Chicago Metropolitan Agency for Planning

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Agenda # 4.1

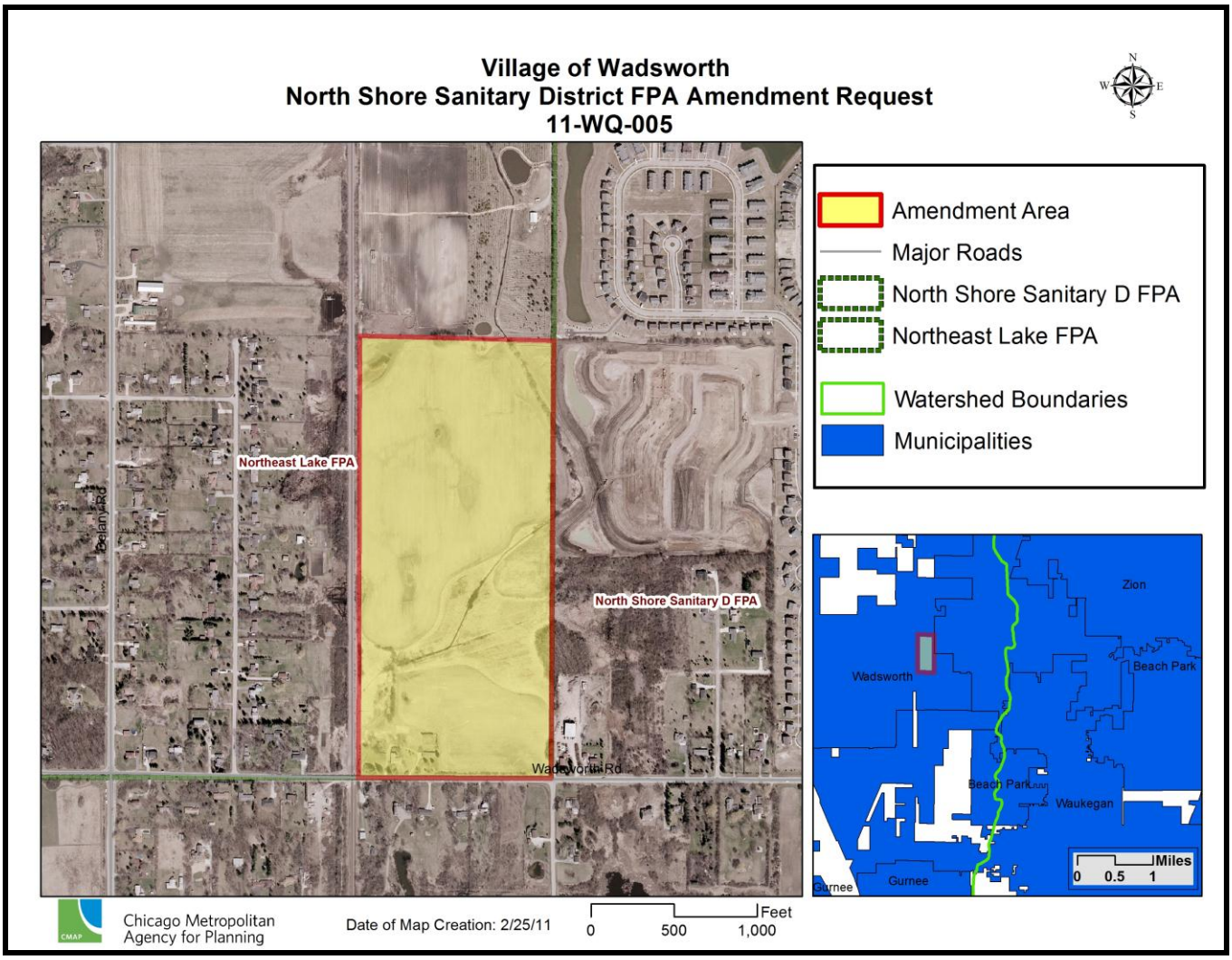
Date:	March 9, 2011
CMAP Water Quality Review #:	11-WQ-005
Applicant:	Village of Wadsworth

Re: The Village of Wadsworth has requested an amendment of State and areawide water quality management plans (AWQMP) to transfer 70.78 acres of Northeast Lake Facility Planning Area (FPA) land to the North Shore Sanitary District FPA. The property is owned by the Gurnee School District #56 and it is proposed the property will be developed into a new grade school.

Staff recommends "***Support***" for the proposed amendment request.

Important Note: CMAP is the designated areawide water quality planning agency and the advisory comprehensive regional planning agency for northeastern Illinois. Therefore, CMAP needs to act as a consensus builder by promoting sound planning principles and practices. Though not specifically required by the Illinois Environmental Protection Agency (IEPA), Criteria Nos. 6 – 9 specifically address CMAP's regional role and promote sound planning.

Map of FPA Boundary Amendment Area



B. RELATIONSHIP TO RECOMMENDED CRITERIA FOR FACILITY PLAN AMENDMENTS

The site is located within the Lake County Public Works' Northeast Lake FPA and will be transferred to the North Shore Sanitary District FPA.

The following amendments have been considered by the IEPA for the North Shore Sanitary District FPA since the adoption of the AWQMP and the *Illinois Water Quality Management Plan*.

Review No.	Action	From FPA	To FPA
01-WQ-004	FPA Boundary Change	---	North Shore Sanitary District
03-WQ-045	FPA Boundary Change	---	North Shore Sanitary District
06-WQ-174	FPA Boundary Change	Gurnee	North Shore Sanitary District

Below is a summary and analysis of the proposed amendment application with regards to these criteria.

Review Criteria and Staff Analysis	Results
1. *"The proposed facility amendment must be designed to meet the State of Illinois water quality standards for the receiving waters and the appropriate discharge standards or must receive a variance from the Illinois Pollution Control Board."*	***Consistent***

The applicant is seeking 70.78 acres of Northeast Lake FPA land be transferred to the North Shore Sanitary District (NSSD) FPA. The amendment will provide sanitary service so the proposed grade school may connect to the existing sanitary sewer system in the adjacent residential division, owned and operated by the Village of Beach Park.

The wastewater treatment facility that would receive and treat the wastewater from the site is the Waukegan Sewage Treatment Plant (STP). The Waukegan STP discharges effluent to the DesPlaines River. Water quality of surface and groundwater resources is assessed throughout the state and is reported in the Illinois Environmental Protection Agency's (Illinois EPA) biannual *Illinois Integrated Water Quality Report and Section 303(d) List (Integrated Report).* The segment of the Des Plaines River that the STP discharges to (Segment IL_G-07) is on the Draft 2010 Illinois 303(d) list with the impaired designated uses listed as aquatic life, fish consumption and primary contact recreation. Potential causes of impairment for aquatic life include Chloride, Arsenic, and Total Phosphorus. Potential causes of impairment for fish consumption include Mercury and PCBs while Fecal Coliform was listed as the cause of impairment for primary contact.

The STP is designed to treat 22 million gallons per day (mgd) average wastewater flow and 44 mgd maximum flow and has an excess flow facility that chlorinates wastewater and discharges it into Lake Michigan by gravity. Effluent load limits for the treated bypass discharges are incorporated into the permit. The plant has adequate capacity to treat proposed flows from this development. The plant discharges under National Pollution Discharge Elimination System (NPDES) Number IL0030244 and has an approved pretreatment program.

The table below summarizes the limits set forth in NPDES Permit No. IL0030244.

Load Limits lbs/day DAF (DMF)		
	Monthly	**Daily Maximum**
$CBOD_5$	1835 (3670)	3670 (7339)
Total Suspended Solids	2202 (4404)	4404 (8807)
pH	Shall be in the range of 6 to 9 Standard Units	
Fecal Coliform	Daily Maximum shall not exceed 400 per 100 mL (May through October)	
Dissolved Oxygen	Shall not be less than 6 mg/L	
Ammonia Nitrogen		
April through October	275 (550)	550 (1101)
November through February	514 (1027)	1358 (2716)
March	385 (771)	1358 (2716)

Discharge Monitoring Reports indicate that the Waukegan STP has been in compliance with the NPDES permit load limits above, over the last 12 months.	
2. *"The population and employment for which the proposed amendment is designed must fall within the twenty year forecast most recently adopted by the Commission for the facility planning area or the Commission may agree to adjustments within the regional forecast total."*	***Not Relevant***
The current total population equivalent is 7 and the forecasted population equivalent is 42 with a total of 600 students. The daily average wastewater flow is currently 700 and the forecasted flow is 4200 gallons per day by the Year 2020. The relatively small acreage associated with this request falls below the threshold for evaluating these figures against the CMAP Forecasts. Review Criterion 2 in this instance is not relevant.	
3. *"The applicant must demonstrate that the unit of local government granting zoning to the project formally accept financial responsibility for the wastewater treatment system in the event of a system malfunction or failure. Such acceptance must be in the form of a resolution from the unit of government granting zoning."*	***Not Applicable***
4. *"The proposed amendment should not reduce the effectiveness of the water quality improvement strategy contained in the original plan, either for point or non-point source control."*	***Consistent***
Point Source Impacts (See analysis under Criterion #1) **Nonpoint Source Impacts** The applicant provided a Preliminary Wetland Jurisdictional Determination from the Lake County Stormwater Management Commission (SMC), dated December 23, 2010. The letter references a site reconnaissance performed by the U.S. Army Corps of Engineers (USACE) and SMC. The amendment area currently contains three Waters of the United States, one being the Newport Drainage Ditch and the other two being onsite wetlands. The site also contains four Isolated Waters of Lake County, which are wetlands. Therefore, any impacts to these areas will necessitate a USACE and a SMC permit. The site also contains floodplain and floodway areas associated with the Newport Drainage Ditch that run through the property. The Ecological Compliance Assessment Tool (EcoCAT) revealed the site does not contain any State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves or registered Land and Water Reserves. The applicant has provided preliminary plans that indicate impacts to the floodplain and wetlands will occur. The applicant has initiated the permitting process with the appropriate regulatory agencies to mitigate these impacts. The site is currently being used for row crop production. About 1/3 of the site will be developed into the school and associated amenities (play areas and parking lot). The rest of the site (approximately 40 acres) will be converted from row crops to an upland prairie, native seed grass mix open space. The applicant will implement a green infrastructure best	

management practice by installing 10,000 square feet of permeable pavers in the parking lot. The applicant has also proposed a number of improvements to the site including a wetland detention basin with native plantings, vegetated bioswales, two rain gardens and approximately 500-feet of streambank stabilization. These improvements are proposed to reduce nonpoint source pollution and serve as educational tools for the future students. The site is subject to the Lake County Watershed Development Ordinance. According to Section E of the FPA application submitted by the applicant, the ordinance is in compliance with the CMAP Model ordinances. Due to the applicants proposed onsite improvements and plans to mitigate any impacts to the onsite wetlands and floodplain, the amendment area is consistent with criterion #4.	
5. *"The proposed amendment should not adversely affect the cost-effectiveness of the Areawide Water Quality Management Plan for meeting water quality standards in the facility planning areas as a whole."*	***Consistent***
The applicant assessed the cost effectiveness of servicing the amendment area and examined several alternatives including service by septic sewers and treatment at the Old Mill Creek STP. Individual septic sewers are not allowed per the Lake County Board of Health Ordinance as a public sewer is located within 1,000 feet of the site. As such, use of septic systems to service the area is not feasible. The nearest publicly owned sanitary sewer facility available for service connection is at the Old Mill Creek WWTP, approximately 4-miles west and south of the site. Connection to this system is cost prohibitive due to the amount of offisite improvements required including adding an additional manhole, a lift station, sanitary sewer pipe and forcemain. An estimated $2,922,095 would be needed to make this connection. The applicants selected alternative includes receiving sewer service from existing sanitary sewer facilities located in the adjacent Cambridge Subdivision which is owned and operated by the Village of Beach Park within the North Shore Sanitary District FPA. Approximately 800 feet of gravity sanitary sewer pipe will be needed as part of the selected alternative and will cost $84,377. There are no per household user costs associated with the selected alternative.	
6. *"The proposed amendment should have the endorsement of the designated management agency for wastewater treatment and substantial support by the municipalities within the affected facility planning area."*	***Consistent***
The Village of Wadsworth's board approved submittal of the amendment application and construction of a new grade school building. The Lake County Public Works Department (Northeast Lake FPA) voiced no objection to the request in a letter dated February 10, 2011 since it has "no wastewater facilities in the area that could serve the parcel." The North Shore Sanitary District has verbally supported the amendment request and formal approval is anticipated on March 9, 2011.	

Recommendation - Provide a signoff letter of support from the North Shore Sanitary District.	
7. "The proposed amendment should not adversely affect adjoining units of government."	***Consistent***
The Village of Beach Park owns and operates the sanitary sewer located within the Cambridge Subdivision and supported the amendment request in a letter dated January 14, 2011.	
8. *"The proposed amendment should be consistent with other county and regional or state policies, such as the Governor's Executive Order #4 on the preservation of agricultural land."*	***Consistent***
The amendment area is currently zoned suburban residential and is currently farmed land. The area received its zoning status January 4, 2005 by the Village of Wadsworth. A Conditional Use Permit is required and will be obtained from the Village of Wadsworth to accommodate the proposed school.	
9. "Consideration will be given to evidence of municipal or county zoning approval and commencement of development activity prior to Areawide Water Quality Management Plan adoption in January 1979."	***Not Applicable***