DORSET FIRE DISTRICT

Dorset Volunteer Fire Dept.
Dorset Water Co.

Mailing: PO Box 341 Dorset, VT 05251 **Fire Station: 2877 Route 30 Dorset, VT 05251**
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DORSET FIRE DISTRICT SPECIAL MEETING MINUTES

TUESDAY JANUARY 17, 2017

DORSET FIRE STATION

Present: Ben Weiss, Chair, Abbott de Rahm, Milt McWayne, Roger Squire, Jim McGinnis (Water Operator), Rob Gaiotti (Town Manager), Greg Kepler (Kepler Engineering), Ashley Lucht (State of VT)

Absent: Mark Putnam

Others Present: Cindy Loudenslager, Nancy Faesy, Patrick McGuire, Robert & Tanya Gabrielle, Andy Longacre, Ginny Longacre, Justine Cook, Jordan Dickenson

Ben Weiss called the meeting to order at 7:01pm. He explained that the purpose of the meeting was to have Ashley Lucht, who works for the State of Vermont drinking water division explain the planning loan and construction loan program and process offered through her department.

Ashley explained that she had worked in many facets of the drinking water division over the years and currently is in charge of the financing aspects for drinking water system projects in Vermont that apply for planning loan or construction loan funding. She previously worked in capacity development for drinking water systems as well, so she has a good understanding of some of the hurdles that small water systems in Vermont face. Ashley gave a recent example of the Arlington water system, having recently gone through both the planning loan phase and seeing their $4 million project through to the construction loan process.

Planning Loans:

Can cover the cost of source exploration (a major item currently underway in Dorset) to find additional water sources for the system.

This includes Source Exploration which can often cost: $100,000 to $150,000 and including preliminary engineering reports. Final design also covered under the planning loan and estimated costs can reach $100,000 for final design, final construction (drilling well etc.) could also be covered in this program and these costs could often reach $50,000 to $60,000. Ashley stated that a rough estimate for the planning loan could be north of $350,000. This is due in large part because source exploration is a very complicated process with many requirements for vetting a source prior to final approval. The final connection of the new source to the system would not be eligible for funding under the planning loan program. This cost would have to be covered through the construction loan program.

Ashley continued to explain some of the dynamics with regard to the programs: reimbursement based, municipalities typically bond for the project and pay the loan back via the bond bank, and federal requirements come into play in some cases. She also explained that the construction loan program is a competitive program with a new priority ranking list done annually in the late winter/ early spring. Water system project that participate in the planning loan process are set up nicely for the construction loan process by design of the State to make things more streamlined. Priority list items include: Health impacts on the service area, lack of water for services, aging infrastructure needs etc.

Abbott deRahm asked about the typical timelines for the programs and a discussion ensued about the planned items and course of time it might take to implement them. A. Luct explained that if Dorset is currently working on Source Exploration it might make sense to look at a planning loan (applications are rolling) and then plan on getting on the priority list and making an application for a construction loan knowing that it's likely that any source exploration changes or construction would not take plan until 2018 at the earliest. She further explained that the source exploration process will typically take more than 12 months from beginning to end. Greg Kepler explained some of the permit requirements, testing requirements etc. for the source exploration process and agreed that the typical timeframe would be as described by Ashley.

Ashley also explained that she can provide a list of requirements needed for the application processes (both planning and construction loans). A. de Rahm asked about getting the list via email. Discussion ensued about loan terms:

Typically 20 years at 3% for construction loans and planning loans can be 5 years at 0% with deferred payments if the planning loan is rolled into a construction loan. If planning loans are not rolled into construction they are still 0% with a 5 year required payback. Further discussion was had about water fees and the way they are structured. She also explained the disadvantaged community financing with lowered interest rates. It was stated that the median household income in the Dorset water service area is likely too high to have access to these opportunities.

Roger Squire gave an example of what a large construction project might end up costing the Dorset system with only 200 users. Discussion then centered on metering commercial users, and conducting research to determine what projects and rates were prudent for Dorset. Ashley explained the dynamics of how some systems set their rates based on capital planning

expenses and having items broken out into expected useful life data: 1-5 years, 5-15 years, 20 or more years. Each section would be funded by differently sources from regular fees, sinking funds, or long term debt. Ashley encouraged the creation of a Capital Inventory List and Capital Improvements List that would outline all District assets with replacement costs and funding sources/timeframes.

Abbott de Rahm summarized the items for the Dorset Fire District into three parts:

1. New Water Source & Connecting it to the system
2. New Storage & Connecting it to the system
3. Pipe expansion for increased fire flows, better fire protection in the village and lower ISO rating

He then posed a question about phasing in projects based on the need. A. Lucht explained that using the planning and construction loan process is difficult with a phased project because the timelines would have to be very close together. She explained that many communities embark on this type of an effort by first getting a comprehensive preliminary engineering report on the entire system. This type of a report would outline all the problems and strengths with the water system and make preliminary plans about how they could be remedied in the most efficient manner for both time and money. Discussion ensued about the types of projects for Dorset and the timeframes. Greg Kepler made available a handout with regard to preliminary engineering information. A. Lucht re-stated that the comprehensive approach will allow for tackling a few issues more efficiently and gave an example of a water system project in the Town of Waitsfield.

Justine Cook inquired about residents dropping off the system and if there were any current regulations to prevent this. It was stated that currently DFD does not have such a regulation in place. A. Lucht stated that some other communities have bylaws or ordinances against residents dropping off the system. Greg Kepler noted that due to some of the small lots in Dorset Village a public water system will always be needed due to septic and well setback requirements. Ben Weiss asked whether A. Lucht could review the DFD bylaws, and it was stated that perhaps the DFD engineer and State drinking water division could review this item during the planning process. A. Lucht noted that one item that takes place during the planning and construction loan process is a capacity evaluation, which takes into consideration many factors and items that DFD is faced with and attempts to find ways to streamline them. J. Cook asked about liability with a new project like this. A. Lucht explained the dynamics for what items and events with a water system could and could not be insured. Further discussion ensued about user rates, bonding options, and the overall time frame of similar projects. B. Weiss thanked A. Lucht for her time and expertise and stated that DFD looked forward to working with her on the future project financing when is appropriate.

It was the consensus of the Prudential Committee to approve payment for invoices for the week of January 17, 2016.

There being no further business to discuss the meeting was adjourned at 8:38pm

Respectfully Submitted, Rob Gaiotti, Town Manager

JAN. 17TH 2017

[redacted] D.F.D. SPECIAL MEETING

NAME	ADDRESS	TESTIFYING (Y/N)
GREG ICEPICK	157 SPRUCE ST / MAPLETON	Y ?
Cindy Loudenslager	144 Spring Hill / 31 Church - Dorset	N
Nancy Feesy	3284 RT 30	W
PATRICK MCGUIRE	75 TIMBERBROOK DORSET	N
Robert & Tanya [redacted]	21 Peace St Dorset	N
JIM MCGINNIS	4232 RT 30	Y
ANDY LONGACRE	2533 RT 30	N
Ginny Longacre	2533 RT 30, Dorset	N
Justine Cook	2825 Rte 30, Dorset	N
Jordan Dickinson	20 Maple Hill Ln, Dorset	N

1/17/17

G. KEPLER

GENERAL OUTLINE OF A PRELIMINARY ENGINEERING REPORT

1) PROJECT PLANNING
   a) Location
   b) Environmental Resources Present
   c) Population Trends
   d) Community Engagement

2) EXISTING FACILITIES
   a) Location Map
   b) History
   c) Condition of Existing Facilities
   d) Financial Status of any Existing Facilities
   e) Water/Energy/Waste Audits

3) NEED FOR PROJECT
   a) Health, Sanitation, and Security
   b) Aging Infrastructure
   c) Reasonable Growth

4) ALTERNATIVES CONSIDERED
   a) Description
   b) Design Criteria
   c) Map
   d) Environmental Impacts
   e) Land Requirements
   f) Potential Construction Problems
   g) Sustainability Considerations
      i) Water and Energy Efficiency
      ii) Green Infrastructure
      iii) Other
   h) Cost Estimates

5) SELECTION OF AN ALTERNATIVE
   a) Life Cycle Cost Analysis
   b) Non-Monetary Factors

6) PROPOSED PROJECT (RECOMMENDED ALTERNATIVE)
   a) Preliminary Project Design
   b) Project Schedule
   c) Permit Requirements
   d) Sustainability Considerations
      i) Water and Energy Efficiency
      ii) Green Infrastructure

iii) Other

e) Total Project Cost Estimate (Engineer's Opinion of Probable Cost)

f) Annual Operating Budget
   i) Income
   ii) Annual O&M Costs
   iii) Debt Repayments
   iv) Reserves

7) CONCLUSIONS AND RECOMMENDATIONS

DETAILED OUTLINE OF A PRELIMINARY ENGINEERING REPORT

1) PROJECT PLANNING

Describe the area under consideration. Service may be provided by a combination of central, cluster, and/or centrally managed individual facilities. The description should include information on the following:

a) Location. Provide scale maps and photographs of the project planning area and any existing service areas. Include legal and natural boundaries and a topographical map of the service area.

b) Environmental Resources Present. Provide maps, photographs, and/or a narrative description of environmental resources present in the project planning area that affect design of the project. Environmental review information that has already been developed to meet requirements of NEPA or a state equivalent review process can be used here.

c) Population Trends. Provide U.S. Census or other population data (including references) for the service area for at least the past two decades if available. Population projections for the project planning area and concentrated growth areas should be provided for the project design period. Base projections on historical records with justification from recognized sources.

d) Community Engagement. Describe the utility's approach used (or proposed for use) to engage the community in the project planning process. The project planning process should help the community develop an understanding of the need for the project, the utility operational service levels required, funding and revenue strategies to meet these requirements, along with other considerations.

2) EXISTING FACILITIES

Describe each part (e.g. processing unit) of the existing facility and include the following information:

a) Location Map. Provide a map and a schematic process layout of all existing facilities. Identify facilities that are no longer in use or abandoned. Include photographs of existing facilities.

b) History. Indicate when major system components were constructed, renovated, expanded, or removed from service. Discuss any component failures and the cause for the failure. Provide a history of any applicable violations of regulatory requirements.

c) Condition of Existing Facilities. Describe present condition; suitability for continued use; adequacy of current facilities; and their conveyance, treatment, storage, and disposal capabilities. Describe the existing capacity of each component. Describe and reference compliance with applicable federal, state, and local laws. Include a brief analysis of overall current energy consumption. Reference an asset management plan if applicable.

d) Financial Status of any Existing Facilities. (Note: Some agencies require the owner to submit the most recent audit or financial statement as part of the application package.) Provide information regarding current rate schedules, annual O&M cost (with a breakout of current energy costs), other capital improvement programs, and tabulation of users by monthly usage categories for the most recent typical fiscal year. Give status of existing debts and required reserve accounts.

e) Water/Energy/Waste Audits. If applicable to the project, discuss any water, energy, and/or waste audits which have been conducted and the main outcomes.

3) NEED FOR PROJECT

Describe the needs in the following order of priority:

a) Health, Sanitation, and Security. Describe concerns and include relevant regulations and correspondence from/to federal and state regulatory agencies. Include copies of such correspondence as an attachment to the Report.

b) Aging Infrastructure. Describe the concerns and indicate those with the greatest impact. Describe water loss, inflow and infiltration, treatment or storage needs, management adequacy, inefficient designs, and other problems. Describe any safety concerns.

c) Reasonable Growth. Describe the reasonable growth capacity that is necessary to meet needs during the planning period. Facilities proposed to be constructed to meet future growth needs should generally be supported by additional revenues. Consideration should be given to designing for phased capacity increases. Provide number of new customers committed to this project.

4) ALTERNATIVES CONSIDERED

This section should contain a description of the alternatives that were considered in planning a solution to meet the identified needs. Documentation of alternatives considered is often a Report weakness. Alternative approaches to ownership and management, system design (including resource efficient or green alternatives), and sharing of services, including various forms of partnerships, should be considered. In addition, the following alternatives should be considered, if practicable: building new centralized facilities, optimizing the current facilities (no construction), developing centrally managed decentralized systems, including small cluster or individual systems, and developing an optimum combination of centralized and decentralized systems. Alternatives should be consistent with those considered in the NEPA, or state equivalent, environmental review. Technically infeasible alternatives that were considered should be mentioned briefly along with an explanation of why they are infeasible, but do not require full analysis. For each technically feasible alternative, the description should include the following information:

a) Description. Describe the facilities associated with every technically feasible alternative. Describe source, conveyance, treatment, storage and distribution

facilities for each alternative. A feasible system may include a combination of centralized and decentralized (on-site or cluster) facilities.

b) Design Criteria. State the design parameters used for evaluation purposes. These parameters should comply with federal, state, and agency design policies and regulatory requirements.

c) Map. Provide a schematic layout map to scale and a process diagram if applicable. If applicable, include future expansion of the facility.

d) Environmental Impacts. Provide information about how the specific alternative may impact the environment. Describe only those unique direct and indirect impacts on floodplains, wetlands, other important land resources, endangered species, historical and archaeological properties, etc., as they relate to each specific alternative evaluated. Include generation and management of residuals and wastes.

e) Land Requirements. Identify sites and easements required. Further specify whether these properties are currently owned, to be acquired, leased, or have access agreements.

f) Potential Construction Problems. Discuss concerns such as subsurface rock, high water table, limited access, existing resource or site impairment, or other conditions which may affect cost of construction or operation of facility.

g) Sustainability Considerations. Sustainable utility management practices include environmental, social, and economic benefits that aid in creating a resilient utility.

i) Water and Energy Efficiency. Discuss water reuse, water efficiency, water conservation, energy efficient design (i.e. reduction in electrical demand), and/or renewable generation of energy, and/or minimization of carbon footprint, if applicable to the alternative. Alternatively, discuss the water and energy usage for this option as compared to other alternatives.

ii) Green Infrastructure. Discuss aspects of project that preserve or mimic natural processes to manage stormwater, if applicable to the alternative. Address management of runoff volume and peak flows through infiltration, evapotranspiration, and/or harvest and use, if applicable.

iii) Other. Discuss any other aspects of sustainability (such as resiliency or operational simplicity) that are incorporated into the alternative, if applicable.

h) Cost Estimates. Provide cost estimates for each alternative, including a breakdown of the following costs associated with the project: construction, non-construction, and annual O&M costs. A construction contingency should be included as a non-construction cost. Cost estimates should be included with the descriptions of each technically feasible alternative. O&M costs should include a rough breakdown by O&M category (see example below) and not just a value for each alternative. Information from other sources, such as the recipient's accountant or other known technical service providers, can be incorporated to assist in the development of this section. The cost derived will be used in the life cycle cost analysis described in Section 5 a.

Example O&M Cost Estimate	
Personnel (i.e. Salary, Benefits, Payroll Tax, Insurance, Training)	
Administrative Costs (e.g. office supplies, printing, etc.)	
Water Purchase or Waste Treatment Costs	
Insurance	
Energy Cost (Fuel and/or Electrical)	
Process Chemical	
Monitoring & Testing	
Short Lived Asset Maintenance/Replacement*	
Professional Services	
Residuals Disposal	
Miscellaneous	
Total	

* See Appendix A for example list

5) SELECTION OF AN ALTERNATIVE

Selection of an alternative is the process by which data from the previous section, "Alternatives Considered" is analyzed in a systematic manner to identify a recommended alternative. The analysis should include consideration of both life cycle costs and non-monetary factors (i.e. triple bottom line analysis: financial, social, and environmental). If water reuse or conservation, energy efficient design, and/or renewable generation of energy components are included in the proposal provide an explanation of their cost effectiveness in this section.

a) Life Cycle Cost Analysis. A life cycle present worth cost analysis (an engineering economics technique to evaluate present and future costs for comparison of alternatives) should be completed to compare the technically feasible alternatives. Do not leave out alternatives because of anticipated costs; let the life cycle cost analysis show whether an alternative may have an acceptable cost. This analysis should meet the following requirements and should be repeated for each technically feasible alternative. Several analyses may be required if the project has different aspects, such as one analysis for different types of collection systems and another for different types of treatment.

1. The analysis should convert all costs to present day dollars;
2. The planning period to be used is recommended to be 20 years, but may be any period determined reasonable by the engineer and concurred on by the state or federal agency;
3. The discount rate to be used should be the "real" discount rate taken from Appendix C of OMB circular A-94 and found at (www.whitehouse.gov/omb/circulars/a094/a94_appx-c.html);
4. The total capital cost (construction plus non-construction costs) should be included;

5. Annual O&M costs should be converted to present day dollars using a uniform series present worth (USPW) calculation;
6. The salvage value of the constructed project should be estimated using the anticipated life expectancy of the constructed items using straight line depreciation calculated at the end of the planning period and converted to present day dollars;
7. The present worth of the salvage value should be subtracted from the present worth costs;
8. The net present value (NPV) is then calculated for each technically feasible alternative as the sum of the capital cost (C) plus the present worth of the uniform series of annual O&M (USPW (O&M)) costs minus the single payment present worth of the salvage value (SPPW(S)):

$$NPV = C + USPW\ (O\&M) - SPPW\ (S)$$

9. A table showing the capital cost, annual O&M cost, salvage value, present worth of each of these values, and the NPV should be developed for state or federal agency review. All factors (major and minor components), discount rates, and planning periods used should be shown within the table;
10. Short lived asset costs (See Appendix A for examples) should also be included in the life cycle cost analysis if determined appropriate by the consulting engineer or agency. Life cycles of short lived assets should be tailored to the facilities being constructed and be based on generally accepted design life. Different features in the system may have varied life cycles.

b) Non-Monetary Factors. Non-monetary factors, including social and environmental aspects (e.g. sustainability considerations, operator training requirements, permit issues, community objections, reduction of greenhouse gas emissions, wetland relocation) should also be considered in determining which alternative is recommended and may be factored into the calculations.

6) PROPOSED PROJECT (RECOMMENDED ALTERNATIVE)

The engineer should include a recommendation for which alternative(s) should be implemented. This section should contain a fully developed description of the proposed project based on the preliminary description under the evaluation of alternatives. Include a schematic for any treatment processes, a layout of the system, and a location map of the proposed facilities. At least the following information should be included as applicable to the specific project:

a) Preliminary Project Design.

i) Drinking Water:

Water Supply. Include requirements for quality and quantity. Describe recommended source, including site and allocation allowed.

Treatment. Describe process in detail (including whether adding, replacing, or rehabilitating a process) and identify location of plant and site of any process discharges. Identify capacity of treatment plant (i.e. Maximum Daily Demand).

Storage. Identify size, type and location.

Pumping Stations. Identify size, type, location and any special power requirements. For rehabilitation projects, include description of components upgraded.

Distribution Layout. Identify general location of new pipe, replacement, or rehabilitation: lengths, sizes and key components.

ii) Wastewater/Reuse:

Collection System/Reclaimed Water System Layout. Identify general location of new pipe, replacement or rehabilitation: lengths, sizes, and key components.

Pumping Stations. Identify size, type, site location, and any special power requirements. For rehabilitation projects, include description of components upgraded.

Storage. Identify size, type, location and frequency of operation.

Treatment. Describe process in detail (including whether adding, replacing, or rehabilitating a process) and identify location of any treatment units and site of any discharges (end use for reclaimed water). Identify capacity of treatment plant (i.e. Average Daily Flow).

iii) Solid Waste:

Collection. Describe process in detail and identify quantities of material (in both volume and weight), length of transport, location and type of transfer facilities, and any special handling requirements.

Storage. If any, describe capacity, type, and site location.

Processing. If any, describe capacity, type, and site location.

Disposal. Describe process in detail and identify permit requirements, quantities of material, recycling processes, location of plant, and site of any process discharges.

iv) Stormwater:

Collection System Layout. Identify general location of new pipe, replacement or rehabilitation: lengths, sizes, and key components.

Pumping Stations. Identify size, type, location, and any special power requirements.

construction subtotal to establish the total project cost. An appropriate construction contingency should be added as part of the non-construction subtotal. For projects containing both water and waste disposal systems, provide a separate cost estimate for each system as well as a grand total. If applicable, the cost estimate should be itemized to reflect cost sharing including apportionment between funding sources. The engineer may rely on the owner for estimates of cost for items other than construction, equipment, and engineering.

f) Annual Operating Budget. Provide itemized annual operating budget information. The owner has primary responsibility for the annual operating budget, however, there are other parties that may provide technical assistance. This information will be used to evaluate the financial capacity of the system. The engineer will incorporate information from the owner's accountant and other known technical service providers.

i) Income. Provide information about all sources of income for the system including a proposed rate schedule. Project income realistically for existing and proposed new users separately, based on existing user billings, water treatment contracts, and other sources of income. In the absence of historic data or other reliable information, for budget purposes, base water use on 100 gallons per capita per day. Water use per residential connection may then be calculated based on the most recent U.S. Census, American Community Survey, or other data for the state or county of the average household size. When large agricultural or commercial users are projected, the Report should identify those users and include facts to substantiate such projections and evaluate the impact of such users on the economic viability of the project.

ii) Annual O&M Costs. Provide an itemized list by expense category and project costs realistically. Provide projected costs for operating the system as improved. In the absence of other reliable data, base on actual costs of other existing facilities of similar size and complexity. Include facts in the Report to substantiate O&M cost estimates. Include personnel costs, administrative costs, water purchase or treatment costs, accounting and auditing fees, legal fees, interest, utilities, energy costs, insurance, annual repairs and maintenance, monitoring and testing, supplies, chemicals, residuals disposal, office supplies, printing, professional services, and miscellaneous as applicable. Any income from renewable energy generation which is sold back to the electric utility should also be included, if applicable. If applicable, note the operator grade needed.

iii) Debt Repayments. Describe existing and proposed financing with the estimated amount of annual debt repayments from all sources. All estimates of funding should be based on loans, not grants.

iv) Reserves. Describe the existing and proposed loan obligation reserve requirements for the following:

Debt Service Reserve – For specific debt service reserve requirements consult with individual funding sources. If General Obligation bonds are proposed to be used as loan security, this section may be omitted, but this should be clearly stated if it is the case.

Short-Lived Asset Reserve – A table of short lived assets should be included for the system (See Appendix A for examples). The table should include the asset, the expected year of replacement, and the anticipated cost of each. Prepare a recommended annual reserve deposit to fund replacement of short-lived assets, such as pumps, paint, and small equipment. Short-lived assets include those items not covered under O&M, however, this does not include facilities such as a water tank or treatment facility replacement that are usually funded with long-term capital financing.

7. CONCLUSIONS AND RECOMMENDATIONS

Provide any additional findings and recommendations that should be considered in development of the project. This may include recommendations for special studies, highlighting of the need for special coordination, a recommended plan of action to expedite project development, and any other necessary considerations.