DENNIS YOUNG

A MUSIC BUILDING FOR MONTANA STATE

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A MUSIC BUILDING

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A MUSIC BUILDING FOR MONTANA STATE

Submitted by: Dennis Young

Architecture 490

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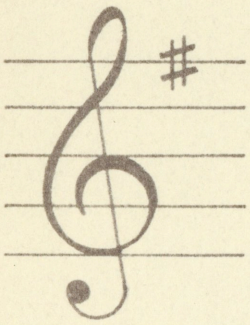
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INTRODUCTION

Montana State College is primarily a school of science and agriculture. There is, because of this, a notable lack of interest in music among college officials and others. This situation is unfortunate because we have here at MSC many well qualified men in the music department who present excellent musical programs in spite of difficult obstacles. These men deserve, at least, decent working conditions. They have earned them! The music building at MSC could not be less condusive to the preparation of good music and incomparably inadequate for music instruction.

I therefore present this thesis for a new music building in the hope that it will point up just what is needed and how unfair the existing facilities are to out music department.

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CONDITIONS CREATING A NEED

Conditions Creating A Need

An incoming freshman at MSC, interested in music, will often walk over to the music building to see what there is to offer. Imagine, if you will, some of the impressions he would receive while visiting the facilities.

The small, grey frame structure, flanked by two low quonsets, huddles between the new chemistry building and towering pine trees. Upon entering the narrow, dimly lit halls the building presents a feeling of cramped, crammed space. Should this student wish to talk to any one of the music directors he would enter one of the small crammed full office-studios and either sit on a piano bench of be forced to stand. From here perhaps he would go on a short tour of the rest of the building. After strolling along the narrow hallway and turning to go down the steep and constricted stairway he would arrive in the rehearsal room. This room with exposed pipes, wire-mesh covered windows, low ceiling, and scarred walls shows just what it is; a made over basement that could not be less like the educated conception of a rehearsal hall.

Moving on through this L-shaped room into the hall-room, lined with instrument racks, the visitor reaches the quonset complex(this is a complimentary term). Bridged by a small hall, the two quonsets are crammed full of what the rest of the music facilities has no room for. Pianos, chairs, instrument cases, robes and robe boxes, uniforms and accessories, music racks, an organ, music storage cabinets, old signs, and other paraphernalia are all spread over two 15x50 ft. quonsets.

These impressions could not help but evoke a comparasion in the mind of the freshman visitor. Many high schools around this state have good, up to date music facilities in rehearsal halls, practice rooms, and general areas that are far superior to these at MSC. An interested student, planning on some music as an extracurricular relaxation could probably become so disappointed in the facilities available for practice and rehearsal that he would walk out and not come back. Many do.

Specific Needs

Practice Rooms

There is not a single practice room, specifically designated, in the music building. Students can at certain times use the two quonsets or one small storage room adjacent to the rehearsal room. When the office-studios are not not being used for lessons, some of them are scheduled for piano practice. Thus, an instructor is often prevented from using his own office in quiet privacy. There are two rooms with piano in the SUB that can be reserved for a quarterly fee if a student applies soon enough to be able to fit the available time into his class schedule. Because of this shortage of practice space many students that would practice if given any opportunity are discouraged from even attempting to find some practice area.

There should be practice rooms readily available for any type of practicing student without fee charges or pre-emption of needed studio-office space.

Rehearsal Halls

There is one, grossly inadequate rehearsal room in the music building. It is an extremely difficult place to practice a large group because the L-shape and low ceiling make it difficult to hear any separated sections of a group and the musical blend is terrible. This room is used for the instrumental rehearsals and one of the large lecture rooms in Reid Hall is used for choral rehearsals. The room in Reid is a good choral area but it is away from the building and creates some difficulties in transporting music and any other equipment needed in rehearsal. There should be two large rehearsal halls, one instrumental and one choral, for any college music program as extensive as that of this school.

Office-Studios

The existing office-studios are very cramped, poorly lit, and very poorly acoustically insulated. Instructors in this music department are greatly inhibited by problems of space, background noise, and a generally uncomfortable atmosphere and should spaces specifically designed for their function.

Music Library

There is no room where students may have access to texts, magazines, or other items such as records and performance tapes to check out for research or other purposes. There is no space to sit down and quietly read or study should a student or instructor so desire. Any department serving as many students as take part in music at MSC should have at least minimal facilities of this sort.

Other Spaces

One small quonset is used for organ instruction and practice, piano instruction and practice, lectures, and as a listening center for records and tapes. Only one of these functions can be used at one time without considerable distraction to any other user. It would therefore be practical and expedient to separate these functions to facilitate their use.

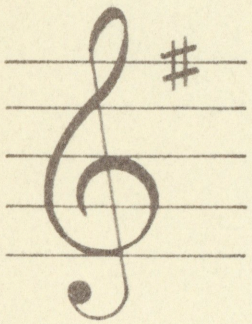
A secretary is often needed by the music department but there is not any space for such should one be acquired. There should be a secretarial room adjacent to the directors office.

Storage Space

Most of the music instruments are stored in a combination hall and instrument room that is wide open to theft or borrowing during the course of a day. There is no ventilation to speak of, which is detrimental to stringed instruments, and there is just not enough room to store all the instruments neatly. A single entrance, well ventilated, room is sorely needed for this type of storage.

Uniforms and robes are crammed in a quonset closet that has no ventilation and not enough outside circulation to handle robing a large group other than in small segments at a time. This same space is used for some rehearsal, and part of the room is crowded with music storage cabinets, instruments, and large instrument cases. There should be separate areas for each of these functions.

A MUSIC BUILDING FOR MSC



LOCAL CONDITIONS

Local Conditions

Geographic

The Gallatin valley is an area of extensive farming surrounded by mountains of excellent scenic character. Depending upon final selection of the site, special care should be taken to use the pleasant MSC campus surroundings against their backdrop of mountains.

Bozeman is at an altitude of 4900 feet, latitude 45 42, longitude 111 3. The city is flanked on three sides by mountains and lies at the foot of the west slope of the Bridger Range.

Climatic

Winters in the Gallatin Valley are cold and severe with an average annual snowfall of 30-50 inches mostly falling between November and March. Winter temperatures average about 25 degrees with lows to 40 degrees below. Summers in this area are comfortable because high temperatures are infrequent and conditions of uncomfortable humidity are rare.

When there are extreme temperature conditions they do not usually last longer than a 10 day stretch. Summer precipitation is mostly showers with occaisional hail. One-half the annual precipitation falls between May and July.

Since much of the school year at Bozeman has cold and inclement weather there is little need for any specific outdoor facilities. Landscaping in keeping with the rest of the campus should be adequate. However, for a special project, a small terrace opening from the classrooms could be undertaken by the music honoraries. Thus, classes could be held outside during the few pleasant days of Fall and Spring.

Month	Mean Temperature	Precipitation (in.)
January	20.2	.92
February	23.2	.76
March	27.8	1.53
April	42.5	1.73
May	51.1	2.34
June	57.3	3.06
July	66.4	1.08
August	64.9	1.12
September	55.8	1.65
October	46.0	1.45
November	32.1	1.07
December	24.8	.91

Mean Annual Temperature 42.9 degrees Fahrenheit

Annual Precipitation 17.62 inches

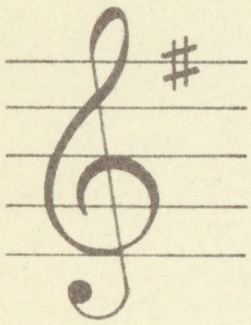
Social

A music building on this campus would have little need for social niceties although a small room for staff conferences and coffee breaks would seem little enough to contemplate in the final design. Social areas such as courts, lobbies, and other casual spaces are expensive and impractical in this case, due to the economic situation.

Economic

Music at Montana State is considered by many a luxury in its own right. Therefore any practical solution for a music building will have to yield a maximum useful area for a minimum cost. Materials considered should be durable and inexpensive. I think that the possibility of programming construction in two stage would be one way of perhaps softening the way for construction of at least a minimum amount of facilities for present use.

A MUSIC BUILDING FOR MSC



THE SITE

The Site

General Description

The proposed site is located directly west of the existing music building and approximately 50 feet down the slope of the hill. This area is clear out still adjacent to the tree coverd area around the fish pond.[1]

One of the main reasons for this selection of site is its relative proximity to the Student Union Building, Gymnasium, Gatton Field, and the Fieldhouse. These are the main campus spots that the music groups must go to for concerts or football and basketball games. Also this would place the building far enough away from class room buildings to cut down possible disturbance due to music rehearsals. A slight disadvantage is its remoteness from the existing dorms, since students thinking of practicing are easily discouraged. However, the new high-rise dorms are planned for a site directly across the street which would be an excellent invitation to practice.

[1] See figures 3-1 and 3-2, A Partial Map of MSC Campus, and Site Orientation Map.

A good view to the south and west of the Spanish Peaks will be obtained by placing the building partway up the slope of the campus hill. To the north and east the site would be close to the large evergreens and other trees which would provide a pleasant vista from the classrooms and studios. A large portion of the pleasant surroundings would be marred without the removal of the old music building and the old radiation lab quonset.

All the utilities for the new building would be easily brought down from the old building outlets. The existing gravel service road could be rerouted to take care of the new building with a minimum of difficulty.

Creech Reynolds feels that this general locale is as good as any left available on the campus for the music facilities. As the orchestra director, Mr. Reynolds is as close to the problems of moving equipment and instruments for concerts and touring as anyone.

Deciduous Trees

Coniferous Trees

NORTH

SITE ORIENTATION MAP

SCALE: 1"=100'

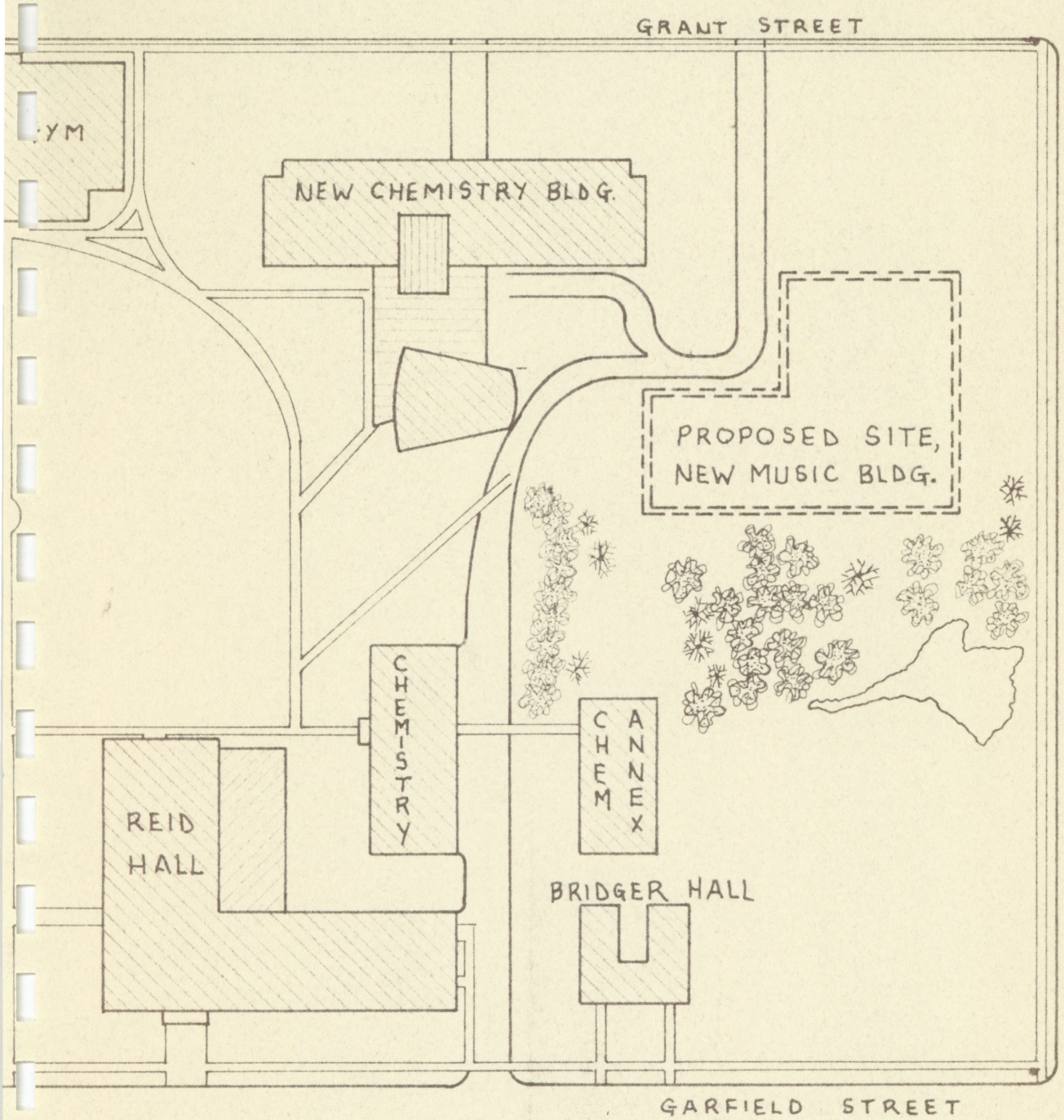
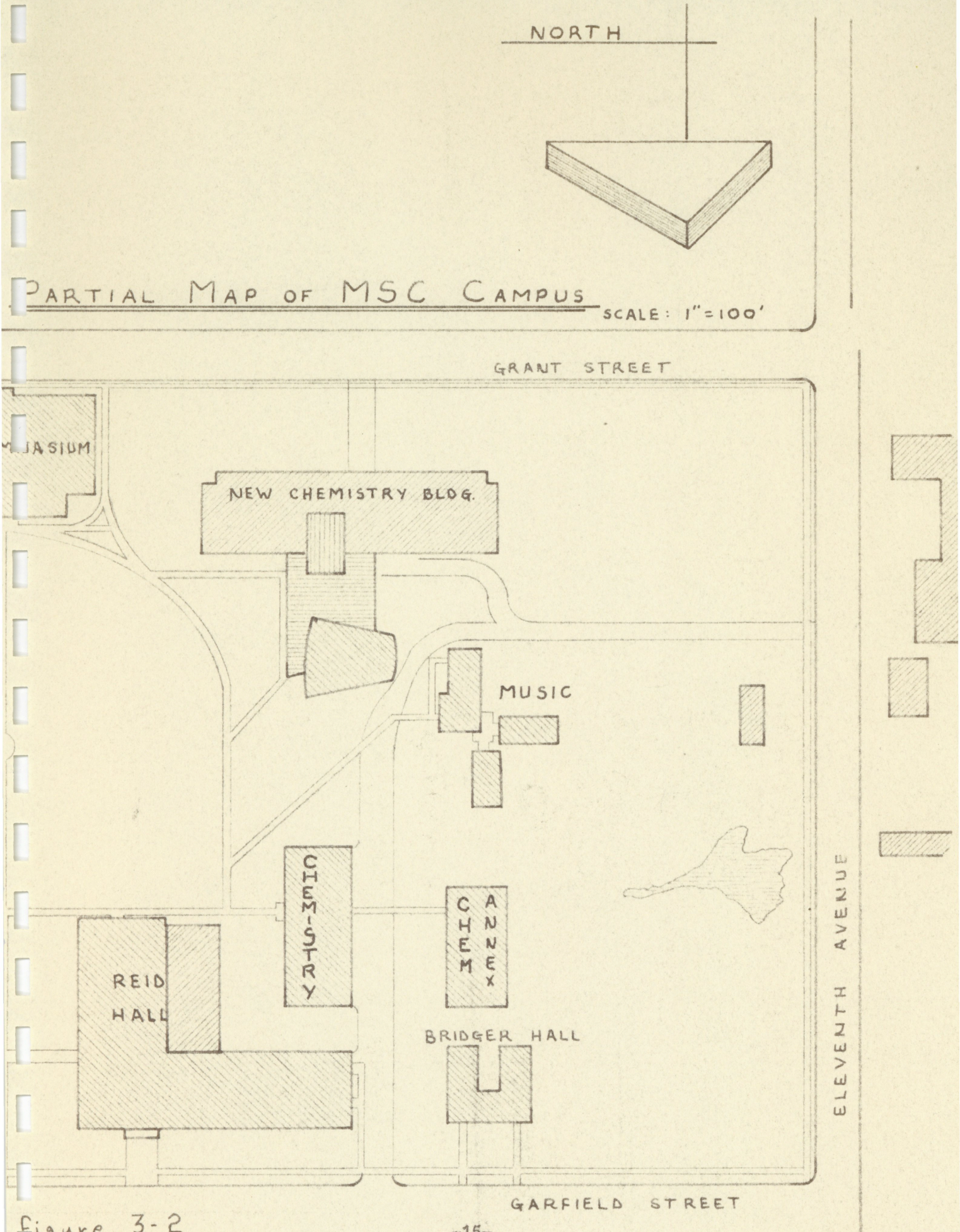


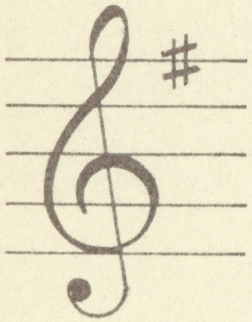
Figure 3-1



PARTIAL MAP OF MSC CAMPUS SCALE: 1"=100'

Figure 3-2

A MUSIC BUILDING FOR MSC



FUNCTIONS OF THE BUILDING

The Building:

A music building for MSC must accommodate a variety of functions. There is an ever changing flow of people, music instruments, and equipment going on both night and day within this relatively small structure. I will list what I feel are the necessary spaces for a music building and follow with a discussion of each with relation to the building, the flow of people, and the flow of equipment.

The Spaces:

1. Staff offices and teaching studios
2. Classrooms
3. Rehearsal halls
4. Recital auditorium
5. Ensemble rooms
6. Individual practice rooms
7. Instrument storage
8. Music storage
9. Music library
10. Listening and recording center
11. Uniform and robe storage
12. Office for department director and secretary
13. General storage
14. Instrument repair

1. Staff Office-Studio

The staff offices will serve well as office-teaching studios in most cases if adequate space is allowed. The office needs will generally be filled by a desk, a chair, and wall storage. Studio requirements are a piano, a music rack or racks, and space for three to four students. In some cases two pianos would be preferred for the instructors of piano. These office-studios should be located with a relatively direct access to students since they are busy most of the day with half hour lessons. I don't believe the studios need to be near the instrument storage areas, because the few lessons on large instruments(string bass, tuba) could be scheduled in the rehearsal hall and most any other instrument will not be difficult to carry around.

2. Classrooms

Classrooms for music courses call for some extra treatment. Record and tape playing facilities are necessary for many music classes. This means the room must be sound proof from within and yet the music system must be clear for all students no matter where seated. A piano or two is necessary since much music class work is based on demonstration. The classrooms should be close to an entrance to the building so that studios and rehearsal rooms are not disturbed by the passing of noisy groups of students between classes.

3. Rehearsal Halls

There are three major groups that require rehearsal hall space.

A. Band: The band room requires ample space for the instrumentalists grouped in a semi-circle or U-shape. Since percussion and bass instruments are usually placed at the back of the room, the U or semi-circle shape within a rectangular room is the logical arrangement. This leaves two deep corners in the back of the room for placement of large and cumbersome instruments such as tympani, tuba, and string bass. The room should be adjacent to an instrument storage space and close to practice rooms. Due to the piercing quality of brass and stringed instruments the hall could well be separated from the rest of the structure.

B. Orchestra: The orchestra room has requirements almost exactly as the band and therefore the two may be easily combined. The different sound characteristics of an orchestra compared to a band could be easily provided for by movable acoustical panels. Since neither the band or orchestra rehearsal schedule at MSC is very heavy both organizations would be able to use the same hall without conflict.

C. Choral: The choral room must provide riser seating for groups ranging in size from 20 to 200 members. Either a fan shaped arrangement or a segment of a circle is considered good by the MENC recommendations. This means the room would function best in a trapezoid shape and therefore be better to separate from the main building for both structural and aesthetic reasons. Separation would limit the disturbance of practicing groups to classes and separation of trapezoid from rectangle would clarify the aesthetic view of the building and function.

4. Recital Auditorium Space

There are reasonably good concert auditorium facilities on this campus but there is not a space readily avialable that serves well for small recitals. Seating for not more than 250-300 people on an incline is necessary to promote the intimacy that an individual or ensemble recital should have. The SUB lounge, which is used for many recitals, can seat about the right amount but the level floor prevents those toward the rear from seeing much of the performer. A good practical solution for recital space would be to combine the functions of the choral rehearsal hall with a recital hall. By using permanent theater seats and movable panels the two functions could easily be handled in the same space.

5. Ensemble Rooms

These rooms would serve for groups such as instrumental and vocal octets, quartets, and the like which are too large for the individual practice rooms and too small to comfortably use the rehearsal halls. The function of these rooms could be preformed in most cases by the large rehearsal halls so that a minimum of these(one or two) would be sufficient and this would help lower the overall building cost.

6. Individual Practice Rooms

There are a number of varying needs in small practice rooms. Instrumental, vocal, and piano practice should have certain different conditions for each. The ideal situation would be to provide enough rooms for each category at the peak of use. However, this would be costly in terms of student hours of use because: (1) a vocal practice room with sound reinforcing characteristics could not take the sound intensity of a brass instrument without transmitting much of the volume. (2) an instrumental practice room would be heavily insulated and a vocalist practicing there would have no reinforcing resonances and so find it very discouraging to sing in. These considerations mean that certain hours when there are not the specific instruments practicing, the rooms would probably not be in use. If there were practice rooms combining most of the needed characteristics for any type of practice they would be used more hours but without the comfort of categorically designed rooms. I feel that the logical solution in this case will be to have some all-purpose practice rooms and also at least one each of the specifically designed rooms.

Individual practice rooms do not in all cases need pianos although a majority should be provided with them. The rooms also do not need outside exposure or a centralized location. One major disadvantage to outside exposure is that with windows open, a group of adjacent practice rooms can release a fearsome noise total on the surrounding area. As long as the rooms are reasonably close to instrument storage and given good, wide hall access they will be used by anyone really desiring to practice.

7. Instrument Storage

Two general types of instrument must be considered for storage. Stringed instruments which will be used soley for orchestral work, and wind instruments, some of which will be used for both band and orchestra and the rest just for band work. Instrument storage for all but the larger sizes (string bass, tuba, bass drum) could be in a single space close to the band orchestra room. This would mean that only one door would have to be opened for any rehearsal and so better control theft and unwanted borrowing. The major disadvantage to this is that stringed and wind instruments require different conditions for good storage and therefore a ventilation compromise would be necessary. This is a problem that the final design of the building will solve in terms of function and space allocation since either case has both pros and cons of about equal merit. Storage space for the larger instruments is best located in the back of the rehearsal hall in wall closets so that the cumbersome pieces don't have to be carried far.

8. Music Storage

Music storage space is needed mostly for music not currently in use. Current music in folios should be kept in racks in or near the respective rehearsal room. The music storage area should have separate facilities for band, chorus, and orchestra consisting of metal file cabinets with lockable doors. The storage area should be adjacent to the music library with the file catalog in the library for storage area reference.

9. Music Library

This space is used for keeping texts, magazines, and reference material out for easy use by teacher or student. Work space for reproduction and repair of music, with supply cabinets containing paper, glue, and other accessories must be allowed for. The music library should be centrally located because it will recieve steady traffic from the offices, practice rooms, classrooms, and rehearsal halls. If location permits, the music folios for the large music groups should be kept in the library to facilitate the handing out of new music and repairing or copying current pieces.

10. Listening and Recording Center

The primary use of this space is for listening to performance or instruction tapes and records. Recording equipment should also be kept here since it would be used for some listening or recording from master tapes or records. Included in the area must be ample room for chairs and perhaps a couch for quiet and comfortable listening. The collection of records and tapes could be kept either in the listening room or in the music library depending on the proximity of the two.

11. Uniform and Robe Storage

A uniform and robe storage room must be close to an outside entrance for access in loading for music tours or robing for concerts. Wall closets with carefully controlled ventilation are needed for hanging robes and uniforms and there must be shelves to store caps, belts, collars, and other accessories.

12. Office of the Department Director and Secretary

The department director should have a central location for easy access to all portions of the building. The office also might be used as a studio on some occaisions but not as often as the combination staff office-studios. Room for visitors and small conferences should be included in this office, although if it is given studio space this should be sufficient for the other needs. The department secretary should be in a space adjacent to the directors office and also have direct access to the music library to check out books and records to students and staff members.

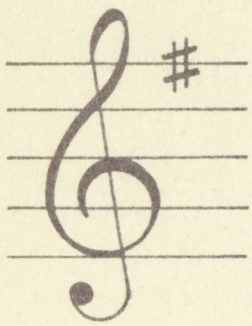
13. General Storage

Space for storage of large instrument cases, robe boxes, and other bulky items must be allocated. Since these things are not often used they need not be easily accessable to the rest of the building other than the robe storage and instrument rehearsal rooms. Their chief use comes during the tour season and so the room should be close to an outside entrance and near the service road for ease in loading buses.

14. Instrument Repair

A work space for instrument repair will include a heavy work bench with vise and grinding equipment, shelves and racks for storage, a sink and drainboard for cleaning instruments, and space to put instruments in the repair process. The repair room need not be located centrally although it should be somewhat near the instrument storage area if possible.

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DESIGN RECOMMENDATIONS

Recommended Design Considerations

from Music Buildings, Rooms, & Equipment

published by the Music Educators National Conference

Instrumental Rehearsal Room

Allow 20 square feet per student(includes aisles, etc.)

Riser widths should be min. 60 in. with 72 in. on top

Risers are of questionable value in instrumental groups because the blend is inhibited

Riser heights should be 6-8 in. with a white strip or rubberized tread on the edge

Terraces of a semi-circular nature should be used

Room heights should be 12 ft. min. though 14-16 ft. is better for larger rooms containing 60 or more

Only in rare cases should it be necessary to separate the band and orchestra rooms

Choral Rehearsal Room

Risers are preferred for choral groups because the tonal clarity and blend is improved

Riser height should be 6-10 in. and width of 40 in.

Supporting pillars should be avoided

A small portable or permanent stage is advantageous for meetings, recitals, etc. since permanent theater seats and risers are recommended

Practice Rooms

Area should be a minimum for 60 sq. ft.

Non-parallel wall(slant 1 ft. in 15) are superior acoustically

Pianos are not necessary for all rooms although the more the better

Recommended sizes:

instruments- 8x10 feet

piano with one instrument- 8x10 feet

two pianos or small ensembles- 10x12 feet

The rooms should be built along a corridor with outside windows if possible

Double doors with glass for observation without interruption are preferred

Class Piano Rooms

Equipment for these rooms includes bulletin board space, blackboard(plain and music staff), music cabinet, and electrical outlets

The room should be acoustically conditioned for several pianos

Directors Office

The office need not be especially large, equipment would be a desk, two or three chairs, correspondence cabinets, storage cabinets, etc.

For conferences, meetings, and visitors the room should be centrally located

General Music Classrooms

Special soundproofing and treatment is necessary for music listening

Music Listening Rooms

Practice rooms can be used if portable equipment is available

Phonographs should be supplied with earphones for silent listening

Office-Studios

Office-studio space should be provided for each instructor

These rooms should be larger than the normal practice room or office

Storage Rooms

Instruments:

This room should be close to the rehearsal hall

A dutch door is recommended for distribution of instruments

Lockers should be constructed for protection and ready use--minimum interior sizes for instruments with no cases in lockers:

6x6x36 in. drum pan, flute, piccolo

12x6x36 in. clarinet, oboe

12x12x36in. bass clarinet, bell front alto, cornet, trumpet

12x15x36in. baritone saxaphone, bass trombone

15x8x36 in. viola, violin

15x54x36in. cello

22x88x36in. string bass

36x36x36in. bases(brass)

18x18x36in. alto clarinet, baritone, field drum, snare drum, french horn

For inspection and ventilation, heavy mesh doors are recommended for the instrument compartments

The compartments should have individual locks

Closets in the back of the rehearsal room are best for the larger instruments for ease of moving

Storage Rooms(cont.)

Instruments:

Size should be at least 20x30 feet

The room should have high windows(suggest glass block) with the storage cabinets below

Maximum size of cabinets- 48 in. deep, 62 in. wide, 83 in. high

This room should be carefully ventilated against excessive moisture, heat, or extreme temperature changes

Shelves are not recommended since items can be easily jarred, broken, or stolen

If metal cabinets are used felt pads should be placed in the bottom for lining

Music:

Steel filing cabinets are often used for storing vocal and instrumental music

A letter size file is adequate for choral music and legal size is satisfactory for instrumental

Uniform and Robe Storage

Closet space should be cedar lined and carefully ventilated

Space should be provided for caps, belts, collars, and other accessories

Instrument Repair Room

This space should have a workbench, stools, tool and equipment rack, and compartments for parts like pads, springs, and cork

The work bench should have natural gas connection, electrical outlets, a wood and steel vise, running water, and a large sink

Music Library

A music folder cabinet with individual compartments for each folder could be kept here

Space must be provided for work tables, supply cabinets, a reproducing machine, chairs, and a desk

The library should be close to both the instrument storage and rehearsal rooms

Lighting

The ceiling should have a flat finish

Indirect lighting efficiency increases with higher ceiling reflectance

Traditional use of dark paints for lower wall surfaces because of scuffing should be discouraged

Music rack surfaces facing the students should be limited to a brightness ratio with the music of 1 to $\frac{1}{3}$

This means each rack face should have a light, non-glaring finish

Music folios in light neutral colors would meet the above limits for brightness.

The front face of the music racks should be finished to blend with the surroundings

Floors should not be too dark in student view

Music room activities indicate a level of 50 footcandles to be necessary for good working illumination

The quality and quantity of light in a comfortable room is dependent upon three factors:

1. Illumination level of the task
2. Reflectance pattern of the room
3. Brightness control of the light sources

Music rooms with risers mean that the man on the top rise is in a much different seeing situation in relation to the light sources than the man at floor level. Music rooms are equipped with furnishings which can create a condition of "visual clutter". Instrumental equipment such as horns, music racks, and folios are in this category and must be considered in the lighting plan

Heating and Air Conditioning

Wind instruments require a great deal of breathing and some physical exertion to play, so a system of ventilation and air supply in excess of normal design should be provided. A controlled source of cooled air should be provided for the rehearsal rooms since large groups of singers or instrumentalists often generate an uncomfortable amount of heat.

Window ventilation is cheapest but permits noise nuisance to adjacent areas and makes it difficult to control temperature, humidity, and dust.

General Recommendations

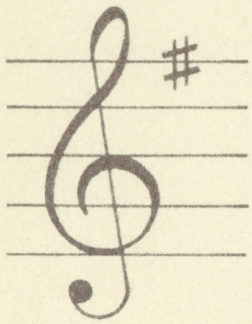
1. Window or gravity ventilation should be discouraged in cool climates.
2. Ventilation ducts, normally made of sheet metal, should be lined with a fireproof acoustical material, made of acoustical material(asbestos), provided with bends and baffles, or a combination of the above, to provide a necessary amount of sound absorption and separation.

3. Consistent and uniform temperature in music rooms is necessary or the pitch of instruments is affected.

4. Relative humidity should be 40 or 50 percent in all rooms where stringed instruments will be used, to avoid damage.

5. Dry bulb temperature should range from 68 to 72 degrees fahrenheit for healthful and comfortable conditions.

A MUSIC BUILDING FOR MSC



ACOUSTICS

Acoustics

The problem of acoustics is paramount in the design of music facilities. Architectural acoustics has two general purposes: (1) to provide a satisfactory acoustic environment and (2) to provide good hearing conditions. While similar in some respects, these two conditions sometimes involve significant differences in solution.

Acoustic Environment

Acoustic environment of a space is determined by (a) the intensity and character of all sound existing in that space at any given time, and (b) the way sounds are prolonged and spread within the space. The function of the space will determine the major emphasis for the acoustic environment.

For a music building the acoustic environment problems are multiple. The practice rooms, studios, and rehearsal halls must be insulated from one another and from other building noises. Also, the library, offices, and other general purpose rooms must be insulated from sounds from the music rooms.

Hearing Conditions

Satisfactory hearing conditions require:
(a) Sufficiently low level of background noise;
(b) adequate separation of successive sounds (reverberation control); (c) proper distribution of sound within the space; (d) sufficient loudness of sounds to be heard.

Background noises are those emanating from outside the room, and incidental sounds from within, and should be held to a minimum.

Generally Acceptable Criteria for Maximum Background Noise

Function	Average Noise Level in decibels
Radio Studios	25-35
Auditoriums for Music	30-40
Libraries and Offices	35-50

Reverberation control is necessary to avoid blurring of sound by excessive reverberance. However a certain amount of reverberation is needed for mucical blending and speech reinforcement. For a given size of room and function there is an optimum reverberation time. That is the time it takes the sound to die away to one millionth its origional intensity.

This will be determined by the sound absorbtion units in the room, the size of the room, and the specific function(range of frequency) in the room.

Reverberation and absorbtion will to a certain extent determine the sound distribution and loudness in a room, along with the shape and dimensions of the room.

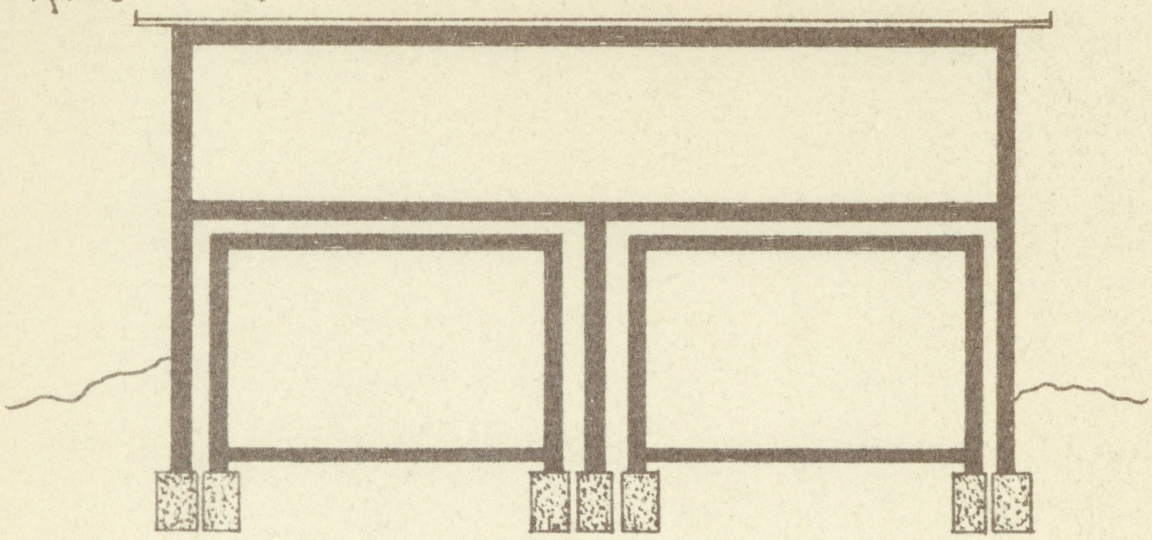
The Building

Depending upon the final design, the structural system must be carefully handled to provide a maximum of acoustical separation.

Figure 6-1a: This shows a structure within a structure, each having separate foundations. This system is the best solution generally presented because sound transmission is largely dependent on contact of moving bodies for transference. One major disadvantage of this method, especially for this thesis, is the expense. Two separate structural systems will naturally be more expensive both in terms of initial cost and square feet of usable space.

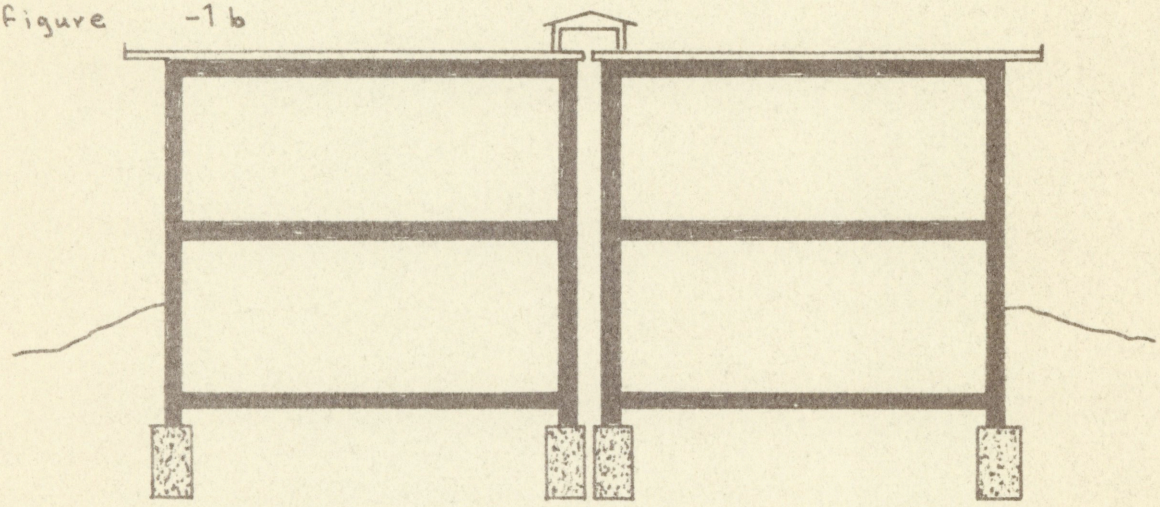
Figure 6-1b: This type of parallel structure is excellent for acoustical separation of two areas within one building complex. If the structure is over one story, however, there will be some sound transmission from floor to floor. Both this system and the one in figure 6-1a present considerable difficulty in designing halls and accesses from various areas without undue waste space.

Figure -1a



Acoustical Isolation by structure within structure, Produces Sound Isolation

Figure -1b

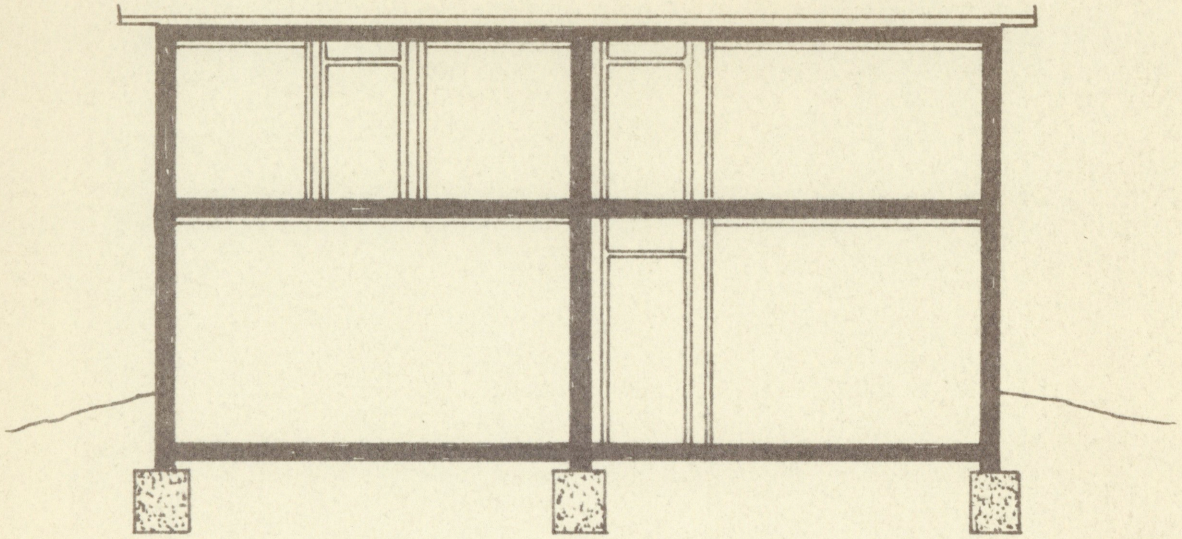


Acoustical Isolation by parallel structure, Produces Sound Isolation.

Figure 6-2a: A treatment of this sort is at best only a fair solution to acoustical separation. The primarily single structure with double walls and air space will still transmit considerable sound through the floor and ceiling structure no matter how extensive the precautions. The main point in favor of this method is that it will give some measure of sound absorbtion and yet does not cost as much as completely separated structural systems.

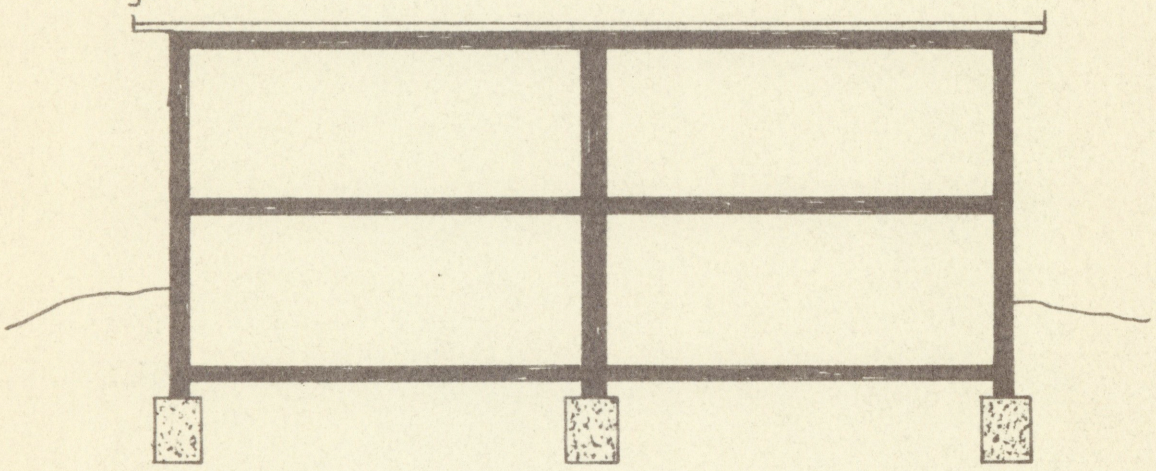
Figure 6-2b: With this standard system of structure, no matter how thick the walls, floors, and ceilings, sound transmission is considerable. In a normal office or classroom, a treatment of this sort would be adequate because there is not such a high level of sound to control. This type of construction could be used in a music building for storage rooms, library space, instrument repair space, and any other spaces that do not need abnormal acoustical isolation.

Figure 6-2a



Acoustical Insulation by Double Walls with Air Space, Produces Fair Sound Insulation

Figure 6-2b



Standard Building Construction, Gives poor Sound Isolation

General Considerations for Acoustical Design

-Halls make good sound separators.

-Doors in halls should be staggered so that sound from one room does not go directly across the hall through the door of the opposite room.

-Double doors in studios, rehearsal halls, and practice rooms will cut down sound transmission considerably.

-Ceilings should vary in panel size and thickness to better reflect and absorb a variety of sounds.

-Non-parallel walls, especially in smaller rooms, will diffuse sound and lower reverberation time if used with corner sound absorbers.

-Slightly splayed, non-parallel wall panels are best for larger rooms, studios and rehearsal halls, because the expense of large spaces with any non-rectangular construction.

-Acoustic tile does not necessarily make good absorbers, rather it is the thickness of the material that determines the most of its absorbtion quality.

The Rooms

Choral Rehearsal Hall and Recital Auditorium

This room will be used for a multitude of functions. By day it will serve as a classroom(for courses such as music appreciation) and ensemble practice room. In the afternoons it will be used as a choral rehearsal hall and evenings it will serve as a recital auditorium. Probably the most practical acoustical solution will be to design the room as a recital auditorium since the other functions will work fairly well in that space.

An example of such a combination room is shown in figure 6-3. In this room the plan is arranged for a rehearsing chorus but the room shape is designed for recital sounds. The only parallel walls are those in the front and back center, which is where the sound needs reinforcement. The other walls(non-parallel) should give good diffusion and yet allow sound to be easily audible from any seat.

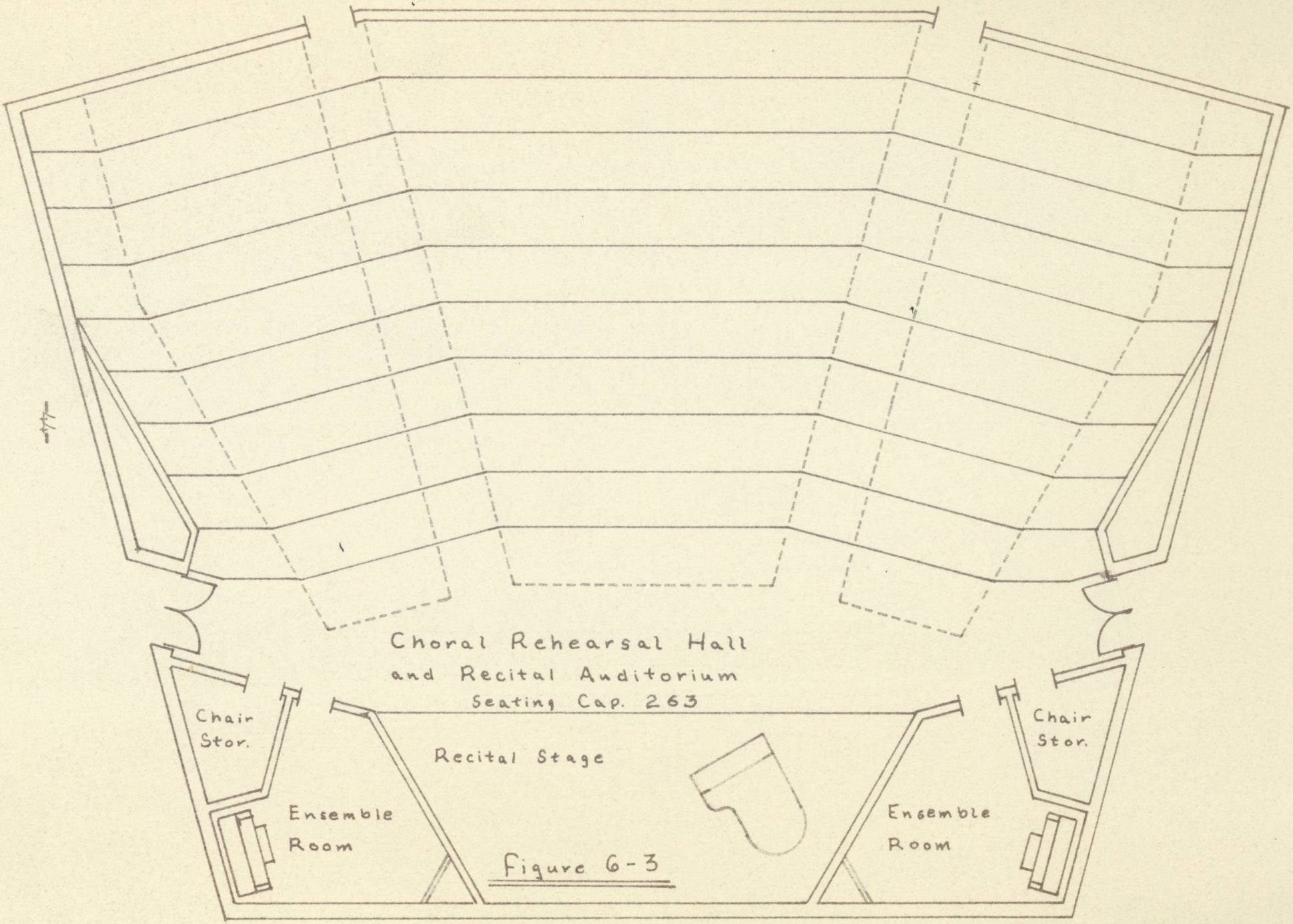

Choral Rehearsal Hall
and Recital Auditorium
Seating Cap. 263
Chair Stor.
Recital Stage
Chair Stor.
Ensemble Room
Ensemble Room

Figure 6-3

Orchestra and Band Rehearsal Hall

This room must be designed with the different sound characteristics of bands or orchestras in mind. The reverberation time for a band in rehearsal should be less than an orchestra because the sound intensity in much greater in a band. A few well placed panels for absorbtion will lower the reverberation time and these panels could be easily made demountable.

In figure 6-4 the walls of the room are all splayed in a non-parallel patern to diffuse sound. This treatment will aid considerably in musical blend and help students in various sections to hear other parts of the group. By arranging the risers to face the instruments toward a focal point at the conductors podium the tonal blend is improved. The two wall closets in the back of the room make good corner sound absorbers.

A large instrumental hall should have a ceiling fairly high and sloping so that sound will not flutter between the floor and ceiling. Any ventilation system from this room should be especially well insulated to prevent sound from traveling along the ducts.

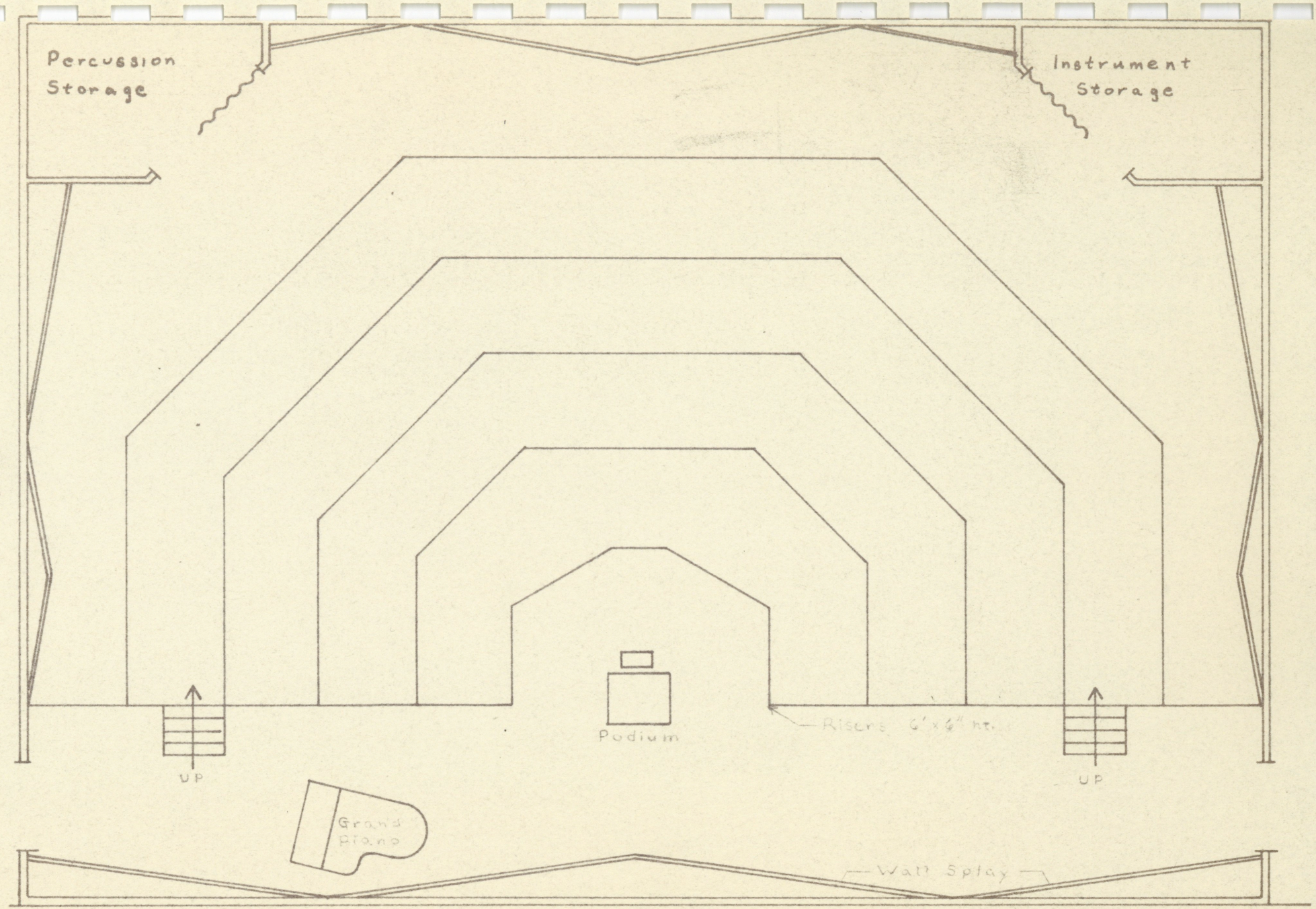


Figure 6-4, An Instrumental Rehearsal Hall, U-shape

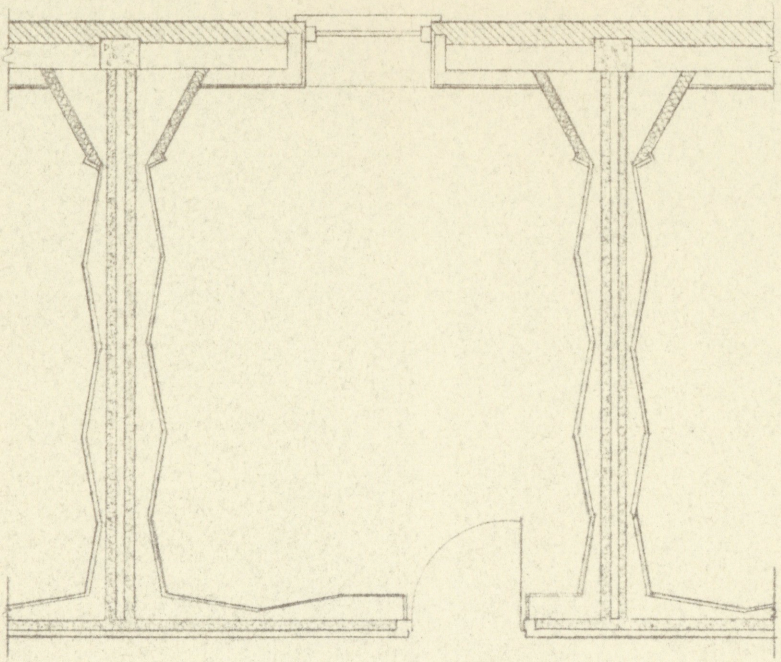
Studios

A good studio arrangement is shown in figure 6-5a. The basically rectangular shape will resonate sound but not critically because the slight splaying of small wall panels will diffuse the sound enough to hold reverberation down. The air space between the panels and the wall structure will help to insulate the rooms sounds from neighboring rooms.

Practice Rooms

In figure 6-5b a typical practice room complex is shown. Non-parallel walls in such a four room group are relatively easy to construct and improve the sound characteristics of the room. The corner sound absorbers and panels, with air space, in front of the walls will insulate the room from adjacent areas. This method is not as good as structural isolation for each room but it is much less expensive and yet adequate in most cases.

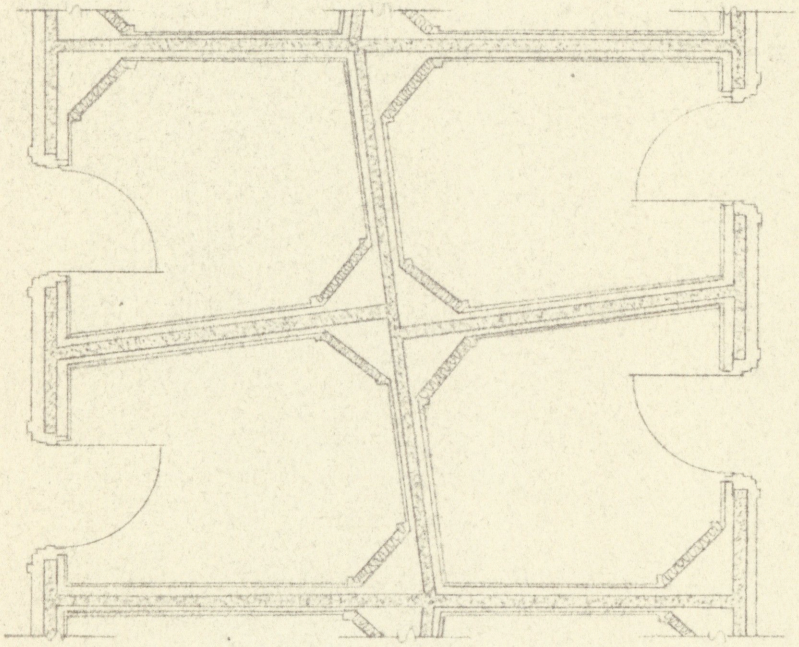
Figure 6-5a



MODERATE WALL SPLAYING

Eliminating flutter, echoes, and improving diffusion

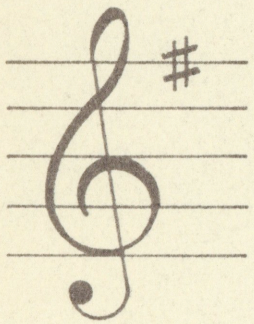
Figure 6-5b



NON-PARALLEL WALLS AND CORNER SOUND ABSORBERS

Eliminating flutter, echoes, and improving diffusion

A MUSIC BUILDING FOR MSC



AESTHETICS

Aesthetic Considerations

A music building for MSC will be a small structure compared to most of the campus buildings. Characterized by a low silhouette of a probable maximum of one and a half stories, the building will contrast the three and four-story class buildings that dominate the campus view. Because of the contrast in size and height I feel it would be a mistake to try to continue the use of formal brick facade which prevails of most of the campus structures. The larger, more diversified class buildings are honest in their impersonal, formal atmosphere since many different activities go on within during the course of a school day. Also, most of the courses held in these buildings are required in one or another of the major fields of study at MSC. Because of the voluntary nature of music participants, I believe the music building should create a friendly, intimate feeling of invitation to enter and take part in its activities.

Materials

Natural stone and wood are native Montana materials with a construction scale and character well suited to the size of the music building. By construction scale I mean that stone and wood look out of place as dominant or structural elements in buildings over 2 stories high.

buildings much over one story are not feasible any more in either structural stone or wood because they can be put up with concrete or steel frames as cheaply and the result is a more fire and earthquake safe building. The small scale of the music building, however, means that concrete or steel would be relatively expensive for such a small structure.

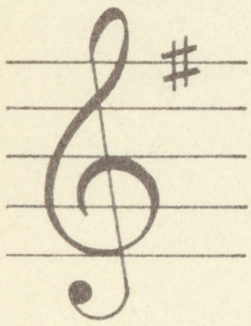
Current use of natural stone and wool as major elements of building falls mostly in residential work because of the small scale. This scale and material lends an intimate, indigenous character that is just what I feel the music building should have.

Color

"The rules governing the use of warm and cool color hold good for use in school decoration. The power of warm colors(in the range of yellow, orange, red) to counteract the effect of cool light from the north or east makes them the logical choice of rooms having those exposures. On the other hand, the cool colors(containing blue) are used to best advantage in tempering the strong warm light from south or west. The choice of colors for a room depends not so much upon the use of the room as upon other factors such as exposure, amount of natural and artificial light available, proportion of the rooms, need for a focal wall or three-value walls, and other considerations."[1]

[1] Music Buildings, Rooms, & Equipment, published by the Music Educators National Conference

A MUSIC BUILDING FOR MSC



COST ANALYSIS

COST ANALYSIS

First Stage

Offices, classrooms, library	3,860 x $17.42*	= $67,400
General areas	1,500 x $14.30*	= $21,600
Music rooms	5,600 x $16.32*	= $91,500
Rehearsal halls & auditorium	3,960 x $22.05*	= $87,500
	TOTAL	=$268,000

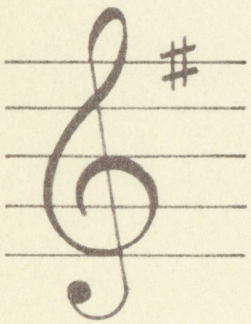
Second Stage

Offices, classrooms	1,120 x $17.42	= $19,520
Music rooms	720 x $16.32	= $11,760
General areas	240 x $14.30	= $ 3,440
	TOTAL	= $34,720

TOTAL COST OF BUILDING = $302,720.00

* Figures are taken from the Marshall Evaluation Plan

A MUSIC BUILDING FOR MSC



PROGRAM

PROGRAM

I believe that any practical solution for new music facilities for MSC will ahve to be in a two stage building plan in order to be at all seriously considered. Therefore, this program will be organized in two stages. The first stage will have minimum facilities for the present and the second stage will have the increase of studios, practice rooms, and classrooms that will be needed within 10 years.

FIRST STAGE PROGRAM

Office-Studios

Vocal Director — **220 sq. ft.**

Function: office and studio for vocal instruction

Equipment: 1 desk, 3-4 chairs, 1 grand piano, tackboards(wall and door), book shelf, music racks, small recorder, 20 cu. ft. storage

Acoustics: sound insulated, should reinforce voice frequencies

Interior: outside window, forced ventilation, light colors and white ceiling

Orchestra Director 220 sq. ft.

Function: office and studio for string instruction

Equipment: 1 desk, 4-5 chairs, 1 piano, 1 file, tackboards(wall and door), music racks, bookshelf, 80 cu. ft. storage

Acoustics: non-parallel walls, sound insulated

Interior: outside window, forced ventilation, white ceiling

Band Director 340 sq.ft.

Function: office and studio for wind instruction

Equipment: 1 desk, 4-5 chairs, 1 piano, 4 files, music racks, tackboards(wall and door), book shelf, 160 cu. ft. storage

Acoustics: non-parallel walls, sound insulated

Interior: window to outside, forced ventilation

Piano Instructor 240 sq. ft.

Function: office and studio for piano instruction

Equipment: 1 desk, 4-5 chairs, 2 grand pianos, book shelf, tackboards(wall and door), 80 cu. ft. storage

Acoustics: sound insulated, non-parallel walls

Interior: outside window, forced ventilation

Music Theory Instructor 220 sq. ft.

Function: office and studio for piano instruction

Equipment: 1 desk, 4-5 chairs, book shelf, tack boards(wall and door), 80 cu. ft. storage, 2 pianos(one grand)

Acoustics; sound insulated, non-parallel walls

Interior: outside window, forced ventilation, white ceiling

Music Education Instructor 160 sq. ft.

Function: office and studio for instruction

Equipment: 1 desk, 2-3 chairs, book shelf, tack boards(wall and door), 1 piano, music racks, 60 cu. ft. storage

Acoustics: sound insulated, non-parallel walls

Interior: forced ventilation, outside window, white ceiling

Vocal Instructor 160 sq. ft.

Function: office and studio for vocal instruction

Equipment: 1 writing desk, 2-3 chairs, 1 piano, book shelf, tackboards, music racks, 40 cu. ft. storage

Acoustics: Sound insulated, should reinforce voice frequencies

Interior: white ceiling, forced ventilation, outside window

Instrumental Instructor 160 sq. ft.

Function: office and studio for instrumental instruction

Equipment: 1 writing desk, 2-3 chairs, 1 piano tackboards, book shelf, music racks, 40 cu. ft. storage

Acoustics: non-parallel walls, sound insulation

Interior: light ceiling, outside window forced vent.

-Classrooms-

General Classroom 840 sq. ft.

Function: for classes in music education, history, theory, and related subjects

Equipment: seating for 40-50 students, 1 piano, chalkboards(music staff and plain), music record and playback equipment, tackboard

Acoustics: sound insulated, should project sound clearly to all parts of room

Interior: outside windows, forced ventilation

Piano Instruction Classroom 410 sq. ft.

Function: classes in piano, organ, small music classes

Equipment: 6 electric pianos, 1 electric organ, tackboard, 2 upright & 1 grand pianos, seating for 15-20, chalkboards(music staff and plain)

Acoustics: sound insulated

Interior: forced ventilation, outside windows

-Rehearsal Halls-

Choral Rehearsal & Recital Auditorium 3,960 sq. ft.

Function: rehearsal space for chorus, lecture hall, recital auditorium, ensemble rehearsal, space for small orchestra in combined rehearsals

Equipment: riser seating for 250, permanent seats, recital platform, seating for orchestra of 40-50, 1 grand piano, 1 small pipe organ, chalkboards, movie screen and projection equipment

Acoustics: sound isolated, reverberation to reinforce vocal sounds, diffusion of sound emanating from recital platform

Interior: sloping ceiling, forced ventilation with cooled air source

Band & Orchestra Rehearsal 4,280 sq. ft.

Function: rehearsal space for bands, orchestras, and large ensembles

Equipment: riser seating for 160 instrumentalists, music racks, conductor podium, chalkboards tackboards, 1 grand piano

Acoustics: sound isolated, wall splay for diffusion

Interior: forced ventilation with cooled air source, wall closets in back for large instruments, some outside view

-Ensemble Rooms-

2 Rooms each 120 sq. ft.

Function: space for ensembles(3-8) to rehearse

Equipment: 1 piano, 8 chairs, chalkboards, tackboards

Acoustics: non-parallel walls, sound insulated

Interior: light ceiling, forced ventilation, outside view if possible

-Individual Practice Rooms-

3 Vocal Practice Rooms each 80 sq. ft.

Function: individual practice of vocal music

Equipment: 1 piano, 2-3 chairs, music racks, shelves

Acoustics: sound insulated, 2 parallel walls to resonate vocal sound

Interior: forced ventilation, outside view

3 Instrumental Practice Rooms each 80 sq. ft.

Function: individual instrumental practice

Equipment: 1 piano, 2-3 chairs, music racks, shelves

Acoustics: sound insulated, non-parallel walls, sloping ceiling

Interior: outside view if possible, forced ventilation

6 General Practice Rooms — each 80-100 sq. ft.

Function: practice of piano, instrument, voice

Equipment: 1 piano, 2-3 chairs, music racks, shelf

Acoustics: sound insulated, non-parallel walls

Interior: outside view if possible, forced ventilation

-Instrument Storage-

1 Room — 360 sq.ft.

Function: storage for all wind and string instruments other than tuba, string bass

Equipment: padded compartments for instruments with lockable mesh doors

Acoustics: no sweat

Interior: forced ventilation with special humidity and temperature control

-Music Storage-

1 Room — 180 sq. ft.

Function: store choral, band, and orchestra music

Equipment: 8 file cabinets(orchestra), 10 file cabinets(band), 8 file cabinets(chorus), 12 file cabinets(general)

Acoustics: no sweat

Interior: forced ventilation, humidity control

-Music Library-

1 Room — 260 sq. ft.

Function: access to texts, scores, periodicals, records and tapes, music repair and reproduction

Equipment: supply cabinet, 260 cu. ft. book space, 40 sq. ft. vertical magazine display, music repair and reproduction equipment, catalog file, 50 cu. ft. record and tape space, 8-10 chairs, 2 tables, tackboard, check-out desk

Acoustics: sound insulated

Interior; forced ventilation

-Listening & Recording Center-

1 Room — 220 sq. ft.

Function: listening to records and tapes, storage of recording equipment

Equipment: 8-12 comfortable chairs, 1 couch, 2 earphone tables, tape and record playing equipment, recording equipment on movable cart, chalkboard

Acoustics: sound isolated

Interior; forced ventilation

-Uniform and Robe Storage-

1 Room 400 sq. ft.

Function: storage of robes, uniforms, accessories

Equipment: 160 sq. ft. wall closet- uniforms, with overhead compartments, 140 sq. ft. wall closet for choral robes, with overhead compartments

Acoustics: no sweat

Interior: forced ventilation, humidity controlled

-Department Director Complex-

Directors Office 160 sq. ft.

Function: office of director

Equipment: 1 large desk, 4 file cabinets, book shelf 6-7 chairs, tack board

Acoustics: sound insulated

Interior: outside window, forced ventilation

Staff Room 160 sq. ft.

Function: staff conferences, adjacent to director for visitor conferences, coffee breaks

Equipment: 1 large table, 10-12 chairs, coffee maker

Acoustics: sound insulated

Interior: forced ventilation

Department Secretary 140 sq. ft.

Function: office of department secretary

Equipment: 1 desk, 2-3 chairs, 2 file cabinets, 1 work table, glass partition and door into library

Acoustics: sound insulated

Interior: forced ventilation, outside view if possible

-Instrument Repair-

1 Room 240 sq. ft.

Function: space for cleaning and repairing instruments

Equipment: 1 large work bench, tool rack, supply cabinet, 1 work table, large sink and drainboard, shelf storage, electrical grinder & buffer

Acoustics: no sweat

Interior: heavy duty materials, forced ventilation

-General Storage-

1 Room 320 sq.ft.

Function: storage for instrument cases, robe boxes, risers, signs, Montanan boxes, other items

Equipment: shelf space, wall racks, door to outside loading platform

Acoustics: no sweat

Interior: no sweat

SECOND STAGE PROGRAM

-Office-Studios-

2 Studios — each 160 sq. ft.

Function: office and studio for individual instruction

Equipment: 1 piano, 1 writing desk, book shelf, 2-3 chairs, tackboards, music racks, 40 cu. ft. storage

Acoustics: sound insulated

Interior: outside window, forced ventilation

-Classroom-

1 General Classroom — 800 sq. ft.

Function: Classes in music education, history, theory and related subjects

Equipment: seating for 40-50 students, chalkboards, music record and playback equipment, 1 piano

Acoustics: sound insulated, should project sound clearly to all parts of room

Interior: outside windows, forced ventilation

-Individual Practice Rooms-

2 Vocal Practice Rooms each 80 sq. ft.

Function: individual practice of vocal music

Equipment: 1 piano, 2-3 chairs, music racks, shelf

Acoustics: sound insulated, 2 parallel walls to resonate vocal sound

Interior: outside view, forced ventilation

2 Instrumental Practice Rooms each 80 sq. ft.

Function: individual instrumental practice

Equipment: 1 piano, 2-3 chairs, music racks, shelf

Acoustics: sound insulated, non-parallel walls, sloped ceiling,

Interior: outside view, forced ventilation

4 General Practice Rooms each 80-100 sq. ft.

Function: practice of piano, voice, instruments

Acoustics: sound insulated, non-parallel walls

Interior: outside view, forced ventilation

Equipment: 1 piano, 2-3 chairs, music racks, shelf

-General Storage-

1 Room — 240 sq. ft.

Function: storage for instrument cases, risers, robe boxes, and other items

Equipment: shelf space, wall racks, door to outside loading platform

Acoustics: no sweat

Interior: no sweat

FIRST STAGE TOTAL SQUARE FOOTAGE	14,560 sq. ft.
Plus 10% for halls	1,456
TOTAL	16,016 sq. ft.
SECOND STAGE TOTAL SQUARE FOOTAGE	2,080 sq. ft.
Plus 10% for halls	208
TOTAL	2,288 sq. ft.
SUM TOTAL	18,304 sq. ft.

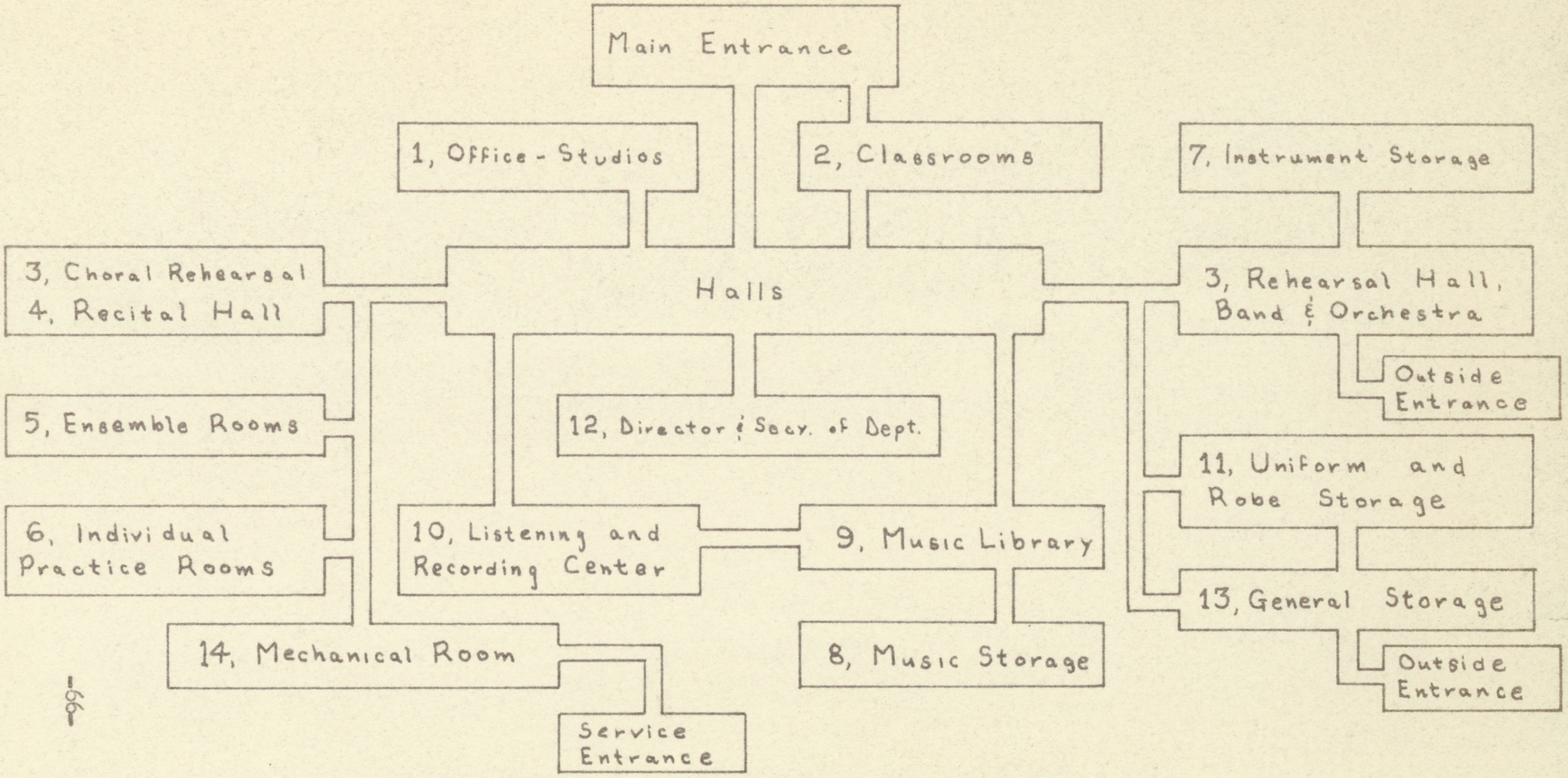
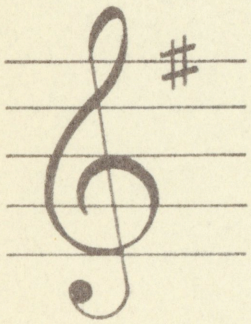


Figure # A Music Building, Flow and Function Diagram

A MUSIC BUILDING FOR MSC



APPENDIX A

Recommended Space Allocation for New Music Building

Instructor Les Opp

Area of instruction _____

Current office space(square feet) 136 (See Below), space needed _____

Current studio space(sq. ft.) 136, space needed _____

Current storage space 8, space needed _____

Other equipment(desks, files, etc.) _____

_____

If you direct a large group(band, orchestra, chorus), how many singers or instrumentalists should be provided for in your large rehearsal room. This is maximum for whatever enlargement in personnel you would project over the next 20-30 years. _____

Other requirements(instrument storage, robes, uniforms, etc.) _____

Dennis: Of necessity, almost all music people occupy a combination office-studio. To provide for sufficient space for storage of library, files, desk, piano, and such necessary office equipment, plus the genuine need for sufficient space for rehearsing small ensembles, these office studios should not be less than 18' X 18'. In my case, an office without studio affiliation would be very, very desirable. For files, phono record storage, desk for secretary, photo-copy equipment, etc., etc., it should be not less than 14' X 14' -- or even better, 16' X 16'. In addition, I should have a studio that would accommodate a piano, music stands, music library, etc. This could also be around 14' X 14'. For anyone who does advising, a small conference room would be very desirable. This could be very small, but again in my case, there would be many times when private matters could be better discussed outside of the studio or the central office (if we had one). As for equipment----well, I could very well use at least two 4-drawer files but I don't know where I would put them if I had them.

In your planning, I think the thing to remember so far as the department head goes, is the need for an office (complete with secretary and all other office accouterments) and the need for a separate studio which is sufficiently large enough for teaching, rehearsing very small groups, library space for music and books, and the necessary piano, stands, etc. Then add a small conference room!

To get down to cases, I have just about 25% of the space that would be highly desirable.

Recommended Space Allocation for New Music Building

Instructor EDMUND SEDIVY

Area of instruction Individual, small group - Lab classes - Band Org.

Current office space(square feet) ~~224~~, space needed 224 > 448

Current studio space(sq. ft.) 224, space needed 224

Current storage space 80 sq feet, space needed 360

Other equipment(desks, files, etc.) as needed 4 sets of 4 files plus a library set of 8 sets (4 files)

If you direct a large group(band, orchestra, chorus), how many singers or instrumentalists should be provided for in your large rehearsal room. This is maximum for whatever enlargement in personnel you would project over the next 20-30 years. 160

Other requirements(instrument storage, robes, uniforms, etc.)

Uniforms 144 sq ft
Instrument Storage 400 sq ft
Percussion Storage 320 sq feet
Assistant Band Dir. Studio 224 sq ft
Instrument Repair Lab - 320 sq feet

Recommended Space Allocation for New Music Building

Instructor GEORGE BUCKBEE

Area of instruction Vocal Music (Instructors)

Current office space(square feet) 108 , space needed 180

Current studio space(sq. ft.) _____ , space needed _____

Current storage space 45 cu ft. , space needed 20 cu. ft.

Other equipment(desks, files, etc.) 1-desk 1-good piano 2-racks for music 4-5 chairs 1-book case 1-phonograph-recorder 1-Tack board

If you direct a large group(band, orchestra, chorus), how many singers or instrumentalists should be provided for in your large rehearsal room. This is maximum for whatever enlargement in personnel you would project over the next 20-30 years. 200

Other requirements(instrument storage, robes, uniforms, etc.) Allow space for orchestra in the event of combined rehearsals – Storage for 200 robes – Storage for music (400 cu ft.) –

Recommended Space Allocation for New Music Building

Instructor CHARLES PAYNE

Area of instruction Piano, Organ, Music History & Literature

Current office space (square feet) ##### , space needed _____

Current studio space (sq. ft.) 144 , space needed 225

Current storage space 40 c.f. (cu. ft.) , space needed 50

Other equipment (desks, files, etc.) Have 1 desk, 1 piano, 4 chairs.
Need another piano.

If you direct a large group (band, orchestra, chorus), how many singers or instrumentalists should be provided for in your large rehearsal room. This is maximum for whatever enlargement in personnel you would project over the next 20-30 years. _____

Other requirements (instrument storage, robes, uniforms, etc.) _____
For History need room with record player and listening room with turntables & earphones.
For Piano Classes need room with multiple pianos (electronic)
For Organ need some sort of concert instrument - preferably a modest-sized pipe organ.

Recommended Space Allocation for New Music Building

Instructor CREECH REYNOLDS

Area of instruction Strings

Current office space(square feet) 117, space needed 150

Current studio space(sq. ft.) Same, space needed —

Current storage space 83 ~~cu. ft.~~, space needed This is plenty

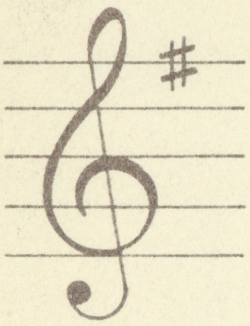
Other equipment(desks, files, etc.) Desk, piano, file, music racks 4-5 chairs, tack board, book shelves

If you direct a large group(band, orchestra, chorus), how many singers or instrumentalists should be provided for in your large rehearsal room. This is maximum for whatever enlargement in personnel you would project over the next 20-30 years. 85

Other requirements(instrument storage, robes, uniforms, etc.)

Need considerable space for instruments by wind & percussion shared with band - for string basses, cello, and library.

A MUSIC BUILDING FOR MSC



APPENDIX B

RECEIVED FROM SOUTH DAKOTA STATE COLLEGE 2/6/63

ARCHITECTURAL THESIS RESEARCH

MUSIC FACILITIES QUESTIONAIRE

Concerning existing and proposed music facilities at SOUTH DAKOTA STATE COLLEGE

For comparison against facilities at Montana State College, Bozeman, Mont.

1. Do you feel your existing music building facilities adequate for current demands? Yes

1. 7500 Sq. ft (area)
2. 350 students average hr per day - 9 A.M. to 8 P.M.
3. 8 on staff plus sixty - Each staff member has office also used as studios -

2. If not, is it due to:

____ 1. Poor acoustical separation.

____ 2. Inadequate rehearsal space.

(X) ✓ 3. Inadequate practice space.

____ 4. Inadequate storage space.

____ 5. Inadequate office space.

____ 6. Any other _____

3. Is your institution planning to improve, extend, or build new music facilities in the near future? No

4. If so, what and when? _____

5. Any further remarks ....

We have a temporary structure - did not cost the State too much. Accoustics & Sound proofing exceptional, maybe by accident. We feel our building should be a model for schools that need new quarters not expensive & adequate.

Your cooperation will be appreciated if you will fill out the above form and mail it in the enclosed return envelope. This form is part of research for an architectural thesis, A Music Building For Montana State College, by D. N. Young.

Sep. Building for this needed.

Thank you, D. N. Young

Dr. John L Rezatto

FEB 4 65

ARCHITECTURAL THESIS RESEARCH

MUSIC FACILITIES QUESTIONAIRE

Concerning existing and proposed music facilities at KENT STATE U.

For comparison against facilities at Montana State College, Bozeman, Mont.

1. Do you feel your existing music building facilities adequate for current demands? Yes

2. If not, is it due to:

   _____ 1. Poor acoustical separation.

   _____ 2. Inadequate rehearsal space.

   _____ 3. Inadequate practice space.

   _____ 4. Inadequate storage space.

   _____ 5. Inadequate office space.

   _____ 6. Any other _____

3. Is your institution planning to improve, extend, or build new music facilities in the near future? No

4. If so, what and when? _____

_____

_____

5. Any further remarks ....

New building — See attached sheet

Your cooperation will be appreciated if you will fill out the above form and mail it in the enclosed return envelope. This form is part of research for an architectural thesis, A Music Building For Montana State College, by D. N. Young.

Thank you, D N Young

On the above form, remarks section, would you please estimate (1) approximate sq. footage of facilities, (2) approximate student load per average day, and average hour, and (3) number on staff and approximate staff studio space.

From Kent State U.

(1)	approximate sq. footage of facilities	25,550	sq. ft.
(2)	approximate student load per average day	1,360	
(3)	approximate student load per average hour	136	
(4)	number on staff	28	
(5)	approximate staff studio space	4,560	sq. ft.

Received from ASU 2/8/63

ARCHITECTURAL THESIS RESEARCH

MUSIC FACILITIES QUESTIONAIRE

Concerning existing and proposed music facilities at ARIZONA STATE U.

For comparison against facilities at Montana State College, Bozeman, Mont.

1. Do you feel your existing music building facilities adequate for current demands? ✓

2. If not, is it due to:

   ✓ 1. Poor acoustical separation.

   ✓ 2. Inadequate rehearsal space.

   ✓ 3. Inadequate practice space.

   ✓ 4. Inadequate storage space.

   ✓ 5. Inadequate office space.

   _____ 6. Any other _____

3. Is your institution planning to improve, extend, or build new music facilities in the near future? Yes

4. If so, what and when? in the process of being built.

5. Any further remarks ....

It is an auditorium designed by Frank Lloyd Wright. Instructional facilities for music are available but not enough for all our needs.

Your cooperation will be appreciated if you will fill out the above form and mail it in the enclosed return envelope. This form is part of research for an architectural thesis, A Music Building For Montana State College, by D. N. Young.

Thank you, D N Young

Received from OSU 2/10/63

Architectural Thesis Research

Music Facilities Questionaire

Concerning existing and proposed music facilities at Oklahoma State U.

For comparison against facilities at Montana State College, Bozeman, Mont.

1. Do you feel your existing music building facilities adequate for current demands? No

2. If not, is it due to:

   ____ 1. Poor acoustical separation.

   x 2. Inadequate rehearsal space.

   x 3. Inadequate practice space.

   ____ 4. Inadequate storage space.

   ____ 5. Inadequate office space.

   x 6. Any other old building; original Men's dorm

Staff –
14 full-time
2 part-time
100 music Majors

3. Is your institution planning to improve, extend, or build new music facilities in the near future? not that I know of

4. If so, what and when? (intentions have been made in hoping to build the first wing of a Humanities Center in the present building bond issue; but nothing for music is included.

5. Any further remarks .... My best guess is that it will be in the next state bond issue or around 1970 before any Music facilities are built.

Sq. Ft. Space:

Classroom	- 2,569	Listening & Records	- 250
Studio	- 3,521	Rest Rooms	- 495
Practice	- 2,077	Storage	- 630
Office	- 815	Plus a Band and Orchestra rehearsal Facility with rehearsal room, storage, library & office.	

Your cooperation will be appreciated if you will fill out the above form and mail it in the enclosed return envelope. This form is part of research for an architectural thesis, A Music Building For Montana State College, by D. N. Young.

Thank you, D. N. Young

MR. BUCKBEE

MUSIC FACILITIES QUESTIONAIRE

Concerning existing and proposed music facilities at

For comparison against facilities at Montana State College, Bozeman, Mont.

1. Do you feel your existing music building facilities adequate for current demands? NO

2. If not, is it due to:

   ✓ 1. Poor acoustical separation.

   ✓ 2. Inadequate rehearsal space.

   ✓ 3. Inadequate practice space.

   ✓ 4. Inadequate storage space.

   ✓ 5. Inadequate office space.

   ____ 6. Any other _____

3. Is your institution planning to improve, extend, or build new music facilities in the near future? Ask Dean Nickerson

4. If so, what and when? _____

_____

_____

5. Any further remarks ....

Good music buildings for comparison would be: Eastman School, Indiana University, U. of S. California and Oberlin (new).

Your cooperation will be appreciated if you will fill out the above form and mail it in the enclosed return envelope. This form is part of research for an architectural thesis, A Music Building For Montana State College, by D. N. Young.

Thank you, D N Young

MR. SEDIVY

MUSIC FACILITIES QUESTIONAIRE

Concerning existing and proposed music facilities at

For comparison against facilities at Montana State College, Bozeman, Mont.

1. Do you feel your existing music building facilities adequate for current demands? NO

2. If not, is it due to:

XXX 1. Poor acoustical separation.

XXX 2. Inadequate rehearsal space.

XXX 3. Inadequate practice space.

XXX 4. Inadequate storage space.

XXX 5. Inadequate office space.

XXX 6. Any other has no Aesthetic quality

3. Is your institution planning to improve, extend, or build new music facilities in the near future? We hope so

4. If so, what and when? the sooner the better and we hope a Music building the students of MSC deserve

5. Any further remarks .... the working conditions are physically a torture Chamber for every student and every instructor

Your cooperation will be appreciated if you will fill out the above form and mail it in the enclosed return envelope. This form is part of research for an architectural thesis, A Music Building For Montana State College, by D. N. Young.

Thank you, D N Young

MR. OPP

MUSIC FACILITIES QUESTIONAIRE

Concerning existing and proposed music facilities at

For comparison against facilities at Montana State College, Bozeman, Mont.

1. Do you feel your existing music building facilities adequate for current demands? Hell No.!

2. If not, is it due to:

   ____ 1. Poor acoustical separation.
   ____ 2. Inadequate rehearsal space.
   ____ 3. Inadequate practice space.
   ____ 4. Inadequate storage space.
   ____ 5. Inadequate office space.
   ____ 6. Any other More & better equipment

   } all of those and more.

3. Is your institution planning to improve, extend, or build new music facilities in the near future? I can only hope.

4. If so, what and when? _____

_____

_____

5. Any further remarks ... The administration is sympathetic, I am sure, but there appears to be little that can be done at this time or in the immediate future.

Your cooperation will be appreciated if you will fill out the above form and mail it in the enclosed return envelope. This form is part of research for an architectural thesis, A Music Building For Montana State College, by D. N. Young.

Thank you, D N Young

Typical Questionare
Recieved From
Mr. Opp
Head of MSC Music Dept.

JAN 23 1964
FEB 12 1964
FEB 26 1964
APR 22 1964
JUL 5 - 1966
JUL 5 - 1966
JUL 30 1966
DEC - 4 1968
FEB 5 1970
FEB 15 1970
FEB 29 1970
NOV 27 1964
DEC 15 1964
DEC 11 1995
JUL 5 - 1966 withdrawn
NOV 25 1995
NOV 2 1995
DEC 1 1995
SEP 10 1999
APR 07 2000
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