

Guidance to Applicants and Consultants Regarding State Revolving Fund (SRF) Alternative Justifiable Expenditures (AJE)

Section 212 of the Clean Water Act allows Michigan to provide State Revolving Fund loan (SRF) assistance for the correction of combined sewer overflows but **precludes funding** for **storm water collection** and **transportation**. When a municipality proposed to separate existing combined sewers through the construction of new storm sewers, the proposed project may also provide nonpollution control benefits, such as **additional storm water transportation capacity**. Any portion of a project, which is not directly related to water pollution, is ineligible for SRF assistance.

In these cases, the Alternative Justifiable Expenditure (AJE) methodology will be used to identify and separately account for pollution control and nonpollution control costs, and to arrive at a percentage of the construction costs, which can be attributed to pollutant abatement. The AJE method is an established, standard accounting technique that is used to apportion costs and determine the eligibility of multi-purpose projects, i.e., ones that provide other benefits in addition to pollution control. While this guidance is targeted towards storm sewer construction, the AJE may also apply in other situations, such as the concurrent construction of new water mains.

The first factor affecting the eligibility of storm sewers is cost-effectiveness. The construction of storm sewers must be the cost-effective method to separate the existing combined sewers. After cost-effectiveness is established, the remaining factor affecting eligibility is the size of the proposed storm sewers. Generally, when a proposed storm sewer will be the same size as the existing combined sewer, that section of storm sewer will be 100 percent eligible for SRF assistance. The disconnection of catch basins from the existing combined sewer and their reconnection to the new storm sewer will also be 100 percent eligible. However, if a section new storm sewer will be sized to transport additional storm water, beyond what could be handled by the existing storm combined sewer, then the construction of that storm sewer and any associated collection or discharge facilities will only be partially eligible for SRF assistance. The eligibility of those sections will be based on the percentage derived from the AJE method.

A. AJE Preparation Procedures

1. Draft AJE

A draft AJE based on estimate construction costs shall be developed and submitted to the Michigan Department of Environmental Quality (DEQ) project manager in accordance with the negotiated project milestone schedule. AJE submittal will usually be concurrent with the submittal of draft plans and specifications.

The AJE will consist of two parts. First, each construction line item in the proposed **multi-purpose project** will be assigned to one of the following categories:

Specific Pollution Control – an item whose cost can be attributed entirely to water pollution control;

Specific Other Cost – an item whose cost can be attributed entirely to a benefit other than water pollution control; or

Joint – an item whose cost is shared between both pollution control and nonpollution control and therefore cannot be attributed exclusively to either benefit.

Note that the total costs of those three assigned categories must be equal to the total cost of the multi-purpose project.

The next part of an AJE consists of estimating costs for two theoretical projects; the single purpose pollution control project and the single purpose other project, which are developed for cost comparison purposes and as elements of the AJE computation.

The **Cost Effective Single Purpose Pollution Control** project is designed to provide only the water pollution control benefits of the proposed project. It would include the construction of new storm sewers that provide storm water transportation capacity equal to the existing combined system, cost-effective rehabilitation of the existing combined system and removal of existing inflow sources.

The **Single Purpose Other** project is designed to provide only the nonwater pollution control benefits of the proposed project. It would include the construction of new storm sewers sized to provide only the additional storm water transportation capacity the proposed multi-purpose project provides in excess of the cost-effective single purpose pollution control project.

Attachment 1 provides examples of items typically included in each category of the multi-purpose and the theoretical projects. An example of the AJE cost assignments is shown in Attachment 2.

The total cost estimated for each theoretical project and each cost category of the proposed multi-purpose project are used in the AJE formula to calculate the portion of the project, which can be attributed to water pollution control. The amount is then divided by the total construction cost of the proposed multi-purpose project to derive the AJE percentage. A sample calculation is shown in Attachment 3.

The draft AJE submittal must include the **cost breakdowns** for these projects, **AJE calculation** and **a map of each theoretical project** that shows the routing and sizes of sewers within the project area. The submittal will be reviewed by the DEQ for completeness, appropriateness of the cost assignments, etc.

2. Final (As-bid) AJE

The AJE percentage will be recalculated based on the as-bid quantities and unit prices to establish the final AJE percentage. The final calculation must be submitted along with Part III of the application within 10 days of the bid opening.

B. Application of the AJE Percentage

The final (as-bid) AJE percentage will be applied to line item costs contained in the loan as follows:

Costs prorated by the AJE percentage:
Construction
Design and Construction Engineering
Administrative

Costs **not** prorated by the AJE percentage:

- Municipal Revenue Systems/Sewer Use Ordinance Development
- Bid Advertisements
- Bond Advertisement/Referendum
- Capitalized Interest Costs

The following items may be prorated by the JE percentage, depending on the nature of the cost:

- Legal Costs
- Bond /Financial Consultant
- Relocation Expenses
- Land-Related Costs
- Small Purchase Construction
- Applicant Staff Construction
- Equipment Cost
- Miscellaneous

Since disbursement requests may only include eligible project costs, the AJE percentage must be applied to the appropriate line items on each disbursement request.

Construction contract change orders will be prorated by the AJE percentage when appropriate, depending on the nature of the work item(s) involved.

The AJE percentage will not be revised at the end of the project based on final as-built construction costs. The final costs will be reviewed to ensure that the AJE percentage was applied to all appropriate line item amounts.

AJE DEFINITIONS AND ASSIGNMENT OF COSTS

Single Purpose Pollution Control Project

Theoretical cost-effective project designed to provide only the pollution control benefits of the proposed multi-purpose project. The project will include the following:

- a. The rehabilitation of the existing combined sewer that will then serve as a sanitary sewer if the multi-purpose project includes eligible rehabilitation;
- b. Removal of existing inflow sources such as catch basin leads that will be disconnected from the combined sewer and reconnected to the new storm sewer; and
- c. Construction of a new storm sewer that has capacity equal to the existing combined sewer.

Single Purpose Other Benefit Project

Theoretical cost-effective project designed to provide only the **additional** nonpollution control benefits of the proposed multi-purpose project. The project will include the following:

- a. Theoretical storm sewer designed to provide the increased storm water transportation capacity beyond what is provided by the existing combined system;
- b. Any additional (new) catch basins;
- c. Storm sewers of any size in areas **not currently served**; and
- d. Construction of new water mains or any other nonpollution related items, if applicable.

Multi-Purpose Project

The project as proposed, containing both eligible, partially eligible and, ineligible construction items. It must be more cost-effective than the sum of the two theoretical project costs.

NOTE: New storm sewers, of 12 inches in diameter or smaller used for separation, will NOT be subject to AJE proration. Only storm sewers larger than the corresponding existing combined sewer AND larger than 12 inches diameter will be subject to proration with the AJE.

1. **Specific Pollution Control Costs (ELIGIBLE)**

The cost of construction items in the proposed multi-purpose project that only serve a pollution control function. These costs may include any or all of the following:

- a. Storm sewers and associated appurtenances (new outlets, replacement catch basins, etc.) which are **not** oversized to provide additional storm water transportation capacity, but which function to **replace the capacity previously available** in the combined sewer.
- b. Sanitary sewers and appurtenances (manholes, stubs, etc.) **not associated with separation** and included in the approved project plan.
- c. Sanitary sewers used for sewer separation in areas distinct from areas where storm sewers are to be constructed. **Note:** the SRF cannot pay for the cost of **both** new sanitary sewers **and** new storm sewers used for separation in the same street section

since this would **NOT** be a cost-effective method of separating the existing combined sewer.

- d. Rehabilitation of the existing combined sewer so it can function as a sanitary sewer.
Note: If the existing combined sewer will serve as a storm sewer, rehabilitation will not be eligible.
- e. Sewer rehabilitation identified in the approved Sewer System Evaluation Study (SSES) as cost-effective and included in the approved project plan.
- f. Restoration of utilities/pipes/street unavoidably disrupted by the construction of storm or sanitary sewers that are entirely eligible.
- g. Bulk heading the existing overflows.

2. **Specific Other Costs (INELGIBLE)**

Costs of construction items in the proposed multi-purpose project that only serve a nonpollution control function. The following costs are generally included:

- a. Construction of storm sewers in areas not currently served.
- b. Additional catch basins and leads.
- c. New water mains and appurtenances, except if they represent replacement of existing water mains that are disrupted due to eligible storm or sanitary sewer construction.
- d. Sewer rehabilitation and associated appurtenances **not** identified as cost-effective in the approved SSES. This may involve new sanitary sewers and appurtenances to **replace** existing combined sewers.
- e. New sidewalk or other improvements/utilities **not** associated with construction of eligible storm or sanitary sewers.

3. **Joint Costs (PARTIALLY ELIGIBLE)**

Costs of construction items in the proposed multi-purpose project that are shared between pollution control and nonpollution control purposes. Items b-h will be considered joint costs when there is an actual physical overlap of pollution related and nonpollution related work. When no physical overlap exists, these items will be assigned to specific pollution cost, or specific other cost, as appropriate.

The following costs will generally be included:

- a. Oversized storm sewers and associate appurtenances
- b. Removal of unsuitable soil
- c. Rock excavation
- d. Sand Sub-base
- e. Gravel Base
- f. Curb and gutter
- g. Pavement replacement
- h. Surface restoration
- i. Traffic control
- j. Video taping
- k. Mobilization

Items b-h must be documented with quantity take-offs that clearly show eligible and ineligible areas of work.

MULTI-PURPOSE PROJECT BREAKDOWN
Actual Project Proposed for Construction

ITEM No.	DESCRIPTION	QUANTITY	UNIT \$	AMOUNT	ASSIGNMENT			JOINT COSTS	SPECIFIC POLLUTION COSTS	SPECIFIC OTHER COSTS
					J	P	O			
1	New 8" Sanitary Sewer	400	\$45.00	\$18,000.00		1		\$0.00	\$18,000.00	\$0.00
2	Existing Combined Sewer Rehab to Sanitary	1200	\$50.00	\$60,000.00		1		\$0.00	\$60,000.00	\$0.00
3	New 15" Storm Sewer	400	\$75.00	\$30,000.00		1		\$0.00	\$30,000.00	\$0.00
4	New 15" Storm Sewer	400	\$75.00	\$30,000.00			1	\$0.00	\$0.00	\$30,000.00
5	New catch Basin	1	\$1,000.00	\$1,000.00			1	\$0.00	\$0.00	\$1,000.00
6	New 21" Storm Sewer	800	\$120.00	\$96,000.00	1			\$96,000.00	\$0.00	\$0.00
TOTALS				\$235,000.00				\$96,000.00	\$108,000.00	\$31,000.00

SINGLE PURPOSE POLLUTION CONTROL PROJECT COST BREAKDOWN

Theoretical project designed to provide on the intended pollution control benefits, e.g. a storm sewer designed for separation with a capacity equal to that of the existing combined sewer.

ITEM NO.	DESCRIPTION	QUANTITY	UNIT \$	AMOUNT
1	New 8" Sanitary Sewer	400	\$45.00	\$18,000.00
2	Existing Combined Sewer Rehab to Sanitary	1200	\$50.00	\$60,000.00
3	New 15" Storm Sewer	400	\$75.00	\$30,000.00
4	New 18" Storm Sewer	800	\$95.00	\$76,000.00
TOTALS				\$184,000.00

SINGLE PURPOSE 'OTHER' BENEFIT PROJECT

Theoretical project designed to provide the "other benefits" that would be provided by the joint project that would not be provided by the single purpose pollution control project (e.g. a storm sewer designed for separation with a capacity equal to the difference between the capacity of the proposed project and the capacity of the existing combined sewer).

ITEM NO.	DESCRIPTION	QUANTITY	UNIT \$	AMOUNT
1	New Catch Basin	1	\$1,000.00	\$ 1,000.00
2	New 10" Storm Sewer	800	\$ 50.00	\$40,000.00
3	New 15" Storm Sewer	400	\$75.00	\$30,000.00
TOTALS				\$71,000.00

AJE CALCULATION FORMULA

<u>LEGEND</u>	<u>ITEM</u>	<u>COST</u>
A	Specific Purpose Pollution Costs	\$108,000.00
B	Specific Purpose Other Costs	\$ 31,000.00
C	Joint Costs	\$ 96,000.00
D	Single Purpose Pollution Costs	\$184,000.00
E	Single Purpose Other Benefit Costs	\$ 71,000.00

$$\text{Eligible Amount} = A + \frac{(D - A)}{(D - A) + (E - B)} * C$$

$$= \$108,000 + \frac{(\$184,000 - \$108,000)}{(\$184,000 - \$108,000) + (\$71,000 - \$31,000)} * \$96,000$$

$$= \$170,897$$

$$\% \text{ Eligible} = \frac{\$170,897}{\$235,000} \text{ or } 72.72\% \text{ of the appropriate project costs} *$$

* Some project line items are not prorated.