



Franklin Regional Council of Governments

Franklin Regional Planning Board— *MINUTES*

Date & Time:	Thursday, November 1, 2018 / 6:00 – 8:00 p.m.
Location:	JW Olver Transit Center, 12 Olive Street, Greenfield, MA – First Floor Conference Room
Facilitator:	Jerry Lund, Chair

FRPB MEMBERS

- Jerry Lund**, Chair, Leyden, At-Large, FRPB Executive Committee
- Gisela Walker**, Clerk, Charlemont Planning Board, FRCOG Executive Committee
- James Basford**, Orange At-Large, FRPB Executive Committee, FRPB representative to the FRCOG, FRCOG Executive Committee
- Julia Blyth**, Northfield Select Board, FRPB Executive Committee
- Ted Cady**, Warwick Planning Board, FRPB Executive Committee
- Wayne Hachey**, New Salem Select Board
- Thomas Hutcheson**, 1st Vice Chair, Greenfield At-Large, FRPB Executive Committee
- Jeff Lacy**, Shutesbury Planning Board
- Jonathan Lagrèze**, Colrain Select Board
- Nathan L’Etoile**, Northfield At-Large
- Micki Paddock**, Shutesbury At-Large
- Dana Roscoe**, Sunderland Planning Board
- Ken Miller**, Ashfield Planning Board
- Thomas Miner**, 2nd Vice Chair, Shelburne At-Large, FRPB Executive Committee
- Charles Olchowski**, Greenfield At-Large, FRPB Executive Committee
- Joseph Strzegowski**, Conway Planning Board
- Mike Shaffer**, Erving Planning Board
- Christopher Parker**, Wendell Planning Board

FRCOG STAFF

- Peggy Sloan**, Planning & Development Director; **Liz Jacobson-Carroll**, Administrative Services Assistant; **Kimberly McPhee**,

PRESENTERS/GUESTS

- P. Clouston**, Associate Professor, UMASS Wood Mechanics & Timber Engineering
- Jane Shaney**, Ashfield Planning Board

1. Introductions	J. Lund, Chair – FRPB & FRPB Members
J. Lund convened the meeting at 6:05 p.m. A round of introductions followed.	
2. Review and Approval of September 27, 2018 FRPB Minutes	J. Lund, Chair – FRPB & FRPB Members

J. Stregowski moved to adopt the 9/27/18 minutes, T. Hutcheson seconded the motion, and the motion passed unanimously.

3. Presentation on Cross Laminated Timber Building Construction - Environmental Considerations and Research on Use of MA Species	P. Clouston, Associate Professor, UMASS Wood Mechanics & Timber Engineering
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P. Clouston provided attendees with an overview of the cross-laminated timber (CLT) building industry: its history, technology, ecology, and potential to affect positive change -- on the regional economy and on the global climate. Europeans have been using CLT to build large structures for 15-20 years, Canadians have been doing so for a decade, Americans on the west coast have been catching up in recent years. In each of these locations, a cultural shift was required; the work P. Clouston is doing through her lab at UMass – in the state-of-the-art Olver Design Building -- is helping to make that shift here in the northeast.

Formerly a structural engineer in Vancouver, P. Clouston joined the UMass faculty in 2001. The Building and Construction Technology program is large and growing, and housed in an exemplary teaching and research facility showing next generation how to build properly with wood. The Olver Design Building, which also houses the architecture, landscape architecture, and regional planning programs, showcases the new timber structure technology, features exposed wood, and has already won 12 awards for its innovative design. Due to local unfamiliarity with the material, however, the plans to build with CLT were almost scrapped in favor of building with steel. Thankfully, P. Clouston met John Olver at a conference, convinced him that the technology could revitalize the local forest industry and economy, and he took up the cause. (Google “bct olver design building” for a list of over 50 publications on the building, she suggested)

Now we are seeing structures, including high-rises, built out of wood that 10 years ago would have been inconceivable, she said. Bold and beautiful, high tech, structurally demanding applications are possible through high technology that has trades talking to each other efficiently. While there is currently an efficiency “sweet spot” of moderately sized institutional buildings using engineered wood products, there is talk of pushing the current height limit to 72 stories. Her presentation featured numerous extraordinary buildings around the world including:

- an airport in British Columbia
- a Vancouver ice arena that spans 330 feet, built in 2010 with beams made from wood that was salvaged from a forest of trees killed by pine beetles
- a German wind-turbine tower, built in 2012 with glue-laminated columns and a steel connector
- a London housing project made with pre-fabricated wood structures assembled quickly on site
- the tallest timber building in the world: an 18-story student housing unit at the University of British Columbia

P. Clouston emphasized that our own local species are not yet being utilized, but are well-suited for use in flooring and walls. Toward this end, she is working with Northeastern University to develop CLT flooring, with some steel, that can replace concrete in institutional buildings. Also, shafts that are currently made out of concrete could be made of engineered wood products, pre-fabricated and pre-

cut, and assembled quickly for significant cost savings. Her colleagues have designed a dozen different attractive steel connectors to be used in exposed timber settings. Studies on the west coast are now showing the physiological benefits to occupants of buildings with exposed wood surfaces, and biophilia is being discussed in architectural schools.

Citing EPA statistics on the use of energy, electricity and water, as well as CO2 emissions, P. Clouster pointed out that conventional building construction and maintenance is a significant contributor to climate change. While some carbon is released during the processing and transport of wood, it is much less than with steel and concrete. Because carbon remains sequestered in wood when it is processed, unlike when it is burned or left to biodegrade, wood products are carbon sequestration products. Researchers are now pointing to the use of green building materials and methods such as engineered wood products to significantly mitigate, and perhaps reverse climate change, she said.

With additional research and development, an ample supply of local wood currently considered low-value could be put to use as CLT, P. Clouster said. Eastern hemlock, for example, when cut into 2x4s and glued back together, is a very strong product. Her lab is using eastern hemlock harvested from a forest (along Route 9 in Ashfield, Goshen and Williamsburg) following an infestation by the woolly adelgid. She is interested in further researching eastern white pine, poplar and hardwoods, but does not currently have enough funding to do so.

Discussion included the fire resistance of engineered wood products versus wood and steel. The protective nature of the charcoal coating that forms on large trees in a forest fire, enables them to survive when smaller trees burn thoroughly, P. Clouster explained. (For steel to have this level of fire-resistance, a toxic spray must be applied.) When a fire starts in a building, this charcoal coating protects the core of the engineered wooden beams, maintaining low temperatures and thus the beams' structural integrity. The glues used in engineered wood products are not flammable or toxic, and have been used for over 100 years.

In response to a question regarding how to address the shortfall in knowledge pertaining to the use of these products in place of steel, P. Clouster noted that the American Society of Engineers is trying to make a timber engineering a requirement for a degree. She is teaching 30 students this semester, continues to offer seminars to professionals, and is advocating for additional demonstration structures. Further, P. Clouster believes that continued outreach regarding the long-term savings and life-cost of these buildings will be effective.

In response to questions about building codes, she noted that Massachusetts allows for timber structures of 6 stories, and that codes regarding wind load may need updating. She emphasized the importance of matching the use of materials with their inherent qualities as well as local conditions, and referred attendees to #MassTimber. She is optimistic about the use of small-diameter local trees, and about the wood composite industry. In closing, she offered to provide tours of the Olver Design Building to FRPB members upon request.

J. Lund's expression of thanks was followed by a round of applause.

4. Presentation and Discussion on the Climate Change Plan for the Deerfield River Watershed

K. MacPhee, Land Use & Natural Resource Program

K. MacPhee summarized the work she's been doing for almost 15 years, then asked for feedback on a draft of a culminating project: a resiliency plan for the Deerfield Watershed. Her goal is for the final plan to be short, accessible to residents as well as board members, and achievable by town officials and highway department staff.

Challenges now include higher temperatures, increased precipitation, more numerous and intense storms, and more frequent droughts. These, in turn, amplify existing risks to infrastructure, vulnerable populations, economies, public health, and natural resources. To be resilient in this environment, she said, a watershed community needs to be able to maintain functions during an event, then emerge stronger and better prepared for future events. In the Deerfield watershed, these events are primarily floods. Strategies to improve resiliency include protecting and restoring river corridors and large tracts of land, practicing low-impact development, managing storm-water through improved infrastructure, and public education. Practices to avoid include further development, especially of critical infrastructure, near our rivers as well as repeated repairs, without appropriate modifications, to regularly damaged infrastructure.

She asked attendees to consider – while she explained her plan in more detail -- what roadblocks their towns might encounter in implementing resiliency strategies, and to explain those to her so that she can improve the plan. She then reviewed several specific past and imagined future flooding scenarios (see attached images from her presentation), and then spoke of various scales of response, noting that resilient towns are the building blocks of a resilient watershed. While towns can and should continue their own work, there is need for watershed-scale thinking that goes beyond municipal boundaries, she emphasized. She asked members to consider their watershed neighbors, and to think about how to work outside town boundaries. What can towns do collectively along a river corridor or a shared big block of farmland or forest land?

To explore this question, K. MacPhee's plan proposes the formation of sub-watershed alliances of towns and organizations located along connected tributaries:

- Deerfield River - Sherman Dam to Cold River
- Deerfield River - Cold Rive to North River
- North River main-stem
- East Branch North River
- Green River-Thorne Brook to mouth
- Cold River
- Chickley River
- Clesson Brook
- Deerfield main-stem - North River to mouth
- South River

Members of these groups would work to develop mutually beneficial strategies for climate resilience: offering incentives for specific land-management methods to landowners in upland towns that would protect land and infrastructure in downstream communities, is one example. Incorporating storm-water management in cross-town road projects is another. Collectively purchasing critical pieces of land when they come up for sale may also be possible. Work at the sub-watershed level might be the

most cost-effective way to increase resiliency, she noted, adding that none of our towns have enough money or time to replace all of our inadequate culverts, so we need to figure out how to relieve the pressure on them in other ways. Further, she emphasized that effective strategies will be multipronged, and many will include consideration of culverts, floodplains, streambeds, and drainage.

K. MacPhee will look for funding for FRCOG to establish an advisory committee to work with these sub-watershed communities. The latter can then review her long list of recommendations and potential strategies, then direct their efforts toward seeking funds for those most appropriate for their sub-watershed. Discussion included the possible involvement of townspeople, MassDOT, the Army Corps of Engineers, as well as the need for staff and political support from the state to moderate the tendency toward municipal insularity.

The FRCOG could have a leadership role working hand-in-hand with the state and community leaders, K. MacPhee said. She is in favor of greater local involvement with MassDOT to implement resilient infrastructure, particularly for repairs following emergencies and during large bridge re-construction projects. FRCOG and other agencies have great information, and she rues missed opportunities for bringing it to bear, but believes that coordinated efforts will enable us to get the right information to the right people at the right time. There is lots of transportation work being done that we can leverage to make our towns more resilient, she said.

Discussion included a pilot project of dredging in Colrain, the involvement of DCR and Fish and Wildlife, Chapter 319 funding, possible sources for the oft-needed matching funds required by grantors, and dams, dams, dams: the consequences of beaver dam failures, options for controlled dam releases, and the possible use of small dams to utilize floodplains during major storms. T. Hutcheson suggested that towns' differing priorities would present challenges, but that strategic pairings – one town will fix culverts if the other provides flood plain access, for example – might overcome that. After T. Miner called for the involvement of highway superintendents, J. Lund suggested that a circuit-rider program providing hydrologic and engineering consulting might facilitate an increase in resiliency-oriented road and culvert repair. J. Shaney emphasized the need for a pro-active approach all around, and for an emphasis on collaborating with highway departments and conservation commissions.

[?] noted that unless this sort of municipal inter-departmental and committee collaboration is mandated by from the state, it will flounder due to staff and committee turnover. K. MacPhee suggested that the state may be interested, given its current funding of FRCOG's work on the Municipal Vulnerability Program. P. Sloan suggested that broad education efforts will be needed to convince residents of the need for inter-municipal spending, and advocated seeking buy-in at town meetings. T. Cady suggested that the more threatened downstream towns are likely to be most interested, but thought that upstream towns might adopt a beneficent attitude, especially if grant aid were available.

P. Sloan may request a letter of support from the FRPB Executive Committee, at its next meeting, to apply for funding to implement K. MacPhee's plan. If signed, they would then seek grants for FRCOG to provide assistance to towns and the steering committee for the formation and initial work of sub-watershed groups. She likened the idea of towns collaborating on the sub-watershed to town fire departments providing mutual aid.

J. Lund's expression of thanks was followed by a round of applause.

5. Updates on FERC Relicensing of the Northfield Mountain Pumped Storage Facility & Recreational Marijuana Bylaws	P. Sloan, Planning Director - FRCOG
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There was no update on the relicensing of the Northfield Mountain facility.

P. Sloan indicated that several towns, including Buckland and Charlemont, have passed recreational marijuana zoning bylaws, and that Colrain and others are working toward that end. She then offered to send to members copies of a new report (see attached) regarding the local impacts of commercial cannabis in states where recreational use has been legal for some time, noting that it may help Franklin County understand the challenges it will face once local cultivation facilities are established.

Discussion involved various methods of regulation: Springfield and Montague have developed host agreements. Shutesbury is integrating recreational marijuana cultivation into its land use table, and is letting state regulations do the rest. Sunderland revised its use table, and is further relying on their special permit process. Erving has revised its use table and its bylaws; Conway is pursuing both of these as well. Further discussion touched on challenges regarding fencing, lighting, security and odor presented by outdoor cultivation. While towns may require indoor cultivation to avoid these, the Cannabis Control Commission is very clear that it allows outdoor cultivation (and that it will accept proposals for alternate security systems), P. Sloan said. It was noted that the New England outdoor growing season is short, but its lower cost of entry into the market is significant for those with little capital. Whately is allowing very small-scale outdoor cultivation.

P. Sloan reported that retailers have seen much more traffic than they had anticipated, and predicted that retail locations will open in Greenfield and Sunderland, as well as in both east and west county.

6. Other Topics not reasonably anticipated 48 hours in advance of the meeting/ Adjourn/Public Comment	J. Lund, Chair - FRPB
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Tom Miner moved to adjourn the meeting, Wayne Hachey seconded the motion, and the meeting was adjourned at 8:05 PM.

Documents Distributed / Presentations Viewed:

- Agenda
- FRPB Minutes, September 27, 2018 – DRAFT
- A New Era for Wood Building Construction by Dr. Peggi Clouston, PhD, PEng

The next meeting will be held on January 24, 2019. Copies of all documents are available. Please contact Liz Jacobson-Carroll at ljc@frcog.org or 413-774-3167 x101.

Respectfully submitted,

Gisela Walker, Clerk - FRPB