THE MILAN VILLAGE SCHOOL
DESIGN CHARRETTE
MILAN, NH

PLAN NH

JUNE 15-16, 2001
Acknowledgements:

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Thank you to all the town members who shared their knowledge and thoughts.

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Haven & Isabel Neal
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A special thanks goes to Mark Gagne and the Milan Deli for supplying the team with such wonderful food, to Rita Dube and Du Bee Our Guest B&B for hosting the Charrette team, and to Julie Renaud Evans for coordinating the charrette.

...and to any others who attended and helped with the charrette, but whose names we may have missed,

Thank you!
Milan, New Hampshire
Design Charrette

June 15 & 16, 2001

Sponsored by:

The Town of Milan School Board and
2001 School Building Committee with assistance
from the Milan Planning Board
Milan Charrette

June 15 & 16, 2001

Who is Plan NH?

Plan NH is a professional association for those working in the built environment. The organization includes architects, planners, engineers, bankers, contractors, historic preservationists, and others who concern themselves with buildings and communities. It was established to create a forum for bringing together these different professional groups, and as a catalyst to spur interest in community development. Part of Plan NH’s mission is to make a positive contribution to New Hampshire communities. One way in which Plan NH does this is through the offer of free design assistance to communities with demonstrated needs.

So what is a Design Charrette, anyway?

Simply stated, a design charrette is a brainstorming session where lots of ideas are brought forth by both professional designers and local citizens, in an attempt to resolve a problem of local interest. Because of the compressed time frame, the conclusions reached are usually conceptual. Conclusions present the relationship of different plan elements, as opposed to the details of how a particular building would actually be constructed.

At their best, charrettes blend the broad experience of design professionals with local citizens’ detailed knowledge of their community, resulting in a plan of action addressing particular issues of concern within the community. The charrette provides an overall framework within which final solutions can be developed. It sets a tone and gives direction against which future decisions can be measured.

How did Milan end up with a Charrette?

Each winter, Plan NH invites all New Hampshire communities to submit proposals detailing a problem of local interest. Plan NH selects three communities from the submissions to receive a weekend of donated design services. Winning proposals typically address a project that is important to the host community, present an interesting design challenge, and offer a high probability of actually being implemented. A community that is organized and has done some early work on a project scores well. A community whose project seems less likely to be implemented does not fair as well. This past year, Plan NH received two dozen proposals for design assistance. Milan was one of the three communities selected.

Milan’s Proposal

Milan’s proposal presented a challenge facing many New Hampshire communities – how to properly accommodate the programmatic requirements of the existing elementary school population within the already cramped Village School, as well as address future needs.

Over the last decade, the school population has increased by 48% and the current facility simply is no longer adequate to meet the needs of the population. The existing school has been renovated and expanded three times since the original 1942 schoolhouse was constructed. In March 2001, the School Board and a Building Needs Committee recommended construction of a new facility to replace the existing school. At the 2001 Town Meeting, the voters of Milan rejected the proposal for a new school. The new 35,000 square foot facility would have been a $4.1 million investment serving grades K-8. The 14 acre site was located less than .5 mile south of the existing school and center of Milan.

In an anonymous query during the Charrette, residents voted on the reasons for rejecting the new school. In order of priority, the results were:

1. Too Many Unknowns
2. Prefer Existing Site
3. Financial Package
4. Overall Cost
5. Worried about State financing situation
6. Location
7. Too Big & Fancy
8. Design

In an attempt to provide some new direction and re-evaluate the options, the School Board and Building Needs Committee asked the Plan NH team to evaluate the existing site in the Village.
>> The Basic Charge

The Town Meeting vote in March 2001 indicated that there were still too many unknowns for the voters to support a new school. In consideration of that, the Design Team understood that the basic charge was:

- To determine the extent to which the existing building and site could accommodate the current and future needs;
- To make recommendations for reuse of the school if expansion was found to be financially impractical;
- To present options that were financially prudent and would provide a good educational experience for the students;
- To provide concept drawings and order of magnitude cost estimates.

The Process

Community members and about a dozen design professionals met at the Milan Village School on a very hot Friday in June to discuss the current facility, the "wish list" for future space and to formulate options. Design professionals on the team included architects, planners, a structural engineer, and a cost estimator. The critical piece that the design professionals lacked, which only local residents could offer, was the knowledge of Milan.

Local residents are the experts on the community – what makes sense, what history has brought forth, what will pass at Town Meeting – and the design team relies on resident input and knowledge to develop viable suggestions and proposals.

With that in mind, the team and residents began formulating the future of the Milan Village School.

The Team began the charrette with a tour of the School and grounds, led by Principal Ron Losier, to gain a better sense of the current physical constraints. After meeting several staff members who elaborated further on current conditions and desired changes to the space, the team gained a clearer understanding of existing conditions.

Currently, the 18,800 square foot Village School accommodates 187 students and approximately 24 staff. Milan experienced a 48% growth rate in school population in the last decade due primarily to in-migration of families not an increasing birth rate. The projected K-6 enrollment over the next 4 years is estimated at 171 students in 2001-02, 176 students in 2002-03, 174 students in 2003-04, and 171 students in 2004-05. Although this data shows a decrease from the present K-6 enrollment level, the real challenge is meeting the programmatic needs of the existing population, addressing the inadequacies of the current facility, and planning for the future.
**Evaluation of Existing vs. Desired Conditions**

The Team's first step was to compare what the School Board and School Building Committee identified as desired space needs in the new school proposal, with the existing conditions at the Village School. From this, the team could determine overlap and gaps.

From this evaluation, the team determined that approximately 14,000 square feet of classroom and gym space is still highly functional and could continue to be used as such. Approximately 4,400 square feet of existing space was determined to be inadequate both with regards to its functionality, as well as code violations. This space, primarily comprised of the nurse's, faculty and administrative areas, as well as the kitchen, library, and front entry corridor space, could be reused but would need to be renovated. As detailed in the chart below, an additional 19,700 square feet of space is required to meet the needs identified in the Educational Specifications of the new school proposal.

<table>
<thead>
<tr>
<th>School Spaces</th>
<th>Existing Usable Space</th>
<th>Existing Poor Space</th>
<th>Desired Additional Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms</td>
<td>10,000 square feet</td>
<td>1,000 square feet</td>
<td>2,000 square feet</td>
</tr>
<tr>
<td>Kindergarten</td>
<td></td>
<td></td>
<td>1,200 square feet</td>
</tr>
<tr>
<td>Support Services</td>
<td></td>
<td></td>
<td>1,500 square feet</td>
</tr>
<tr>
<td>Workroom</td>
<td></td>
<td></td>
<td>250 square feet</td>
</tr>
<tr>
<td>Music/Art</td>
<td>400 square feet</td>
<td></td>
<td>1,000 square feet</td>
</tr>
<tr>
<td>Phys Ed</td>
<td>4000 square feet</td>
<td></td>
<td>1,000 square feet (showers?)</td>
</tr>
<tr>
<td>Lockers/Storage</td>
<td></td>
<td></td>
<td>700 square feet</td>
</tr>
<tr>
<td>Title I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td>1000 square feet</td>
<td></td>
<td>2,000 square feet</td>
</tr>
<tr>
<td>Computer Lab</td>
<td></td>
<td></td>
<td>1,200 square feet</td>
</tr>
<tr>
<td>Special Ed</td>
<td></td>
<td></td>
<td>1,600 square feet</td>
</tr>
<tr>
<td>Cafeteria</td>
<td>400 square feet</td>
<td></td>
<td>3,000 square feet</td>
</tr>
<tr>
<td>Kitchen</td>
<td>450 square feet</td>
<td>1,000 square feet</td>
<td>2,000 square feet</td>
</tr>
<tr>
<td>Admin.</td>
<td>300 square feet</td>
<td></td>
<td>700 square feet</td>
</tr>
<tr>
<td>Storage/Maint.</td>
<td>450 square feet</td>
<td></td>
<td>400 square feet</td>
</tr>
</tbody>
</table>

Existing Good Space: 14,000 square feet

Existing Space to be renovated: 4,400 square feet

Needed New Space: 19,700 square feet

**Public Sessions**

During the public sessions, residents identified specific issues and needs with respect to both the site and the School building itself:

These included:

- **Building Issues/Concerns** –
  - Within the 1942 wing of the school –
    - corridors do not meet code;
    - admin/nurse/faculty space is too small and needs ventilation;
    - sprinkler system is needed;
  - The library is too small and difficult to access (it's in the basement);
  - Overall, storage is inadequate;
  - Separate music and art rooms are needed;
  - Community meeting rooms, training rooms, and library are needed;
  - Grades K-4 and 5-6 should be segregated;
  - Fire code violations need to be corrected;
  - Within the Cafeteria/Gym there are storage problems, as well as a conflict between using the space as both a cafeteria and a gym - coordinating use of the space during the school day is difficult and lunch is served in 1/3 of space, 3 times/day;
  - Kitchen is inadequate – poor circulation and slow service (most children get hot lunch);
  - Resource rooms are needed – special education, occupational therapy, physical therapy, and others;
  - Gym needs to be wider for greater spectator capacity;
  - Locker rooms with showers are desired;
  - Consider combining school and town libraries;
  - Would be nice to host senior meals at the school;
  - Reconfiguration of the nurse's office (ventilation, space for 2 cots, handicapped shower, work station, and quiet room) is critical.

- **Site** –
  - Parking is a problem on a daily basis for teachers;
  - The septic system may be inadequate for any expansion;
  - The well is located across the street near fuel tanks and there seems to be a pressure problem;
  - Truck deliveries to the kitchen conflict with kids on the playground;
  - The roof leaks in the corner where the 3 roof lines meet;
  - Noise from snow machines and truck traffic at the intersection of Bridge St. and Rte. 16 inhibits teaching on that corner of the building;
  - Pedestrian access is poor, 10-15% of students walk to school;
  - More external lighting is needed;
  - Bus and parent drop-off conflict - Poor circulation for buses and cars (parent's cars vs. buses) (difficult left turn for buses);
Lack of parking for special events;
Exterior access, via either steep stairs or extensive ramp, is a problem (school is higher than the surrounding grade);
Cement ramps are in poor condition and are starting to fail.

Additional Direction:

- Options should provide for phasing of additions as the town grows;
- Options should address both separating the cafeteria and gym, as well as keeping them combined;
- Options should show where future additions might be located;
- In planning the size of the cafeteria, it is critical to consider the supervision level required for the size of the lunch population;
- The kitchen should be designed for a growing population so it doesn’t have to be expanded again;
- Ventilation is of critical importance in the nurse’s office;
- Make recommendations with cost estimates for expanding the septic system;
  - The technology is now available to install septic systems on which you can drive and that are more compact.
- What is the standard for playground space – How many acres/student?;
  - Though there are standards for this, if a community makes a good faith effort to accommodate the needs of the students, the requirements can be waived – particularly if the trade-off is keeping a village school within the Village.
- What is the possibility of utilizing below grade space under the gym?;
  - Due the structural constraints of the facility there is absolutely no way to make use of below grade space and put classrooms underneath the gym. The fill underneath the gym is designed to support one slab on grade floor. Excavation and structural changes are cost prohibitive.
- There is a need for a community library with its own entrance so it is somewhat separate from the school;
- Computer labs should be physically linked to the library space.

With this information, the team began developing options that would:

- Meet the programmatic requirements of the existing, overcrowded population;
- Provide for an immediate expansion of 10 classrooms; and
- Plan for an additional 6 classrooms in the future.
Conclusions

Based on the initial charge:

- To determine the extent to which the existing building and site could accommodate the current and future needs;
- To make recommendations for reuse of the school if expansion was found to be financially impractical; and
- To present options that were financially prudent and would provide a good educational experience for the students,

the team concluded that:

- The site can work both in the immediate future and longer term.
- The building can work. Approximately 14,000 square feet of the existing building is ok in its current configuration. 4,400 square feet needs to be renovated and additions can ease the restrictions within the current core facility.
- The current septic system works and there is room to expand without intruding on the covenants. There may also be an opportunity to negotiate utilizing the land currently protected by the covenants.
- The well is a problem, but it can be addressed and it is sufficient for the near term. To address the pressure problem in the near term, the recommendation is to add a storage tank in the basement (where the current library is) for recharge during the night. This will allow time to plan for a new well on the school’s own land. With respect to the problem of the existing well being located near the gas tanks, the well will have to be replaced as a component of any school expansion. The siting requirements vary depending on the size of the school and the amount of anticipated flows. In general, there should be a clear zone around the new well site controlled by the school. The radius of the clear zone would likely be 150’. The clear zone can include buildings and it can be on property owned by others if there is an easement that controls the land, but it cannot include septic fields, underground storage tanks, or anything else that is a potential source of pollution. The clear zone may also include open bodies of water and rights of way, but these cannot be within 50’ of the well.
- Bus and parental drop-off need to be separated. The recommendation is to negotiate with the Post Office landowners to utilize their driveway for bus circulation. Preliminary conversations indicate that this is a feasible option.

Options

Each of the four options were developed by using the current core facility, expanding in some areas and renovating others to meet current demands, and planning for expansion to meet future demands. Each accommodates the minimum setback of 20’ as defined in the Milan zoning ordinance and all use the Post Office lot to improve traffic circulation.

Each option was evaluated with the following general assumptions of construction cost. These are detailed further in the Appendix:

- New space - $85/square feet;
- Renovated space - $60/square feet (approximately 4,400 square feet for all options);
- Upgraded space - $25/square feet (allowance for existing building – approximately 14,000 square feet as discussed above).
Option 1 $2.9 M est.

Option 1 creates a distinct academic area, administrative area, and semi-public or community area. The design concept is intended to convey, "This is Milan" as one passes by and to create a focal point for the community. The design builds on the visual context of the community and seeks to generate a stronger interaction with the other buildings.

- New space: 23,000 square feet
- Total Classrooms: 10 with separate training room and room for expansion

Primary design features of Option 1:

- Site:
  - Revamp the main entrance:
    - Create a covered ramp running along the Bridge St/gym side of the building with an alcove for bus drop-off;
    - Create parent/auto drop-off at main entrance – separate from bus drop-off with a physical divider between the two;
    - Use the Post Office driveway for school bus access;
    - Move the tennis courts across the street and replace with parking;
    - Move the playground and septic away from the parking;
  - Building:
    - At the new main entrance, create a lobby area and move administrative space to this area;
    - Add a two-story wing off the existing gym;
    - Move the kitchen to the 2nd floor of the gym addition with deliveries on the 1st floor;
    - Create new cafeteria space which can be utilized as music rooms during down times - use moveable walls to easily transform the space for public use - this space could provide 3 separate meeting/training rooms or expandable community space;
    - Move Nurse’s office to brighter, ventilated area of the building;
    - Expand the gym on the Northeast side by about 16 – 20 ft for additional bleacher space;
    - Create an approximately 100’ x 100’ two-story academic wing on the East corner of the existing building with 5 classrooms on the 1st floor and 5 on the 2nd – the 1st floor would be brought down to street level and the 2nd floor would be at the current 1st floor level. Floors would be accessible via an internal ramp, as well as an elevator if needed – a central common area within the academic wing would be topped by cupola-like structure allowing plenty of natural light.
    - Create various size classrooms in the new academic wing to allow flexibility in serving classes of different sizes.

General Comments

Separation of wings allows the academic portion of the building to be locked while the remaining portions of the building are accessible to the public.

Ceiling heights in the academic wing would be within standard range @ 9’ – this keeps the profile and scale of the addition appropriate for the scale of the community.

There would be room for 4 buses nose to tail at the new bus drop-off with a turning radius of 60’ (45’ is the minimum).

The new main entrance eliminates the existing ramp and allows for more green space – the expanded lobby and administrative space is gained on the inside by moving the bathroom and janitor closet.

This design option does not impact the junction of the three roofs.
Option 2 also separates the building by use, similar to Option 1, and matches uses to existing spaces when appropriate. A new wing off the back of the existing building would serve grades K-2; the existing academic wing would serve grades 3-6. Site disruption is minimized, potentially enabling school operations to continue during construction. The visual perspective of the existing building becomes more human as the addition brings the scale of the building down to grade level.

- New space: 22,000 square feet
- Total Classrooms: 12-14 with 2 unassigned rooms

Primary design features of Option 2:

**Site**
- Create a service/delivery access off of Rte. 16 on the East side of the building to completely separate delivery traffic from student drop-off and playground activities;
- Physically separate bus and parental/auto drop-off with an island and use Post Office driveway for bus travel as in Option 1;

**Building**
- Create a new main entrance at the end of the gym and relocate administrative offices there to function as a control point serving the academic wing and semi-public areas;
- The entrance now is a two-story lobby with an elevator and stair option;
- Build a two-story addition off of the gym with the library at grade and accessible separately from the school;
- Locate K-2 in new addition because it is easier to build new spaces to meet the code requirements for the lower grades than to renovate existing spaces and it puts those students closer to the playground;
- Place grades 3-6 in the older building;
- Change the classrooms near the gym to art and music rooms;
- Expand the Northeast side of the gym to create a new cafeteria and new kitchen that would also provide for a performing area with greater seating capacity in the gym.

**General Comments:**

This design creates 12-14 classrooms with 2 unassigned spaces and a computer room near the library.

Most of the school is now on one level with the opportunity to create a shared community/school library with an entry separate from the academic areas.
Option 3 presents a dynamic visual presence by combining traditional schoolhouse forms with more modern elements.

>> New space: 10,000 square feet

Primary design features of Option 3:

Site –
- Separate bus and parental drop-off as detailed in Options 1 and 2;
- Add bus drop off “station”;
- Create both hard top and grass playgrounds;
- Construct a bell tower in the courtyard to enhance the “village” concept;
- Separate the kindergarten play area from the older grades;

Building –
- Replace the existing ramp at the entrance with a grand stair and run a new ramp around and between the buildings;
- Create a more flowing lobby space that terminates in a new courtyard;
- Break up the large massing of the structure and add new structures to create a series of “school houses”;  
- Transform the gym into more of an auditorium with glass at the roof level;
- Open the Northeast side of the gym to create a new cafeteria area.
Option 4 integrates the shared public/school space concept with the need for new academic space and creates a visually stronger main entrance through the use of porch elements.

- New space: 18,000 square feet
- Total Classrooms: 8 with room for expansion

Primary design elements entailed:

Site:
- Separate bus and parental drop-off as detailed in Options 1 & 2

Building:
- Expand off the North corner of the building with room for future academic space;
- Locate the library on the West corner of the building with its own entrance to define it as community space, as well as school space;
- Expand the Northeast side of the gym to allow for more seating, locker rooms, and Nurse's office;
- Run a ramp along Southwest side of gym;
- Relocate administrative areas to the main entrance;
- Keep all classrooms along the outside of the building with special education rooms on the corner near the Library.
Next Steps

In summary, the team concluded the following:

- **The site can work.**
- **The building can work.**
- **The current septic system works and there is room to expand.**
- **The well is a problem, but it can be addressed and it is sufficient for the near term.**
- **Bus and parental drop-off need to be separated.**

The question is answered. Milan can re-use this building now and into the future. The designs take different approaches and likely no single one fits entirely with the Community needs or Community budget. The charge to the Community is now to determine, from the range of options presented, a mix of design and construction that meets the needs of the students, the teachers, the taxpayers, and the Community at large. The Town and the Building Committee need to work through these recommendations, ideally with some professional assistance, to establish which makes the most sense for Milan.

There are other issues to be resolved. Some are regulatory. How and when must the well be replaced? Similarly, when must the septic system be replaced. Can they all fit on the existing site? The answer appears to be yes but this needs to be finalized.

This is just the beginning. Conversations may now begin at the community level to decide what Milan can afford and what can be accomplished in phases. The scale of some of the proposals may not meet all of the Community needs but Milan can be assured that the Village School is a workable building on a good site with plenty of room for future growth. It is simply a matter of how much you do and when you do it.
APPENDIX

>> Additional Costs

All options were evaluated based on the following general cost assumptions:

- New space - $85/square feet;
- Renovated space - $60/square feet (approximately 4,400 square feet for all options);
- Upgraded space - $25/square feet (allowance for existing building – approximately 14,000 square feet as discussed above).

In addition, each of the options will also involve sitework and soft costs. These are estimated as follows:

Architect & Engineering Services, Soft Costs, Clerk etc. $240,000

Sitework:

- Well(s) 12,000
- Septic 15,000
- Parking & Paving 41,000
- Drainage 6000
- Signage 1000
- Landscaping 10,000
- New & Relocated Fencing 10,000

Subtotal 95,000

Total $335,000

Total costs for each option are estimated as follows:

Option 3 involves:
- renovation of 4,400 square feet @ $60/square foot $264,000
- upgrade of 14,400 square feet @ $25/square foot; and $350,000
- addition of 10,000 square feet @ $85/square foot $850,000

for a total hard cost estimate of $1,464,000

plus sitework and soft costs 335,000

Option 3 Total Estimate $1,799,000

Option 4 involves:
- renovation of 4,400 square feet @ $60/square foot $264,000
- upgrade of 14,400 square feet @ $25/square foot; and $350,000
- addition of 18,000 square feet @ $85/square foot $1,520,000

for a total hard cost estimate of $2,144,000

plus sitework and soft costs 335,000

Option 4 Total Estimate $2,479,000
RESOURCES

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271-2037

Bill Konrad
Rural Development
Concord, NH 03301
223-6045

Jim Gill
Water Resources
Department of Environmental Services
Concord, NH 03301
271-2949

Pedestrian Facilities, Rte 16
Transportation Planning
Community Planning
Well and Septic System Funding
School Construction Information
Formerly Farmer’s Home Administration
Well Issues