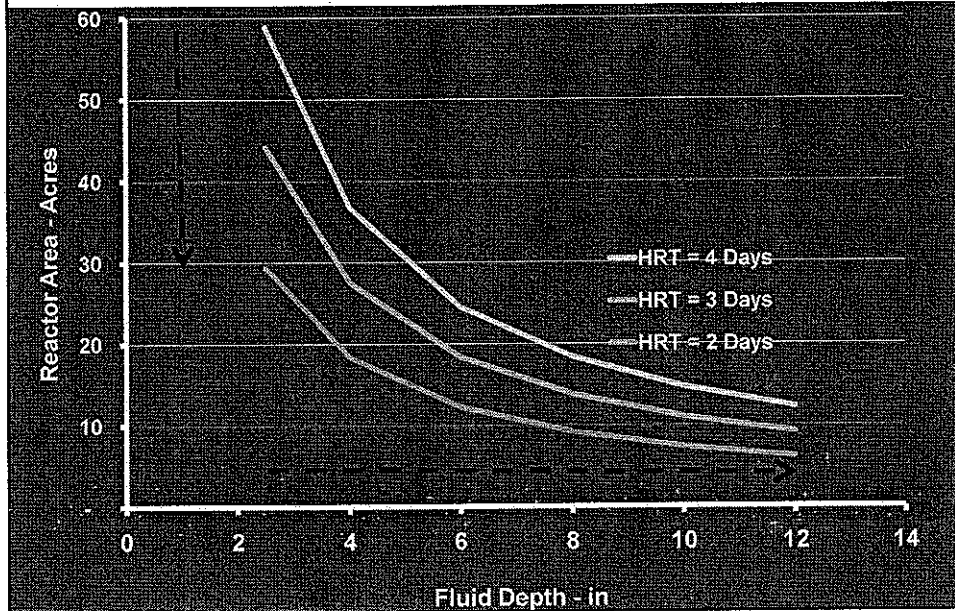
Biomass

- **(Top) Biomass at 1000x illustrating individual cells**
- **(Bottom) Reactor contents collected from greenhouse reactor on Monday (July 12) at 11 a.m.**



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Next Steps: Reactor Area



Unanswered Questions

- Temperature limitations (winter)
- Natural light limitations
- Light/dark cycle
- Reactor configuration--continuous operation
- Harvest technologies
- Biomass to biodiesel technologies
- Value of remaining solids
- Value of using flue gas

Next Phase Pilot Effort

Continuous Feed Alternative	A	B
Centrate feed – gal/min	0.3	0.6
Solids production – lb/day	5	10
Number of reactors	2	4
Reactor area – sq ft	1,200	2,400
Greenhouse – sq ft	1,500	3,000
Construction cost – thousand \$	200	325

LCCMR Funding Objectives

- \$900,000 includes:
 - Development and demonstration of technologies for converting algal biomass to bio-fuels
 - Evaluation of systems against designed technical specifications
 - Evaluation and quantification of green impacts and benefits including
 - > Pollutant removal
 - > Water usage and quality
 - > Carbon sequestration
 - > Energy balance
 - > Fuel quantity and quality
 - Conducting of economic and environmental life-cycle analysis

Value Proposition

- **Algae grown in wastewater processes:**
 - Strong co-benefit of pollution reduction
 - CO₂, phosphorus, and nitrogen available
 - Water available and free
 - Thermal energy available
 - Space available around plants
 - Expertise in dewatering (engineering and operations)
 - Laboratory/analytical availability
 - Possible market for biodiesel
 - Value recovered from cell mass reduces treatment costs

Adjournment

Business completed, the meeting adjourned at 5:23 p.m.

Part III - Certification

I hereby certify that the foregoing narrative and exhibits constitute a true and accurate record of the Metropolitan Council Meeting of July 14, 2010.

Approved this 28th day of July, 2010.

Respectfully submitted,


Pat Curtiss, Secretary