ACCOUNTING
PRIMER
FOR
ENGINEERS

Prepared by State Aid Finance
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# Table of Contents

General responsibilities of your Accountant/Office Staff ........................................... 1  
Daily processes ................................................................................................................. 1  
Weekly/Bi-Weekly processes .......................................................................................... 1  
Monthly processes ........................................................................................................... 1  
Annual processes ............................................................................................................ 2  
Annual reports ................................................................................................................ 2  
Expectations ..................................................................................................................... 3  
Monthly ............................................................................................................................. 3  
Annual ............................................................................................................................. 3  
Other Annual ................................................................................................................... 4  
Annual reports ................................................................................................................ 4  
Useful reports ................................................................................................................... 4  
Hiring a new Accountant ................................................................................................. 6  
Software ............................................................................................................................ 6  
Training ............................................................................................................................. 6  
Internal Operations Manual ............................................................................................. 6  
Acronyms .......................................................................................................................... 8  
Appendix ........................................................................................................................... 9  
Cost Accounting vs Financial System – comparison ....................................................... 9  
   Road Maintenance ........................................................................................................ 9  
   Construction .................................................................................................................. 10  
   Unallocated Costs – Administration ......................................................................... 11  
   Unallocated Costs – Construction ............................................................................. 12  
   Unallocated Costs – Road Maintenance .................................................................... 13  
   Unallocated Costs – Equipment Maintenance ......................................................... 14  
   Shop Operations .......................................................................................................... 15  
   Equipment Maintenance ............................................................................................. 16  
   Inventory ....................................................................................................................... 17  
   Work For Others ......................................................................................................... 18  
   Non Highway Costs .................................................................................................... 19
General responsibilities of your Accountant/Office Staff

The listing below is not inclusive and varies by county. Details and processes should be discussed with your Accountant and documented with internal procedures.

**Daily processes**
- Supervise clerical staff
- Timecard verification (employee and equipment) and entry
- Accounts Payable
  - Verification of vendor invoices and statements
  - Entry and posting of purchase information
  - Voucher processing for Engineers approval
- Customer interaction
  - Answer questions from the public, vendors, contractors, etc.
  - Sale of materials, maps, plans to contractors
  - Permit transactions (moving, utility, field access, etc.)
- Process and deliver daily mail

**Weekly/Bi-Weekly processes**
- Payroll processing
  - Update and maintain personnel files
  - Interface or data entry to county payroll system
- Accounts Payable
  - Interface or data entry to county financial system
- Construction
  - Bid preparation and advertisement
  - Process contract paperwork, contracts, bonds, insurance verification
  - Contracts Payable
    - Daily/weekly diary forms
    - Partial payment preparation
    - Interface certified work to costing system and interface payment to county financial.
  - Prepare State Aid and Federal Aid Payment request forms
- Enter receipts in costing system for cash and Accounts Receivable (A/R) sales
- Reconcile and prepare deposits and receipt report for county treasurer’s office.
- Supervise billings for supplies and services to other departments and government entities.

**Monthly processes**
- Accounts Receivable
  - Verify customer costs and process invoices
  - Follow up on past due receivables
  - Calculate and bill contract penalties on past due accounts
- Inventory management
  - Verify additions and withdrawals
Accounting Primer for Engineers

- Fuel reports, meter readings
- Monitor unit prices for inventory
- Sales and fuel tax reports preparation
  - Sales and Use Tax, special fuels tax, Power Take Off (PTO) refund, Federal Excise refund
- Budget
  - Manage cash position
  - Prepare revenue and expenditure comparison to budget report for engineer
- Monthly reconciliations
  - Cash to the auditors financial system
  - Account receivables to customer detail
  - Accounts payable to the vendor detail
  - State Aid receivable and allotments
  - Salaries/wages payable to the auditors financial/payroll system
  - Comp time payable
  - State Aid Receivables to State Aid Status Report
  - State Aid Allotments to State Aid Status Report

Annual processes
- Township mileage reporting
  - Data collection
- Inventory
  - Physical inventory
  - Reconcile physical inventory to costing system inventory
    - Enter variances
- Fixed Assets
  - Calculate depreciation
  - Update equipment (new, sold, traded, disposed)
  - Calculate rental rates for new year
- Manage Infrastructure
  - Add construction costs to county infrastructure
- Verification of year end accruals
  - Taxes receivable, accounts payable, salaries and wages payable, etc.
- Unallocated Costs
  - Spread to appropriate cost centers
- Needs preparation
  - After the Fact Right of Way (ROW)
  - Credit for Local Effort
- Verification and preparation of 1099 forms
- Year end close on costing system
- Budget
  - Assist in budget preparation

Annual reports
- Annual Summary of Highway Information Report
• Local Highway Finance Report (FHWA 536)
• Annual Report - full version (optional)

Expectations

Monthly
Monthly reconciliation and closing should occur each month by the 15th of the following month.

• Monthly reconciliations
  o Cash to the auditors financial system
  o Account receivables to customer detail
  o Accounts payable to the vendor detail
  o State Aid receivable and allotments
  o Salaries/wages payable to the auditors financial/payroll system
  o Comp time payable
  o State Aid receivables to State Aid Status Report
  o State Aid allotments to State Aid Status Report

Monthly reports can be run to ensure reconciliations by the accountant are up to date. Currently with the Conduent, reports for the current month must be printed prior to the closing process. With Costrite these reports can be run after the closing.

The engineer should request a Balance Sheet (Conduent) or a Trial Balance (Costrite) from the accountant. The engineer should also obtain a Treasurer’s Cash Trial Balance (IFS) for the same month from the auditor’s office. The cash balance from each report should be equal; this will ensure cash has been reconciled.

Obtain a Status Report for the same month from the State Aid Accounting System (SAAS). Ensure encumbrances on the Status Report are equal to the State Aid Receivables on the Balance Sheet (Conduent) or Trial Balance (Costrite). If they are not in balance, ensure the differences can be reconciled to over/under runs on projects. Also ensure that the Available Balance on the Status Report are equal to the State Aid Allotment balances Balance Sheet (Conduent) or Trial Balance (Costrite).

Annual
Reconciliations should be completed by April 1st of the following year.

• Fixed Assets
  o Calculate depreciation
  o Update equipment (new, sold, traded, disposed)
  o Calculate rental rates for new year
• Manage Infrastructure
  o Add construction costs to county infrastructure
• Verification of year end accruals
  o Taxes receivable, accounts payable, salaries & wages payable, etc.
• Unallocated Costs
  o Spread to appropriate cost centers
• Year end close on costing system

**Other Annual**

• Inventory
  o Due by December 31st of current year.
  o Physical inventory
  o Reconcile physical inventory to costing system inventory
    ▪ Enter variances
• Needs preparation
  o Due by July 1st of the following year.
• Verification and preparation of 1099 forms
  o Due by Jan 31st of following year
• Budget
  o Assist in budget preparation
    ▪ Process starts in June and a preliminary budget is generally done by the end of August for review by the Board
• Township mileage reporting
  o Data collection
    ▪ Due in November of each year.

**Annual reports**

• Annual Summary of Highway Information Report
  o Completed by June 1st of the following year.
    ▪ Due in Mn/DOT by August 1st
• Local Highway Finance Report (FHWA 536)
  o Due in Mn/DOT by December 31st of the following year
• Annual Report - full version (optional)
  o Completed by June 1st of the following year

**Useful reports**

Monthly or annually, the accountant will be able to provide any one of the reports listed below. Each report can help to answer various questions from the engineer and supervising staff. Sample questions are listed below each report.

**Fixed Asset, Equipment Cost Detail, Equipment Revenue**

• Should a piece of equipment be purchased or leased?
• What does it cost to operate a piece of equipment?
• What equipment rental rates should be charged for reimbursement of services to individuals and other government entities?
  o Are the costs of the equipment being recovered through the rental rates?
  o Do rental rates need to be adjusted?
Should rental rates be charged by the hour or by the mile?
- Labor cost reports by hours or dollars
- Managing equipment costs
  - Which vehicle is consuming the most fuel?
  - Which vehicle is the most economical?
  - Which is costing more in repairs?
- Utilization of equipment.
  - How much is the equipment being used?
  - Should it be owned or rented if the equipment is not used much?

**Summary of Routine Maintenance and Summary of Maintenance - by Road/system**
- Should cost comparisons be used when a road section is graded or paved?
- What is the cost per mile for maintenance on a road?
- How much money was spent in each county district on road maintenance?
- How much did the last snow storm cost the county?
- Which roads require greater maintenance dollars based on ADT?
- Is a new method of maintenance reducing costs over all for a segment of road?
- Has daily time been posted to the correct road/system?

- Trends and historical information
  - Why does it cost more money to do maintenance compared to 5 years ago?
  - What are the contributing factors to increased costs?

- Unallocated costs.
  - Are unallocated costs being spread appropriately to maximize the cost in each road system?
  - Should the costs be spread by labor versus miles, intersection versus miles, etc?

**Project Cost Analysis, Project Cost Guideline & Project Cost Detail Ledger**
- What is the total cost of a project?
- What is the cost of each component of a project? (bridges, approaches, culverts, grading, surfacing, etc.)
- Should a maintenance contract be executed or use county forces for a project?
- Is the contract on track based on percentage of work completed versus expenses incurred?
- What is the total cost of cleaning up after a major weather event? (especially if a state of federal disaster be declared this information is very valuable.)
- Project setup through costing system.

**Inventory of Supplies and Materials, Inventory Additions, Inventory Withdrawals**
- What are the road supply costs in detail?
- How much salt and sand did was used last winter?
- What is the remaining supply of major inventory?
- How many 15” culverts are in stock and what is the reorder point?
- Are the inventory controls adequate?
Cost Account Ledger – Summarized or Detail
- Should the existing facility be improved or build new?
- What was the total cost (labor, equipment and material) to sealcoat a road?

Customer Cost Detail and Customer Cost Analysis
- What are the actual costs for each customer?
- Are customer revenues keeping up with the costs?
- Are the overhead costs being recovered?
- What portion of the dust control costs are recovered through customer sales?

Hiring a new Accountant
Review the accountant’s job description to make sure it is up-to-date and matches the responsibilities, functionality and education requirements of the position. Consider organizational chart and dynamics of the office to ensure a good professional fit. Talk to neighboring accountant or Accounting Task Force Representative from your district for suggestions. Consider them for participation on an interview panel or for input on interview questions.

Software
The majority of counties use two software vendors, Conduent and Computer Professionals Unlimited (CPU-Costrite). For more information about these applications, contact Conduent or Computer Professionals.

Training
Training on State Aid processes, accounting procedures and reports is available from State Aid Finance (SAF). The training topics and schedule are tailored to meet your needs. A member of the SAF team is available to assist you or your accountant either on site and/or work via telephone.

Training includes, but is not limited to, an overview of state aid requirements and processes for new accountants, annual reports, accounts payable and receivables, balance sheet accounts, deferred revenues, depreciation, fixed assets, general overview of state aid/cost accounting, inventory, payroll, payments, reconciliations, unallocated costs and year end adjustments. Many data entry forms, worksheets and applications are available from the State Aid Finance website.

A training request form can be downloaded from the State Aid Finance Website at www.dot.state.mn.us/safinance. Click on Training Information.

Internal Operations Manual
Each county should develop an Internal Operations Manual covering their unique office procedures. State Aid Finance has developed some basic guidelines for processes that are common amongst most counties; these are included in the New Accountants Guide.
Acronyms

Below is a list of acronyms used in the guide. A complete list of acronyms can be obtained from the SAF website.

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>A/R</td>
<td>Accounts Receivable</td>
</tr>
<tr>
<td>CPU</td>
<td>Computer Professionals Unlimited (Costrito)</td>
</tr>
<tr>
<td>FHWA</td>
<td>Federal Highway Administration</td>
</tr>
<tr>
<td>IFS</td>
<td>Integrated Financial System</td>
</tr>
<tr>
<td>Mn/DOT</td>
<td>Mn Dept. of Transportation</td>
</tr>
<tr>
<td>PTO</td>
<td>Power Take-Off</td>
</tr>
<tr>
<td>SAF</td>
<td>State Aid Finance</td>
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</tbody>
</table>
Reports provide summarized or detailed information about construction projects.

Annual Report Pages:
- Statement of Construction Costs
- Summary of Project Costs

Monthly Reports used for project completion, cost history/averages, etc.:
- Project Cost Ledger
- Project Cost Analysis

Monthly Reconiliation:
- Labor Analysis
- Vendor Costs by Vendor
- Vendor Cost by Contract
- Cost Account Ledger - Detail or Sorted Detail

All reports may be transferred to PC Applications.

Reports provide budgetary information, expense budget comparisons, they may include monthly or year-to-date expenditure totals.

Reports used in Annual Report Preparation:
- Account Activity Report

Management Reports (Budget):
- Expenditure Budget Report (summary and detail budget to actual expense comparisons)

Monthly Reconiliation:
- Account Activity Report
- General Journal
- Disbursements Journal
- Capital Expenditures Journal

Transfers to PC Based Applications:
- Extract Budget Detail for PC
- Extract Disbursements Detail for PC
The Costing System have the ability to distribute Unallocated Costs to the appropriate cost centers within the system. The distribution of these costs may be done at the accountant’s discretion.
Accounting Primer for Engineers

Unallocated Costs – Construction

The Costing Systems have the ability to distribute Unallocated Costs to the appropriate cost centers within the system. The distribution of these costs may be done at the accountant’s discretion.

Unallocated Costs

Unallocated Construction

Unallocated Costs Benefits

Construction Vacancy
Construction Holiday
Construction Sick Leave
Construction Retr. Pay
Construction County PICA
Construction County Medicare
Construction County FEBSA
Construction County Life and Health

Unallocated Costs Benefits to Active Projects with Labor Costs

Miscellaneous Road Studies
Road Needs Study
Field Engineering / Draft Supplies
Property Damages
Misc. Engineering Costs

Unallocated Costs Construction to Active Projects with Labor Costs

Auditor’s Financial

Expenses: Budget Comparison

Personal Services

Salaries, Wages, Per Diem
Employee’s Share FICA, Medicare
Employee’s Share Health & Life, etc.

Services and Charges

Transportation and Travel
Professional & Technical Services

Supplies and Materials

General Supplies

Capital Expenditures

Capital Equipment over $5,000
Construction Contract Payments
Right-of-Way Acquisitions

Reports provide budgetary information, expense budget comparisons, they may include monthly or yearly to date expenditure totals.

Reports used in Annual Report Preparation:

Account Activity Report
Management Reports (Budget)
Expenditure Guidelines (budget to actual expense comparisons)
Expenditure Budget Report (summarized budget to actual expense comparisons)

Monthly Reconciliation:

Account Activity Report
General Journal
General Ledger
Disbursements Journal

Transfers to Other Applications:

Extract Budget Detail for PC
Extract Disbursement Detail for PC
The Costing Systems have the ability to distribute Unallocated Costs to the appropriate cost centers within the system. The distribution of these costs may be done at the accountant’s discretion.
Unallocated Costs

Equipment

Costing System

Equipment Benefits

Equipment Benefits to selected Equipment Units

Equipment Costs to selected Equipment Units

The Costing Systems have the ability to distribute Unallocated Costs to the appropriate cost centers within the system. The distribution of these costs may be done at the accountant’s discretion.

Auditor’s Financial

Expenses Budget Comparisons

Personal Services

Salaries, Wages, Fr. Benefits

Employee’s Share FICA, Medicare

Employee’s Share Health, Life, etc.

Services and Charges

Transportation and Travel

Equipment Service Agreements

Maintenance & Service Repairs

Insurance

Suppliers and Materials

General Supplies

Parts & Filters

Gaskets & Seals

Tires, Batteries, Minor Parts

Major Parts & Repairs

Capital Expenditures

Capital Equipment over $5,000

Reports provide budgetary information, expense budget comparisons, they may include monthly or year-to-date expenditure totals. Reports used in Annual Report Preparation:

- Account Activity Report
- Management Reports (budget)
  - Expenditure Guidelines (budget to actual expense comparisons)
- Monthly Reconciliation
  - Account Activity Report
  - General Journal
  - General Ledger
- Distribute Journal
- Transfers to PC-based Applications:
  - Extract Budget Detail for PC
  - Extract Disbursement Detail for PC
Inventory

- Purchases
- Inventory Withdraw
- Inventory Variance Adjustment

- Equipment Maintenance - Selected Unit
- Unallocated Costs - Equipment Supplies Variance

- Motor Fuel
  - Diesel Gasoline
  - Aviation Gasoline

- Equipment Maintenance - Selected Unit
- Unallocated Costs - Equipment Supplies Variance

- Field Materials and Supplies
  - Concrete and Fabric
  - Ties and Posts

- Maintenance - Selected Road Maintenance Activities
- Unallocated Costs - Road Maintenance Supplies Variance

- Gravel Stockpile
  - Crushed Gravel Stockpile
  - Crushed Blastosil Stockpile

- Maintenance - Selected Road Maintenance Activities
- Unallocated Costs - Road Maintenance Supplies Variance

Reports provide summarized or detailed information about inventory items.

- Annual Report
  - Inventory of Supplies and Materials
  - Inventory Additions
  - Inventory Withdrawals

All reports may be transferred to PC Applications.

Reports used in Annual Report Preparations:
- Account Activity Report
  - Management Reports (Budget):
    - Expenditure Details (budget vs actual expense comparison)
    - Expenditure Budget Report (summarized budget vs actual expense comparison)

Monthly Reconciliation:
- Account Activity Report
  - General Journal
  - General Ledger

Transfers to PC-based Applications:
- Extract Budget Detail for PC
- Extract Disbursement Details for PC
Reports provide summarized and detailed information about capital purchases, improvements, county bond principal and interest costs, and any other county costs unrelated to maintenance, construction, work for others, equipment, or shop costs.

Annual Report Papers:
- Fixed Assets, Capital Outlay Summary
- Monthly Reconciliations
  - Labor Analysis
  - Vendor Cost by Vendor
  - Cost Account Ledger - Detail or Sorted Detail
- Cash reports may be transferred to PC Applications

Auditor’s Financial
- Capital Expenditures
  - Highway Administration
  - Highway Maintenance
  - Construction
  - Equipment
  - Shop

Expenditure Budget Comparisons
- Capital Equipment over $5,000

Reports provide budgetary information, expenditure budget comparisons, they may include monthly or year-to-date expenditure totals.

Reports used in Annual Report Preparation:
- Account Activity Report
- Management Reports (budget):
  - Expenditure Budget Report (budget to actual expense comparisons)
  - Actual Budget Report (summarized budget to actual expense comparisons)
- Monthly Reconciliations:
  - General Journal
  - General Ledger
  - District Journal
- Transfers to PC Based Applications:
  - Extract Budget Detail for PC
  - Extract Disbursement Detail for PC