

# Cost Considerations for Flow Monitoring

---

- Flow Meters - How many will be needed – should you buy, rent or sub out to an engineering firm or a competent company that performs flow monitoring.
- Flow Meter Locations – Permanent –vs- temporary/portable, traffic control, manhole location/access to structure.
- Permanent Flow Meters – Meter pit installation, SCADA telemetry costs.
- Pipe inserts for sensors – There is a significant expense when ordering inserts 15" and up in sizes.
- Computer(s) – Laptop for field downloading, PC at POTW for analyzing.
- Software – Most companies have specific software that you must purchase to use with their meters.
- Data - Who is going to analyze it? In house or subbed out?
- Labor - How many employees will be installing, weekly O&M, downloading and evaluating the data?
- Permit Confined Spaces – You will be making confined space manhole entries, if so. How much equipment do you have on hand? Have you performed annual training for qualified employees? Do you have a written Program?
- Road signs - Permits for working in the road right-of way. Most Counties within Michigan require specific signs for any road work.
- Manholes Identification – Have you had your system GPS coordinated? There are definite expenditures that you would have either way; identified by and Engineer/Survey company or by purchasing a unit and performing all of your own work.

The cost of a good unit is not unreasonable, but the man-hours will add up depending on the size of your system.