SOUTHWEST

Green Line LRT Extension

Corridor Management Committee

September 11, 2013

METROPOLITAN COUNCIL | Metro Transit | FTA | Counties Transit Improvement Board | Minnesota Department of Transportation | Hennepin

EDEN PRAIRIE | MINNETONKA | EDINA | HOPKINS | ST. LOUIS PARK | MINNEAPOLIS

Today's Topics

- City of Hopkins Council Meeting Report on Operations and Maintenance Facility
- Minnehaha Creek Watershed District
- Transportation Technology Center Inc. (TTCI) Update
- Responses to 9/4 SWCMC Technical Issue #21 Freight Rail Questions
- Adjourn

City of Hopkins Council Meeting Report on Operations and Maintenance Facility

Minnehaha Creek Watershed District (MCWD)

MCWD Technical Feedback Requested

- Potential impacts to the groundwater elevation in the vicinity of the proposed tunnel
- Potential impacts to the Chain of Lakes “water budget” due to water routed to the sanitary sewer
- Potential for blockage of groundwater flow between Cedar Lake and Lake of the Isles

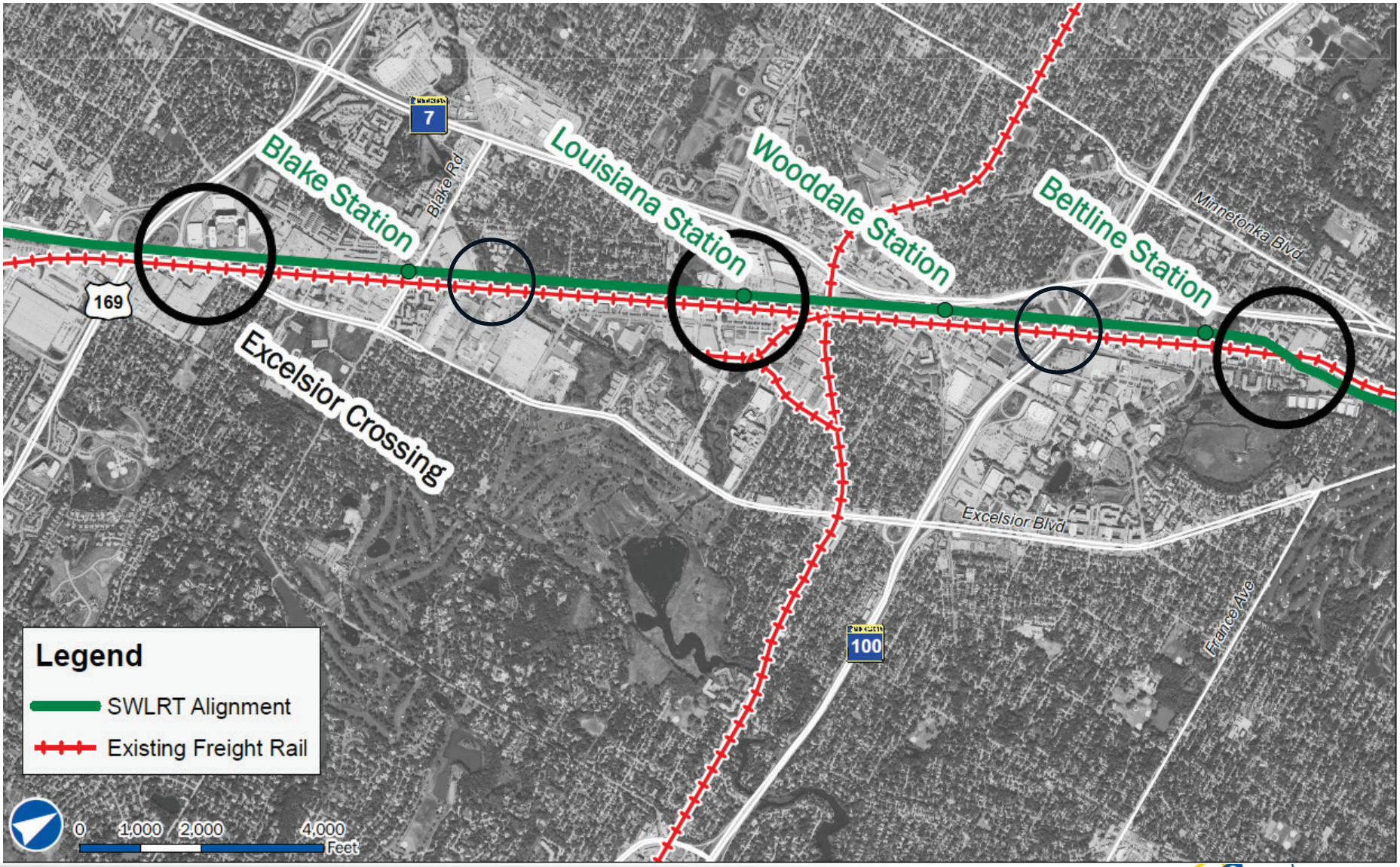
MCWD Technical Feedback Requested (con't.)

- Reasonability of assumptions for leakage rate of permanent sheet piling and waterproofing systems
- Reasonability of methods presented to address construction dewatering and to minimize the amount of temporary dewatering required
- Reasonability of the storm water infiltration design proposed and how this design addresses water temperature concerns during winter months
- Any other potential impacts to water resources in the area

Transportation Technology Center Inc. (TTCI) Update

Responses to 9/4 SWCMC Technical Issue #21 Freight Rail Questions

Potential Design Changes without CP Swap

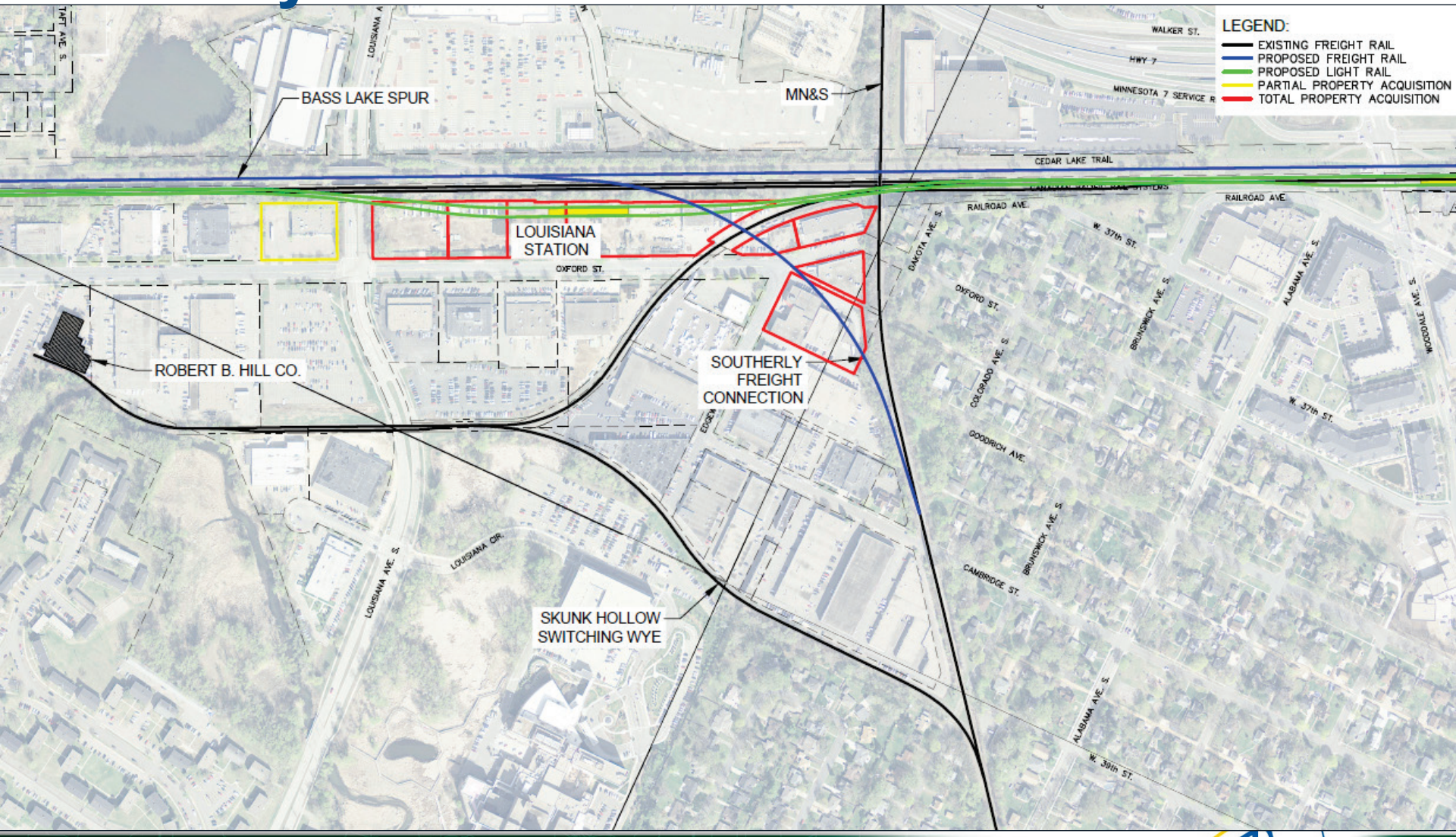


Potential Design Changes without CP Swap

- Primary Cost Drivers:
  - Excelsior Boulevard LRT bridge length reduced
  - Freight rail track bridges eliminated
    - Minnehaha Creek
    - Louisiana Avenue
    - TH 100
  - Retaining walls and pedestrian access to Louisiana Station required
  - LRT bridge over freight tracks east of Beltline Station required

- Cost Estimate: Increase $6M – $7M without CP Swap

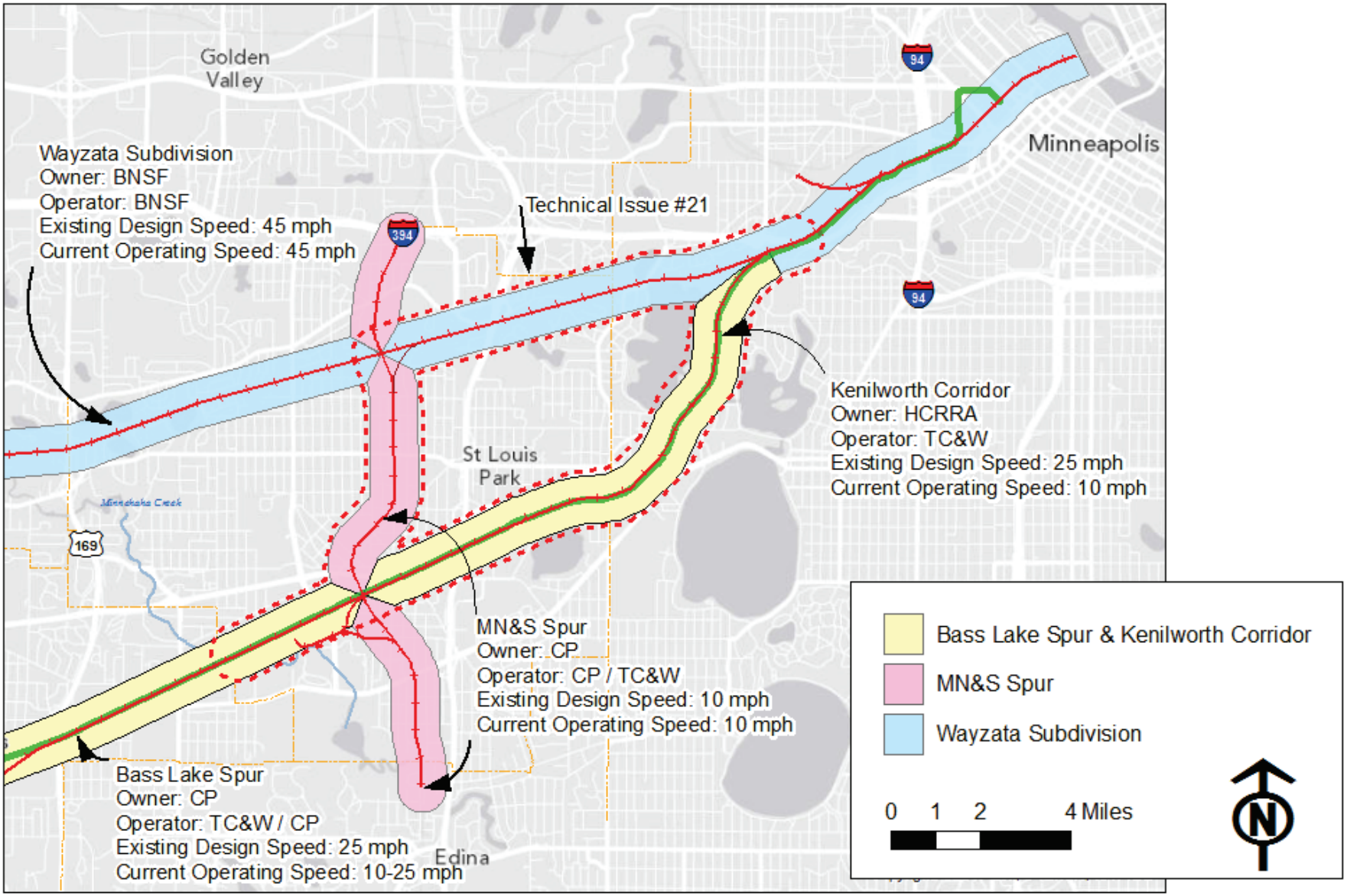
Freight Rail Common Scope Elements: Southerly Connection



Freight Rail Common Scope Elements: Southerly Connection

- Primary Cost Drivers:
  - Freight track
  - Freight bridge over LRT
  - Retaining walls and embankment
  - Right of Way
- Assumes CP Swap
- Cost Estimate: $30M - $35M

Freight Rail Operating Speeds



Freight Rail Operating Speeds

Railroad and Route	Existing Design Speed (MPH)	Current Operating Speed (MPH)	SWLRT Project Design Speed (MPH)
TC&W/CP Bass Lake Spur	25	10 - 25	25
TC&W Kenilworth	25	10	25
CP/MN&S	10	10	25
BNSF/ Wayzata Subdivision	45	45	45

More Information

Online:

www.SWLRT.org

Email:

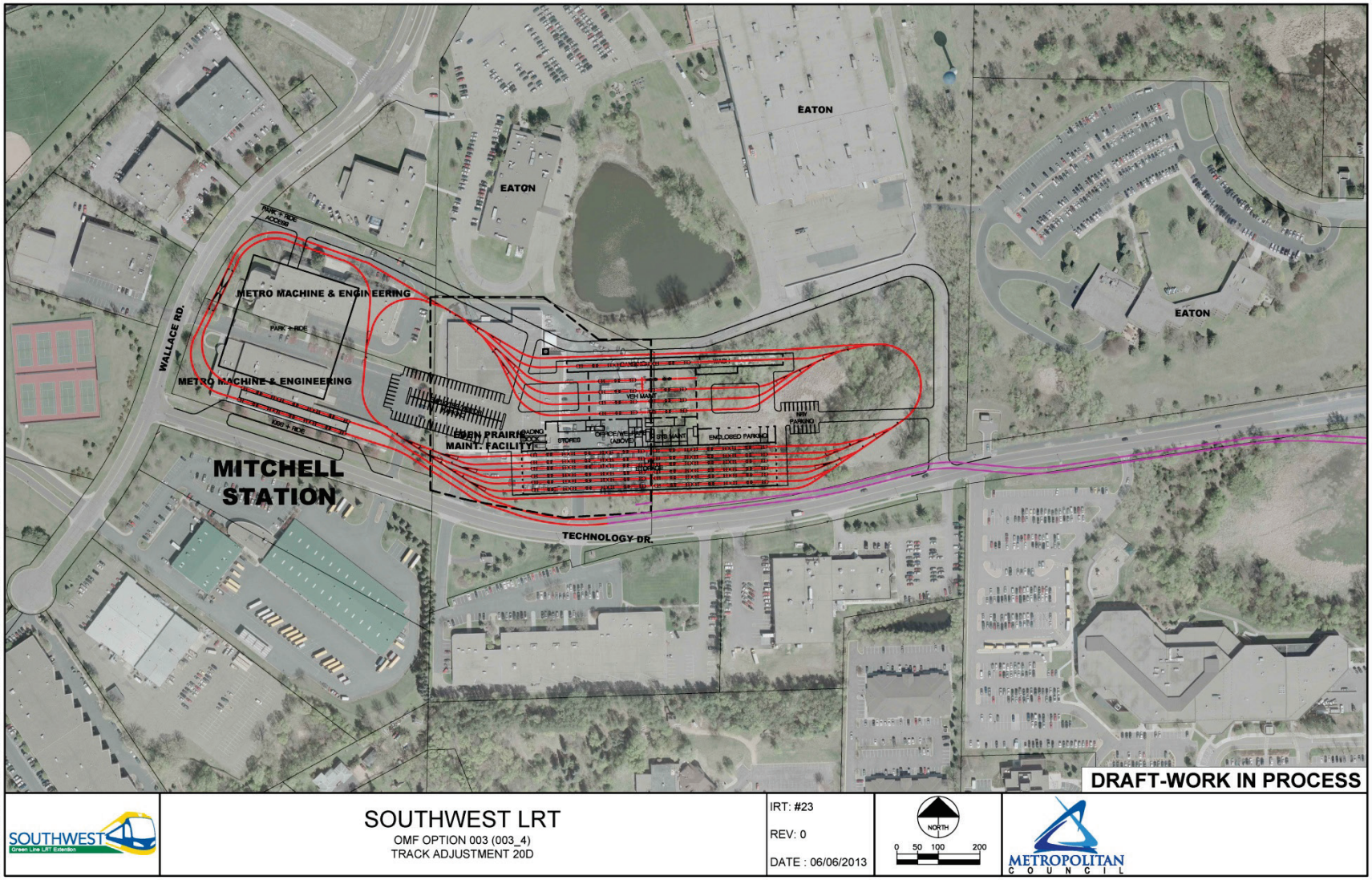
SWLRT@metrotransit.org

Twitter:

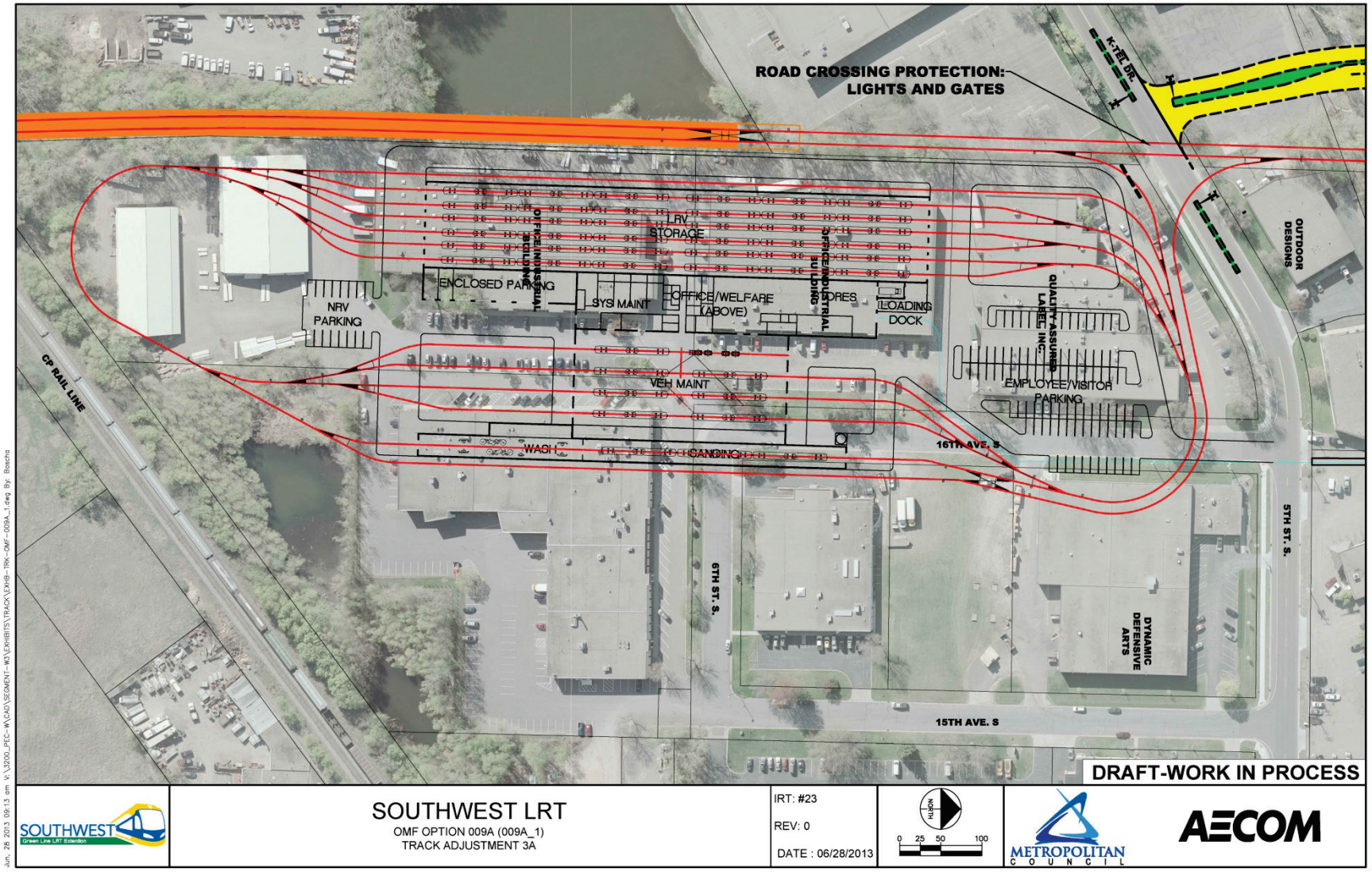
www.twitter.com/southwestlrt

BACK-UP SLIDES

TI #23 OMF Site Location: Site Number 3/4



TI #23 OMF Site Location: Site Number 9A



September 10, 2013

Mr. Jim Alexander, P.E.
Director of Design and Engineering
Southwest LRT Project Office
Park Place West Building, Suite 500
6465 Wayzata Boulevard
St. Louis Park, MN 55426

Re: Kenilworth Shallow LRT Tunnel – Basis of Design – DRAFT

Dear Mr. Alexander:

I am writing in response to your letter of September 4, 2013 requesting that the Minnehaha Creek Watershed District (MCWD) provide technical comments regarding the potential Shallow LRT Tunnel option.

The MCWD welcomes the opportunity generally to provide informal review early in the project development process in order to promote sound protection of water resources. In addition to the MCWD's regulatory role, our broad policy goals include a commitment to protect and maintain existing groundwater flow, promote groundwater recharge and improve groundwater quality and aquifer protection (Comprehensive Water Resources Management Plan, 5.0 Goals and Policies, adopted 2007). We recognize that this commitment requires coordinated efforts among appropriate agencies. Accordingly, we appreciate the involvement to date with the Southwest LRT Project Office to discuss the Draft Basis of Design report dated August 27, 2013.

Enclosed please find a letter from the MCWD District Engineer, Michael Panzer of Wenck Associates, Inc. that provides responses to the issues identified in your letter of September 4. Please note that our review and comments at this stage of the project development process involve a number of constraints, many of which were also acknowledged in your letter, including the following:

- We have only reviewed the Draft Basis of Design Report, and our assessment could change as new information becomes available;
- The Phase I Environmental Site Assessment results are not available, and hence we are unable to comment on any issues of potential contamination;
- The information provided to date does not involve a completed design and therefore is not adequately detailed to support a permit application; a detailed permit review would include not only this project segment, but the remainder of the project within the MCWD boundaries and would also include storm water management and other issues; we cannot offer any preliminary guidance on MCWD permitting issues at this conceptual stage; ultimately, permit decisions

are also subject to public hearing upon request and review and action by the MCWD Board of Managers;
- The area of the North Tunnel segment, while located within the legal boundary of the MCWD, is hydrologically connected to the Bassett Creek watershed; and
- Other agencies also have important roles to play in reviewing the project.

Please do not hesitate to contact me if you need any further information. We appreciate the opportunity to comment at this stage in the project development process.

Sincerely,

James Wisker
Director of Planning, Project and Land Conservation Programs

Cc: MCWD Board of Managers
Eric Evenson, District Administrator

Wenck
Engineers • Scientists
Business Professionals

Wenck Associates, Inc.
1800 Pioneer Creek Center
P.O. Box 249
Maple Plain, MN 55359-0249

(800) 472-2232
(763) 479-4200
Fax (763) 479-4242
wenckmp@wenck.com
www.wenck.com

September 9, 2013

Mr. James Wisker, Director of Planning
Minnehaha Creek Watershed District
15320 Minnetonka Boulevard
Minnetonka, MN 55345

Re: Kenilworth Shallow LRT Tunnel
Basis of Design – Draft
Metropolitan Council
Southwest LRT Project Technical Report
August 27, 2013

Dear Mr. Wisker:

Wenck Associates, Inc. has reviewed the above referenced draft document, as requested by the Southwest LRT Project Office (SPO) staff and authorized by the Minnehaha Creek Watershed District (MCWD). Mr. Jim Alexander, PE, Director of Design and Engineering for SPO later provided a letter to you dated September 4, 2013 requesting MCWD comments and feedback on specific technical aspects related to groundwater and surface water resources in the general vicinity. This letter provides information about the status of our review and comments we have at this stage of the shallow tunnel concept development.

1. The first three bullets in Mr. Alexander's letter (letter) request feedback regarding the potential to affect groundwater levels and lake levels in the vicinity of the shallow tunnel.

   Cedar Lake, Lake of the Isles, and Lake Calhoun are all connected by free flowing surface water channels. The three lakes function as a single reservoir with respect to runoff, precipitation and evaporation, and lake levels fluctuate together at or near the same elevation. Near the shorelines, lake levels are a reflection of the shallow groundwater level in the area. Since the near shoreline shallow groundwater level is very much the same in the whole area, there is also little or no groundwater gradient between lakes. Boring information included in the draft Basis of Design supports this condition. With this condition prevailing in the area, there is little potential for significant shallow groundwater flow between lakes.

   The shallow tunnel, located between Cedar Lake and Lake of the Isles would be in an area where any groundwater gradient would be expected to be small. Therefore, the tunnel would not be expected to act as a barrier to shallow groundwater flow between the lakes.

The SPO prepared a groundwater model to illustrate this potential. The model demonstrates that even with very unlikely gradient conditions assumed the groundwater elevation change on the upgradient side of the tunnel is small, on the order of less than 10% of the normal lake level fluctuation caused by seasonal runoff precipitation and evaporation. The SPO draft states the assumed gradient condition in the model is conservative. Based on the geology and hydrology of the lakes, Wenck agrees with the statement that the assumed groundwater gradient condition in the model is conservative.

The Minneapolis Chain of Lakes is underlain by a valley eroded in the bedrock from glacial melting. As the glacial melting occurred, the glaciers receded depositing a mixture of sands, silts and clays referred to as glacial till in the eroded valley to depths of hundreds of feet in places. The boring logs provided by SPO in the August 27, 2013 draft show this to be the case and a predominance of sands and silts at depth. Because of this surficial geology and neutral shallow groundwater gradients in the vicinity of the lakes, the shallow tunnel would not be expected to act as a barrier to groundwater movement.

2. Bullets four through seven of the letter request feedback on the reasonability of design criteria, methods to control groundwater and runoff during construction and the intended design to control seepage, leakage, and internal drainage after construction.

   The shallow tunnel concept design and envisioned methods of construction require dewatering, or temporary removal of groundwater (also precipitation and runoff) from the construction zones. The completed tunnels (North and South) will include both external and internal drainage systems to keep the completed tunnel permanently in a dry condition.

   All construction phase water collected from the tunnel areas will be first treated by temporary settling basins and possibly other means so that the quality of the water meets applicable state standards. The treated water will then be discharged to existing storm water systems and thus back to the lakes. Provided the water is adequately treated, there would not be a negative impact on lake water quality. And, since all construction related water will be discharged to surface water (lakes), there would be no expected overall impact to the hydrology supporting the lakes (primarily runoff).

   After construction, there will be systems in-place to collect any shallow groundwater leakage through the steel sheet-pile and to collect precipitation and runoff from the tunnel portal areas. This water is intended to be treated by infiltration basins. Infiltrated water will recharge the shallow groundwater. Any excess water that might be generated by a storm magnitude that exceeds a 50-year return frequency event (a 50-year event has a probability of occurring of 2% in any given year) will overflow after treatment to the existing storm sewer and discharge to the lakes.

Therefore, impacts to the lakes hydrology and the shallow groundwater would not be expected. We will want to review any information collected or generated concerning possible contaminated soil or water in the area that could potentially change the intended design.

Also after construction, the interior of the concrete tunnel itself will have a drainage system intended to collect any seepage through the concrete and interior drainage. This water volume is a small amount compared to the overall water budget for the lakes. We believe the assumed seepage rates are reasonable and since it is interior to the tunnel, the intention is to drain the system to sanitary sewer. This water will be the only portion permanently extracted from the shallow groundwater but it is expected to be only a small percentage of the lake hydrologic budget, which is driven primarily by precipitation and runoff and can vary by 20% or more either way in a given year. The trend over the past few decades has been to receive increasing average amounts of annual precipitation.

We have reviewed the assumed rates of infiltration and seepage. An impact to the lake levels is not expected from the drainage system interior to the concrete tunnel based on assumed leakage rates through the concrete. SPO is encouraged to evaluate how the leakage rate could change with time or with vibrations that would be expected in the tunnel environment.

3. Bullet five in the letter requests feedback on the intended phasing of construction.

   The draft Basis for Design anticipates a coordinated phasing of the tunnel construction so that a limited portion is under construction at any given time. This is viewed as a reasonable approach that should minimize the impact of unexpected or prolonged wet weather on pumping, treatment and discharges of water.

4. In reference to bullet six in the letter:

   The infiltration systems intended to treat leakage through steel sheet-piling and runoff from the portals to the tunnels will accommodate a 50-year return frequency storm, with no overflow to the lakes, and avoid potential issues with open water during winter conditions. This magnitude of storm runoff would certainly be expected to be rare in the spring-summer-fall timeframe and at least greatly slowed down by freezing temperatures or non-existent in the winter months. This is a reasonable way to eliminate potential for a thermal discharge in the winter months.

In conclusion, Wenck does not have serious concerns about potential shallow groundwater or nearby surface water impacts based on the information in the draft and the intended design. We reserve the ability to alter our comments or provide additional feedback as other information becomes available. Of particular interest to us is any monitoring data that may be associated with piezometers in the project area; any information about contaminated soils or groundwater in the vicinity of the project and an assessment of how leakage rates through concrete could change with aging, stresses and vibration. As such, we have voiced specific requests for additional information, as it becomes available, to SPO staff and in this letter.

Mr. James Wisker, Director of Planning
Minnehaha Creek Watershed District
September 9, 2013

We also recommend the SPO staff solicit early regulatory comments from all affected agencies, including MCWD and Bassett Creek WMO, should the shallow tunnel concept advance to a design stage and design details are developed.

Sincerely,

Michael A. Panzer, PE, PG
Vice President
Wenck Associates, Inc.

City of Hopkins Position on the Operation and Maintenance Facility (OMF)

The City of Hopkins has been consistent in our position on site 9A for the OMF:

We will not accept the OMF due to business impacts, job and tax base loss without adequate mitigation of these impacts.

Our suggestions for how we can afford to take the OMF have not been accepted. Nothing concrete or specific has been offered by the Southwest Project Office. So our position remains the same.

In the beginning of this process, Metropolitan Council's adopted guiding principle identifies the following goal:

> Positively impact (increase) equity so that community benefits and burdens are equally shared. The opportunities and challenges of growth and change are equitably shared across our communities, both geographic and cultural.

I know you are tired of hearing me say this, but Hopkins is the smallest city along the SW line both in terms of size, tax base and employment. Siting the OMF on site 9A will result in a loss of tax base, approximately 200 jobs, and future development potential. This is compounded by current plans for a 500-car surface parking lot at the Shady Oak Station, taking more taxable property and jobs. I have passed out a chart comparing the cities tax base, size and population with our neighboring cities for you to get a better picture of what this loss would truly mean to Hopkins. Kersten Ulverem, our Economic Development Director is here to answer any specific questions.

The City of Hopkins cannot absorb this loss by raising our taxes. Hopkins is a diverse community but with a lower median income than Hennepin County as a whole. Our retail center is Mainstreet and while we recognize this is a valuable asset; rents on Mainstreet do no support the same values as major shopping centers. Hopkins is fully-developed with limited opportunities to create new taxable value and jobs.

We do understand that Hopkins does benefit from three LRT stations, but City investment at the Blake and Downtown Hopkins stations will need to be significant. Improvements to Blake Road, Cottageville Park and the connection via 8th Avenue to Mainstreet will also require City investment. Tax base increases and other economic benefits will be realized, but only in the distant future.

Expecting Hopkins to take a large tax-exempt use that brings additional limitations on surrounding development potential, while losing significant employment, is not equitable.

The City of Hopkins respectively asks that if your decision is to recommend site 9A, that a firm directive also be given to the Southwest Project Office staff to begin identifying mitigation of the City's loss of tax base and jobs. I am looking to my fellow members of the CMC and our neighboring cities to help us in this endeavor. Thank you.

Comparison of Suburban SW LRT Cities

City	Area (Miles)	Population	Employment	Market Valuation (MV)	2013 Tax Revenue
Hopkins	4.11	17,591	12,922	$ 1,570,000,000	$ 8,952,774
St. Louis Park	10.86	45,250	40,443	$ 5,300,000,000	$ 20,657,724
Minnetonka	28.22	49,734	45,450	$ 7,690,000,000	$ 31,233,800
Eden Prairie	35.19	60,797	50,411	$ 8,900,000,000	$ 29,773,765

Analysis of Site 9A and Shady Oak Park-and-Ride Sites

Property	Building Size (SF)	Parcel Size (Acres)	Assessed Value	Net Annual Tax	% of MV	Tax Paid to City	% of 2013 Tax Revenue
Hopkins OMF Location	279,000	18.73	$ 11,701,000	$ 496,765.23	0.75%	$ 93,475.02	1.04%
Shady Oak Park-and-Ride Location	384,000	8.62	$ 4,596,000	$ 195,880.10	0.29%	$ 37,130.59	0.41%
Total	663,000	27.35	$ 16,297,000	$ 692,645.33	1.04%	$ 130,605.61	1.46%

Note: Distributed by the City of Hopkins at 9-11-13 Corridor Management Committee Meeting