West Falmouth Sewer Improvements, Phase 1, Project Background and Anticipated Services

The Town of Falmouth's "West Falmouth Sewer Master Plan" assessed potential growth and long-term sewer needs for a significant portion of the town. The existing sewer system in this area has grown from about 1970, to today, largely from both land development and environmental needs. This past growth has resulted in recognized bottlenecks that are susceptible to existing peak flows. Anticipated continued growth warrants several improvements to the system.

The Plan also recommends potential upgrades to the system. As a first phase of improvements, the Town is targeting the parts of the system that form the trunk sewer serving the westernmost portions of the system. This initial phase is comprised of the following design aspects:

- **Rehabilitation and capacity upgrades at the existing Falmouth Road pump station**

The existing station consists of duplex suction lift pumps, each with 250 gpm of rated capacity. The pumps are enclosed in a small wood frame building. The station connects to a 6" diameter PVC force main approximately 5,500' long. Future flow projections indicate the need to upgrade capacity to 500 gpm. The station has standby power.

Currently anticipated work involves pump, piping, electrical, wet-well rehabilitation, and generator upgrades.

- **Potential improvements to the existing force main from the Falmouth Road pump station**

The existing force main is located within a Central Maine Power right of way. As noted, the 6" force main is approximately 5,500 feet long. The line extends over uneven terrain and several air release structures are located at high points along its length. The town is not aware of significant defects.

Currently anticipated work involves further assessment of the line and structures, correcting any defects. Potential additional work may result depending on the design details for the Falmouth Road pump station upgrades.

- **Extension of the existing force main from the Falmouth Road station and new gravity sewer in Woods Road**

The conceptual plan intercepts the existing force main where it crosses Woodville Road, approximately at 4,800' along its length, and extends new force main, continuing along the CMP right of way to Woods Road. At Woods Roads, the pressure line would transition to new gravity sewer that would extend to the existing Town sewer in Woods Road. The intent of extending these new lines is to avoid two intermediate and undersized pump stations located within the Woodlands Complex that currently handle the sewer flows from west of Woodville Road.

Anticipated work includes acquiring new easements, geotechnical, survey, and design of the line extensions.

- **Replacement of the existing gravity sewer in Middle Road, Woods Road to Lunt Road**

Gravity sewer in this area consists mostly of 8" asbestos cement pipe with minimal slope. The conceptual plan indicates replacement with 15" PVC is warranted from the intersection of Longwoods and Middle Road to Lunt Road, approximately 4,450'.

Anticipated work involves mostly survey and design, complicated by the bridge crossing at the Turnpike Spur under Middle Road.

- **Improvements and capacity upgrades at the existing Lunt Road pump station**

The existing station consists of duplex suction lift pumps, each with 650 gpm of rated capacity. The pumps are enclosed in a small fiberglass structure. The station connects to an 8" diameter fused polyethylene force main (approximately 7" ID) that is approximately 4,500' long. Future flow projections indicate the need to upgrade capacity to approximately 1,480 gpm. The station has standby power.

At part of Phase 1 improvements, the Town prefers to target a capacity upgrade that is less than the recommended 1,480 gpm, as that likely could rely on increasing the size of the discharge force main. Thus, the Town is hopeful that this interim design would accomplish approximately one-half the projected increased capacity need.

Currently anticipated work involves pump, piping, and wet-well rehabilitation, and potentially electrical, and generator upgrades. The interim design should factor that secondary upgrades will likely be needed as growth occurs, new pumps might be specified that would provide for the eventual desired capacity with a new and larger force main, for instance.

- **Other**

In addition to design, the town anticipates the consultant will provide bidding, and construction management and oversight services associated with the improvements.