

2013 SENATE APPROPRIATIONS

SB 2333

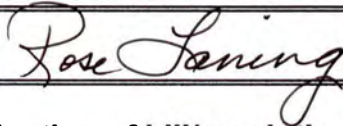
2013 SENATE STANDING COMMITTEE MINUTES

Senate Appropriations Committee Harvest Room, State Capitol

SB 2333
February 7, 2013
Job # 18478

Conference Committee

Committee Clerk Signature



Explanation or reason for introduction of bill/resolution:

A BILL for an Act to provide a contingent appropriation to the university of North Dakota for the school of medicine and health sciences facility project; and to declare an emergency.

Minutes:

Testimony # 1-6

Legislative Council - Brady Larson
OMB - Tammy Dolan

Chairman Holmberg opened the hearing on SB 2333. All committee members were present.

SB 2333 will have the same subcommittee as Higher Ed: Senators Holmberg, Wanzek, Erbele, Krebsbach and Robinson.

Chairman Holmberg Budget for University system and Med. Three proposals that came forth from the study group. There was proposal #1, proposal #2, Proposal #3. Proposal 2 was the budgetary item put in the Executive Budget for \$68M for a major change in the medical school and an increase in its size. There was a suggestion and a decision made to put in a separate bill for essentially option #3, so that the Legislature could look and focus in on. Does the additional funding that is in 2333 what does that get us; the \$55M and what are the rates of return on the additional money?

Dr. Wynne tries to convince us that it is a good one.

Joshua Wynne, M.D., VP for Health Affairs and Dean
Testified in favor of SB 2333
Testimony attached # 1

Explained the options of the building at UND. (3:10-6:11)

David Molmen, Chairperson, UND School of Medicine and Health Sciences Advisory Council (UNDSMHS) (6:11-19:05)
Testified in favor of SB 2333
Testimony attached # 2 Healthcare Workforce Initiative - Molmen testimony
Testimony attached # 3 Health Care Workforce Initiative - Comparison of Building Options

1908 **V.Chairman Bowman** - When you talk about the lower cost of new facility, you still have the costs of the old facility, don't you?

Molmen- Presumably if the building can be repurposed it could replace other buildings which would no longer exist. I think Dr. Wynne will probably speak to that.

V.Chairman Bowman What is the new cost,once the new building is done just in maintenance alone because that is an ongoing expense? I think there other buildings in this budget added up to a little over \$3 additional million dollars just to maintain those buildings over and above what we're going to have in the next budget?

Molmen: Back to the slide of the life cycle costs. The cost of maintenance on this slide would compare our option #2 at \$49.1 M; option #3 at \$34.7 M. This is without repurposing the building, without reuse of that building.

Dr. Wynne: Continuing from testimony #1 (20:49-26:24).
Said that Dr. Molmen's presentation is for reconstruction and taking the old building offline.

Jim Long, CEO, West River Health Services, Hettinger, ND (26:33-32:00)

Testified in favor of SB 2333

Testimony attached # 4 - Testimony Health Care Workforce Initiative for ND's Future

Testimony attached # 5 - Health Care Workforce Initiative

V.Chairman Grinberg You run a fine facility. A couple of years ago, I was accused of breaking the leg of former president of NDSU Tom Plow. I took his pheasant hunting out in your area of the state and he slipped and had a compound break in his right leg. The service and the attention he received when we got him to the Hettinger Hospital were very nice.

Dr. Wynne - continuing with his presentation (33:11- 35:08).

35:18 **V.Chairman Bowman** - If you don't have this information now, maybe you can get it to me because when I look at buildings and spending this kind of money I would like to see the whole picture. And that's the cost of demolishing the old buildings that you are talking about because that can be very expensive, especially with there is any asbestos in that building. That might be more of a shell shock than what we just heard today.

Dr. Wynne replied we will certainly try to get that information to you.

Senator Warner - Your euphemism of "taking it off line". I would rather use the big word demolished. If there is a reason not to demolish then, I just am not quite there yet on option #3. It's because we have a pretty long history of replacing a building and coming back in subsequent session then we need to renovate the old building and it just seems that we're adding square footage all the time to the system. So I would like to see a list of the buildings the list of which departments they hold, which ones are actually going to be demolished, which ones reserved for future use; those sorts of things.

Alice Brekke, VP, Finance and Operations, NDUS

In the discussion of the 8 buildings we certainly will provide you with a list. Seven of them the intent is to demolish, one of them because it was a building that was a combination of gift and purchase we may have an opportunity to sell it. But again it may be ultimately that that building also should be demolished. We certainly can provide the list and give you the information that you requested. But the intent is to demolish.

(37:37) **Senator Kilzer:** Dr. Wynne, \$55 Million dollars is quite a bit of money from a Legislative perspective and I do have a couple of questions and concerns about this. First of all, is the \$55 Million dollars the best way to spend money when, maybe the quality of the product that we're turning out could be improved by such things as Endowed Chairs or at the level of instruction and direct benefit to the students? My second question would be about the longevity of the school? I think Option #1 or Option #2, or Option #3 in about 30 years will probably be near the end of its lifetime. It just seems like the usefulness of buildings is getting less as the years go by. When I went through this sort of training more than 50 years ago, I was in a building that was already one hundred years old and then there still using the building, not for the same purpose anymore. Technology and everything is changing and I guess what are going to look like two generations from now? Will we have twice as many graduates of each one of the programs as we do now? I think these studies have been good, but I really think for this kind of a huge investment that we should have the best guesstimates possible for the coming at least two or maybe even maybe more generations.

(39:37 -) **Dr. Wynne** -I feel a daunting task to try and project ahead two generations. I will do my best. So the best use of dollars was question #1. I think we need to separate it and Mr. Long touched on this. The Workforce Initiative from the facility needs because one drives the other. We have asked for more resources that we believe are sufficient to address the workforce needs as that part of the budget. So, while we would be please if the Legislature would like to invest more we believe, that what we've requested is sufficient to help addressing the Workforce needs. But to accomplish those workforce goals we don't have enough physical space. If we had enough physical space in our current building; we would not have to have a capital construction request. But it was driven by the space study that you approved two years ago that has led us to this point. The question that you are debating is just that. Is the \$55.7 M dollars called for in SB 2333 the best use of the people's money? We're here to testify that we believe it is on the two points that Mr. Malmen emphasized. First of all financially that while it is a large investment up front as you've indicated, that over time it is the most prudent financial investment. The second thing is exactly to your point is that we believe that it optimizes the educational experience for our medical students. Not just medical students, but all of the students. We bring them together and we optimize the space so that they learn in the teams that we practice in. practicing medicine has changed since we started practicing a few years ago and we now practice much more in a team environment. The new building would really help us to do that in an optimal way. As far as how many providers, I am projecting to question number three, relates to projecting ahead. I agree with you completely that it is tough to project ahead two generations. One of the nice things though that I'll say about the Health Care Workforce Initiative is that it scalable. That is we can increase or decrease the supplier positions and the cost to the Legislature by adding or subtracting faculty. Not that we would fire faculty but we have turnover of faculty every year and we could reduce the number of

physicians we need. Do I think you're correct that the Workforce needs 30-50 years from now will be very different from what we foresee over the next ten or twenty years, absolutely. I think two things will occur. One is that the baby boomer population will no longer be swelling; the population of the elderly and number two I would hope that by that time, medicine has figured out a more efficient and cost effective way to deliver care. So I would predict in those two generations that we would need far fewer physicians. But two generations from now I think this building will have lived its useful life with all due respect even though I grew up in 100 year old buildings too. But I think the lifespan of buildings built today is probably substantially longer than two or three generations. Your second question was on the number of graduates in each of the programs, how that will be changing. 2) I think I touched on that a little bit but I think that for over the next 10-20 years that is what is the focus of the Workforce Initiative and the current shortage of physicians, this plan will address then we're proposing a roughly 30% increase. We've already stated that increase in medical school size and a roughly 15% increase in the other health care worker's class size. We believe that that will go a long way towards meeting the workforce needs in places like Hettinger as Jim's physicians retire. There is going to be about a 50% increase in the number of physicians age 60 or over in the next decade; of the cardiologists in North Dakota, there we 36, at the last accounting by the Center for Rural Health. One third of us are 60 years of age or older. So there is going to be a real need not only for physicians but for everyone on the health care team. We next to flex up now to do that; we can flex down in 30 years once we meet the need the needs of North Dakota, but the need that you know is pressing and now are we're starting to address it such as the four physicians who will be going to Hettinger.

(45:39) **V.Chairman Grinberg** Your either 50% funded or we choose to recommend the full funding for the total project. Will this have an impact on the physical therapy program because I notice you had medical students impacted in Health Science students?

Dr. Wynne replied yes. Either option 2 or option 3 achieves the two goals of a) increase in class size including physical therapy b) bringing those programs to together so that they can learn in a team learning environment. So there's no negative impact of option 2 if you will on the physical therapy and the other health sciences students.

Chairman Grinberg - My daughter is going to UND in physical therapy.

(47:08) **Ham Shirvani**, Chancellor of University System
Testified for SB 2333. Here in support of Option #3.

Medical technology has to have the right context the right environmental context to be really effective. It's extremely important because this new building is structured like all the laboratories have extraordinary amount of flexibility, sufficient lighting, sufficient spacing, and there is a great deal of learning that affects in a positive way through this architectural design. As medical education is changing rapidly, the architecture and flexibility of that architecture and the type of equipment and the environmental conditions are completely related to that technology. So that is very important, so it does lead to quality medical education so our students come out of the medical school quite equipped to dealing with the most advance equipment and certainly affects their learning environment. Also, this

medical school project it has a profound impact and is very critical in helping the University of North Dakota to move to a much higher level in terms of a research university.

Senator Mathern: Related to last comment. What is the value of a facility like this to the peer community in the country? What are the long term goals of the Board of Higher Education? What are some of the consequences of for a building of this type in terms of how the peers in research institutions compare to one another? Are they talking about the facilities or more about endow chairs, where does this fit?

Shirvani: It is very critical and profound impact on raising the statute and level of the university. Most of research universities invest a great deal in medical education, some don't have medical schools; those who do have are fortunate to have medical schools. They are considered much higher level. So that to begin with, now if you have great faculty is critical and the University of North Dakota College of Medicine does have a very solid faculty. But the students coming to consider a medical school and when they look a building that has gone through several generations of remodeling versus a state of the art building with state of the art technology in it; of course it's going to have a quite a profound impact on the students. Now in comparison to the peer institutions and based on the clear State Board of Higher Education mandate and directive to me to raise the statute of this system to higher level, we have looked at other systems, other universities. For example, we should be comparing ourselves to the University of Wisconsin; or the University of Iowa, and those institutions. If you look at those institutions they have considerably much better facilities than we have and they have invested substantially higher and these are just two examples. Down the road from the University of Minnesota, the University of Minnesota Medical School is one of the best but when you look at the new buildings and equipment and facilities that they invest is substantially high. There is another impact, it's not about education, we're not being selfish but medical fields, but the medical professions in the next decade or so, is one of the most rapidly growing fields. All health care professions as we're getting older and were living longer so even the states that have economic problems and are not doing any jobs, still there are jobs in for people in the Health Care industry. So this is naturally a growing field not only in North Dakota, but everywhere. So having the best; or offering the best education to our citizens is extremely critical. Also, comparing ourselves to those institutions that we want to aspire to be at that level, this is a real good investment for us.

Eric Watne, Student Body Vice President, UND

Testified in favor of SB 2333

Testimony attached # 6 Senate Resolution

Students have passed a Student Senate resolution unanimously in favor of the building.

Chairman Holmberg closed the hearing on SB 2333

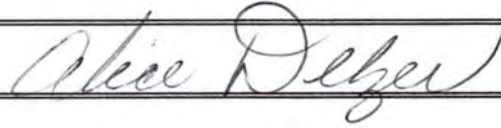
2013 SENATE STANDING COMMITTEE MINUTES

Senate Appropriations Committee Harvest Room, State Capitol

SB 2003 & 2333 Subcommittee
02-21-2013
Job # 19310

Conference Committee

Committee Clerk Signature



Explanation or reason for introduction of bill/resolution:

A Subcommittee hearing re: NDUS

Minutes:

See attached testimony

Chairman Holmberg called the subcommittee meeting to order at 9:00 am on Thursday, February 21, 2013 in regards to SB 2003. Members present were Senator Wanzek, Senator Erbele, Senator Krebsbach, and Senator Robinson . Brady Larson, Legislative Council and Tammy R. Dolan , OMB were present.

Chairman Holmberg: We approved the items on the front of the page and they are being incorporated into the bill. The carry over authority in the past it was done on a round table bill but this time there wasn't one.

Senator Robinson: I suggest we remove number two. suggests we remove it. Committee Agreed.

Chairman Holmberg: Number three is the REAC 1 building at UND to buy and enter into financing agreement. Number four is language about personnel. There is a bill coming from the house but at the end of the day if we are passing something like this it should be in the form of a bill. Number five had to do with SITS staff. This would say that we want the people in the joint building in 5 after the building has been completed and there is an annual report. There are 29 in Fargo, 3 in Bismarck, 1 in Williston. 1 or 2 might never need to move because they cover things regionally. The "all" language needs to be cleaned up. We want to make it clear that the legislative intent is we want them there. Number 6 was technical corrections and cleanup. Number seven is because of 2222. We are removing it because we passed out SB 2222. Number eight we had the suggestion it be put directly into the medicine and health Sciences budget.

Senator Wanzek: Can we get an explanation why they need insurance?

Chairman Holmberg: Malpractice.

Chairman Holmberg: That is a list. Can we have a motion on 1- 8 minus 2,

Senator Robinson moved.

Senator Wanzek 2nd.

All in favor it carried.

Chairman Holmberg: We won't have them in our hand today. We will meet at 7:30 am

Senator Robinson: Is there still a chance to get this on the floor tomorrow?

Chairman Holmberg: No, it will be Monday. SB 2333 won't be on the floor until after SB 2003 is passed. That is the additional change in the medical school.

**2233 moved a do pass Senator Erbele
2nd Senator Robinson . all agreed.**

Chairman Holmberg: Our committee is done.

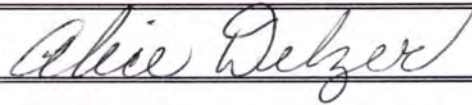
2013 SENATE STANDING COMMITTEE MINUTES

Senate Appropriations Committee Harvest Room, State Capitol

SB 2333
02-22-2013
Job # 19383

Conference Committee

Committee Clerk Signature



Explanation or reason for introduction of bill/resolution:

A BILL re UND school of Medicine (DO PASS AS AMENDED)

Minutes:

You may make reference to "attached testimony."

Chairman Holmberg called the committee to order. All committee members were present except Senator Wanzek.

Brittani Reim-Legislative Council
Tammy R. Dolan- OMB

(0:01:55) Chairman Holmberg opened 2333. This has to stand on its own.. If you recall from testimony, this is option 3 which is before us. If 2333 passes, it is still contingent upon the passage of 2003 and the funding in there. The school of medicine has gone to 70 students, plus 7 that are funded by fed Government. Students that started this year 86% from ND, 10% from MN and then a scattering, it's a challenge to keep physicians in ND, Hettinger had 4 from UND school of medicine. The School of Medicine had the highest number of graduates that go into family practice, the testimony that we had was some cost benefits doing a free standing building the initiatives, in the spirit of transparency, option 1 was remodeling, option 2, the executive budget allowed, this issue had to stand on it's own, the expansion of the medical school under the \$68M that is in the budget. The question about the on the \$55 million is the value over time and the income opportunities by having a free standing building. How can we make this have a decent pay back, for example windows don't pay back but insulation does, this pays back in about 20 years, he had a list of properties that would be torn down, the question is the savings you received this document from them do we want to invest in the completely separate building. They do take away the problem with the current hospital, the university came up with the idea could, take the 3 and 4th 5 floors and use revenue bonds, make apartments and rent them out to the students, it's a hospital, better suited for apartments then classrooms.

(0:08:23) Vice Chairman Grindberg questioned about the demolition list to the ones that they are keeping for apartments.

(0:08:34) Chairman Holmberg There would be efficiencies and savings to the UND keeping the old building totally and refurbishing, if a the medical school would move to a new building, UND would use that building, for other uses.

(0:10:00) Senator Erbele add one more thing, in regards to older buildings, housing occupational therapists, the intent to bring them closer to the new building, those in medical related field getting closer.

(0:10:37) Chairman Holmberg the students are not just doctors, they are PT, OT.

(0:11:04) Senator Mathern I see this as an opportunity for a 1 time investment that will be good for 100 years. With the resources we have now, now is the time to make that investment. We have money that is sitting around and not being used well, just like I think we need to build 100 year roads, this is a project that is well. I see this as a project for the state, I suspect if you look at, we are getting close to 50% of the Doctors are from UND, so I support this in the time of our history and the resources we have right now. The question, are you comfortable that it is worded in such a way funding option 3 and contingent on another bill?

(0:13:17) Chairman Holmberg it is contingent , in passage of option 2 in 2003.

(0:13:38) Vice Chairman Bowman If there was asbestos in those buildings, we did our courthouse , and that was more expensive for the asbestos than for the whole courthouse.

(0:14:10) Chairman Holmberg It is very possible the old hospital has asbestos in it. It is built solid. The estimate that we received from the University they felt they could demolish, some are homes, big 4 square homes, they were the ones who gave us the list of what it costs, it makes sense.

(0:15:28) There is discussion about getting the list of the buildings.

(0:15:43) Senator Kilzer the advisory committee meeting there was a more detailed floor plan of the three options, my immediate response was option 1 or 2, those are the ones that gave us the increase in square footage, I was the only one to not vote on option 3, even looking back, my preference for option 2, the square footage in option 3 . I don't think it would handle the doubling of all the classes, they are only there 2 years, even if you double that, physical therapy , I think the contention that this attracts . Doesn't hold. When they presented it to this group, we do complain about the high cost of running a medical school we need to be budget conscience I would rather see the money put reduce the budget, investment in people not buildings I favor option two and not favor this bill.

(0:19:22) Chairman Holmberg we want to be sure the ability of the medical school to expand the classes is available in option 2, option 3 will not , otherwise they will not to do the expansion, they can do the expansion in option 2,

(0:20:30) Senator Erbele moved a do pass.

2nd **Senator Mathern.**

(0:20:49) Vice Chairman Grindberg I fall on the side of Senator Kilzer for option 2. Too much at this point. I will vote against the motion.

(0:21:06) Senator Erbele I see it as attaching a new facility to a building that is already 60 years old, and parking issue, across the street in option 2. I still back this one.

Chairman Holmberg call the roll on **Do Pass on 2333. 7 Yea, 5 no 1 absent.**

Senator Erbele will carry the bill.

Date: 2-22-13

Roll Call Vote # 1

2013 SENATE STANDING COMMITTEE
ROLL CALL VOTES

BILL/RESOLUTION NO. 2333

Senate Appropriations Committee

Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken Do pass

Motion Made By Erbele Seconded By Mathern

Senators	Yes	No	Senator	Yes	No
Chariman Ray Holmberg	✓		Senator Tim Mathern	✓	
Co-Vice Chairman Bill Bowman		✓	Senator David O'Connell		✓
Co-Vice Chair Tony Grindberg		✓	Senator Larry Robinson	✓	✓
Senator Ralph Kilzer		✓	Senator John Warner	✓	
Senator Karen Krebsbach	✓				
Senator Robert Erbele	✓				
Senator Terry Wanzek					
Senator Ron Carlisle		✓			
Senator Gary Lee	✓	✓			

Total (Yes) 7 No 5

Absent 1

Floor Assignment Erbele

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

SB 2333: Appropriations Committee (Sen. Holmberg, Chairman) recommends DO PASS
(7 YEAS, 5 NAYS, 1 ABSENT AND NOT VOTING). SB 2333 was placed on the
Eleventh order on the calendar.

2013 HOUSE APPROPRIATIONS

SB 2333

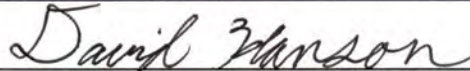
2013 HOUSE STANDING COMMITTEE MINUTES

House Appropriations Education and Environment Division
Roughrider Room, State Capitol

SB 2333
March 20, 2013
Job 20245

Conference Committee

Committee Clerk Signature



Explanation or reason for introduction of bill/resolution:

A BILL for an Act to provide a contingent appropriation to the university of North Dakota for the school of medicine and health sciences facility project; and to declare an emergency.

Minutes:

Attachments1-5

Chairman Skarphol called the committee back to order and closed the hearing for SB 2003 and opened the hearing for SB 2333.

Senator Ray Holmberg: Gave a report from his committee. You will receive information from them.

Chairman Skarphol: Will there need to be an additional appropriation required to renovate or tear down the existing facility?

Sen. Holmberg: The original hospital that was built is a solid building with a lower roof. It is a concrete blockhouse. There was some discussion to tear it down. There was some reluctance to do that. The university has looked at converting three floors to student apartments paid for through the rent of the students. 6:25

Dr. Joshua Wynne-UND School of Medicine: Gave his testimony. See attachment 1.

Jim Galloway-JLG Architects: Refer to attachment 1 starting on page four. 16:00

Bob Lavey: 1. Team Introduction. Perkins and Will is a firm that has been around since the 30's and does a lot of healthcare work.

Galloway: Explained the 2. Space Study Objectives and Goals. 18:00

Lavey: Gave the overview of availability of the space and what was needed. 19:11

Galloway: And suitability doesn't just mean the condition of the, but the does it have functionality?

Lavey: 20:15 3. Implementation of HWI. Utilization of HWI. 22:17

Chairman Skarphol: What's the international statistic for utilization?

Lavey: Internationally it is actually lower. It depends which country go to. I did a lot of work in the Middle East and their utilization was about 30%.

Vice Chair Monson: The plan you have designed would be for 46% for the present building?

Lavey: The present building is currently operating at 46%.

Galloway: Right now we are just talking about the study we have done on the existing facility so far. The options and conclusions are at the end. 23:30

Lavey: Continued with testimony. 4. Utilization of Capacity of Rates. 25:50 5. Existing Conditions Analysis. 30:22

Lavey: 6. New Space Requirements 32:28 7. Proposed Solutions. 34:00

Chairman Skarphol: So the square footage of these options that are reflected? Option three obviously provides three times more space. I would assume additional growth could be possible beyond what is being projected?

Galloway: Option two is a larger building than the new one would be.

Chairman Skarphol: How many square feet are there today that they are utilizing?

Randy: There is about 275,000 square feet in the main building.

Randy: Explained the current square footage of the five different buildings bringing it to a total of 354,000 sq. ft.

Rep. Williams: Are these building connected by a tunnel?

Randy: The one building that is connected by a tunnel is the animal facility, but not in the other buildings.

Vice Chair Monson: When you are talking about the existing building are you talking about the addition to the south side of the hospital?

Galloway: Yes. That is part of that space.

Vice Chair Monson: What year was that added?

Randy: That was in 1992. 38:55

Lavey: Explained option 3.

Galloway: These are just options to meet the needs of enrollment projections. 40:35

Lavey: Went through the three options in detail. 48:15

Rep. Dosch: Can you comment on the cost estimate on option three?

Galloway: Explained how they came to the estimates. 49: 45

Vice Chair Monson: When you are talking about your square footage figures, you're talking about just the building or are you talking about furnishings?

Galloway: Whenever you're talking about per square foot it's hard to make sure it's apples to apples and doesn't include furniture, fixtures, equipment etc. The examples I mentioned I believe include all of that.

Chairman Skarphol: Can you give us a spec sheet that would delineate the office sizes...give us an idea of what you have in mind as far as the general nature of the building?

Galloway: Yes.

Rep. Dosch: Will the utilization of the plan for the other spaces be addressed?

Wynne: Continued with his testimony. See attachment 1. Page 19. 53:53

Chairman Skarphol: I'm curious what affect bonding would have on the cash flow and how you would generate the revenue that would be required to cover the bonding if we were to go that route?

Alice Brekke-V.P. Finance and Operations at UND: We are allowed to flow that into our FNA calculation. We only potentially see reimbursement for space that is actively utilized on federally sponsored projects and there is a significant time lag in how that is calculated. The next renegotiation the building would have to be fully online and the feds would only fill into the rate calculation if there are federal projects currently funded and square footage of those specific projects at that point in time. 56:23

Chairman Skarphol: When do you renegotiate?

Brekke: Typically on a four year cycle.

Chairman Skarphol: You used a phrase saying actively utilized on federally sponsored projects...any idea what that might translate into?

Wynne: The estimate is, once fully implanted, nearly \$1 million a year. That is federal funds that flow to the university irrespective of anything else. This is based on the current research activity projecting ahead.

Brekke: That \$37 million number includes more than just the cost recovery for the facility itself. It includes administrative, facility, operations and maintenance reimbursements. If that full amount had to be dedicated to repayment of a bond, the next renegotiation cycle our rate would go down. 1:00:00

Wynne: Continued with his testimony. 1:02:10

Senator Judy Lee: Gave the report of her committee. The new building would be more cost effective in the end. Went through the background of how they came to their decision. 1:07:30

Wynne: Continued with testimony and talked about possible alternatives. 1:12:54

Rep. Streyle: What are the expected federal funds?

Wynne: I don't have any insight in that, but we, as well as others in the country, are trying to impress the importance of the federal support.

Rep. Streyle: Asked about the proposed completion date. Was there any consideration in partnering with Altru?

Wynne: Timing for option 3 would be one year for planning and two years for construction. Three years total. That's an aggressive time frame. As far as partners, we have been aggressive in sharing this with others, but we have not been able to identify others other than what we are presenting to you. 1:17:40 Continued with testimony. 1:21:30

Chairman Skarphol: Asked about the requirements of WICHE with regards to the expansion of class size.

Wynne: The expansion of the class size is specifically targeted for North Dakota students and those with those in rural primary care practice and we stick by that commitment. That will lower the percentage of INMED and WICHE students as we expand the class size.

Vice Chair Monson: This is the beginning of whole new string of projects if we do this.

Brekke: Yes, there are occupants in those buildings. We would demolish and sell certain ones. We would focus on the medical school itself, because of the recommendations of the space study. Gave an overview of what they might do with the buildings and space. 1:26:08

Chairman Skarphol closed the hearing on SB 2333.

2013 HOUSE STANDING COMMITTEE MINUTES

House Appropriations Education and Environment Division
Roughrider Room, State Capitol

SB 2333
April 3, 2013
Job 20847

Conference Committee



Explanation or reason for introduction of bill/resolution:

Minutes:

Chairman Skarphol: called the committee back to order.

Chairman Skarphol: We have three bills left. Stated his intention of placing SB 2333 into SB 2003.

Representative Martinson: I move to have SB 2333 moved into the budget of SB 2003 for the med school. Seconded by Representative Monson.

A Roll Call vote was taken. **Yes = 8, No = 0, Absent = 0.** Motion carried.

1:44 Representative Martinson: Are we going to go back to commerce, I have two thoughts on that.

Chairman Skarphol: We can. I would like to meet either tomorrow morning or Friday morning as things stand right now.

Representative Martinson: My intention is to take the 6 million dollars left from the research schools and add another 6 million dollars out of the savings we have already found and appropriate 12 million dollars to the TR Center and allow them to raise 3 million dollars in matching funds or more. Also make the same motion Representative Streyle made on the base alignment of money that the money is held over from Minot, which it be a direct grant and they draft a check and pay them like they were supposed to last session.

Representative Boe: I move a **Do Not Pass.** Seconded by Representative Williams.

A Do Not Pass Roll Call vote: **Yes = 8, No = 0, Absent = 0.** Motion carried.

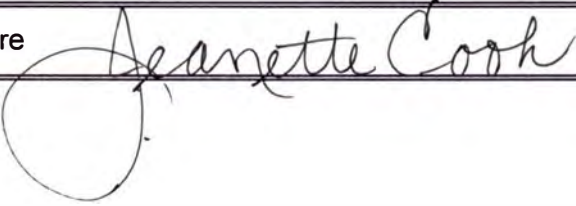
Chairman Skarphol: Did you get the impression from Wynne on expansion of the current class size? We need to address the equity issue.

2013 HOUSE STANDING COMMITTEE MINUTES

House Appropriations Committee Roughrider Room, State Capitol

SB 2333
4/5/13
Job # 20945

Conference Committee

Committee Clerk Signature 

Minutes:

See 2075 minutes from 4/5/13.

Chairman Delzer: Do you have anything on the judge's budget? I think they are going to deal with the medical school in the budget. Are you going to deal with the judges in the budget?

Representative Thoreson: We have taken action on SB 2075, and we amended it to three judges as it was before it went to House Judiciary, but we gave it a Do Not Pass. We have actually put the three judges and supporting staff into SB 2002.

Chairman Delzer: Okay. Do you have the amendments for SB 2075? Do you have 2333?

Representative Skarphol: We did amend it (2075) by the action of the committee into the budget. We haven't gotten the budget amendments back. We did not amend 2333 at all. We gave it a Do Not Pass.

Chairman Delzer: Committee members, what we do with these is wait for the bill, so after the budget. It doesn't mean that we have to wait here to take action on these bills. We have 2333 before us.

Representative Skarphol: We amended all of the provisions of this bill into the budget of Higher Education. We wanted to do that so that it was going to be part of the negotiations of the Higher Ed. budget, rather than have a separate bill appropriating money.

Representative Skarphol moved a DO NOT PASS on 2333.
Representative Monson seconded the motion.

Chairman Delzer: Any discussion? I plan to support the DO NOT PASS and support a DO NOT PASS on this portion of the Higher Education budget. When I looked through the reports, the one that the Governor proposed looked much better to me.

Representative Nelson: I can understand the strategy that is being developed to put this into the Higher Ed. budget, but I think it is worthy of mention that in the interim this was looked at in several meetings and in deliberation. I would disagree with your analysis that the second option is the best option. I think, clearly, this is the best option to move forward. As we look at this session and where we are going, where we are at, and the opportunity that is available to us, this is one of those projects where we are on the cusp making decisions that will affect the next 40 to 50 years or longer. If we do this, we will set ourselves up for providing health care delivery in North Dakota for generations to come. The collaboration that the new facility will result in will benefit every citizen in North Dakota. If we do this and do it right, this session will leave a legacy in health care delivery that will be unprecedented in North Dakota. I would hope that that message does go forward to the people that are on the conference committee, and that this is not lost in the mix of the final decision making that the committee does.

Chairman Delzer: We will have this discussion on the Higher Ed. budget. I don't know how much time we want to spend on it now. We will hold this bill until the budget is done.

Representative Bellew: I really think that the whole House floor should vote on this and not just put it in the budget. Once we bring the budget forward, it seems like the budgets just get passed. I think that the whole House should vote on this like the whole Senate did.

Chairman Delzer: We can do it the other way. You can go ahead and substitute a motion for a DO PASS on it. We can bring it to the floor first, but that is going to change this vote here. That is the decision. Do we want this on the floor first? We'll keep this and have some discussion later.

Representative Skarphol: The Governor's budget brought forward the \$68 million dollar project. Our subsection talked long and hard about this. There is a surprising amount of support to build the facility. But, I feel strongly that there is one thing that needs to be done before we do anything with the medical school. There are entities out there called design firms that specialized in different kinds of building construction. If you go out and Google "medical design firms", you will find that there are few that do this, but they are expert at it. While the study that was done is much more adequate than we have had in the past, the committee already has appropriated \$150,000 to have a design firm take a look at the two alternatives and tell us from their perspective what the best option is. That would be required prior to the building of anything. It should be able to be done in a matter of months. We are giving serious considerations to the alternatives. We are *supportive*... of the new facility, but are not committed 100% to it at this time.

Chairman Delzer: Will you withdraw your motion for the DO NOT PASS at this time?

Representative Skarphol withdrew the DO NOT PASS motion.

Representative Monson withdrew the second.

The DO NOT PASS motion was withdrawn.

Chairman Delzer: When we take this up again we will have the bare bill before us when we take it up again.

2013 HOUSE STANDING COMMITTEE MINUTES

House Appropriations Committee Roughrider Room, State Capitol

SB 2333
4/10/13
Job 21095

Conference Committee

Committee Clerk Signature

Meredith Tracholt

Explanation or reason for introduction of bill/resolution:

A BILL for an Act to provide a contingent appropriation to the university of North Dakota for the school of medicine and health sciences facility project; and to declare an emergency.

Minutes:

You may make reference to "attached testimony."

Chairman Delzer: This is the bill with the \$55M for the med school. The section has pretty much rolled that money into the budget (SB 2003) and there may be some discussion on that; the section brought it out with a Do Not Pass recommendation.

Rep. Skarphol: That's correct, we did, based on the fact we did put it in the budget.

Chairman Delzer: We'll go ahead and act on this; how we would do these bills on the floor would be 2003, then 2200, then 2333. If we need to bring it back, if there is a change, we can bring it back; we won't drop it in until we deal with everything else.

Rep. Skarphol moved Do Not Pass, seconded by **Rep. Streyle**.

Chairman Delzer: I understand some people may be voting for the Do Not Pass because it is in the budget, and some because they do not agree with the funding.

Rep. Glassheim: Can I know what the status on the funding for the med school building is or is likely to be coming out of committee?

Chairman Delzer: This will not be turned in until after we deal with 2003 and 2200. If we need to come back and spend some more time after those, we would do it. I believe the section has put the funding for the new expanded building in the budget.

Rep. Glassheim: As part of 15 other buildings, or standing alone?

Chairman Delzer: I do not know.

Rep. Skarphol: As it stands right now, we have created a pool within the higher ed budget for \$160M. Any building or renovation in excess of \$10M would require a 10% match. The intent is to provide some level of flexibility within the board to try to manage the dollars for

buildings in an optimal fashion. We've asked that an independent design firm be hired to assess the needs of the medical school, and that document could be used to put out the RFP for the building; you wouldn't have to have the price set, you would have the criteria for the building. As a part of that, this medical school building is included in that pool. Also as part of that design firm being hired would be a request to evaluate both proposals, the \$68M facility and \$120M facility, then make the appropriate decision as to which one to move forward with. It's not intended to limit.

06:30

Rep. Glassheim: What was the total amount of the request?

Chairman Delzer: The governor's budget was 166, I think. The governor proposed the middle option, the \$68M.

Rep. Glassheim: So it's your intention for us to leave here not knowing what the priorities are, or not knowing what buildings will be built.

Chairman Delzer: To some degree you can say that. One of the biggest issues we have is whenever we set a dollar figure on a building to be built, it magically costs that much or more. The essence of doing something different is to try to pick up some efficiencies by not setting the price beforehand. That's what we're trying to do by considering pooling. We're having discussion on it.

Rep. Glassheim: I half see what you are saying, but on the other hand, we have competitive bidding systems. Estimates sometimes run high, sometimes low. You could set aside X million dollars for something, it doesn't mean you're going to spend it. It could mean you're going to spend it. You want to limit people, so they don't say, oh we have \$2M extra, let's add something. I don't think businesses can go ahead with planning without knowing about what they are going to spend. Maybe they don't tell anybody because they're not public, but they have to know what they are willing to spend on a building.

Chairman Delzer: That is one of the issues. We meet every two years, and if we set that out there in code, that's pretty much what it costs, or more.

Rep. Skarphol: We have a perfect example right here on our campus. When we bid the Heritage Center expansion, we gave them authority for \$51M, \$39M of which was general fund dollars. They bid it, and the bids came in \$7M below. We have no options. We did not get the money back; we could not get the money back because we didn't make those provisions. The point is, if they get the bids to come in below on many of these projects, we're trying to enable them to them all, or do more. Not limit what they can do, but rather enable them to have the flexibility to do more. We're not adverse to the buildings, we're adverse to the price being set in advance of the bidding.

Rep. Glassheim: I could see approving a certain amount for a building, and then a claw back if the bids come in low. I understand not filling up with extra stuff you didn't know you wanted. But this method of doing it leaves everybody in doubt. There isn't a campus that knows if they will or will not get a building; they can't plan for it; they're in competition with

everybody else. They still have to set aside some money, and bids could come in higher or lower even after your design process.

Chairman Delzer: I think this is a discussion on 2003 much more than 2333. We'll hold this, and stand adjourned for the day.

2013 HOUSE STANDING COMMITTEE MINUTES

House Appropriations Committee
Roughrider Room, State Capitol

SB 2333
April 12, 2013
Job # 21149

Conference Committee

Committee Clerk Signature *Marlynn Krueger*

Explanation or reason for introduction of bill/resolution:

A BILL for an Act to provide a contingent appropriation to the University of North Dakota for the school of medicine and health sciences facility project; and to declare an emergency.

Minutes:

Chairman Delzer: A motion was made on SB 2333. It is still setting on the bill.

A Roll Call vote for Do Not Pass was taken.

Yes 13 No 8 Absent 1 Do Not Pass Carrier Skarphol

Chairman Delzer adjourned the meeting.

Date: 4-5-13
 Roll Call Vote #: 1

**2013 HOUSE STANDING COMMITTEE
 ROLL CALL VOTES
 BILL/RESOLUTION NO. 2333**

House Education and Environment Division Committee

Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken: Do Pass Do Not Pass Amended Adopt Amendment

Rerefer to Appropriations Reconsider

Motion Made By Martinson Seconded By Monson

Representatives	Yes	No	Representatives	Yes	No
Chairman Robert Skarphol	X		Rep. Clark Williams	X	
Vice Chairman David Monson	X		Rep. Tracy Boe	X	
Rep. Bob Martinson	X				
Rep. Roscoe Streyle	X				
Rep. Mark Dosch	X				
Rep. Bette Grande	X				

Total (Yes) 8 No 0

Absent 0

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Place 2333 into 2003

Date: 4-5-13
 Roll Call Vote #: 2

**2013 HOUSE STANDING COMMITTEE
 ROLL CALL VOTES
 BILL/RESOLUTION NO. 2333**

House Education and Environment Division Committee

Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken: Do Pass Do Not Pass Amended Adopt Amendment
 Rerefer to Appropriations Reconsider

Motion Made By Boe Seconded By Williams

Representatives	Yes	No	Representatives	Yes	No
Chairman Robert Skarphol	X		Rep. Clark Williams	X	
Vice Chairman David Monson	X		Rep. Tracy Boe	X	
Rep. Bob Martinson	X				
Rep. Roscoe Streyle	X				
Rep. Mark Dosch	X				
Rep. Bette Grande	X				

Total (Yes) 8 No 0

Absent 0

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Date: 4/5/13
Roll Call Vote #: 1

**2013 HOUSE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 2333**

House Appropriations Committee

Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken: Do Pass Do Not Pass Amended Adopt Amendment
 Rerefer to Appropriations Reconsider

Motion Made By Rep. Skarphol Seconded By Rep. Monson

Representatives	Yes	No	Representatives	Yes	No
Chairman Delzer			Rep. Streyle		
Vice Chairman Kempenich			Rep. Thoreson		
Rep. Bellew			Rep. Wieland		
Rep. Brandenburg					
Rep. Dosch					
Rep. Grande			Rep. Boe		
Rep. Hawken			Rep. Glassheim		
Rep. Kreidt			Rep. Guggisberg		
Rep. Martinson			Rep. Holman		
Rep. Monson			Rep. Williams		
Rep. Nelson					
Rep. Pollert					
Rep. Sanford					
Rep. Skarphol					

Total Yes _____ No _____

Absent _____

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

withdrawn

4-12-13
 Date: 4/10/13
 Roll Call Vote #: 1

**2013 HOUSE STANDING COMMITTEE
 ROLL CALL VOTES
 BILL/RESOLUTION NO. 2333**

House Appropriations Committee

Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken: Do Pass Do Not Pass Amended Adopt Amendment
 Rerefer to Appropriations Reconsider

Motion Made By Rep. Skarphol Seconded By Rep. Streyle

Representatives	Yes	No	Representatives	Yes	No
Chairman Delzer	\		Rep. Streyle	\	
Vice Chairman Kempenich	\		Rep. Thoreson	\	
Rep. Bellew	\		Rep. Wieland	\	
Rep. Brandenburg	\				
Rep. Dosch	\				
Rep. Grande	\		Rep. Boe		\
Rep. Hawken	A		Rep. Glassheim		\
Rep. Kreidt	\		Rep. Guggisberg		\
Rep. Martinson		\	Rep. Holman		\
Rep. Monson	\		Rep. Williams		\
Rep. Nelson		\			
Rep. Pollert	\				
Rep. Sanford		\			
Rep. Skarphol	\				

Total Yes 13 No 8

Absent 1

Floor Assignment Skarphol

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

SB 2333: Appropriations Committee (Rep. Delzer, Chairman) recommends **DO NOT PASS** (13 YEAS, 8 NAYS, 1 ABSENT AND NOT VOTING). SB 2333 was placed on the Fourteenth order on the calendar.

2013 TESTIMONY

SB 2333

Joshua Wynne
SB 2333

#1



**Testimony of Joshua Wynne, M.D.
Vice President for Health Affairs and Dean**

**Senate Appropriations Committee
February 7, 2013**

Good morning Chairman Holmberg, members of the committee, and guests. My name is Joshua Wynne. I am Vice President for Health Affairs at the University of North Dakota and proud to be Dean of your School of Medicine and Health Sciences. Joining me in the presentation today will be Mr. David Molmen, Chair of the School's Advisory Council.

The testimony that we will provide is intended to illuminate your deliberation of Senate Bill 2333, which provides \$55.7 million of additional funding beyond that contained in the Executive Budget and authorizes construction of an entirely new building for the medical school. We are grateful to Governor Dalrymple for the medical education provisions in the Executive Budget, which fully funds the Health Care Workforce Initiative as well as Option 2 of the capital construction options. Option 2, as you may recall, is a \$68.3 million capital project that entails remodeling part of the current building along with construction of additional contiguous space. When we first testified before this committee on January 15th of this year, there was considerable discussion of two capital construction options—Option 2, the combination of renovation of the current building with the construction of additional adjacent space, and Option 3, that calls for construction of an entirely new building. Two issues quickly surfaced during that and subsequent discussions. The first issue related to the factors that would justify the expenditure of an additional \$55.7 million on a new building—or asked another way, what would be the return on investment if a new building were constructed? The second issue related to the possible alternate use—or repurposing—of the current building if a new building were constructed. Our presentation today will focus on those two questions, but we will also address a third one; namely, how would a new medical school building in Grand Forks benefit the rest of the state? To help address that third question, we will hear testimony later from Mr. Jim Long, CEO of West River Health Services in Hettinger, North Dakota.

The first question to be considered is an analysis that compares the value proposition of the two construction options. There are two components to that value proposition—financial, and functional, meaning the positive impact of the new space of the educational experience of our students, and thus ultimately on their competence as practitioners. To compare the financial and functional impact of the two construction options under consideration, I'd like to call on Mr. David Molmen,

who is chair of the School of Medicine and Health Sciences Advisory Council. He also is the CEO of Altru Health System.

(Testimony of Mr. David Molmen)

The second issue relates to the possible alternative uses—also called repurposing—of the current building if a new building were added. Led by UND Vice President Alice Brekke, the University has explored various repurposing options. You may recall that she testified during the School's earlier presentation in January. As the possible repurposing of the current medical school building was considered, a goal was established of developing a cost effective plan that takes existing marginal campus-wide space at UND off-line with a goal of improving the overall quality of space for campus functions.

As a result of this work, eight buildings have been identified as candidates to take off-line with a potential annual operating savings of \$360,000. These savings would be reassigned to support the new medical school building. It should be noted that the cost of demolition and/or disposal has not yet been identified. These buildings are in poor to average condition and would require significant repair and maintenance expenditures over the next five to ten years to remain occupancy. Such investment would not enhance the quality of the space but would keep it usable.

Repurposing the current medical school building would offer UND the ability to relocate a variety of functional areas to achieve greater synergies, efficiencies, and enhanced educational value. Re-assignment of laboratories and the vivarium for use by other UND science departments could occur, thereby providing critically needed laboratory instructional space and/or joint use research space. Likewise, enhanced space for undergraduate education would become available by utilizing the freed-up lecture halls and small group classrooms in the current medical school building. Although there would be fit-up costs associated with this adaptive reuse, UND and the School of Medicine and Health Sciences are committed to prioritized use of existing resources to support these changes.

The upper floors of the vacated medical school building could be renovated into needed student apartment housing. The resulting rent payments would be used to service the debt associated with the revenue bonds that would fund the apartment renovation costs. Such occupancy would also relieve a portion of the utility, custodial and maintenance costs currently being funded by appropriation (estimated at \$90,000/year). These savings, along with the potential savings of \$360,000 from taking the eight older building off-line, would total about \$450,000 per year and could be used towards the operating costs of the new medical school building.

In summary, in answer to the question about the future of the current building were a new building to be constructed, the first two floors of the current building, along

with adjacent laboratory space and the vivarium, could be repurposed to satisfy other critical educational needs of UND. Eight marginally productive smaller buildings on campus could be taken off-line and generate operational savings of some \$360,000 per year. Floors three through five of the current building could be converted into needed student housing that would be funded by revenue bonds and generate not only rental income but additional operating savings of some \$90,000 per year. Thus, construction of a new medical school building with repurposing of the current building and retirement of older facilities would generate additional annual operational savings of some \$450,000, or about \$18 million over the 40-year effective lifespan of the new building.

The last question to be considered is that of the return on investment in a new building and specifically the possible benefits of a new building on health care delivery everywhere in North Dakota. To address this last question, I'm pleased to invite Mr. Jim Long to the podium. Jim is CEO of West River Health Services in Hettinger, North Dakota, and we thank him for traveling here to Bismarck today.

(Testimony of Mr. Jim Long)

Mr. Long's comments prompt me to make one final point. Showing medical and other health sciences students that North Dakota really values their dedication and commitment by investing \$124 million in their education sends the students a powerful message about commitment—commitment to patients; commitment to community; and commitment to North Dakota. Making that sort of commitment will help with the School's retention efforts, in part by attracting more students from places like Hettinger and the western part of the state to enroll in the School of Medicine and Health Sciences. And by helping to attract and then retain more students for subsequent clinical practice in North Dakota, a new medical school building in Grand Forks can have a very positive impact on health care all the way out west in Hettinger.

Thank you, Chairman Holmberg and members of the committee for allowing us to testify today. We stand on the threshold of an exciting time for the School and for North Dakota. The Health Care Workforce Initiative and the associated capital construction options offer the promise that North Dakota finally will be able to come to grips with its lingering health care workforce problem that has been ongoing for decades. Constructing a totally new building offers enormous educational opportunities for UND students—both health-related and others—and it is the financially most prudent choice. Over the next few decades, a new building clearly returns the best value to the taxpayers of North Dakota. And perhaps most important of all, it will offer benefits that are reaped throughout the state, especially in those rural counties that are in greatest need of an augmented supply of health care providers.

Thank you for your attention. I and my colleagues would be happy to answer any questions.

David Molmen #2
SB 2333
2-7-13

HEALTH CARE WORKFORCE INITIATIVE

Testimony before the
Senate Appropriations Committee
of the North Dakota Legislature

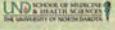
By: David Molmen, Chairperson
UNDSMHS Advisory Council

February 7, 2013

Thank you, Dr. Wynne. Good morning Chairman Holmberg, members of the Committee and Guests. My name is David Molmen, and it is my honor to chair the University of North Dakota School of Medicine Advisory Council, which is the body created by the legislature to advise the medical school, the legislature, and the entities represented by its membership. My remarks this morning will provide information on proposed UND SMHS building option "2" and "3". The details I provide in my testimony are included in the "Fact Sheet" which has been distributed.

Space Study

- The 2011 North Dakota legislative assembly authorized a space study related to the Healthcare Workforce Initiative (HWI) for North Dakota.
- The space study proposes three building options which could facilitate the requirements of the HWI.
- Building Option 2 is being considered as a part of SB 2003.
- SB 2333, would provide funding to implement Option 3.
- This presentation provides further detail and comparisons of those two options.

SCHOOL OF MEDICINE & HEALTH SCIENCES
ADVISORY COUNCIL 

The 2011 North Dakota legislative assembly authorized a space study to determine facility requirements to support the Healthcare Workforce Initiative (HWI) for North Dakota. The goals of the study were to determine: 1) the suitability of the existing space; and 2) the amount of new space required to meet the class expansion.

The space study was carried out, and at its conclusion, it proposed three building options (designated Option 1, Option 2, and Option 3) to fulfill the requirements of the HWI.

Building Option 2 has been included in the Executive Budget for the 2013-2014 biennium, and is being considered as a part of SB 2003. Senate Bill 2333 has now been introduced, and would provide funding to implement Option 3. My presentation will provide you further detail and comparisons of those two options.

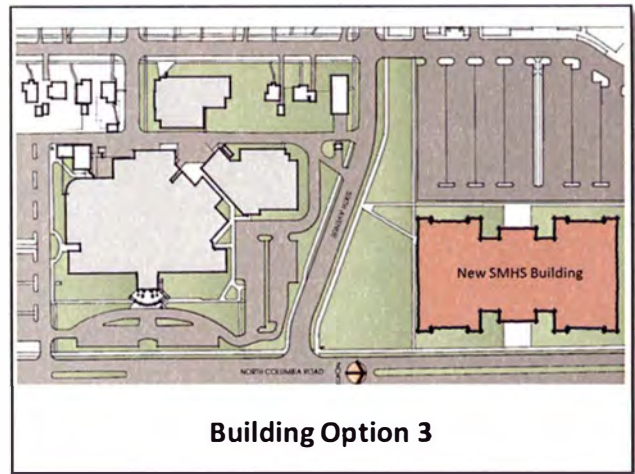
The two building options being considered each strive to achieve the same design goals, but use different approaches.

Option 2, a schematic of which you see here, proposes a combination of building expansion and renovation of the current facility to meet the needs. It has an estimated project cost of \$68.3 million, including all costs of construction, site preparation, technology, and other expenses.

Option 2 consists of an addition of approximately 169,300 gross square feet (shaded in orange), and renovation of 48,300 GSF of faculty and support space.

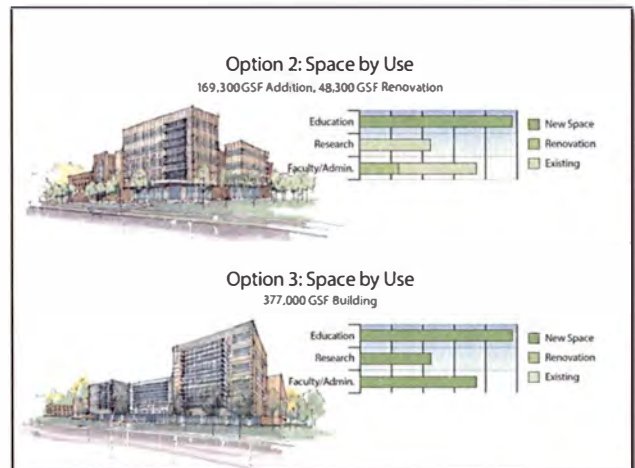


Option 3 proposes to relocate all of the Medical School's various components and disciplines into a new shared building. It has an estimated project cost of \$124.0 million, including all costs of construction, site preparation, technology and other expenses. The 377,000 gross square foot building will house all education, research, faculty, and support functions.



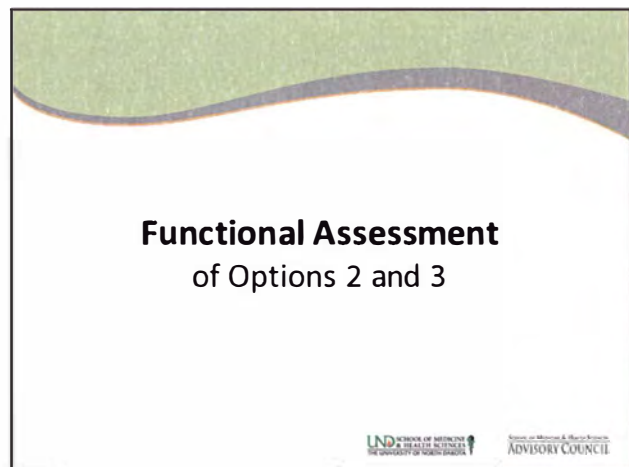
You can see here a breakdown of new space, renovated space, and unmodified existing space for each option by space use.

Option 2 locates all education areas in the new addition and renovates as much faculty/support area as possible. The 169,300 GSF addition will house 100% of the new education spaces. The 48,300 GSF renovation of existing space will result in approximately 1/3 of faculty / administration spaces being updated. Un-renovated faculty and research space is approximately 100,000 GSF each.



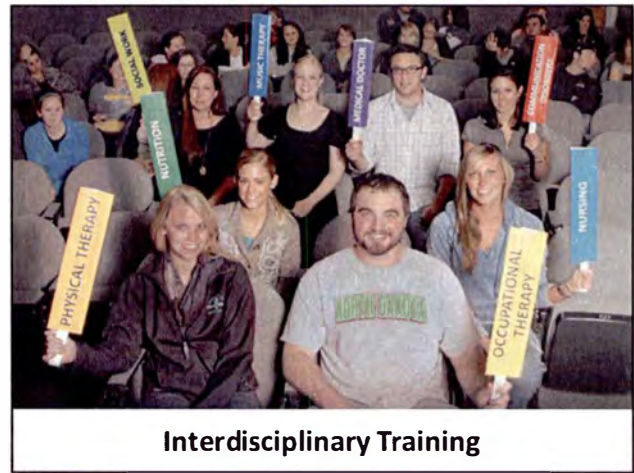
Option 3 proposes a new building which would accommodate all education, research, faculty, and support functions.

Our analysis approaches options 2 & 3 from both a functional and economic perspective. Let me begin with the functional assessment of these proposals.



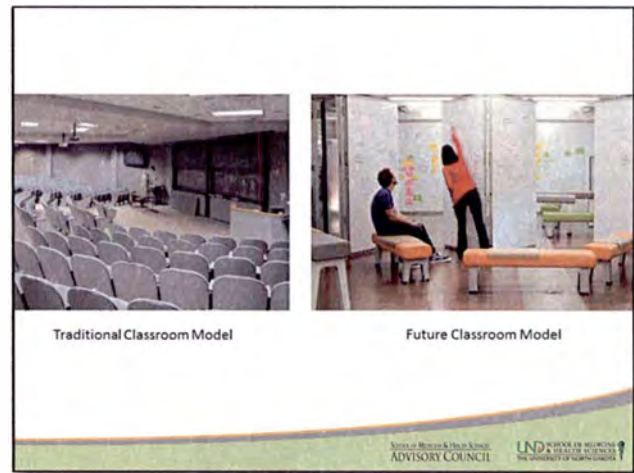
Both of these space options meet the educational requirements for the Healthcare Workforce Initiative. One of the most important benefits of both is that they provide adequate space and an appropriate collaborative learning environment for interdisciplinary education.

Currently, medical and health sciences training is spread among several buildings, and as a consequence, it is not possible to train students as an interdisciplinary team, something that is an essential element of a team-based care environment. It also prevents optimal sharing of faculty and resources between programs. Both building options allow programs to be co-located under the same roof, greatly increasing training effectiveness.



Interdisciplinary Training

Both options 2 & 3 also address another important need. Previous generations of classroom design had the instructor at the head of the class and the students in rows of desks. Today's education model is very different. Today classrooms are designed to encourage interaction, collaboration and participation between students and instructors. Both options incorporate this modern design paradigm.



Traditional Classroom Model

Future Classroom Model

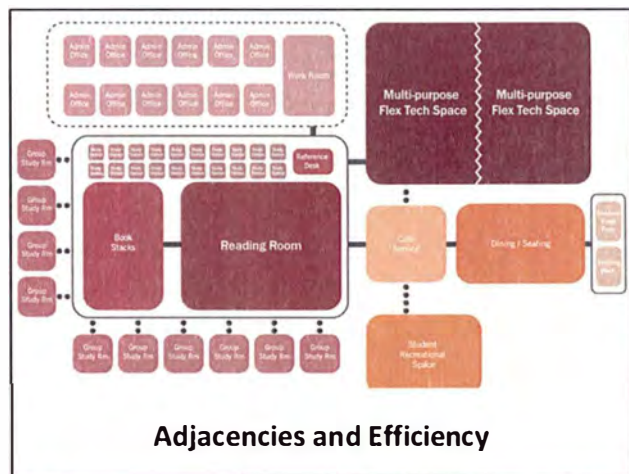
Option 2 has some design constraints imposed by the existing building, which is a converted hospital, built in 1952 and recommissioned as a medical school in 1988.

This original construction is a structure that reflects the needs of a cast-in-place hospital building, with structural columns spaced just 16 feet apart. While this makes for a very sturdy building, it adapts very poorly to the needs of today's open classroom construction.

Design Constraints - Option 2

- Legacy Issues:
 - Small grid structure and adjacency challenges
 - Low Floor-to-floor separations
- Site Issues:
 - Parking Issues

As a result, Option 2 places all learning spaces in the new addition where steel framing permits clear spans. In this option faculty and support spaces remain in the original building. This approach creates the needed space, but sometimes at the expense of placing classroom and support areas at some distance from one another. The slide you see here is an example of the program analysis which was done in the space study to identify ideal proximity of related spaces. Legacy issues frequently prevent the adjacencies suggested in this analysis.



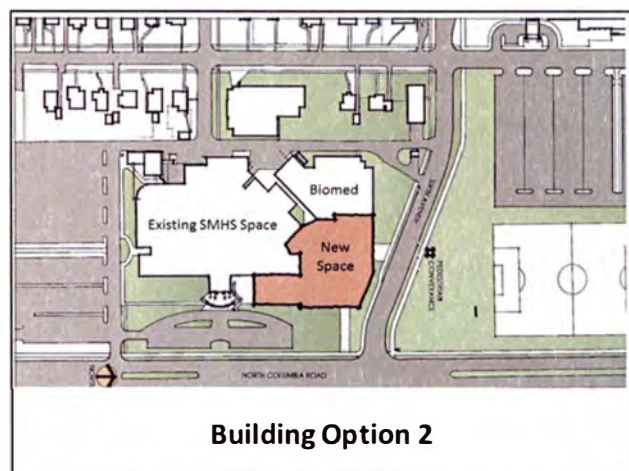
An additional legacy issue with option 2 is that when the hospital was built in the 1950's there was not a requirement for extensive internal utilities distribution systems and as a consequence, there is a very short spacing between floors. This spacing is inadequate to easily accommodate modern HVAC and technology infrastructure. As the new addition ties into the existing building, this plan extends the short floor elevations of the old building to the new addition.

Design Constraints - Option 2

- Legacy Issues:
 - Small grid structure and adjacency challenges
 - Low Floor-to-floor separations
- Site Issues:
 - Parking Issues

Source: Moore & Brown Architects
 ADVISORY COUNCIL
 LINDSAY SCHOOL OF MEDICINE & HEALTH SCIENCES
 UNIVERSITY OF MISSOURI HEALTH SYSTEM

Finally, the building addition in Option 2 eliminates all parking on the north side of the property, requiring parking to be moved across a busy street.



In this slide, you can see the advantages of each of the building options.



Building Option 3 is not hindered by legacy building issues and can be designed to maximize adjacencies, efficiency, and technology needs. It provides maximum flexibility to meet changing future space requirements, with a longer useful life.

An additional benefit of Option 3 is that the construction process will be less disruptive to education and research activities because it takes place on a new site, rather than in a building where education is ongoing.

Comparative Advantages for Each Option	
Advantages of Option Two	Advantages of Option Three
Lower cost of construction	
Meets requirements for space	Meets requirements for space
Allows integration of training programs	Allows integration of training programs
	Creates new revenue from facility reimbursements
	Lower maintenance and utilities costs
	Sixty-year newer infrastructure with a longer life
	Proper floor-to-floor height for tech & utility infrastructure
	Least disruption during construction
	Allows contiguous parking
	Permits repurposing of SMHS Building
	Improves ability to recruit research, students, and faculty

Let's now turn to the economic assessment of these options.

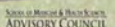

Economic Assessment of Options 2 and 3

Option 2, with an initial cost of construction of \$68.3 million, is \$55.7 million less expensive than Option 3, costing \$124.0 million. However, Option 3 significantly outperforms Option 2 financially over time.

Option 2, with an initial cost of construction of \$68.3 million, is \$55.7 million less expensive than Option 3, costing \$124.0 million.

However, Option 3 significantly outperforms Option 2 financially over time.

Implementing building Option 3 will add nearly \$1 million per year in new revenue. Because the cost of facility construction is reimbursed through federally sponsored projects as an F & A (Facility and Administration) cost, it is anticipated to generate \$36.9 million over its 40-year life cycle.

Option 3 adds nearly \$1 million per year in new revenue.

Through F & A reimbursements, it is anticipated to generate \$36.9 million over its 40-year life cycle.

Office of Planning & Budgetary Services
ADVISORY COUNCIL

UNIVERSITY OF NORTH CAROLINA
SCHOOL OF MEDICINE

Option 3 is less expensive to maintain than Option 2. Because the facility is newer, more efficient, and compact, there will be substantial savings over time for utilities and maintenance.

Option 3 is less expensive to maintain than Option 2.

Because the new facility is newer, more efficient, and compact, there will be significant savings over time for utilities, maintenance, and deferred maintenance.

Office of Planning & Budgetary Services
ADVISORY COUNCIL

UNIVERSITY OF NORTH CAROLINA
SCHOOL OF MEDICINE

In conjunction with the space study, an evaluation was conducted to determine the comprehensive cost of occupancy for each of the building options over time. The analysis did not include potential benefits which could be realized through repurposing the legacy medical school under Option 3.

That evaluation concluded that, considering all operational expense and revenue, building Option 3 reaches a break-even performance with Option 2 in just 21 years, and surpasses its performance thereafter. Over 40 years, this margin of benefit grows to over \$54 million.



Again, the foregoing projections do not include economic benefits of Option 3 that may accrue from repurposing the existing structure to meet other University needs, create operating efficiencies, and provide revenue enhancement.

Dr. Wynne will comment on these opportunities.

These projections do not include economic benefits that may accrue from repurposing the existing structure.

School of Medicine & Health Sciences
ADVISORY COUNCIL

UND SCHOOL OF MEDICINE & HEALTH SCIENCES
THE UNIVERSITY OF NORTH DAKOTA

Our conclusion is that both building options meet the program requirements for education spaces and create shared collaboration and learning spaces. However, Option 3 performs better both functionally and economically over the life of the project.

The UND School of Medicine and Health Sciences Advisory Council is recommending the full implementation of the HWI including Building Option 3. The State Board of Higher Education has endorsed the Workforce Plan.

The Legislative Interim Health Services Committee has recommended its full implementation, including the construction of a new medical school building (Option 3).

Thank you for the opportunity to testify, and I will turn the presentation back to Dr. Wynne.

Conclusion

Both building options meet the program requirements for education spaces and create shared collaboration and learning spaces.

Option 3 performs better both functionally and economically over the life of the project.

School of Medicine & Health Sciences
ADVISORY COUNCIL

UND SCHOOL OF MEDICINE & HEALTH SCIENCES
THE UNIVERSITY OF NORTH DAKOTA

Health Care Workforce Initiative

Comparison of Building Options

#3

UND SCHOOL OF MEDICINE & HEALTH SCIENCES
THE UNIVERSITY OF NORTH DAKOTA

SCHOOL OF MEDICINE & HEALTH SCIENCES
ADVISORY COUNCIL

David Molmer
SB 2333
2-7-13

Introduction

The 2011 North Dakota Legislative Assembly authorized a space study to determine facility requirements to support the Health Care Workforce Initiative (HWI) for North Dakota. The goals of the study were to determine (1) the suitability of the existing space and (2) the amount of new space required to meet the class size expansions.

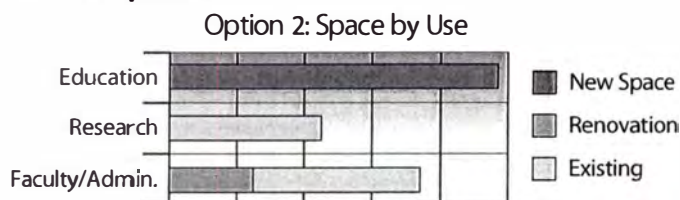
The space study proposed three building options to fulfill the requirements of the HWI.

Building Option 2 has been included in the Executive Budget for the 2013-2014 biennium and is being considered as a part of SB 2003. An additional bill, SB 2333, has now been introduced that would provide funding to implement Option 3. This fact sheet provides further details and comparisons of those two options.

Overview of the Options

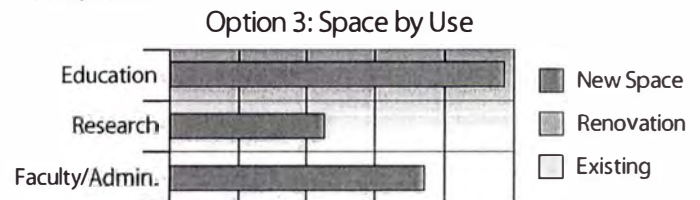
Two building options being considered each strive to achieve the same design goals, but use different approaches.

Option 2 proposes a combination of building expansion and renovation of the current facility to meet the space needs. It has an estimated project cost of \$68.3 million, including all costs of construction, site preparation, technology, and other expenses.



Option 3 proposes to relocate all of the School's various components and disciplines into a new shared building. It has an estimated project cost of \$124 million, including all costs of construction, site preparation, technology, and other expenses.

The 377,000-gross-square-foot building will house all education, research, faculty, and support functions.



Functional Assessment

Both of these space options meet the educational requirements of the Health Care Workforce Initiative. They both provide adequate space and an appropriate collaborative learning environment for interdisciplinary education.

Option 2 has some design constraints imposed by the existing building, which is a converted hospital, built in 1952.

Because the legacy building is unable to accommodate adequately sized classrooms (it is a cast-in-place structure with columns only 16 feet apart), Option 2 places learning spaces in the new addition and support spaces in the original building. This approach creates the needed space, but sometimes at the expense of placing classroom and support areas at some distance from one another.

An additional legacy issue is that in Option 2, the spacing between floors of the 1952 building is inadequate to easily accommodate modern HVAC and technology infrastructure. This option extends the floor elevations of the old building to the new addition.

Finally, the building addition in Option 2 eliminates all parking on the north side of the property, requiring parking to be moved across a busy street.

Building Option 3 is not hindered by legacy building issues and can be designed to maximize proximity, efficiency, and technology needs. It provides maximum flexibility to meet the changing future space requirements, with a longer useful life.

Economic Assessment

Option 2, with an initial cost of construction of \$68.3 million, is \$55.7 million less expensive than Option 3, costing \$124 million. However, Option 3 significantly outperforms Option 2 financially over time.

Implementing building Option 3 will add nearly \$1 million per year in new revenue. Because the cost of the facility construction is reimbursed through federally sponsored projects as an F&A (facility and administration) cost, it is anticipated to generate \$36.9 million over its 40-year life cycle.

Option 3 is less expensive to maintain than Option 2. Because the facility is newer, more efficient, and compact, there will be substantial savings over time for utilities and maintenance.

Considering all operational expenses and revenue, Building Option 3 reaches a break-even performance with Option 2 in just 21 years, and surpasses its performance thereafter. Over 40 years, this margin of benefit grows to over \$54 million.

The foregoing projects do not include economic benefits of Option 3 that may accrue from repurposing the existing structure to meet other University needs, create operating efficiencies, and provide revenue enhancement.

Conclusion

Both building options meet the program requirements for educational spaces and create shared collaboration and learning spaces. However, Option 3 performs better both functionally and economically over the life of the project.

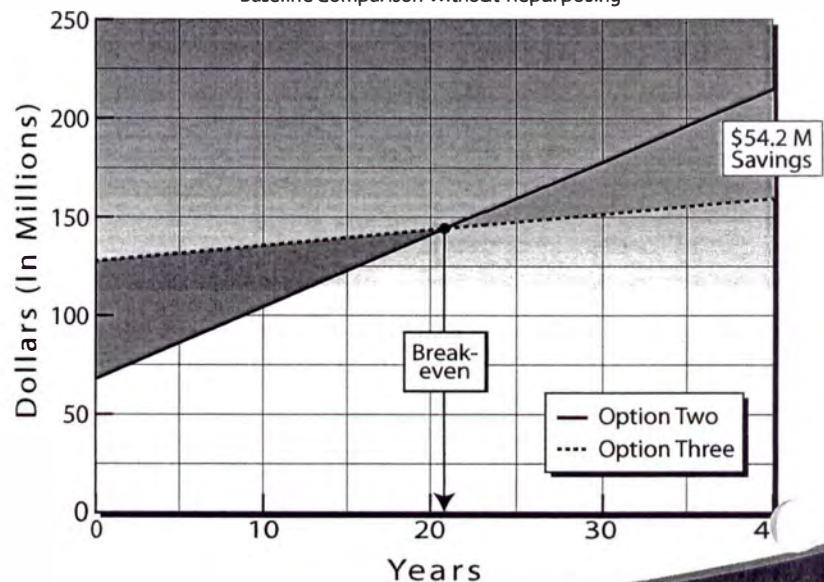
The leaders of the School of Medicine and Health Sciences and the SMHS Advisory Council are recommending the full implementation of the HWI, including Building Option 3. The State Board of Higher Education has endorsed the Health Care Workforce Initiative. The Legislative Interim Health Services Committee has recommended its full implementation, including the construction of a new medical school building (Option 3).

Economic Assessment

Advantages of Option Two	Advantages of Option Three
Lower cost of construction	
Meets requirements for space	Meets requirements for space
Allows integration of training programs	Allows integration of training programs
	Creates new revenue from facility reimbursements
	Lowers maintenance and utilities costs
	Sixty-year newer infrastructure with a longer life
	Proper floor-to-floor height for tech & utility infrastructure
	Least disruption during construction
	Allows contiguous parking
	Permits repurposing of current SMHS Building
	Improves ability to recruit researchers, students, and faculty

Costs Over Time, Option 2 vs. Option 3

Baseline Comparison Without Repurposing



Testimony in support of SB 2333

By Jim Long, CEO

West River Health Services, Hettinger, ND

February 7, 2013

Chairman Holmberg and members of the committee, my name is Jim Long and I am the Administrator and Chief Executive Officer of West River Health Services, a remote rural medical system in the southwest corner of North Dakota. Our system includes a critical access hospital, six medical clinics, an optometry clinic, a podiatry clinic, a Home Medical Equipment Store, a Rehabilitation Clinic, a Fitness Center, a Nursing Home and an Assisted Living facility all serving a 25,000 square mile area and based from a community of 1,300.

Serving the people of our area and our medical system are 13 doctors, 12 midlevel providers and over 300 other staff. Some years ago I was talking with a physician in another rural community who knew that we had a strong contingent of medical providers but he didn't realize the size of the geographic area we covered. He asked me if it was true that we had a dozen physicians in a community of less than 2,000. I told him that yes this was true. He paused for a second and then asked what they did to keep busy. Did they play a lot of golf?

We keep very busy. Providing quality healthcare in a rural environment is a lot of work. You have to wear a lot of hats. Everyone has to do two or three jobs. However, we have been successful. That success has also been recognized with national awards including Outstanding Rural Health Practice, Outstanding Rural Health Project, and Top 100 Critical Access Hospital. Also our providers and staff have accumulated a total of nearly 100 regional, state and national awards.

If I sound proud of our system and what the organization and our people have accomplished in the most sparsely populated area of North Dakota, it is because I am.

I am here today, however, for two purposes. First of all to thank you for the funding provided to establish the Rural Training Track that is in process of being implemented with our medical system. The Rural Training Track is one of the family medicine residencies that were made possible through funding provided by the last Legislative Assembly as part of Phase 1 of the UND School of Medicine and Health Sciences Health Care Workforce Initiative that you approved and funded last biennium. The Rural Training Track is essential for the training of primary care physicians for our and other rural medical systems of North Dakota. Secondly, we wish to thank you for your continued support of the entire Healthcare Workforce Initiative which includes activities from encouraging medical careers with high school students to the residency programs such as our Rural Training Track.

With our history, you might ask why the Rural Training Track and the other workforce initiatives undertaken by the UND School of Medicine and Health Sciences are so important to us. The answer is fairly simple. Our core medical staff has reached

retirement age and, with the oil boom, the population of the western half of the state is growing faster than the infrastructure can keep up with.

Over the next five to ten years we will have to replace 7-9 physicians, 4-6 midlevel providers (PAs, NPs & CRNAs), 23-28 nurses, and a variety of other healthcare workers. We have employed a good number of the baby-boom generation but they are starting to retire. Add to this the fact that the population of the state, particularly in our part of the state, is no longer losing population but is instead growing, we are going to need more medical professionals of all levels of training.

As to the physicians, some may make the statement that primary care physicians can be replaced by midlevel providers such as physician assistants, nurse practitioners and nurse anesthetists, and I would disagree. Although we value our midlevel providers and their contributions towards providing primary care services, their six years of post-secondary education does not provide the same level of skills as a primary care physician who has had eleven years of post-secondary education. We need primary care physicians along with the midlevel providers, nurses, medical technologists and other healthcare professionals working in inter-professional teams.

The Rural Training Tracks are particularly important to the meeting of this need. For one, this training has a focus on both rural and primary care. Secondly, it has been proven that 80% of physicians will stay within 50-75 miles of where they did their residency. Also, medical residents need to be able to experience rural medicine in order to determine whether or not it is a fit for them. We have had many students come through over the years who learned that the rural experience is rewarding in many ways. Put in the words of one of our Family Medicine physicians who retired a few years ago, Dr. Bob Grossman, "Being a Family physician in a rural community is the best job in the world." Dr. Grossman loved rural medicine, loved his patients and they loved him. Rural is an environment where the family physician is truly and highly appreciated.

Although I am not a physician, I can understand Dr. Grossman's sentiments. I moved to Hettinger from Pierre, South Dakota with a commitment to stay for three years and a personal plan to stay for five. In two months I will have been there 30 years. It is not the easy access to shopping. It is not the convenience to a variety of movie theaters. It is not due to the overwhelming variety of places to eat. It is the job of doing something that is both needed and appreciated.

As far as Senate Bill 2333 and the new building option under consideration, I am not an expert on medical school issues nor have I had an opportunity to review the Facility Plan for UND. However, I have seen a re-birth and re-focus of the UND Medical School on the meeting of Primary Care needs in the state and would encourage you to continue these positive changes in the Medical School. If the new building is essential to the recruitment of new students and the training of more Primary Care physicians and other necessary providers and staff for North Dakota, it should be built. If it is necessary to reflect the state's commitment to the Medical School, its students and the people of North

Dakota, it should be built. If you believe it is a reasonable investment to make in our state, it should be built.

Again, I thank you for your support of the UND School of Medicine and Health Sciences and its health care workforce initiatives including our Rural Training Track. With the growing population and retirement of baby boomers, the need of home grown talent to meet our needs has become even more important. I thank you for recognizing this. I would be happy to try to answer any questions you might have.

Jim Long
West River Health Services
1000 Highway 12
Hettinger, North Dakota 58639
(701) 567-6183

Health Care Workforce Initiative

For North Dakota's Future

Jim Long
SB 2333
2-7-13

#5

The Issue

North Dakota is facing a major health care delivery challenge. There is a widening gap between the health care needs of North Dakotans and the workforce required to meet those needs.

The Solution

North Dakota's Health Care Workforce Initiative (HWI) will provide the physicians and other health care professionals North Dakota needs for a healthy future. The plan addresses both shortages and maldistribution of health care workers. It fosters economic growth for our state.

What is driving the need?

Aging, population growth, and maldistribution of health care workers are our main challenges:

- The ranks of North Dakota's elderly are large and growing. As they increase, so does our need for health care services. The proportion of our population aged 85 and above is the second highest in the nation. Our senior population will grow rapidly as our baby boomers are reaching age 65.
- Spurred by energy development, the state's population, with attendant health care demand, is projected to grow by up to 20% in the coming years.
- Our rural areas are facing chronic shortages of health care workers that are expected to increase in the future.

How great is the need?

Current estimates indicate that if action is not taken, the aging of our population will create a shortage of between 260 and 360 physicians by 2025. If North Dakota's population grows as rapidly as some predict, the numbers needed could be substantially higher.

How does the HWI address needs?

The Workforce Initiative has three main components that work together:

- Expand medical and health sciences class sizes along with expansion of residency programs. (Medical school graduates complete from three to seven years of residency training after medical school.)
- Retain greater numbers of those we train.
- Reduce disease burden through continued geriatrics and public health training.

A proven strategy

"Growing our own" has proven to be a very effective approach to workforce development. It's key to meeting our future needs.

Percentage of ND primary care doctors who trained in-state*	55%
Percentage of ND doctors who graduated from UND, did some or all of their residency out-of-state, and returned to practice in ND	58%
Percentage of ND residency graduates who practice in ND or MN	60%
Percentage of UND/ND residency graduates who practice in ND	63%
Percentage of ND family medicine doctors who trained in-state	66%

* Graduated from UND and/or did residency in North Dakota

Plan implementation

Full implementation of the HWI, which began during the 2011-2013 biennium, will require four biennial cycles and additional facility space to complete. In addition to expansion of class sizes, the plan utilizes a number of strategies to maximize success, such as the following:

- Eighty percent of students accepted to medical school are North Dakota residents, weighted toward those from rural areas.
- Tuition forgiveness for those who commit to practice primary care in a rural community.
- Increased longitudinal experiences in rural communities.
- Increased geriatrics and public health focus.

Plan Review

The leaders of the School of Medicine and Health Sciences and the SMHS Advisory Council are recommending the full implementation of the HWI, and the State Board of Higher Education has endorsed the plan. The Legislative Interim Health Services Committee has recommended its full implementation, including the construction of a new medical school building (Option 3).

Deliverables

The most important deliverables are a supply and distribution of health care professionals that are adequate to serve the needs of North Dakotans.

The HWI will also have a direct positive impact on the economic environment of the state as a result of both increased employment and an estimated \$1 million annual economic impact from each additional physician employed.

It is further anticipated that for every \$1 appropriated by the Legislature, the School of Medicine and Health Sciences will generate another \$2 in grants, contracts, and service revenues. The total economic impact of the SMHS over the next three biennia should exceed \$400 million.

Impact on Enrollment*

	Additional per year	Length of program (years)	Total additional enrollment
Medical Students	16	4	64
Health Sciences Students	30	3	90
Residents	17	3	51
Total Additional Students/Residents			205

* Program fully implemented in the 2017-18 academic year

Funding Requirements*

	2011-2013	2013-2015	2015-2017	2017-2019
Base Funding	\$45.90	\$47.70	\$57.09	\$68.18
Funding Increment	\$1.80	\$9.39	\$11.09	\$4.36
Cumul. Increment	\$1.80	\$11.19	\$22.28	\$26.64

* In millions

Building Construction Options

	Option One	Option Two	Option Three
Expansion of Class Size	✓	✓	✓
Program Consolidation		✓	✓
Value over Time			✓
Income Opportunity			✓

Incremental Cost of Building Options*

	Option Two	Option Three
Construction Cost	\$68.3	\$124.0
Income Opportunity	\$0	(\$36.9)
Net Cost	\$68.3	\$87.1
		Difference \$18.8

* In millions. 40-year horizon.

Eric Watne SR1213-14
SB 2333
2-7-13

#6

Senate Resolution

To: The Student Senate of the University of North Dakota
Authors: Eric Watne, Student Body Vice President
Sponsors: Jacob Stutelberg, Engineering and Mines Senator
CC: Logan Fletcher - Student Body President, Eric Watne - Student Body Vice President, Cassie Gerhardt - Student Government Advisor; Dr. Robert Kelley- UND President; Dr. Joshua Wynne- Dean, School of Medicine and Health Sciences, Jack Dalrymple- Governor, State of North Dakota, North Dakota State Legislature
Date: February 10th, 2013
Re: Support of Option 3 for School of Medicine and Health Sciences

Whereas, The University of North Dakota School of Medicine was founded in 1905, and

Whereas, The Medical Doctorate degree-granting program was approved in 1973, with the first graduating class in 1976, and

Whereas, the 37 years of the now named UND School of Medicine and Health Sciences have demonstrated the greatness of the school, and

Whereas, the continued growth and potential of the school is evident with the increasing enrollment and research opportunities, and

Whereas, approximately 40 percent of the practicing physicians in the state of North Dakota received all or some of their education from the School of Medicine and Health Sciences

Whereas, currently North Dakota is in an economic boom that has created jobs and raised the population level of the state, and

Whereas, the current population averages for the state, such as age, have increased which correlates with the necessity for medical providers, and

Whereas, the state of North Dakota has an inadequate number of providers, and a disproportionate amount in the urban areas compared to the rural areas, and

Whereas, it is anticipated that approximately 40 new physicians will be needed each year for the next two decades to meet the medical needs of the state, and

Whereas, Governor Dalrymple has said that there is a necessity for more healthcare providers within the state of North Dakota especially in the rural areas of North Dakota, and

Whereas, the needs of the state of North Dakota for medical providers can be assisted by the University of North Dakota School of Medicine and Health Sciences, and

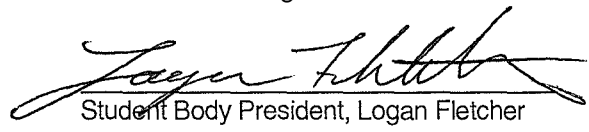
Whereas, to grow the School of Medicine and Health Sciences, for the betterment of the state, should be developed as much as possible, and

Whereas, the direct and indirect impact on the economic activity for the next three biennia is predicted to exceed 400 million dollars, and

Therefore, be it resolved that the UND Student Body support a new building for the school of Medicine and Health Sciences, and

Therefore, be it further resolved that the UND Student Body support Option Three for the School of Medicine and Health Sciences, and

Therefore, be it furthest moved that the UND Student Government, on behalf of the UND Student Body set this as a legislative goal for the 63rd assembly of the North Dakota State Legislature



Student Body President, Logan Fletcher

2003 Subcom - 2-21-13

Prepared by the Legislative Council staff
for Senate Bill No. 2003 Subcommittee
February 20, 2013

LISTING OF PROPOSED CHANGES TO SENATE BILL NO. 2003

Department - North Dakota University System

Proposed funding changes:¹

	FTE	General Fund	Special Funds	Total
Ongoing Funding Changes				
1 Add funding for NDUS Office system governance		\$1,300,000		\$1,300,000
2 Remove new NDUS office FTE positions	(7.00)	(3,056,020)		(3,056,020)
3 Add funding for operations of Dickinson State University Henry Biesiot Activities Center		200,000		200,000
4 Add funding for the dental professional student exchange program for students attending summer school		171,968		171,968
Total ongoing funding changes	(7.00)	(\$1,384,052)	\$0	(\$1,384,052)
One-Time Funding Changes				
5 Minot State University - Add funding to address housing and budget issues resulting from the 2011 flood		\$5,000,000		\$5,000,000
6 Valley City State University - Add funding for repairs to the former president's house		250,000		250,000
7 Dakota College at Bottineau - Add funding for Thatcher Hall heating upgrades (\$810,000) and campus software updates (\$30,000)		840,000		840,000
8 Dickinson State University - Add funding for Theodore Roosevelt Center		800,000		800,000
9 Remove funding for a University System master plan and space utilization study		(1,000,000)		(1,000,000)
10 Remove funding for a new program start-up pool		(1,500,000)		(1,500,000)
11 Reauthorize the University of North Dakota Wilkerson Hall dining center project including the issuance of revenue bonds			29,000,000	29,000,000
12 Add special fund authority for building upgrades to the North Dakota State University Center for Computationally Assisted Science and Technology			660,000	660,000
Total one-time funding changes		\$4,390,000	\$29,660,000	\$34,050,000
Total proposed funding changes		\$3,005,948	\$29,660,000	\$32,665,948

¹All proposed funding changes were approved on February 19, 2013

Other proposed changes:

- 1 Amend NDCC Section 54-44.1-11 to extend the carryover authority of the University System.
- 2 Add a Legislative Management study of the relationships between University System institutions and development foundations.
- 3 Authorize the University of North Dakota to purchase the REAC1 building and to enter into a financing agreement.
- 4 Add a section to prohibit the use of campus assessments to pay for University System office personnel.
- 5 Add a section to require all System Information Technology Services staff be consolidated in the joint information technology building within five years of the completion of the building. Provide for annual reports to the Budget Section on the status of the consolidation.
- 6 Incorporate various technical corrections and other cleanup items into bill.
- 7 Remove section 5 of the bill relating to academic and career and technical education scholarship award levels.
- 8 Transfer funding of \$800,000 for professional liability insurance from the NDUS office budget to the School of Medicine and Health Sciences.

2-22-13

Larson, Brady A.

From: Brekke, Alice <alice.brekke@email.und.edu>
Date: Thursday, February 14, 2013 12:12 PM
To: Holmberg, Ray E.; Larson, Brady A.
Cc: Wynne, Joshua; Kelley, Robert Otis; Walton, Susan; Fetsch, Cindy
Subject: Demolition Costs

University of North Dakota
 Response to Senate Appropriations Committee
 SB2333 – Question of estimated cost to demolish buildings referenced in testimony given on 2/7/2013.

If the Legislature chose to fund Option 3 (new building for the School of Medicine and Health Sciences), the opportunity for UND to repurpose the current building exists.

As the possible repurposing of the current Medical School Building was considered, the goal of developing a cost effective plan that takes existing marginal campus-wide space off-line with an outcome of improving overall quality of space for campus functions was established. Informed by engineering assessments of selected existing buildings, continuing use and associated costs were reviewed.

As a result of this work, eight buildings have been identified as candidates to take off-line (demolish or sell). These buildings are in poor to average condition and would require significant repair/maintenance (estimated at \$6.65 million) over the next 5 to 10 years to remain occupied. Such investment would not enhance the quality of the space but would keep it usable. Over that same time period a similar amount (\$6 to \$5 million) repair/maintenance would need to be invested in the Medical School building if it were to be repurposed.

The eight buildings include the following (estimated cost of demolition shown in parenthesis):

- | | |
|---|-------------|
| 1. Chandler Hall | (\$270,000) |
| 2. Babcock Hall | (\$190,000) |
| 3. Strinden Center | (\$100,000) |
| 4. Era Bell Thompson Center | (\$17,000) |
| 5. 314 Cambridge | (\$100,000) |
| 6. Women's Center | (\$20,000) |
| 7. Dakota Hall (first option would be to sell the property) | |
| 8. Center for Community Engagement | (\$23,000) |
| Estimated Total | (\$720,000) |

It is important to note that as planning/due diligence continues, additional or alternate buildings may be identified and considered as candidates to take off-line. With a 4 year planning horizon, other options may be identified.

Questions regarding potential historic preservation have not been vetted and will need attention. These conversations are required under both statute and policy.

This approach does not assume that the occupants of the buildings being taken off-line will move into the vacated Medical School space. It merely allows the planning to occur to identify highest and best use with assignments being made to create improvements for all impacted.

Alice C. Brekke

1

Attachment 1.
March 20, 2013
SB 2333

UND SCHOOL OF MEDICINE AND HEALTH SCIENCES SUPPLEMENTAL CAPITAL CONSTRUCTION (NEW BUILDING) REQUEST (ENGROSSED SB 2333)

Testimony before the
Education and Environment Division/House Appropriations Committee
Of the North Dakota Legislature

By: Joshua Wynne, M.D., M.B.A., M.P.H.
Vice President for Health Affairs, UND; Dean, School of Medicine and Health Sciences
Executive Secretary, UND SMHS Advisory Council

On behalf of: David Molmen, Chairperson
UND SMHS Advisory Council

March 20, 2013



Good morning, again Chairman Skarphol, members of the committee, and guests. For the record, my name is Dr. Joshua Wynne.


We just completed a discussion of the School of Medicine and Health Sciences operating budget request and the associated request for continuing funding of the Health Care Workforce Initiative. We now turn our attention to the associated capital construction request. Permit me to outline the sequence of events that has culminated in this capital construction request.

The testimony that we will provide is intended to illuminate your deliberation of engrossed Senate Bill 2333, which provides \$55.7 million of additional funding beyond that contained in the Executive Budget and authorizes construction of an entirely new building for the medical school. We are grateful to Governor Dalrymple for the medical education provisions in the Executive Budget, which fully funds the Health Care Workforce Initiative as well as Option 2 of the capital construction options. Option 2, as you may recall, is a \$68.3 million capital project that entails remodeling part of the current building along with construction of additional contiguous space. There are three obvious issues that we need to address this morning. The first issue is the question of what would justify the expenditure of an additional \$55.7 million on a new building—or asked another way, what would be the return on investment if a new building were constructed? The second issue is related to the possible alternate use—or repurposing—of the current building if a new building were constructed. The final issue relates to the potential benefits of a new building on regions of North Dakota distant from Grand Forks County.

It is important to re-emphasize that the fundamental driver for our capital construction request is the need to train more health care providers to meet the current and especially future health care delivery needs of North Dakota. Because full implementation of the HWI will entail over 200 additional trainees more than what we have now, not to mention the required associated additional faculty and staff, we were convinced that we would need more facility space to house the 250 or more additional people associated with the HWI. As you may recall, when we first requested support for the HWI last legislative session, we also requested funding for an addition to our current educational building to house the additional students and faculty. As you also may recall, funding for that addition was not approved two years ago, and thus we could not—and would not—proceed with full implementation of the HWI even if fully funded because we lacked the requisite space to proceed. But we felt that delaying implementation of the HWI until this biennial legislative session was imprudent, given the severity of the health care workforce needs that was facing North Dakota. Accordingly, I directed Randy Eken, our associate dean for administration and finance, to come up with an estimate of the maximum number of trainees we might be able to squeeze into our current space, and we then used that estimate to initiate Phase 1 of the HWI.

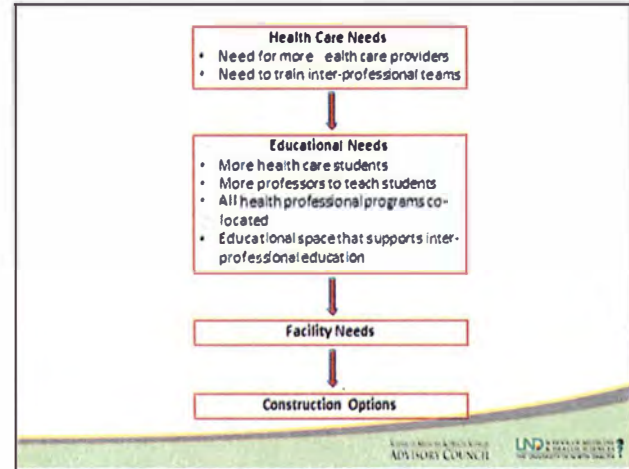
Phase 1 of the HWI added about half of the needed students but at least got us started on addressing the state's health care workforce needs. It turns out that accommodating even half of the full HWI complement has severely strained the capacity of our current buildings, and we've had to implement several urgent renovation projects to accommodate the current student class size.

Health Care Workforce Initiative (HWI)	
Current Plan (Ongoing)	Proposed Full HWI
<ul style="list-style-type: none">• 8 medical students• 15 health science students• 9 residency slots• RuralMed program• MPH Program• Geriatrics Training Program• Pipeline activities• Updated admission process	<ul style="list-style-type: none">• 16 medical students (8 more than current)• 30 health science students (15 more than current)• 17 residency slots (8 more than current)• Additional facility to house the > 200 new students, faculty and staff associated with full HWI

AND HEALTH SERVICES ADVISORY COUNCIL 

In anticipation of the current request for more facility space at the School of Medicine and Health Sciences, the 62nd Legislative Assembly mandated the completion of two interim studies—the first was a Space Study for which the Legislature provided \$100,000 to look at the space needs of the School, and the second was by a study by the Interim Health Services Committee that analyzed the rationale for proceeding with full implementation of the HWI.

Implementation of the HWI is directly tied to the Space Study results. The connection between the state's health care provider needs and the capital construction needs is shown here. The health care needs, in conjunction with the attendant educational needs, drive the facility needs as identified by JLG Architects, the firm that conducted the Space Study. And based on those facility needs, our architectural consultants suggested three options that balanced the various tradeoffs involved.



Because the current capital construction request is the direct result of the two interim studies, I'd like to have both presented to you now. The Space Study will be presented by Mr. Jim Galloway of JLG Architects, assisted by Mr. Bob Lavey of the national design firm of Perkins+Will. After that, Senator Judy Lee will present the results of the workforce study completed by the Interim Health services Committee of which she is chair. I will conclude by addressing the three fundamental questions that I posed before—what is the return on investment of the new building; what might be done with the old building if a new building were constructed; and why is a new building important to all North Dakotans and not just to those in Grand Forks.

I'd like to turn the proceedings over to Jim Galloway at this point. He and his colleagues will outline the goals of the Space Study, discuss the way in which the study was conducted, and summarize the conclusions and recommendations of the effort.

Jim Galloway and Bob Lavey comments:



1. TEAM INTRODUCTIONS
2. SPACE STUDY & OBJECTIVES
3. IMPLICATIONS OF HWI
4. UTILIZATION & CAPACITY RATES
5. EXISTING CONDITIONS ANALYSIS
6. NEW SPACE REQUIREMENTS
7. PROPOSED SOLUTIONS



PRESENTATION OUTLINE





GOLDEN WEST COLLEGE - HUNTINGTON BEACH, CA

ABOUT JLG ARCHITECTS & PERKINS+WILL

U of M - WALLIN MEDICAL BIOSCIENCES BUILDING - MINNEAPOLIS, MN

ABOUT JLG ARCHITECTS & PERKINS+WILL



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PRESENTATION OUTLINE



OVERVIEW OF OBJECTIVES

PRIMARY OBJECTIVE

Determine facility needs to support enrollment expansion (HWI)

EXCEPTIONAL UND CAMPAIGN OBJECTIVES

- Enrich the learning environment
- Encourage gathering
- Facilitate collaboration
- Expand UND's presence
- Enhance the quality of life for faculty & staff

SMHS LEADERSHIP SECONDARY OBJECTIVES

- Co-locate health sciences & medical student education
- Space for recruitment & retention of faculty
- Support SMHS's mission of "Education/Research/Service"
- Verify accreditation requirements are met
- Maximize Federal indirect (F&A) cost return
- Update the out-moded existing facility



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PRESENTATION OUTLINE



HEALTH WORKFORCE INITIATIVE

- UND SMHS has already increased student enrollment to partially meet the objectives of the Healthcare Workforce Initiative (HWI)
- Full implementation of the HWI will require additional student enrollment growth
- This complete facility utilization study was ordered to determine two main factors:
 1. Suitability of Existing Space
 2. Amount of New Space Required for Class Expansion



- Full Implementation of HWI will result in a 24% increase in class size

ENROLLMENT GROWTH - STATEWIDE IMPACT			
	Enrollment 2012 SMHS	Enrollment 2014 SMHS	Enrollment 2017 SMHS
On campus	641	757	803
Off campus	158	166	190
	799	923	993

UND SMHS
IMPLICATIONS OF HWI





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PRESENTATION OUTLINE



UTILIZATION RATES

- Room Utilization Rates are determined by dividing student usage hours by total available hours for a given room
- National Medical Education Institutions have an average 40% utilization rate
- Many factors contribute to a seemingly low utilization rate:
 - Set-up & tear-down times
 - Infrequently used specialized spaces
 - Classes using several rooms
 - Unregistered usage time
- UND SMHS is currently operating at a 46% rate - indicating efficient room use



UTILIZATION & CAPACITY RATES



CAPACITY RATES

- Room Capacity Rate measures people using a room vs. the number of people the room can functionally hold
- UND SMHS shows most space types at or near full capacity.
- UND SMHS' s current facilities:
 - Lack the proper size of spaces to serve the current needs
 - Cannot support a class size increase



	<i>Scheduled Space Type</i>	<i>Average Size</i>	<i>Capacity</i>	<i>Average Percentage of Capacity Used</i>	<i>Range of Capacity Used</i>
1	Small Classrooms	484 to 954 SF	20 to 25	63%	19% to 90%
2	Medium Classrooms	833 to 2,310 SF	40 to 50	85%	14% to 107%
3	Large Classroom	1,199 SF	70 to 100	60%	42% to 90%
4	Small Lecture hall	743 to 1,644 SF	54 to 70	81%	14% to 100%
5	Medium Lecture Hall	1,150 SF	100	60%	29% to 95%
6	Large Lecture Hall	2,416 SF	300	39%	1.7% to 51%
7	Wet Labs	670 SF to 1,650 SF	24	173%	83% to 222%
8	Anatomy Lab (UG)	1,581 SF	64	100%	100%
9	Plinth Labs	1,638 SF	48	100%	100%
10	Computer Lab	750 SF	20 to 40	65%	20% to 100%

	<i>Owned Space Type</i>	<i>Average Size</i>	<i>Capacity</i>	<i>Average Percentage of Capacity Used</i>	<i>Range of Capacity Used</i>
1	PCLs	483 SF	8 to 12	100%	100%
2	Anatomy Lab (MD)	1,836 SF	64	100%	100%

UND SMHS

UTILIZATION & CAPACITY RATES



1. TEAM INTRODUCTIONS
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PRESENTATION OUTLINE



- Small Structural Grid
- Low Floor-to-Floor Heights



UND SMHS
EXISTING CONDITIONS



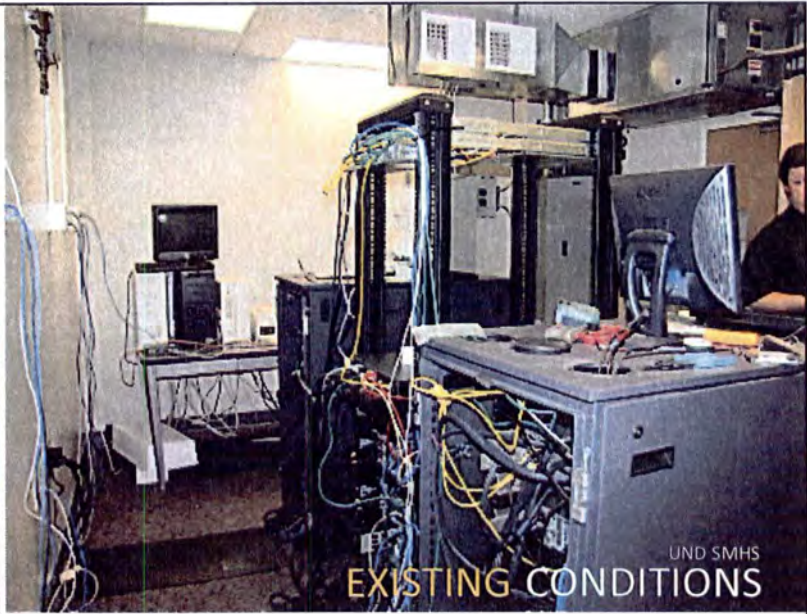
- Lack of Natural Light
- Age of Major Building Systems & Components



UND SMHS
CONDITIONS



- Aging Windows & Building Envelope
- Limitations on Technology & Renovation
- PCL's in Basement



UND SMHS

EXISTING CONDITIONS



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PRESENTATION OUTLINE



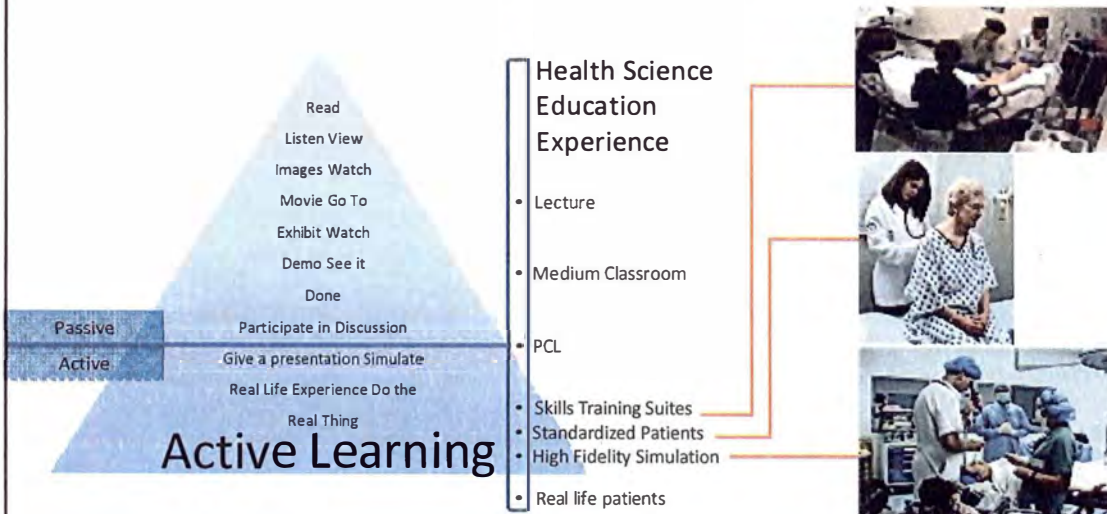
- Full Implementation of HWI will result in a 24% increase in class size

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	Enrollment 2012 SMHS	Enrollment 2014 SMHS	Enrollment 2017 SMHS
On campus	641	757	803
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UND SMHS
NEW SPACE REQUIRED



Higher Education Today



- Team based learning requires room configurations that will not fit within the constraints of the existing building
- Active Learning vs. Passive Learning Models

Past Classroom Model



Future Classroom Model



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PRESENTATION OUTLINE





Maintain Existing Level of Service Plan

OPTION #1

- \$38.5M Estimated Cost
- 80,103 GSF Addition
- 42,311 GSF Renovation

Establish Recommended Standards Plan

OPTION #2

- \$68.3M Estimated Cost
- 169,390 GSF Addition
- 48,332 GSF Renovation

Sustaining Growth Plan

OPTION #3


- \$124.0M Estimated Cost
- 376,812 GSF Building
- Re-use of Existing Facilities





UND SMHS
OPTIONS (ALL)





OVERVIEW OF OPTION #1

- Focuses on relocating/renovating as much education space as possible
- Addition will result in updating approx. 50% of education spaces
- Renovations to the existing building will update another 25% of education spaces


PROS

- Lowest initial investment
- Fastest completion time for new construction
- Provides efficient new/renovated education space

CONS

- Connection to existing building creates low floor-to-floor heights
- Little new daylight added to education space
- Close to maximizing site coverage (not much room for future expansion)
- Pedestrian conveyance required to access simulation, parking to the north, etc.
- Meets minimum program requirements, but doesn't create ideal collaboration & learning spaces

UND SMHS
OPTIONS (OPTION #1)



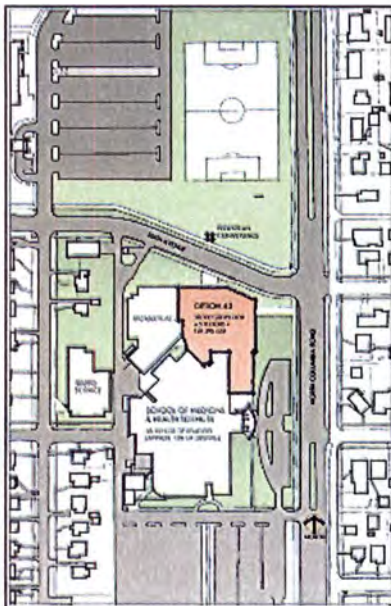


OVERVIEW OF OPTION #1

- Focuses on relocating/renovating as much education space as possible
- Addition will result in updating approx. 50% of education spaces
- Renovations to the existing building will update another 25% of education spaces



**UND SMHS
OPTIONS (OPTION #1)**



OVERVIEW OF OPTION #2

- Balances investment in new facilities & renovations to meet standards of educating excellence
- Addition moves ALL education spaces into new construction
- Renovates approx. 1/3 of faculty/administration spaces

PROS

- Meets program requirements for education spaces & creates shared collaboration & learning spaces
- Creates a new image for SMHS along Columbia Road

CONS

- Connection to existing building creates low floor-to-floor heights
- Little new daylight added to faculty/administration space
- Maximizes site coverage (no room for future expansion)
- Pedestrian conveyance required to access clinic space, parking to the north, etc.

**UND SMHS
OPTIONS (OPTION #2)**



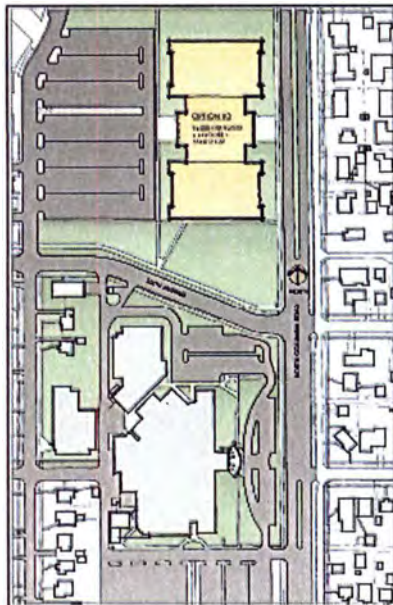


OVERVIEW OF OPTION #2

- Balances investment in new facilities & renovations to meet standards of educating excellence
- Addition moves ALL education spaces into new construction
- Renovates approx. 1/3 of faculty/administration spaces



UND SMHS
OPTIONS (OPTION #2)



OVERVIEW OF OPTION #3

- Creates an entirely new shared facility housing ALL of the School of Medicine & Health Sciences
- UND is evaluating the existing buildings for the best future use/utilization if SMHS relocates to a new facility

PROS

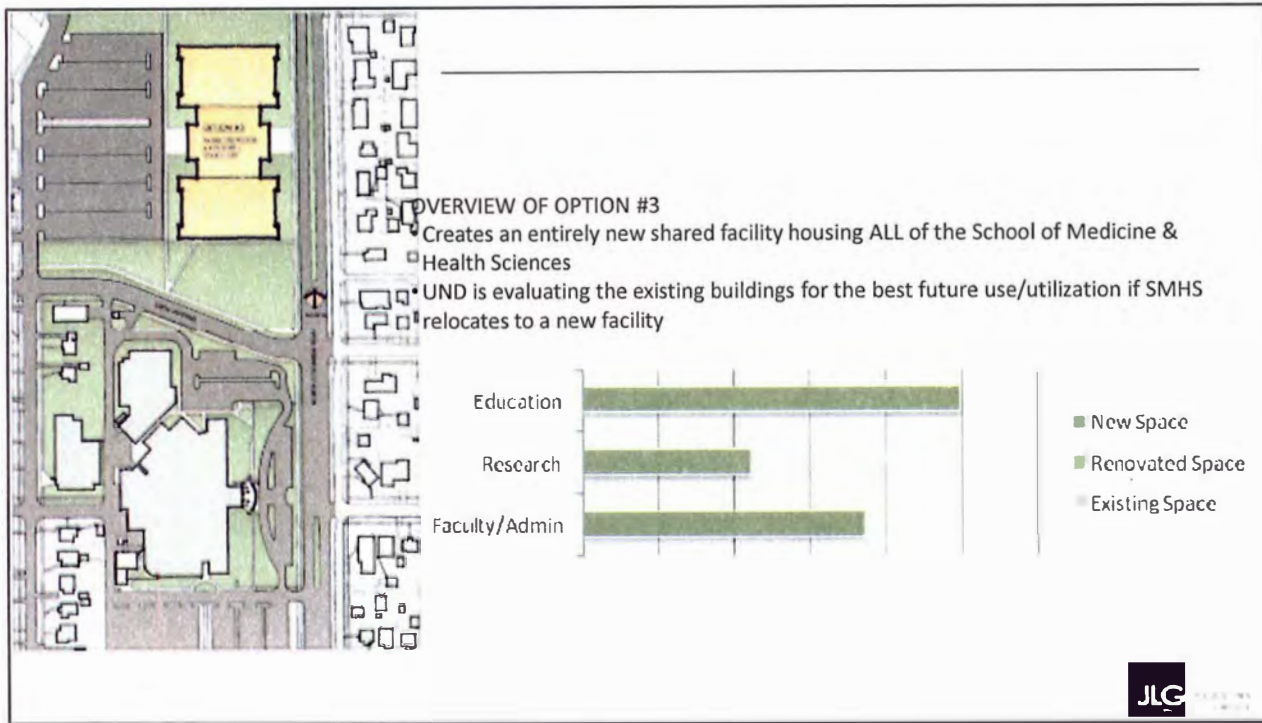
- Least disruption to current building operations
- Lowest maintenance & operations cost (down to one efficient building vs. four of varying efficiencies)
- Best meets the goal for a unified & integrated School of Medicine & Health Sciences
- Optimizes efficiencies & adjacencies of spaces
- Improves UND's Facilities & Administration (F&A) rate for sponsored projects
- Presents a totally new image & presence for SMHS
- Fosters the recruitment & retention of the 'best & brightest' students & faculty

CONS

- Highest initial cost

UND SMHS
OPTIONS (OPTION #3)





UND SMHS OPTIONS (OPTION #3)

Allow me to summarize the key findings of the Space Study. It showed that even at current training levels, the medical school building is at and in some areas past capacity by national standards. The study offered three options to accommodate the increased enrollments. These options are covered in detail in the *Biennial Report* and in Fact Sheet #2 that is before you, but briefly, Options 1 and 2 expand the current 60 year-old converted hospital building, and Option 3 proposes a new medical school building. While each of these options creates space to accommodate expansion of class size, they do so with varying degrees of functionality. Only Options 2 and 3 allow the colocations of all educational disciplines. Currently, these components are spread across a number of sites throughout the campus, making modern inter-professional education impossible.

	Option One	Option Two	Option Three
Expansion of Class Size	✓	✓	✓
Program Consolidation		✓	✓
Value Over Time			✓
Income Opportunity			✓

UND HEALTH SCIENCES ADVISORY COUNCIL

Additionally, Option 3 has the ability to generate approximately \$1 million per year in new income, related to increased reimbursements for facility costs under federal grants and contracts.

In the Advisory Council's review of options, it was determined that Option 3 had a number of important advantages:

- A modern facility that is built to flexibly adapt to diverse and ever-changing teaching modalities, and designed to accommodate the required high-technology environment.
- An infrastructure that is 60 years newer and will have a longer expected life than the current building.
- A lower cost of ownership. When considering the income generation and vastly lower cost of maintenance, Option 3 is less expensive than any of the other options. The cost comparison shown here looks at the two options under consideration from the standpoint of estimated deferred maintenance costs, assuming no repurposing of the current building. The effective costs of Options 2 and 3 cross at about 21 years and subsequently Option 3 financially outperforms Option 2 from then on.

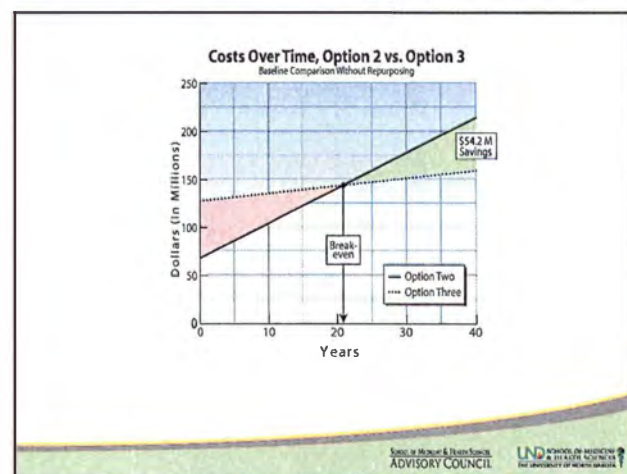
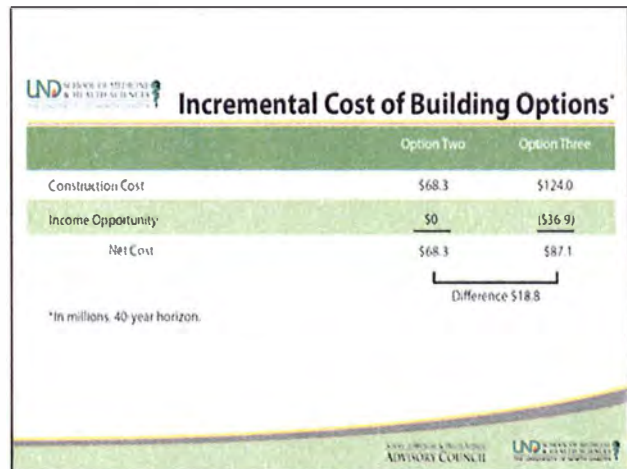
This plan has been extensively reviewed and vetted. The leaders of the School of Medicine and Health Sciences and the SMHS Advisory Council are recommending the full implementation of the HWI including a strong recommendation for Building Option 3, and the State Board of Higher Education has endorsed this plan.

Those recommendations were then forwarded this last year to the Interim Health Services Committee. Senator Judy Lee is kind enough to join us now and present the findings of the committee that she chairs.

Senator Lee comments:

The second issue relates to the possible alternative uses—also called repurposing—of the current building if a new building were added. Led by UND Vice President Alice Brekke, the University has explored various repurposing options. You may recall that she testified during the School's earlier presentation in January. As the possible repurposing of the current medical school building was considered, a goal was established of developing a cost effective plan that takes existing marginal campus-wide space at UND off-line with a goal of improving the overall quality of space for campus functions.

As a result of this work, eight buildings have been identified as candidates to take off-line with a potential annual operating savings of \$360,000. These savings would be reassigned to support the new medical school building. It should be noted that the cost of demolition and/or disposal has not yet been identified. These buildings are in poor to average condition and would require significant repair and



maintenance expenditures over the next five to ten years to maintain occupancy. Such investment would not enhance the quality of the space but would keep it usable.

Repurposing the current medical school building would offer UND the ability to relocate a variety of functional areas to achieve greater synergies, efficiencies, and enhanced educational value. Reassignment of laboratories and the vivarium for use by other UND science departments could occur, thereby providing critically needed laboratory instructional space and/or joint use research space. Likewise, enhanced space for undergraduate education would become available by utilizing the freed-up lecture halls and small group classrooms. Although there would be fit-up costs associated with this adaptive reuse, UND and the School of Medicine and Health Sciences are committed to prioritized use of existing resources to support these changes.

The upper floors of the vacated medical school building could be renovated into needed student apartment housing. The resulting rent payments would be used to service the debt associated with the revenue bonds that would fund the apartment renovation costs. Such occupancy would also relieve a portion of the utility, custodial and maintenance costs currently being funded by appropriation (estimated at \$90,000/year). These savings, along with the potential savings of \$360,000 from taking the eight older buildings off-line, would total about \$450,000 per year and could be used towards the operating costs of the new medical school building.


To summarize, if a new building were to be constructed, the first two floors of the current building with adjacent laboratory space and the vivarium could be repurposed to satisfy other critical educational needs of UND. Eight marginally productive smaller building on campus could be taken off-line and generate operational savings of some \$360,000 per year. Floors three through five of the current building could be converted into needed student housing that would be funded by revenue bonds and generate not only rental income but additional operating savings of some \$90,000 per year. Thus, construction of a new medical school building with repurposing of the current building and retirement of older facilities would generate additional annual operational savings of some \$450,000, or about \$18 million over the 40-year effective lifespan of the new building.

The last question to be considered is that of the return on the investment in a new building, and specifically the possible benefits of a new building on health care everywhere in North Dakota.

A major benefit of the new building will be its ability to foster, encourage, and support inter-professional education. This actually is a big deal, because most experts agree that one critical way in which we will improve the efficiency of our very expensive health care delivery system will be through better use of inter-professional teams. By using such teams, we should be able to lower costs while improving care and outcomes. But to *practice* in effective teams requires you to *train* in effective teams. And we simply don't have adequate space to do so at present. We need to be able to bring nurses, physical therapists, physician assistants and others together in modular space that supports an optimal team experience.

That's one reason that the North Dakota Center for Nursing, which was created in 2011 as a






centralized coordinating organization for North Dakota's nursing community, has added its strong support to the construction of a new building. In the words of the Center for Nursing, "...the building will benefit not only medical and health sciences students, but also students in the College of Nursing and Professional Disciplines. The new building will also provide the opportunity for increased inter-professional utilization of high fidelity patient simulation... The field of health care is continuing to become more complex which demands a greater degree of education for all health care providers."

So there you have it: a consortium of nurses strongly supporting the construction of a medical school building and a health care workforce initiative spearheaded by the dean of a medical school! Suffice it to say that the stereotypes of old are giving way to a much more collaborative and cooperative environment. And that's good for patient care, and good for the economy, by helping to reign in the growth of health care costs.

There is an additional reason why a new building in the northeast corner of the state will have a positive influence throughout the state. Showing medical and other health science students that North Dakota really values their dedication and commitment by investing \$124 million in their education sends the students a powerful message about commitment—commitment to patients; commitment to community; and commitment to North Dakota. Making that sort of commitment will help with the School's retention efforts, in part by attracting more students from places like Hettinger and the western part of the state to enroll in the School of Medicine and Health Sciences. And by helping to attract and then retain more students for subsequent clinical practice in North Dakota, a new medical school building in Grand Forks can have a very positive impact on health care all the way west in Hettinger.



Thank you, Chairman Skarphol and members of the committee for allowing us to testify today. We stand on the threshold of an exciting time for the School and for North Dakota. The Health Care Workforce Initiative and the associated capital construction options offer the promise that North Dakota will finally be able to come to grips with its lingering health care workforce problem that has been ongoing for decades. Constructing a totally new building offers enormous educational opportunities for UND students—both health-related and others—and it is the financially most prudent choice. Over the next few decades, a new building clearly returns the best value to the taxpayers of North Dakota. And perhaps most important of all, it will offer benefits that are reaped throughout the state, especially in those rural counties that are in greatest need of an augmented supply of health care providers.

Thank you for your attention. I and my colleagues would be happy to answer any questions.



**University of North Dakota School of Medicine & Health Sciences
 Required Reporting**

I. Comparison of 2011-13 Appropriation and Estimated Spending

	2011-13 Appropriation	Actual Expenditures Through 12/31/12	Remaining Balance	Comments regarding remaining balance
Operations (All General Fund)	\$47,847,971	\$33,800,000	\$14,047,971	Balance will be drawn down for operating expenditures by 6/30/13.
Capital Assets:				
Extraordinary repairs	\$0		\$0	
Major Capital Projects	-		-	
Total Capital Assets	-	-	-	
Capital Assets Funding Sources:				
General Fund	\$0		\$0	
Other Funds (Revenue bonds, local, private, federal funds)	-		-	
Total Funds	\$0	\$0	\$0	

1/ Excludes carryover, as that is reported on separately.

C:\Users\randy.eken\Documents\[SMHS Approp Committee format.xlsx]SMHS

II. 2011-13 One-Time General Fund Appropriations

UND SMHS Space Utilization Study: \$100,000

UND SMHS Space Utilization Study: \$100,000. A Request for Proposal (RFP) was developed in the summer of 2012 for the SMHS Space Utilization Study. The SMHS selected JLG Architects, who partnered with Perkins + Will, to perform the study. The Space Utilization Study was completed in March 2012 and the \$100,000 budget was expended in FY12.

Health Care Workforce Initiative

For North Dakota's Future

Fact Sheet #1

Attachment 3,
March 20, 2013
SB 2333

The Issue

North Dakota is facing a major health care delivery challenge. There is a widening gap between the health care needs of North Dakotans and the workforce required to meet those needs.

The Solution

North Dakota's Health Care Workforce Initiative (HWI) will provide the physicians and other health care professionals North Dakota needs for a healthy future. The plan addresses both shortages and maldistribution of health care workers. It fosters economic growth for our state.

What is driving the need?

Aging, population growth, and maldistribution of health care workers are our main challenges:

- The ranks of North Dakota's elderly are large and growing. As they increase, so does our need for health care services. The proportion of our population aged 85 and above is the second highest in the nation. Our senior population will grow rapidly as our baby boomers are reaching age 65.
- Spurred by energy development, the state's population, with attendant health care demand, is projected to grow by up to 20% in the coming years.
- Our rural areas are facing chronic shortages of health care workers that are expected to increase in the future.

How great is the need?

Current estimates indicate that if action is not taken, the aging of our population will create a shortage of between 260 and 360 physicians by 2025. If North Dakota's population grows as rapidly as some predict, the numbers needed could be substantially higher.

How does the HWI address needs?

The Workforce Initiative has three main components that work together:

- Expand medical and health sciences class sizes along with expansion of residency programs. (Medical school graduates complete from three to seven years of residency training after medical school.)
- Retain greater numbers of those we train.
- Reduce disease burden through continued geriatrics and public health training.

A proven strategy

"Growing our own" has proven to be a very effective approach to workforce development. It is key to meeting our future needs:

Percentage of ND primary care doctors who trained in-state*	55%
Percentage of ND doctors who graduated from UND, did some or all of their residency out-of-state, and returned to practice in ND	58%
Percentage of ND residency graduates who practice in ND or MN	60%
Percentage of UND/ND residency graduates who practice in ND	63%
Percentage of ND family medicine doctors who trained in-state	66%

* Graduated from UND and/or did residency in North Dakota

Plan implementation

Full implementation of the HWI, which began during the 2011-2013 biennium, will require four biennial cycles and additional facility space to complete. In addition to expansion of class sizes, the plan utilizes a number of strategies to maximize success, such as the following:

- Eighty percent of students accepted to medical school are North Dakota residents, weighted toward those from rural areas.
- Tuition forgiveness for those who commit to practice primary care in a rural community.
- Increased longitudinal experiences in rural communities.
- Increased geriatrics and public health focus.

Plan Review

The leaders of the School of Medicine and Health Sciences and the SMHS Advisory Council are recommending the full implementation of the HWI, and the State Board of Higher Education has endorsed the plan. The Legislative Interim Health Services Committee has recommended its full implementation, including the construction of a new medical school building (Option 3).

Deliverables

The most important deliverables are a supply and distribution of health care professionals that are adequate to serve the needs of North Dakotans.

The HWI will also have a direct positive impact on the economic environment of the state as a result of both increased employment and an estimated \$1 million annual economic impact from each additional physician employed.

It is further anticipated that for every \$1 appropriated by the Legislature, the School of Medicine and Health Sciences will generate another \$2 in grants, contracts, and service revenues. The total economic impact of the SMHS over the next three biennia should exceed \$400 million.

Impact on Enrollment*

	Additional per year	Length of program (years)	Total additional enrollment
Medical Students	16	4	64
Health Sciences Students	30	3	90
Residents	17	3	51
Total Additional Students/Residents			205

* Program fully implemented in the 2017-18 academic year

Funding Requirements*

	2011-2013	2013-2015	2015-2017	2017-2019
Base Funding	\$45.90	\$47.70	\$57.09	\$68.18
Funding Increment	\$1.80	\$9.39	\$11.09	\$4.36
Cumul. Increment	\$1.80	\$11.19	\$22.28	\$26.64

* In millions

Building Construction Options

	Option One	Option Two	Option Three
Expansion of Class Size	✓	✓	✓
Program Consolidation		✓	✓
Value over Time			✓
Income Opportunity			✓

Incremental Cost of Building Options*

	Option Two	Option Three
Construction Cost	\$68.3	\$124.0
Income Opportunity	\$0	(\$36.9)
Net Cost	\$68.3	\$87.1
		Difference \$18.8

* In millions. 40-year horizon.

Health Care Workforce Initiative

Comparison of Building Options

Fact Sheet #2

Attachment 4.
March 20, 2013
SB 2333

Introduction

The 2011 North Dakota Legislative Assembly authorized a space study to determine facility requirements to support the Health Care Workforce Initiative (HWI) for North Dakota. The goals of the study were to determine (1) the suitability of the existing space and (2) the amount of new space required to meet the class size expansions.

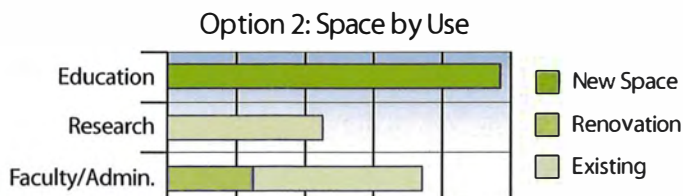
The space study proposed three building options to fulfill the requirements of the HWI.

Building Option 2 has been included in the Executive Budget for the 2013-2014 biennium and is being considered as a part of SB 2003. An additional bill, SB 2333, has now been introduced that would provide funding to implement Option 3. This fact sheet provides further details and comparisons of those two options.

Overview of the Options

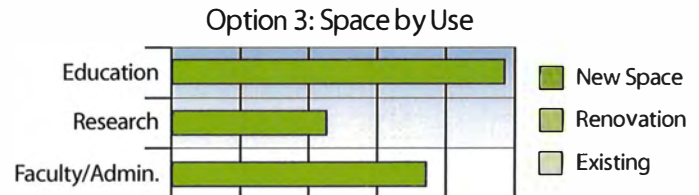
Two building options being considered each strive to achieve the same design goals, but use different approaches.

Option 2 proposes a combination of building expansion and renovation of the current facility to meet the space needs. It has an estimated project cost of \$68.3 million, including all costs of construction, site preparation, technology, and other expenses.



Option 3 proposes to relocate all of the School's various components and disciplines into a new shared building. It has an estimated project cost of \$124 million, including all costs of construction, site preparation, technology, and other expenses.

The 377,000-gross-square-foot building will house all education, research, faculty, and support functions.



Functional Assessment

Both of these space options meet the educational requirements of the Health Care Workforce Initiative. They both provide adequate space and an appropriate collaborative learning environment for interdisciplinary education.

Option 2 has some design constraints imposed by the existing building, which is a converted hospital, built in 1952.

Because the legacy building is unable to accommodate adequately sized classrooms (it is a cast-in-place structure with columns only 16 feet apart), Option 2 places learning spaces in the new addition and support spaces in the original building. This approach creates the needed space, but sometimes at the expense of placing classroom and support areas at some distance from one another.

An additional legacy issue is that in Option 2, the spacing between floors of the 1952 building is inadequate to easily accommodate modern HVAC and technology infrastructure. This option extends the floor elevations of the old building to the new addition.

Finally, the building addition in Option 2 eliminates all parking on the north side of the property, requiring parking to be moved across a busy street.

Building Option 3 is not hindered by legacy building issues and can be designed to maximize proximity, efficiency, and technology needs. It provides maximum flexibility to meet the changing future space requirements, with a longer useful life.

Economic Assessment

Option 2, with an initial cost of construction of \$68.3 million, is \$55.7 million less expensive than Option 3, costing \$124 million. However, Option 3 significantly outperforms Option 2 financially over time.

Implementing building Option 3 will add nearly \$1 million per year in new revenue. Because the cost of the facility construction is reimbursed through federally sponsored projects as an F&A (facility and administration) cost, it is anticipated to generate \$36.9 million over its 40-year life cycle.

Option 3 is less expensive to maintain than Option 2. Because the facility is newer, more efficient, and compact, there will be substantial savings over time for utilities and maintenance.

Considering all operational expenses and revenue, Building Option 3 reaches a break-even performance with Option 2 in just 21 years, and surpasses its performance thereafter. Over 40 years, this margin of benefit grows to over \$54 million.

The foregoing projections do not include economic benefits of Option 3 that may accrue from repurposing the existing structure to meet other University needs, create operating efficiencies, and provide revenue enhancement.

Conclusion

Both building options meet the program requirements for educational spaces and create shared collaboration and learning spaces. However, Option 3 performs better both functionally and economically over the life of the project.

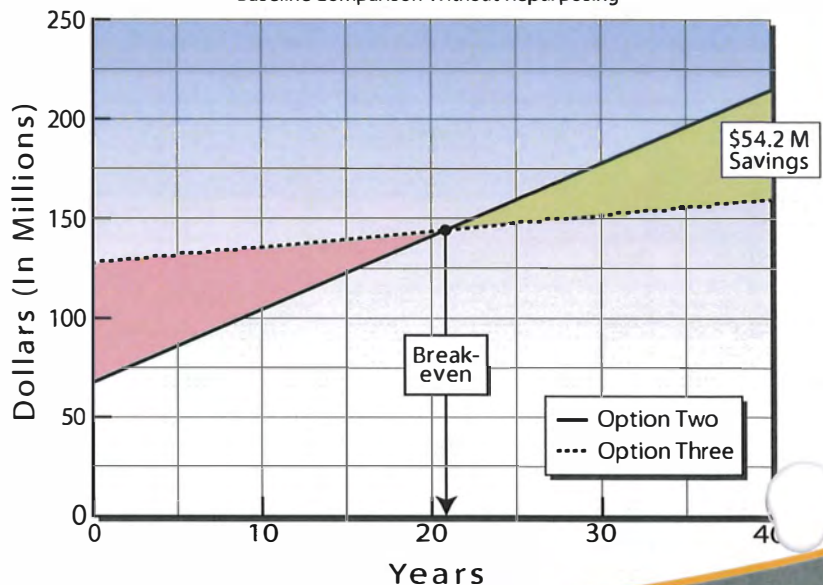
The leaders of the School of Medicine and Health Sciences and the SMHS Advisory Council are recommending the full implementation of the HWI, including Building Option 3. The State Board of Higher Education has endorsed the Health Care Workforce Initiative. The Legislative Interim Health Services Committee has recommended its full implementation, including the construction of a new medical school building (Option 3).

Economic Assessment

Advantages of Option Two	Advantages of Option Three
Lower cost of construction	
Meets requirements for space	Meets requirements for space
Allows integration of training programs	Allows integration of training programs
	Creates new revenue from facility reimbursements
	Lowers maintenance and utilities costs
	Sixty-year newer infrastructure with a longer life
	Proper floor-to-floor height for tech & utility infrastructure
	Least disruption during construction
	Allows contiguous parking
	Permits repurposing of current SMHS Building
	Improves ability to recruit researchers, students, and faculty

Costs Over Time, Option 2 vs. Option 3

Baseline Comparison Without Repurposing



Attachment 5.
March 20, 2013
SB2333

SPACE UTILIZATION STUDY SCHOOL OF MEDICINE & HEALTH SCIENCES



Architectural Services: **JLG Architects** | **Perkins + Will Architects**
UNIVERSITY OF NORTH DAKOTA
MARCH 28, 2012



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2. Introduction

Background

In 2011, the North Dakota State Legislature approved a class size increase for the University of North Dakota School of Medicine and Health Sciences (UND SMHS). This change will result in additional medical and public health practitioners, therapists, and other health professionals to serve North Dakota's changing healthcare needs. A partial implementation of SMHS's Healthcare Workforce Initiative (HWI), this class size increase will partially address workforce shortages in North Dakota. The full implementation of the HWI proposes an additional class size increase at UND's School of Medicine and Health Sciences in the year 2014. Before granting approval for the full HWI implementation, the 2011 North Dakota legislative assembly requested that the SMHS complete a facility space utilization study in order to determine (1) the suitability of the existing space and (2) the amount of new space required to implement the class expansion.

This report chronicles the objectives, process, findings and recommendations of that study.

Objectives

As outlined by the state legislature, the primary objective of this report is to:

Determine facility needs to support enrollment expansion in medical and health sciences education at the UND School of Medicine and Health Sciences.

Concurrently, this study and its recommendations are to support the University President's overarching strategic vision for the University, which is to make it "exceptional". Critical ingredients in the Exceptional UND campaign include plans to:

- **Enrich the student learning environment**
- **Encourage gathering**
- **Facilitate collaboration**
- **Expand UND's Presence**
- **Enhance the Quality of Life for Faculty and Staff**

As outlined by the SMHS leadership, secondary objectives of this study include:

1. **Co-locating health sciences and medical student education**
2. **Providing space for recruitment and retention of faculty required for increased enrollment**
3. **Analyzing the existing building's functionality to support SMHS's mission of "Education / Research / Service"**
4. **Verifying accreditation requirements are met**
5. **Maximizing the use of state versus federal funds relative to building type to maximize Federal indirect (F&A) cost return**
6. **Updating the out-moded existing facility**



UND President : Robert Kelley



Vice President for Health Affairs and Dean of the School of Medicine & Health Sciences : Joshua Wynne

Process

This space utilization study began with collecting existing documentation and surveying existing facilities. Buildings and individual spaces were reviewed for functionality, efficiency and physical condition.

Concurrently, over the course of several months, SMHS leadership, department chairs, faculty and students met with JLG architects and Perkins+Will to establish project objectives, current space deficits and future space needs. Based on these discussions, the facility survey and a space utilization study, JLG and Perkins+Will developed a complete space program necessary to accommodate the proposed enrollment increase and changes in education and pedagogy.

From this complete space analysis, three options (representing three levels of financial investment) were generated. Each option includes a concept design and cost estimate.

University of North Dakota**Vision Group:**

Joshua Wynne, Vice President for Health Affairs; Dean
 Randy Eken, Associate Dean for Administration &
 Finance
 Gwen W. Halaas, Senior Assoc. Dean for Academic &
 Faculty Affairs
 Rick Tonder, Director of Campus Capital Projects &
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Focus Groups:

Nick Neumann, Assistant Dean for SW Campus
 Chris Triske, Pathology
 Sue Kuntz, Physician Assistant
 Tom Mohr, Physical Therapy
 Janet Jedlicka, Occupational Therapy
 Bob Porter, Pathology
 Steve Westereng, Sports Medicine
 David Bradley, Microbiology & Immunology
 Kathy Sukalski, Biochemistry
 Jonathan Geiger, Pharmacology, Physiology, &
 Therapeutics
 Scott Garrett, Pathology
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 Nasser Hammami, Information Resources
 Jon Allen, Office of Medical Education
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 Robert Sticca, Surgery
 John Martsof, Pediatrics
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4. Executive Summary

INTRODUCTION & SUMMARY

The 2011 North Dakota legislative assembly authorized the University of North Dakota School of Medicine and Health Sciences (UND SMHS) to increase student enrollment. This change will result in additional medical and public health practitioners, therapists, and other health professionals to serve North Dakota's changing healthcare needs. As a partial implementation of SMHS's Healthcare Workforce Initiative (HWI), this effort will begin to address workforce shortages in North Dakota.

Full implementation of the HWI proposes an additional enrollment increase at UND's School of Medicine and Health Sciences in 2014. As a precondition for complete HWI implementation, the legislative assembly requested that the SMHS complete a facility space utilization study in order to determine:

1. The suitability of the existing space, and
2. The amount of new space required to meet the class expansion.

This summary chronicles the objectives, process and findings of that study.



An example of an overcrowded space is the gross anatomy labs. Each table is shared by 8 students; class size does not allow recommended clearances between tables to be met.

SUITABILITY OF EXISTING SPACES

UND SMHS consists of four campuses - Grand Forks, Fargo, Minot and Bismarck. Although this study focuses on the Grand Forks campus, enrollment will have a significant, but manageable, impact on the satellite campuses at Fargo, Minot, and Bismarck.

The UND SMHS learning facilities are separated on the 500 plus acre Grand Forks campus by excessive distance that creates challenges for both students and faculty in the development of learning synergies which enhance efficiency and performance.

The primary SMHS structure is a retired hospital constructed in 1952 and repurposed in 1988 as the School of Medicine and Health Sciences. It currently contains nearly 380,000 GSF (Gross Square Feet) with multiple additions over the years. The existing facility presents extraordinary challenges for accommodating the education of today's medical and health service providers. Some of the largest impediments of the existing facility include:

- **Small structural grid.** With columns only 16 feet apart, this building reflects the needs of a cast-in-place concrete structure suitable for a hospital design of 1952, but presents nearly impossible obstacles for the open space learning environment of today.
- **Low floor-to-floor heights** impede the installation of up-to-date, code-required HVAC (Heating, Ventilation and Air Conditioning) systems. Additionally, thick concrete decks create barriers to vertical pathways necessary for new HVAC lines and other utilities.
- **Lack of natural light.** The original floor plan prevents natural light from reaching the building interior, and has a significant negative impact on the quality of education spaces. Multiple studies show the positive effect of natural light on student performance, reduced absenteeism, retention of faculty and staff, as well as improved overall health of the occupants.
- **Age of major building systems and components.** The existing HVAC system is between 20 and 60 years old and nearing the end of its service life.
- **Aging windows and building envelope.** Although of robust construction, the original masonry structure does not provide the heating & cooling efficiencies available with modern construction. The original aluminum frame windows are difficult to operate and account for significant heating & cooling losses.
- **Limitations on technology and renovation.** The aforementioned robust construction represents real value in traditional North Dakota style, but unfortunately is a hindrance to both new technology and space renovation. As previously noted, mechanical upgrades are difficult and floor plan changes almost impossible to accommodate. In addition, wireless data transmission is blocked by the heavy concrete decks and columns.

The size, shape and configuration of most of the educational spaces are inadequate. Many of the classrooms, labs, Patient-Centered Learning (PCL) environments and lecture halls are overcrowded and recommended clearances are unobtainable – compromising the effectiveness of the learning environment and creating safety concerns in some instances. Offices are tailored around the original spacious 1952 patient care rooms, each containing their own bathroom, resulting in an inefficient use of space. Major renovations are required to reduce them to sizes that more closely represent a standard for higher education needs.

NEW SPACE REQUIRED TO MEET THE NEEDS OF THE CLASS EXPANSION

The existing facility is at maximum capacity (and beyond in several areas) to accommodate the current student enrollment. As an example, teaching wet labs are scheduled at 173% of their capacity. **As a result, the SMHS is currently unable to add any additional students, faculty or staff. To meet the needs of increased enrollment, expansion of the facility and renovations will be necessary.**

Full implementation of HWI will result in a 24% increase in class size.

ENROLLMENT GROWTH - STATEWIDE IMPACT			
	Enrollment <u>2012 SMHS</u>	Enrollment <u>2014 SMHS</u>	Enrollment <u>2017 SMHS</u>
On campus	641	757	803
Off campus	<u>158</u>	<u>166</u>	<u>190</u>
	799	923	993

Existing space is over-utilized. Targets for efficiency in medical and health science education suggest that a 40% utilization rate is the “best average” obtainable based on class schedules, internal traffic patterns, dedicated use labs, and small group instructional methods. SMHS is currently utilizing the space at 46%, creating scheduling conflicts that affect learning efficiencies.

The utilization rate of a room is determined by dividing the hours the room is scheduled for use by the total hours the room is available for use. Medical and health science education facilities often have many spaces that require room set up prior to class and room clean up after class. This drops the utilization rate compared to traditional classrooms. Medical education will often occupy several rooms at one time - moving from room to room during one class period - in addition to dedicated use such as anatomy/dissection labs.

Inefficient use of space is a result of the 1952 hospital building design. As enrollment increases, the need for additional faculty, staff, and support personnel grows proportionally. As a result, space for accommodating faculty, staff, and support functions must be included with building renovation or addition plans.

Previous generations of classroom design had the instructor at the head of the class and the students in rows of desks. Today’s education model is very different. Today classrooms are designed to encourage interaction, collaboration and participation between students and instructors. This new, team based, paradigm requires a room configuration that will not fit within the confines of the existing building structural system.



Past Classroom Model



Future Classroom Model

Enrollment will drive faculty recruitment, with prime candidates requesting laboratory space for the research and instructional programs that accompany their professional discipline. To be successful, a modern and all-inclusive medical education facility includes research infrastructure and laboratories as part of its space portfolio.

OPTION 1

Option #1 minimizes the investment in new facilities while maximizing renovations to meet the basic needs of the HWI student enrollment increase and maintain the existing level of service.

\$38.5M Estimated Project Cost

80,103 GSF addition with shared education space

42,311 GSF renovation of faculty offices and education space



Maintain Existing Level of Service Plan

OPTION 2

Option #2 balances investment in new facilities with renovations to optimize the educational experience of the HWI student enrollment increase and meet established standards for achieving educational excellence.

\$68.3M Estimated Project Cost

169,390 GSF addition with shared education space and student collaboration space

48,332 GSF renovation of faculty offices, collaboration, and administration



Establish Recommended Standards Plan

OPTION 3

Option #3 looks at creating an entirely new facility to provide exceptional space to meet the needs of the HWI student enrollment increase while sustaining growth and providing a facility that will remain a highly valued edifice for years to come.

\$124.0M Estimated Project Cost

376,812 GSF building with shared education space, student and faculty collaboration space, faculty and administration offices, and research facilities



Sustaining Growth Plan

Definition: Gross Square Footage (GSF) is the total building square footage measured to the outside of the exterior wall. This includes: all walls, stairs, elevators, mechanical spaces, and equipment areas.

Option #1 consists of an addition of approximately 80,000 GSF (Gross Square Feet) and a renovation of 42,300 GSF. The focus of Option #1 is to locate as much education space as possible into new or renovated space.

The 80,000 GSF addition will house approximately 50% of the new education spaces & associated non-assignable spaces. The construction cost of this addition is estimated at \$19.8M.

The 42,300 GSF renovation of existing space will result in another 25% of education spaces being updated. The construction cost of this renovation is estimated at \$5.8M.

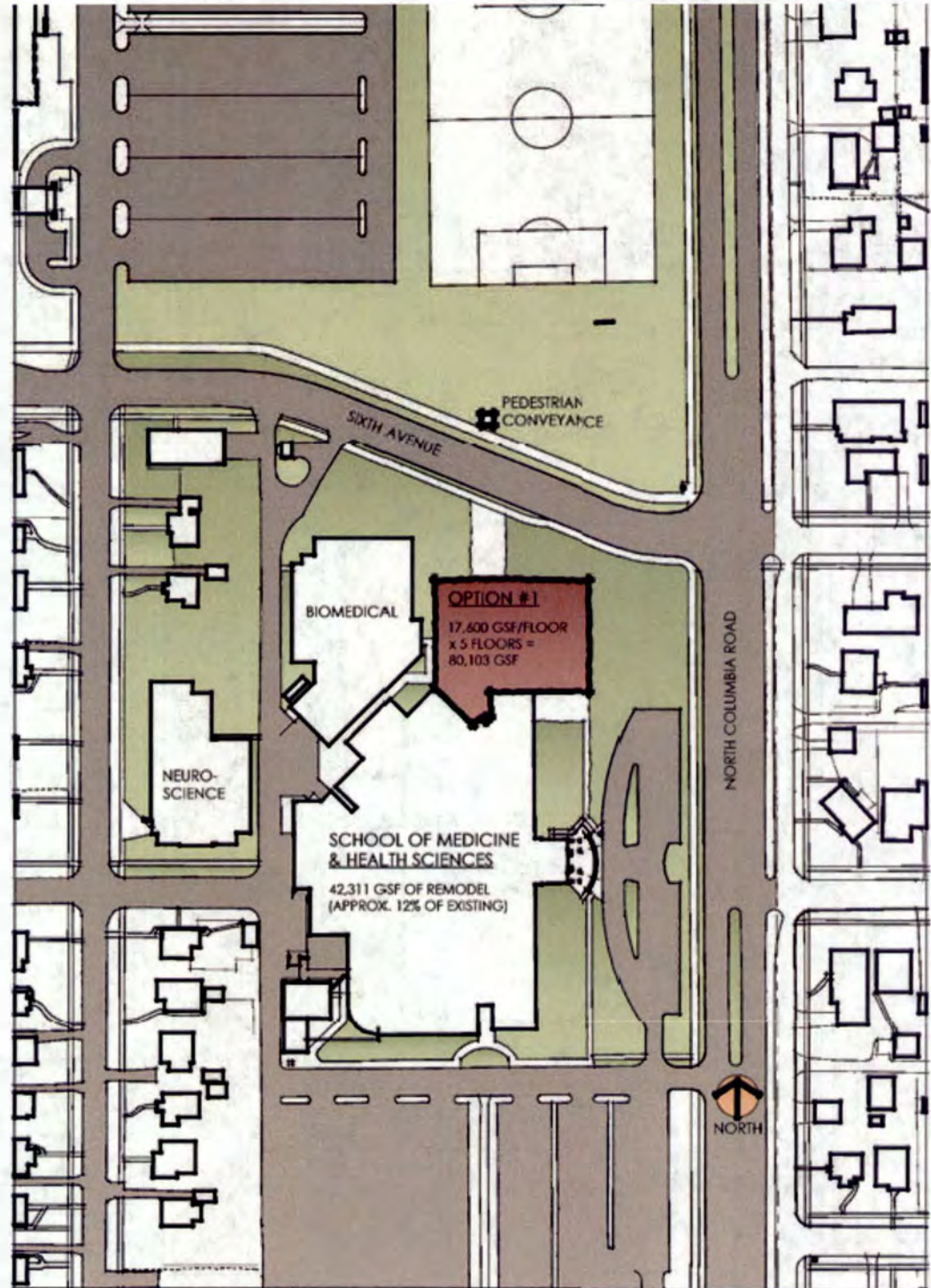
Construction costs for this option are \$25.6M. Sitework, pedestrian conveyance, technology, and additional costs bring the total project cost estimate for Option #1 to \$38.5M.

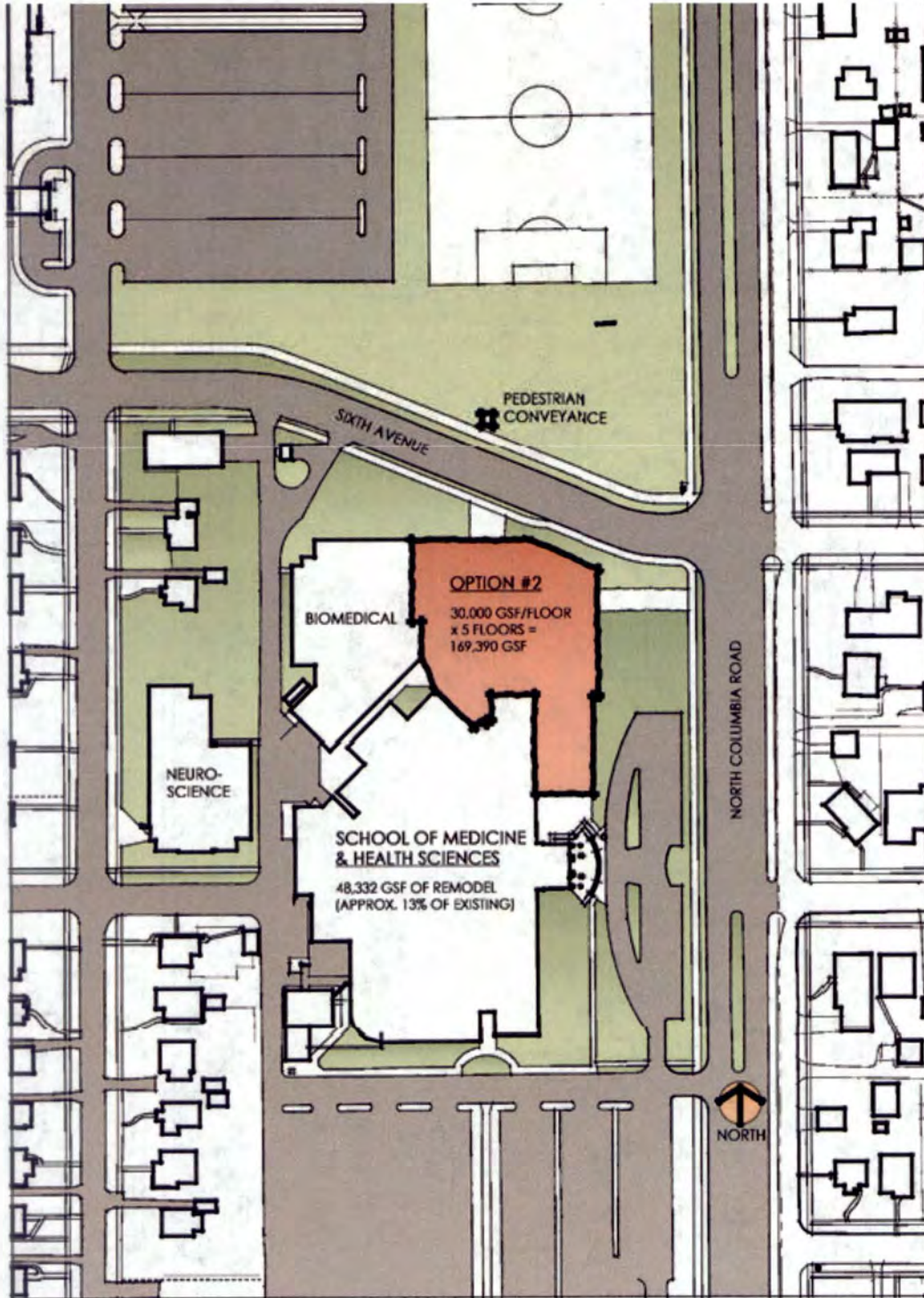
Pros:

- Lowest initial investment.
- Fastest completion time for new construction.
- Provides efficient new/renovated education space.

Cons:

- Connection to existing building creates low floor-to-floor heights.
- Little new daylight added to education space.
- Close to maximizing site coverage (not much room for future expansion).
- Pedestrian conveyance required to access simulation, parking to the north, etc.
- Meets minimum program requirements, but doesn't create ideal collaboration & learning spaces.





Option #2 consists of an addition of approximately 169,300 GSF (Gross Square Feet) and a renovation of 48,300 GSF. Option #2 locates all education areas in new space and renovates as much faculty/administration area as possible.

The 169,300 GSF addition will house 100% of the new education spaces. The construction cost of this addition is estimated at \$41.9M.

The 48,300 GSF renovation of existing space will result in approximately 1/3 of faculty/administration spaces being updated. The construction cost of this renovation is estimated at \$6.6M.

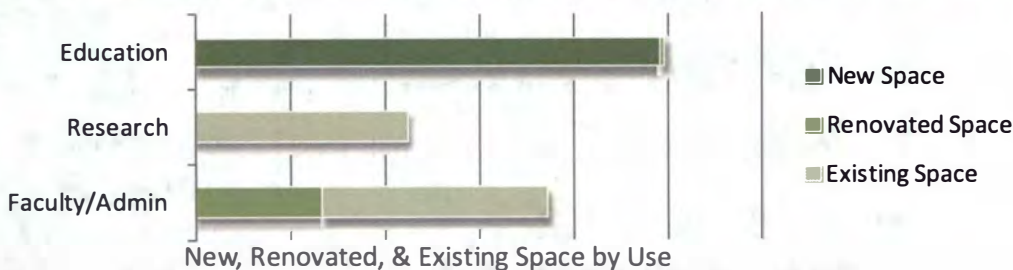
Construction costs for this option are \$48.5M. Sitework, pedestrian conveyance, technology, and additional costs bring the total project cost estimate for Option #2 to \$68.3M.

Pros:

- Meets program requirements for education spaces & creates shared collaboration & learning spaces.
- Creates a new image for SMHS along Columbia Road.

Cons:

- Connection to existing building creates low floor-to-floor heights.
- Little new daylight added to faculty/administration space.
- Maximizes site coverage (no room for future expansion).
- Pedestrian conveyance required to access clinic space, parking to the north, etc.



Option #3 consists of a new building of approximately 377,000 GSF (Gross Square Feet). Option #3 relocates all of the School of Medicine & Health Sciences into a new shared building.

The 377,000 GSF building will house all education, research, and faculty/administration spaces. The construction cost of this building is estimated at \$94.6M. Sitework, technology, and additional costs bring the total project cost estimate for Option #3 to \$124M.

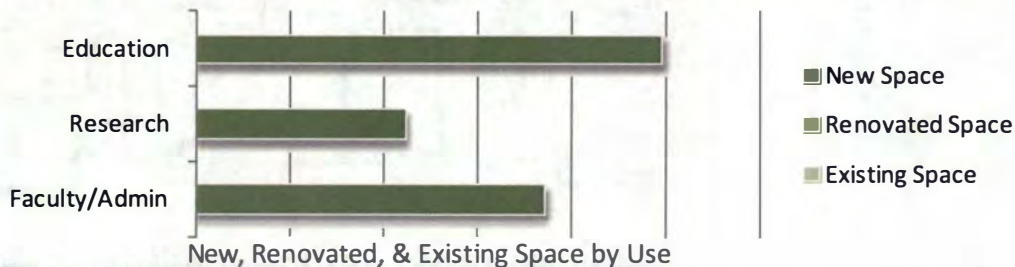
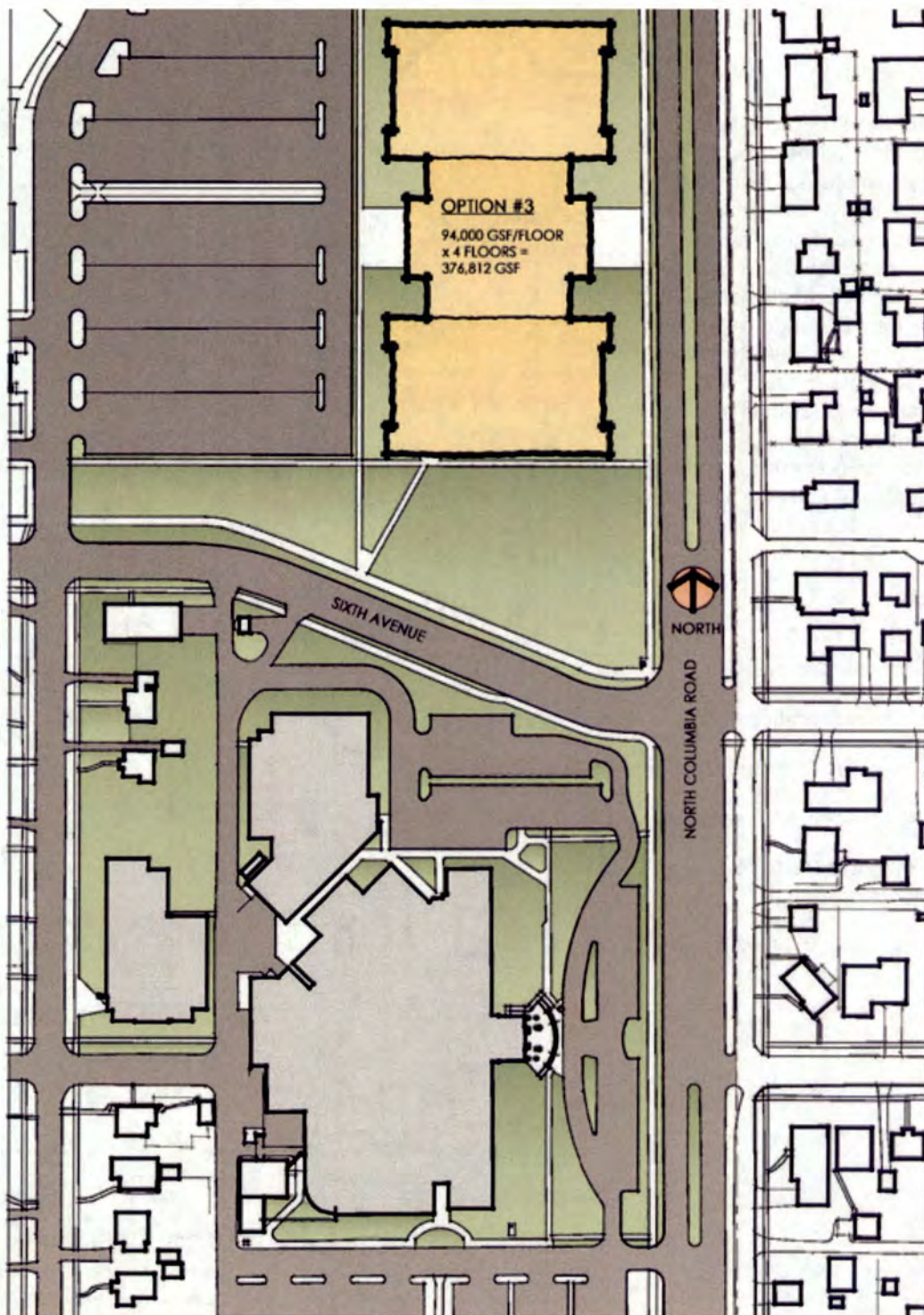
Pros:

- Least disruption to current building operations.
- Lowest maintenance and operations cost (down to one building vs. four).
- Best meets the goal for a unified & integrated School of Medicine & Health Sciences.
- Optimizes efficiencies & adjacencies of space.
- Improves UND's Facilities & Administration (F&A) rate for sponsored projects.
- Presents a totally new image & presence for SMHS.
- Fosters the recruitment and retention of the 'best and brightest' students and faculty.

Cons:

- Highest initial cost.

Note: UND is undertaking a planning process in which it is evaluating existing facilities for suitability and efficiency. When space becomes available as a result of new construction, it will be considered for repurposing, demolition, or a combination of both that results in better utilization of all campus facilities. Should the existing SMHS space be fully vacated, it will set in motion a process whereby the entire campus will become more efficient as a result of the opportunity.



5. Site Context

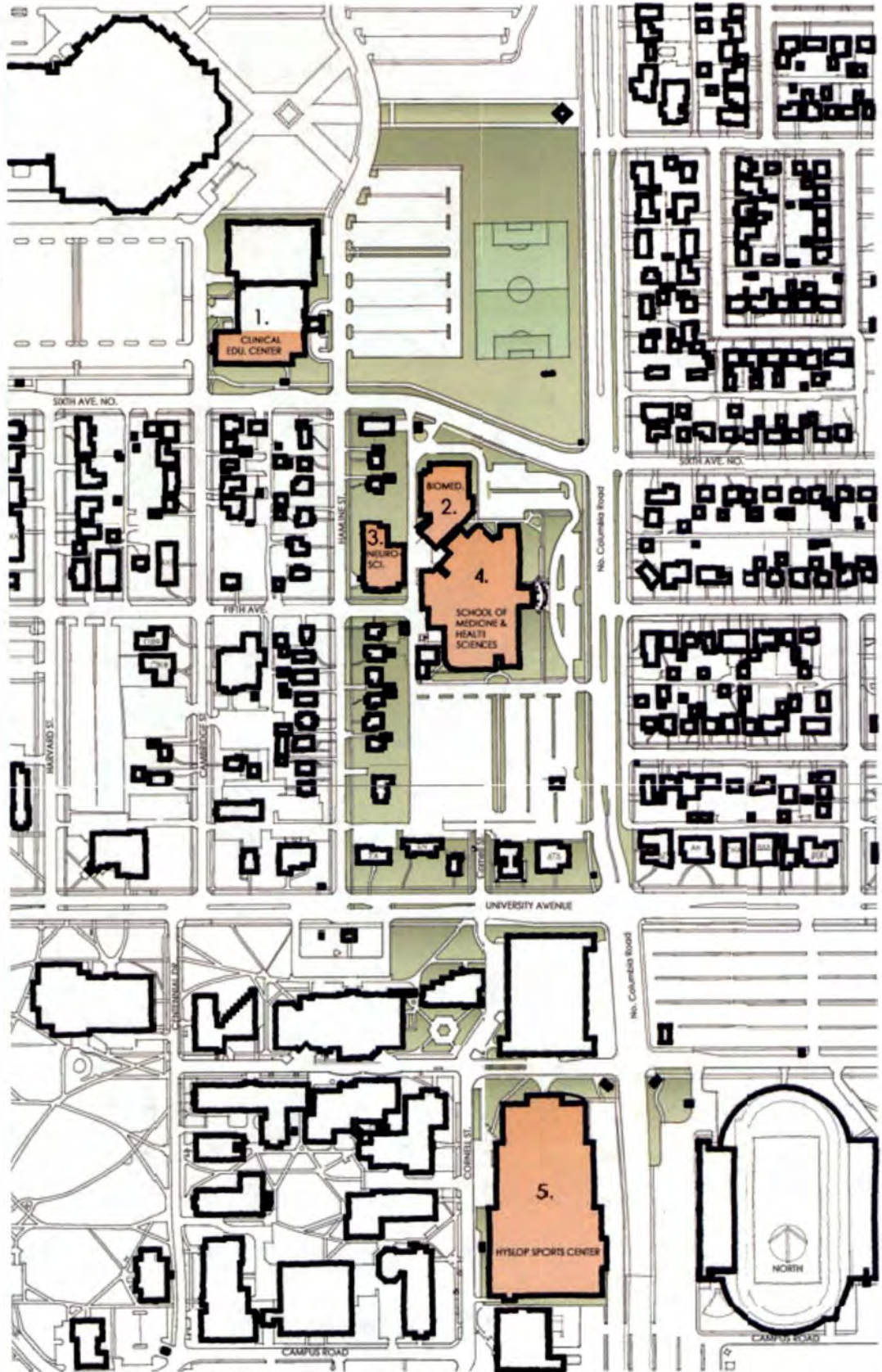
Site Context:

Introduction

The UND School of Medicine & Health Sciences currently has four campuses spread across the state. Grand Forks is the main campus, with satellite facilities located in Fargo, Minot, & Bismarck. Implementation of the Health Workforce Initiative (HWI) will increase the number of students and faculty at the Grand Forks location to the point of overcrowding. This study looks at existing (current) conditions, and how the HWI will affect space needs.

GRAND FORKS (Northeast Campus)

- 1. Clinical Education Center
- 2. Biomedical Research Facility
- 3. Neuroscience Research Center
- 4. School of Medicine & Health Sciences
- 5. Hyslop Sports Center



Space Use & Stacking Diagram Summary:

Introduction

Space Use Diagrams show the relationships of departments & room uses on a floor-by-floor basis. They are color coded to match with the Programming Breakdown, both of which are included in their entirety in the Appendix.

Stacking Diagrams show the relationships of departments throughout the School of Medicine & Health Sciences. Many departments are spread across several floors; some are even spread across the many SMHS buildings on campus. Stacking diagrams of the main School of Medicine & Health Sciences building are included in the Appendix.

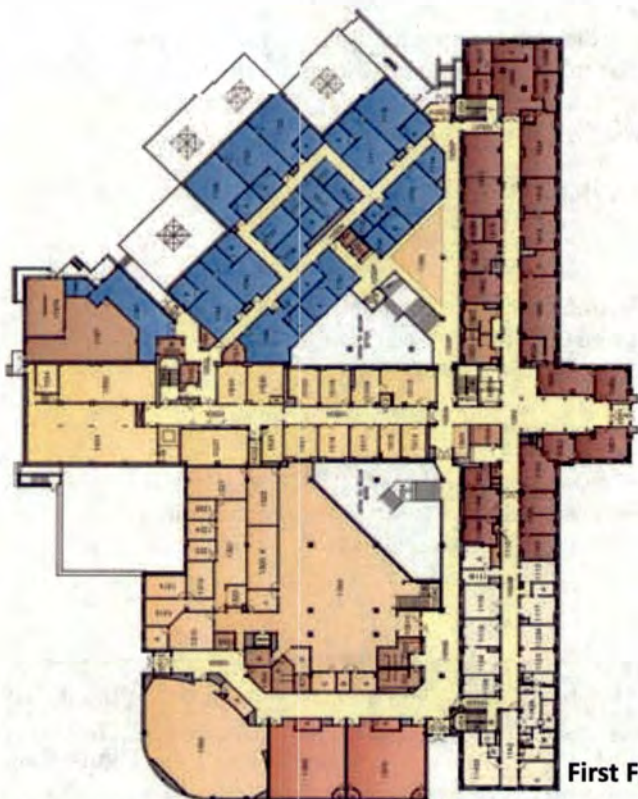
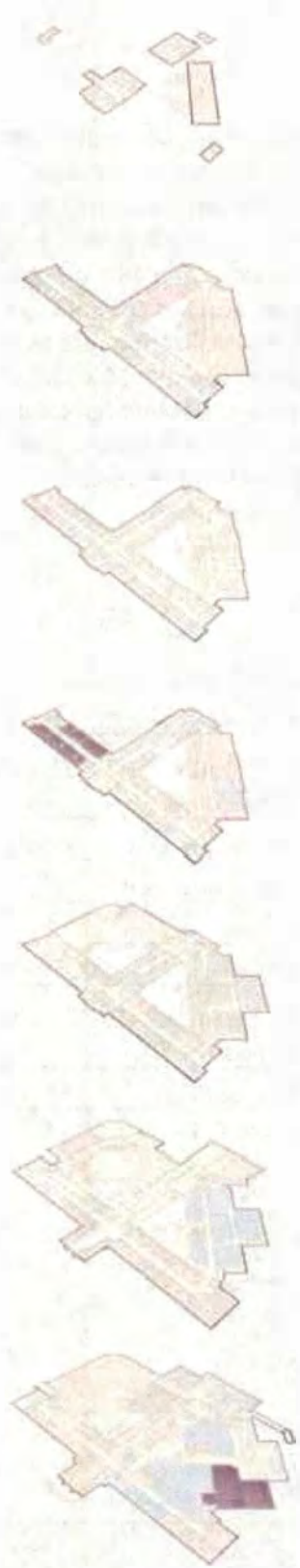
Process

JLG and Perkins+Will worked with UND Facilities and UND School of Medicine & Health Science to gather up-to-date information on room use & departmental affiliation for all SMHS buildings. These were analyzed and color coded to develop the Space Use Diagrams. Space Use Diagrams were then stacked & sorted by department to provide the Stacking Diagrams.

Conclusion

Most departments are disjointed and spread across two or more floors (example: Medical Laboratory Science). This makes collaboration much more difficult. Efficiencies that could be gained by sharing departmental supplies & resources are reduced.

In order to increase efficiency, any solution arrived at would need to help defragment departments to co-locate resources & shared spaces.



First Floor - Space Use Diagram

Medical Laboratory Science

Nationally, Medical Education Institutions have a 40% utilization rate. UND School of Medicine & Health Sciences operates at a 46% utilization rate, and has committed to a 50% utilization rate as a target. Even at 50% utilization, there is not enough existing usable space for the HWI class enrollment increase.

Existing Room Utilization Rates:

Introduction

To fully understand SMHS's facility use, JLG and Perkins+Will conducted a room utilization study, which looks at how often a room type is used. Developed as a percentage, room utilization rates provide a basis for operational efficiency review and, often, highlight areas of space needs.

For medical education institutions the national average is approximately a 40% utilization rate. This seemingly low rate of utilization is caused by several factors, including: set-up & tear-down time for labs, specialized spaces that are necessary but infrequently used, classes that use more than one room during a class period, unregistered time use, etc.

UND's School of Medicine and Health Sciences program currently operates at a 46% utilization rate, indicating a strong operational efficiency. Additionally, specific room types, such as the medium-sized lecture halls, plinth labs and computer labs, run at a much higher utilization rate—60% to 70%—revealing a need for increased facilities of this type. (See Figure 6.42)

Process

SMHS collected and provided room scheduling information for all educational spaces within their Grand Forks campus. These spaces ranged from general classrooms and lecture halls to specialty labs and group learning spaces. We analyzed the provided data to determine an average number of scheduled hours per week per semester for each room. (See Figure 6.41 for an example of the hourly data spreadsheet.) Using the weekly averages, we extrapolated the approximate number of scheduled hours for each room in a year.

Utilization rate is determined by dividing the scheduled annual hours by the total annual capacity hours. The total annual capacity hours are the hours a room could be used in the year and equals 9 hours per day x 5 days a week x 49 instructional weeks per year, which equals 2,205 hours.

As with any school of medicine, SMHS has a wide variety of educational spaces. To simplify matters, rooms were grouped into the following categories:

Small Classrooms, Medium Classrooms, Large Classrooms, Small Lecture Halls, Medium Lecture Halls, Large Lecture Halls, Wet Labs, Anatomy Labs, Plinth Labs, and Computer Labs. (See Figure 6.39)

SMHS also has a wide variety of departmental users:

Medicine, Physical Therapy (PT), Occupational Therapy (OT), Physician's Assistant (PA), Medical Lab Sciences (MLS), Sports Medicine, Administration, and miscellaneous other groups (other). (See Figure 6.40)

Space Type	Capacity
1 Small Classrooms	20 to 25
2 Medium Classrooms	40 to 50
3 Large Classroom	70 to 100
4 Small Lecture hall	55 to 70
5 Medium Lecture Hall	100
6 Large Lecture Hall	300
7 Wet Labs	24
8 Anatomy Lab (Undergrad)	64
9 Plinth Labs	48
10 Computer Lab	20 to 40

Figure 6.39



Figure 6.40

UND SMHS
Facility Use Worksheet

Departments



Reed-Keller Lecture Hall

295 seating capacity

Spring Quarter 2011 (18 weeks)

1st week

Day	Time of Day and Number of Students												Hours						
	am						pm												
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday				150		150			150		150								
Tuesday				150					150		150			90					
Wednesday				150		150			150										
Thursday				150					150										
Friday				150		150													
Saturday																			
Sunday																			
Total:																			27.5

13th week

Day	Time of Day and Number of Students												Hours						
	am						pm												
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday				150	50	150			150		150								
Tuesday				150					150		150								
Wednesday				150		150	65	150					160						
Thursday				150					150										
Friday				150		150													
Saturday							40												
Sunday							40												
Total:																			27
Weekly Average:																			27.25
Total Hours Per Quarter																			490.5

Summer Quarter 2011 (13 weeks)

1st week

Day	Time of Day and Number of Students												Hours						
	am						pm												
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday				75					2										
Tuesday							66												
Wednesday									65										
Thursday				85										60					
Friday																			
Saturday																			
Sunday																			
Total:																			23

10th week

Day	Time of Day and Number of Students												Hours						
	am						pm												
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday				85										80					
Tuesday				85					60					80					
Wednesday				85										80		15			
Thursday				85										150					
Friday				85										80					
Saturday																			
Sunday																			
Total:																			22
Weekly Average:																			22.5
Total Hours Per Quarter																			292.5

Fall Quarter 2011 (18 weeks)

1st week

Day	Time of Day and Number of Students												Hours						
	am						pm												
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday						50										150			
Tuesday				100					65					50					
Wednesday				150	150				150					90					
Thursday				100							150								
Friday				150	150				150										
Saturday																			
Sunday																			
Total:																			25.5

13th week

Day	Time of Day and Number of Students												Hours						
	am						pm												
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday				150	150						150								
Tuesday				100															
Wednesday				150	150					150									
Thursday				100					150		150								
Friday				150	150					150									
Saturday																			
Sunday																			
Total:																			19.5
Weekly Average:																			22.5
Total Hours Per Quarter																			405

Total Hours Per year 1188

Figure 6.41

6. Existing Space Inventory

Results

Space Type	Capacity	Qty	Annual Hours Per Room (9x5x49)	Annual Capacity Total Hours	TOTAL HOURS USED (All Departments)	PERCENTAGE USED (All Departments)	Medicine		PT	
							Hours used per year	Percentage Use	Hours used per year	Percentage Use
1 Small Classrooms	20 to 25	5	2,205	11,025	3,400	31%	395	4%	0	0%
2 Medium Classrooms	40 to 50	2	2,205	4,410	1,799	41%	290	7%	0	0%
3 Large Classroom	70 to 100	1	2,205	2,205	785	36%	41	2%	24	1%
4 Small Lecture hall	55 to 70	2	2,205	4,410	1,555	35%	117	3%	1224	28%
5 Medium Lecture Hall	100	2	2,205	4,410	3,114	71%	2,681	61%	18	0%
6 Large Lecture Hall	300	1	2,205	2,205	1,188	54%	828	38%	135	6%
7 Wet Labs	24	5	2,205	11,025	6,008	54%	576	5%	0	0%
8 Anatomy Lab (Undergrad)	64	1	2,205	2,205	648	29%	648	29%	0	0%
9 Plinth Labs	48	1	2,205	2,205	1,314	60%	0	0%	1314	60%
10 Computer Lab	20 to 40	2	2,205	4,410	2,699	61%	81	2%	0	0%
Subtotal Scheduled Educational Space				48,510	22,509	46%	4,927	22%	1,401	6%

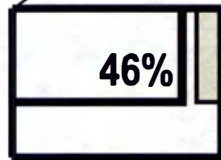


Figure 6.42

OT		PA		MLS		Sports Medicine		Admin		Other	
Hours used per year	Percentage Use	Hours used per year	Percentage Use	Hours used per year	Percentage Use	Hours used per year	Percentage Use	Hours used per year	Percentage Use	Hours used per year	Percentage Use
2082	19%	0	0%	288	3%	567	5%	67.5	1%	0	0%
1187.5	27%	0	0%	281	6%	0	0%	40.5	1%	0	0%
18	1%	621	28%	9	0%	0	0%	72	3%	0	0%
0	0%	133.25	3%	0	0%	81	2%	0	0%	0	0%
84.5	2%	0	0%	9	0%	0	0%	241.25	5%	81	2%
0	0%	22.75	1%	145.5	7%	0	0%	39	2%	18	1%
0	0%	0	0%	5432	49%	0	0%	0	0%	0	0%
0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
2337.5	53%	0	0%	148	3%	18	0%	114.2	3%	0	0%
3,372	15%	777	3%	6,165	27%	648	3%	460	2%	99	0%

% use of total % use of total % use of total % use of total % use of total % use of total

6. Existing Space Inventory

Room Capacity Rates:

Introduction

Another indication of a facility's suitability/usability for its current function is room capacity usage rates. A room capacity is the number of people the room can functionally hold. For example, a lecture hall with 100 fixed seats has a 100-person capacity. A room capacity usage percentage measures the number of people in the room at a given time relative to how many people could be in the room (actual attendance / room capacity). For example, when a class of 60 students meets in the 100-person lecture hall, the room capacity percentage is 60%.

Studying these capacity percentages can reveal overcrowding, under crowding, and misalignment of capacity to use.

As with the room utilization rates, SMHS provided class size data for scheduled meetings in each room over the course of the past year. JLG and Perkins+Will compiled and analyzed the data to arrive at the results below.

Results

The results chart below shows two types of information: average capacity percentage and capacity percentage range.

	<i>Scheduled Space Type</i>	<i>Average Size</i>	<i>Capacity</i>	Average Percentage of Capacity Used	Range of Capacity Used	<i>Qty</i>	<i>Total ASF</i>
1	Small Classrooms	484 to 954 SF	20 to 25	63%	19% to 90%	5	3,551
2	Medium Classrooms	833 to 2,310 SF	40 to 50	85%	14% to 107%	2	3,143
3	Large Classroom	1,199 SF	70 to 100	60%	42% to 90%	1	1,199
4	Small Lecture hall	743 to 1,644 SF	54 to 70	81%	14% to 100%	2	2,387
5	Medium Lecture Hall	1,150 SF	100	60%	29% to 95%	2	2,317
6	Large Lecture Hall	2,416 SF	300	39%	1.7% to 51%	1	2,416
7	Wet Labs	670 SF to 1,650 SF	24	173%	83% to 222%	5	4,762
8	Anatomy Lab (UG)	1,581 SF	64	100%	100%	1	1,581
9	Plinth Labs	1,638 SF	48	100%	100%	1	1,638
10	Computer Lab	750 SF	20 to 40	65%	20% to 100%	2	1,512
							24,506
	<i>Owned Space Type</i>						
1	PCLs	483 SF	8 to 12	100%	100%	18	8,702
2	Anatomy Lab (MD)	1,836 SF	64	100%	100%	1	1,836
						Subtotal ASF:	10,538
						Total ASF:	35,044

Conclusions

SMHS's current facilities (1) lack the proper size of spaces to serve their current needs and (2) cannot support a class size increase.

1. Reviewing the percentage ranges shows that many spaces (small and medium class rooms and the large lecture hall, for example) host classes and meetings much smaller than their capacity. This misalignment of room size to function creates a poorer learning environment, especially when dealing with small group learning. Conversely, the wet labs (line item 7) have a significant overcrowding problem. With an average capacity percentage of 173%, these conditions not only reduce the learning environment quality but also can create safety concerns.
2. Both the average and range of capacity percentages show the majority of rooms operating near or at room capacity. Any class size increase will lead to overcrowding in the existing spaces, with, again, the potential for unsafe conditions and substandard teaching conditions.



6. Existing Space Inventory



Existing Space Summary:

Civil

- The existing building is surrounded by parking on three sides.
- Potable water supplied by City of Grand Forks municipal water system; water is supplied thru 16" main lines running under both Sixth Ave. North and North Columbia Road.
- Sanitary sewer service is supplied by the City of Grand Forks municipal sanitary sewer system; currently, wastewater is routed north across Sixth Ave North to lift station 13.
- Storm water drainage is currently routed off-site through storm sewers.
- Steam heat is employed to heat the building. The steam line follows the alley on the west side of the building.
- Natural gas is supplied by Xcel Energy, with a capacity of 4 million BTUs.



Structural/Architectural

- The existing building was constructed in 1952 as a hospital. It was repurposed in 1988.
- The structural grid consists of concrete columns that are only 16' apart. This creates a very sturdy structure, but does not allow for flexibility of new spaces.
- The building consists of the original 'T' shape of the hospital, surrounded by several additions.
- Minimal systems requirements in the 1950's results in a very low floor to floor height. This makes adding systems very difficult.
- Windows/Walls are not insulated to today's standards. This causes inefficient energy use and uncomfortable interior temperatures.
- Structure sizing at the library addition will not allow for any more floors to be added above what is existing.
- The existing building is not perceived as integral to the building fabric of the area. The central 'T' has construction & detailing common to many buildings of the 1950's. The subsequent additions have increased the building size, but have not made it a 'landmark'.
- Interior spaces vary greatly in their level of finish; some have been recently remodeled and look new. Other areas have never been remodeled and show 60 years of age.
- The heavy structure of the building is prohibitive of WiFi internet, but use of extra WiFi hubs allows access in most areas. Cell phone reception is blocked out by the structure. The basement and central areas of upper floors do not receive signal.
- Conversion of rooms from hospital to offices has resulted in oversize offices - an inefficient use of space. The existing heavy construction & closely spaced structural columns make changing these to "right-sized" rooms nearly impossible.



Existing Space Summary:

Mechanical

- Heating for the building is supplied through several different systems: roof top units, VAV boxes, steam radiation. Old areas of the building that have not seen a significant remodel use operable windows to ventilate heat.
- Most systems are 20+ years old, and nearing the end of their useful life.
- Most of the building uses portable units for cooling; these are bulky, loud, and use energy less efficiently than a central system.
- There is a wet pipe Fire Sprinkler System in some areas of the building. Areas not currently covered will need to be piped for fire suppression as part of any remodel.
- Any remodel of the existing atria spaces will require a review for code compliance, and possible renovation of mechanical systems to meet new smoke ventilation codes.
- Controls for equipment are outdated; heat pump controllers are of a style that was phased out more than 10 years ago.
- Most thermostats are of an outdated, pneumatic design. Remodeling should include replacing these with a current, digital thermostat. This would result in gained energy efficiency & provide integrated, whole building feedback.



Electrical

- Lighting in the building is provided primarily by fluorescent light fixtures. Many of these fixtures utilize T12 lamps & ballasts, which are outdated. T8 lamps & electronic ballasts have been installed in a few areas and are more energy efficient.
- Atria spaces use metal halide lamps as the primary light source (poor color rendering), and are under lit when the skylights are not providing additional lighting.
- Access to natural daylight is minimized in many areas due to the large floorplate and additions covering pre-existing windows.
- Telecommunications system is adequate for the existing building.
- Life safety systems are nearly 20 years old; these need to be replaced as part of any remodel/addition.
- Most switchgear and panelboards were updated in 1994, and are in good working condition. There are a few panelboards in the original 'T' portion of the building that are 40+ years old. These should be replaced as part of any remodel work.
- The existing backup generator is able to supply most, but not all, of the building with backup power. Any building expansion would require a review to determine if a separate electrical service should be supplied.
- New technologies that would be included with any renovation/addition or new construction would improve energy efficiencies.



Future Student Enrollment:

In 2011 the North Dakota legislative assembly approved a partial implementation of SMHS's Healthcare Workforce Initiative (HWI). This implementation includes expanding class sizes and starting a new Masters in Public Health program in 2012. Medical class sizes will increase by 8 students a year; occupational therapy will increase by 5 students a year, physical therapy will increase by 5 students a year, and physician's assistants will increase by 5 students per enrollment session. The Masters in Public Health program, in conjunction with North Dakota State University, will begin enrollment at 20 students a year.

However, to meet North Dakota's healthcare workforce needs, the SMHS has indicated that full implementation of the HWI plan requires an additional class size increase in 2014. This class size increase doubles the increases made in 2012: 8 more medical students per year and 15 more health sciences per year. Additionally, the Masters in Public Health program enrollment would increase from 20 to 30 students per year.

If approved, the full implementation of the Healthcare Workforce Initiative represents a 24% increase in student enrollment. (See Figure 7.1)

Full Implementation of the HWI will result in a 24% student enrollment increase.



UND School of Medicine & Health Sciences Student Enrollment

Figure 7.1

Program	2012 Growth		2014 Growth		2015 Enrollment	2016 Enrollment	2017 Enrollment	
	2011 Enrollment	2012 Enrollment	2013 Enrollment	2014 Enrollment				
School of Medicine								
Medicine								
1st Year	64	+8	72	72	+8	80	80	80
2nd Year	64		64	72		74	80	80
Subtotal:	128		136	144		154	160	160
3rd Year (Off-Site)	64		64	64		72	72	80
4th Year (Off-Site)	64		64	64		64	72	80
Total	256		264	272		290	304	312
Basic Sciences								
Graduate Students	52		52	52		52	52	52
Medical Lab Sciences								
Fall & Spring	40		40	40		40	40	40
Summer	80		80	80		80	80	80
Occupational Therapy								
1st Year	36	+5	41	41	+5	46	46	46
2nd Year	36		36	41		41	46	46
3rd Year	36		36	36		41	41	46
Subtotal:	108		113	118		128	133	138
Off-site	30		30	30		30	30	30
Total	138		143	148		158	163	168
Physical Therapy								
1st Year	48	+5	53	53	+5	58	58	58
2nd Year	48		48	53		43	58	58
3rd Year	48		48	48		53	53	58
Total	144		149	154		154	169	174
Physicians Assistant								
Total Program	60	+5	65	65	+5	70	70	70
Public Health								
1st Year	0	+20	20	20	+10	30	30	30
2nd Year	0		0	20		20	30	30
Total	0		20	40		50	60	60
Sports Medicine								
1st Year	23		23	23		23	23	23
2nd Year	23		23	23		23	23	23
3rd Year	23		23	23		23	23	23
Total	69		69	69		69	69	69
Total On Campus Students:	641		684	722		757	793	803
Total Off Campus Students:	158		158	158		166	174	190
Total Students:	799		842	880		923	967	993

Future Needs Program Summary:

Introduction

This section describes the specific programmatic elements needed for the School of Medicine and Health Science Grand Forks campus. The following space summary is a detailed numerical program in which the building is broken down into individual spaces identified by space type, quantity and functional groupings. This section is not a stand-alone document and should be studied closely with the rest of this document to understand the full scope and requirements of the comprehensive building program. The following program also represents a complete and comprehensive look at all space needs including, but not limited to, the class size increase. The space needs are projections based on the predicted growth in class size and the associated faculty & staffing required to serve the students.

Terminology

In compiling a programming document, a number of terms are used to identify the appropriate area for the building. The subsequent sheets use the following terminology to generate the building's space needs.

Capacity: the number of occupants per room

ASF/Unit: the assigned square footage of a space per occupant

Assignable Square Feet (ASF): the assigned square footage of space (equal to capacity times ASF/unit)

Quantity (Qty.): number of rooms

Total ASF: assignable square feet (ASF) times the number of rooms

Gross Square Feet: total square footage of the building measured from the outside walls

Program Format

The following program contains four categories: education, research, faculty and administration. Each category includes subgroupings based on function and ownership. For each space type, the program describes the existing quantities and size, the change from the existing conditions to new program, and the new quantities and size.

Program Development

Analysis of the existing facility and discussions with SMHS personnel generated five distinct driving points for programmatic change:

1. Current Design Practices
2. Pedagogy
3. Increased class size
4. Specialty Curriculum-based requests
5. Organizational Efficiency

Current Design Practices: Due to the SMHS's facility's age, most rooms do not follow current design practice and standards. Updating to these standards often requires growing space sizes and allowing for the inclusion of modern technology, teaching methods, and the Americans with Disabilities requirements. This also includes standardizing room type sizes, which usually reduced square footage in offices and meeting rooms.

Pedagogy: Since the original construction for SMHS, medical teaching methods have changed drastically—individual lecture-based study has become collaborative group project-based study. This new pedagogy cannot function in traditional lecture hall space, but rather, requires new team classroom environments. (See attached Figures 7.2 & 7.3, 7.4 & 7.5)

Increased class size: More students per year required larger room capacities (increased room size) as well as additional small meeting rooms (increased room quantities).



Figure 7.2



Figure 7.3

Specialty Curriculum-based Requests: Focus group meetings identified current space deficits and highlighted the need for several department specific teaching spaces. These spaces directly support teaching curriculum requirements. For example, occupational therapy requested a small apartment mock-up lab to teach specific transfer skills not taught in a traditional lab environment.

Organizational Efficiency: SMHS is currently organized by department. While departments share some academic and support space, most space is “owned” and used by a single department. To increase efficiency SMHS has committed to inter-departmental sharing of almost all academic and support space. Additionally, SMHS has committed to a higher space utilization rate—from 46% to 50%. Both commitments reduced the number of educational spaces required.

As outlined in this section & supporting documentation, to optimally meet the space needs of the future, the SMHS requires a building or buildings of approximately 375,000 SF.

Program Summary	EXISTING	Change	NEW
Education Subtotal:	79,837	19,509	99,346
Research Subtotal:	34,246	10,554	44,800
Faculty Subtotal:	39,196	10,699	49,895
Administration Subtotal:	25,634	(1,124)	24,510
ASF Subtotal:	58% 178,913	39,638	218,551
Non-assignable:	42%		158,261



Figure 7.4



Gross Square Footage Total: 376,812

Assignable Square Feet Percentage (ASF Subtotal)

As noted in Section 6 - Existing Space Inventory, the current School of Medicine building is 54% assignable space, lower than current design standards. This is due to the age of the current facility, and design compromises resulting from its conversion from the previous use as a hospital. This program assumes a 58% assignable space ratio, comparable to other current medical education facilities. (A higher percentage here generates a smaller overall building size.)

Assignable Square Feet Growth

As noted in Section 7 - Student Enrollment Growth, if approved, enrollment will grow by 24% from 2011 to 2017. The new program above also sees a similar growth in assignable square footage: +20%. Therefore, there is an almost 1:1 ratio between enrollment and building growth.

Gross Square Footage Total

This represents the size of a new replacement building for the programmatic elements identified above.

Non-Assignable Square Feet Percentage (Non-Assignable)

This program assumes a 42% non-assignable space ratio based on other comparable medical education facilities. Examples of non-assignable spaces include: hallways, stairways, elevators, mechanical spaces and walls.



Figure 7.5

8. Options

Option #1 - Site Summary

Option 1 would require removal of existing parking at the north of the School of Medicine & Health Sciences building. Access through the north side of the site will be restricted to pedestrian traffic. Parking would most likely need to be relocated to the north. Increased pedestrian activity across Sixth Avenue would likely result in a need for safety crossings - possibly a shuttle service or pedestrian bridge.

Underground utilities to be moved include a sanitary sewer line. No electrical lines, steam tunnels, or communication lines are at this location.

Option #2 - Site Summary

Option 2 would require removal of existing parking at the north of the School of Medicine & Health Sciences building. Access through the north side of the site will be restricted to pedestrian traffic. Parking would most likely need to be relocated to the north. Increased pedestrian activity across Sixth Avenue would likely result in a need for safety crossings - possibly a shuttle service or pedestrian bridge.

Underground utilities to be moved include a sanitary sewer line and some electrical. No steam tunnels or communication lines are at this location.

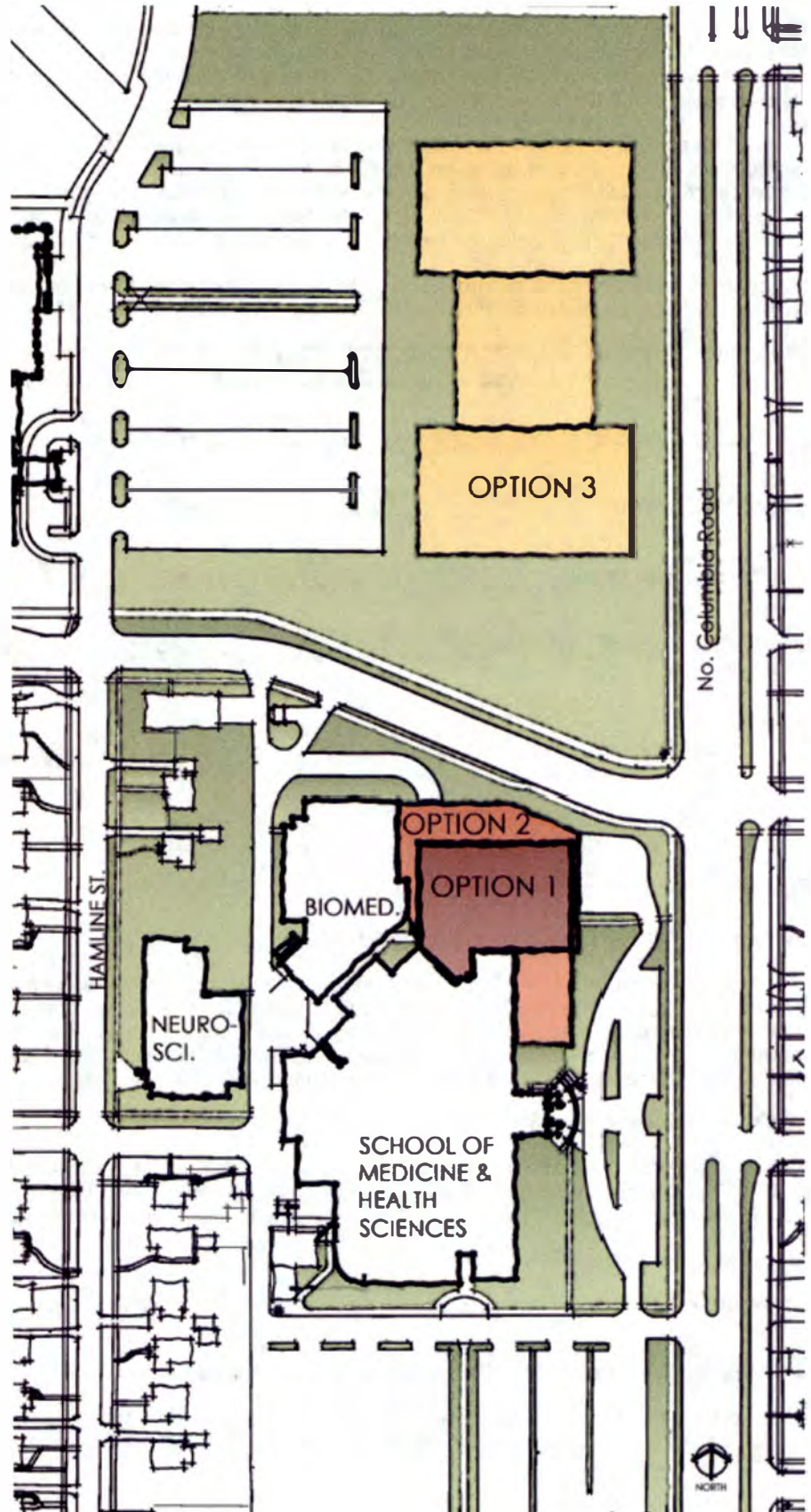
Option #3 - Site Summary

Option 3 would require the removal of an existing soccer field or breaking of ground elsewhere. New parking would either need to be constructed to the north, or demolition of the existing building to the south for parking use would require pedestrian safety measures.

No underground utilities are located here.

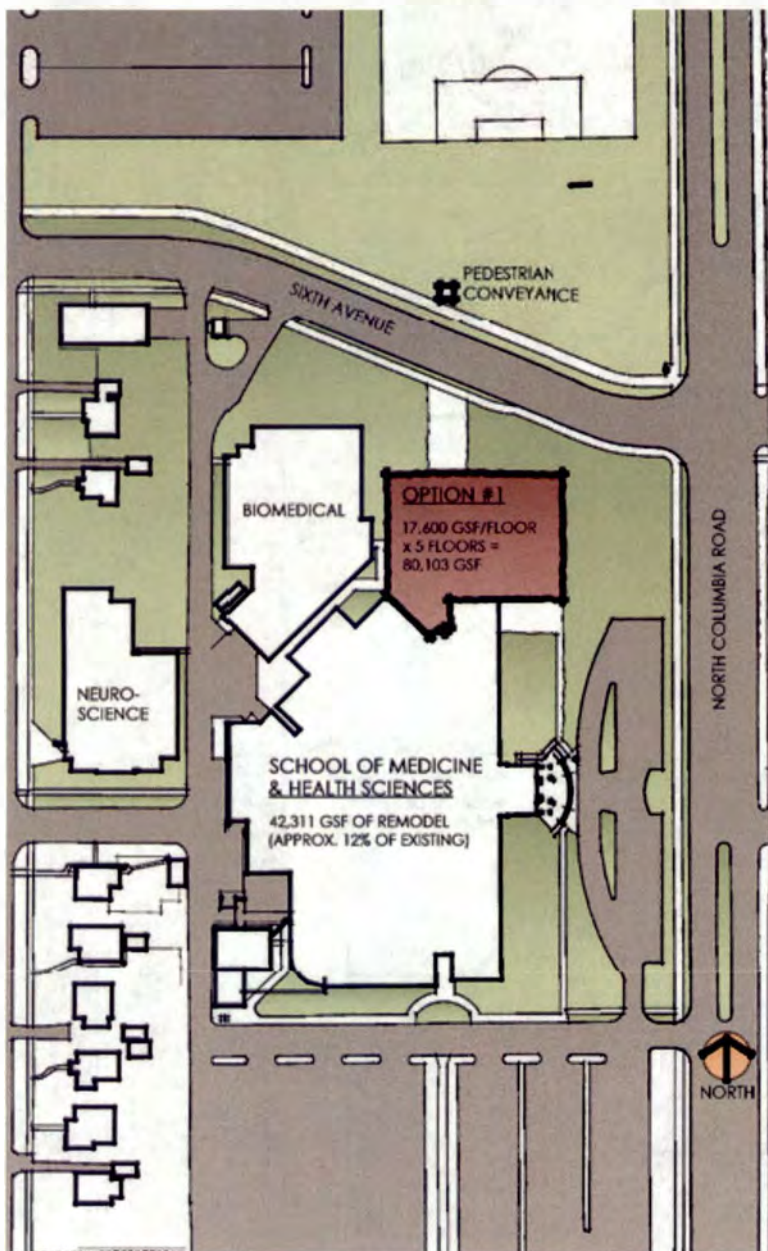
As this would be a new building housing the entire School of Medicine & Health Sciences, alternate locations would be possible.

See Appendix for full Construction Narratives.





Maintain Existing Level of Service Plan



Option #1 consists of an addition of approximately 80,000 GSF (Gross Square Feet) and a renovation of 42,300 GSF. The focus of Option #1 is to locate as much education space as possible into new or renovated space.

The 80,000 GSF addition will house approximately 50% of the new education spaces & associated non-assignable spaces. The construction cost of this addition is estimated at \$19.8M.

The 42,300 GSF renovation of existing space will result in another 25% of education spaces being updated. The construction cost of this renovation is estimated at \$5.8M.

Construction costs for this option are \$25.6M. Sitework, pedestrian conveyance, technology, and additional costs bring the total project cost estimate for Option #1 to \$38.5M.

Estimated Schedule puts completion of this option as Fall 2014.

This option meets the Health Workforce Initiative goal set forth by the Legislature in the Introduction. It supports UND's "exceptional" vision for the future. Several of the School of Medicine & Health Science secondary objectives are also addressed.

Pros:

- Lowest initial investment.
- Fastest completion time for new construction.
- Provides efficient new/renovated education space.

Cons:

- Connection to existing building creates low floor-to-floor heights.
- Little new daylight added to education space.
- Close to maximizing site coverage (not much room for future expansion).
- Pedestrian conveyance required to access simulation, parking to the north, etc.
- Meets minimum program requirements, but doesn't create ideal collaboration & learning spaces.

8. Options

Option #2 consists of an addition of approximately 169,300 GSF (Gross Square Feet) and a renovation of 48,300 GSF. Option #2 locates all education areas in new space and renovates as much faculty/administration area as possible.

The 169,300 GSF addition will house 100% of the new education spaces. The construction cost of this addition is estimated at \$41.9M.

The 48,300 GSF renovation of existing space will result in approximately 1/3 of faculty/administration spaces being updated. The construction cost of this renovation is estimated at \$6.6M.

Construction costs for this option are \$48.5M. Sitework, pedestrian conveyance, technology, and additional costs bring the total project cost estimate for Option #2 to \$68.3M.

Estimated Schedule puts completion of this option as Spring 2015.

This option meets the Health Workforce Initiative goal set forth by the Legislature in the Introduction. It supports UND's "exceptional" vision for the future. Most of the School of Medicine & Health Science secondary objectives are also addressed.

Pros:

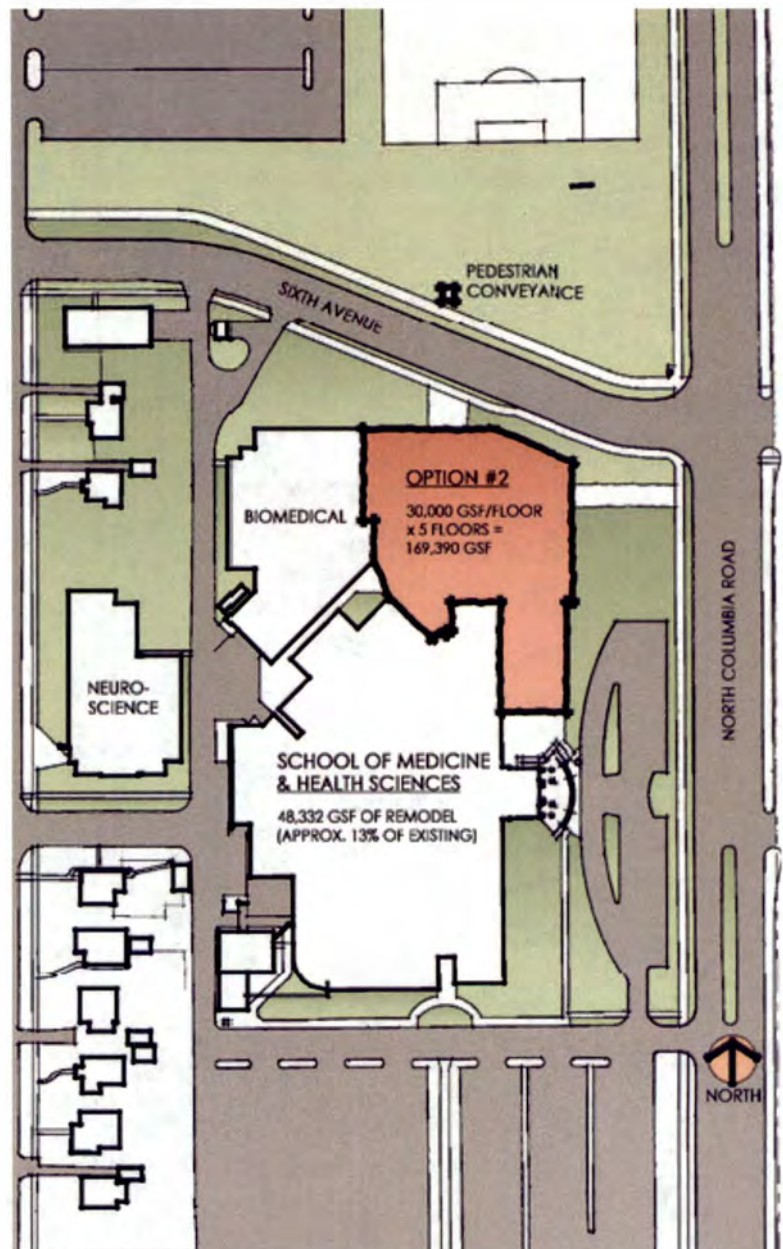
- Meets program requirements for education spaces & creates shared collaboration & learning spaces.
- Creates a new image for SMHS along Columbia Road.

Cons:

- Connection to existing building creates low floor-to-floor heights.
- Little new daylight added to faculty/administration space.
- Maximizes site coverage (no room for future expansion).
- Pedestrian conveyance required to access clinic space, parking to the north, etc.

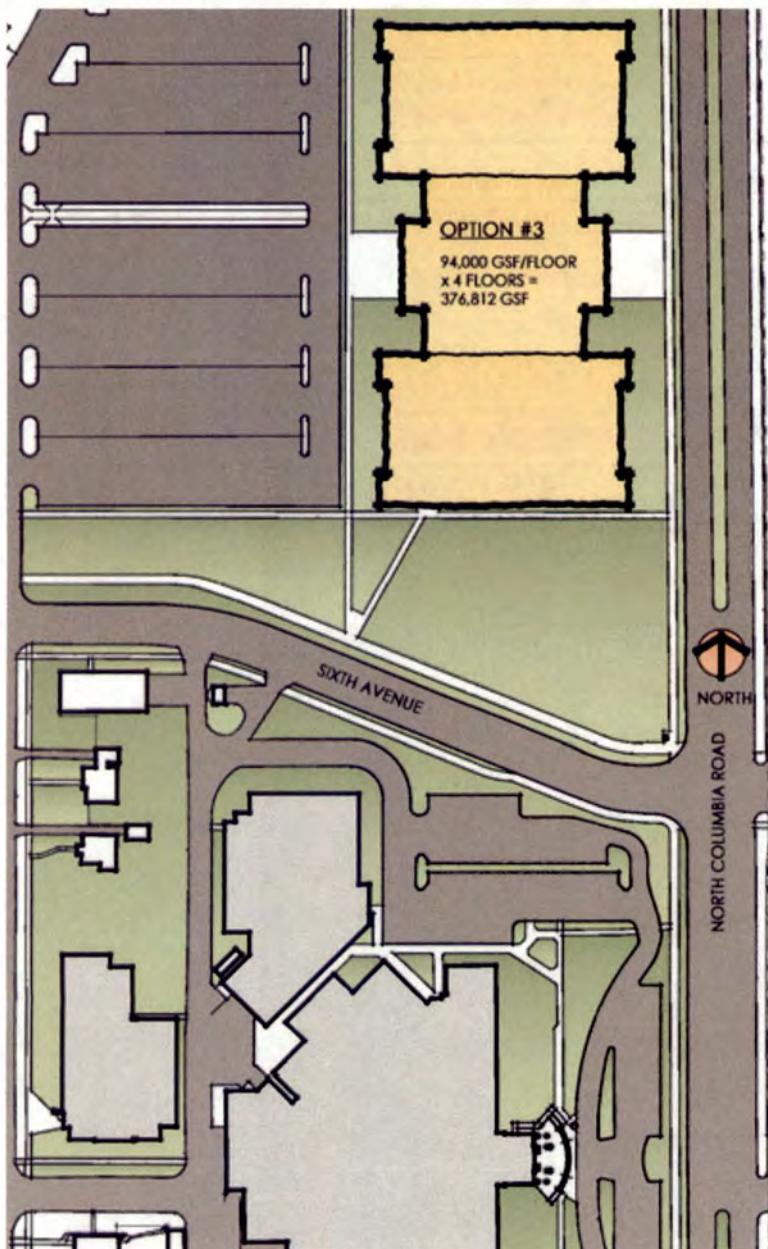


Establish Recommended Standards Plan





Sustaining Growth Plan



Option #3 consists of a new building of approximately 377,000 GSF (Gross Square Feet). Option #3 relocates all of the School of Medicine & Health Sciences into a new shared building.

The 377,000 GSF building will house all education, research, and faculty/administration spaces. The construction cost of this building is estimated at \$94.6M.

Construction costs for this option are \$94.6M. Sitework, technology, and additional costs bring the total project cost estimate for Option #3 to \$124M.

Option #3 has the added benefit of improving UND's Facilities & Administration (F&A) rate. F&A rate is essentially an overhead rate used to reimburse the University for infrastructure support costs associated with sponsored research and other projects. Currently, research space at the School of Medicine & Health Sciences is housed in construction that was funded by Federal monies. State funded construction would favorably impact the F&A rate, and would result in more Federal research money.

Estimated Schedule puts completion of this option as Spring 2015.

This option meets and exceeds all goals set forth by the Legislature, University, and School of Medicine & Health Science in the Introduction.

Pros:

- Least disruption to current building operations.
- Lowest maintenance and operations cost (down to one building vs. four).
- Best meets the goal for a unified & integrated School of Medicine & Health Sciences.
- Optimizes efficiencies & adjacencies of space.
- Presents a totally new image & presence for SMHS.
- Fosters the recruitment and retention of the 'best and brightest' students and faculty.

Cons:

- Highest initial cost.

Note: UND is undertaking a planning process in which it is evaluating existing facilities for suitability and efficiency. When space becomes available as a result of new construction, it will be considered for repurposing, demolition, or a combination of both that results in better utilization of all campus facilities. Should the existing SMHS space be fully vacated, it will set in motion a process whereby the entire campus will become more efficient as a result of the opportunity.

8. Options



Option #1

Project budget	SF	Cost/SF	cost
Renovation			
Education/Offices	42,311 s.f.	\$125.00	5,288,875
Research/Labs	0 s.f.	\$225.00	0
Contingency (10%)			528,888
	42,311 s.f.	\$	5,817,763
New Construction			
Education/Offices	80,103 s.f.	\$225.00	18,023,175
Research/Labs	- s.f.	\$325.00	0
Contingency (10%)			1,802,318
	80,103 s.f.	\$	19,825,493
TOTAL CONSTRUCTION COST \$			25,643,255
Site Work			2,000,000
Parking & Student Conveyance			2,000,000
Moving			500,000
Fees			1,795,028
Technology			4,000,000
FF&E			2,564,326
TOTAL PROJECT COST \$			38,502,608



11061 UND SMHS : Space Utilization Study

3/14/2012

Option #2

Project budget	SF	Cost/SF	cost
Renovation			
Education/Offices	48,332 s.f.	\$125.00	6,041,500
Research/Labs	0 s.f.	\$225.00	0
Contingency (10%)			604,150
	48,332 s.f.	\$	6,645,650
New Construction			
Education/Offices	169,390 s.f.	\$225.00	38,112,750
Research/Labs	- s.f.	\$325.00	0
Contingency (10%)			3,811,275
	169,390 s.f.	\$	41,924,025
	TOTAL CONSTRUCTION COST \$		48,569,675
Site Work			2,000,000
Parking & Student Conveyance			2,000,000
Moving			500,000
Fees			3,399,877
Technology			7,000,000
FF&E			4,856,968
	TOTAL PROJECT COST \$		68,326,520

8. Options



11061 UND SMHS : Space Utilization Study

3/14/2012

Option #3

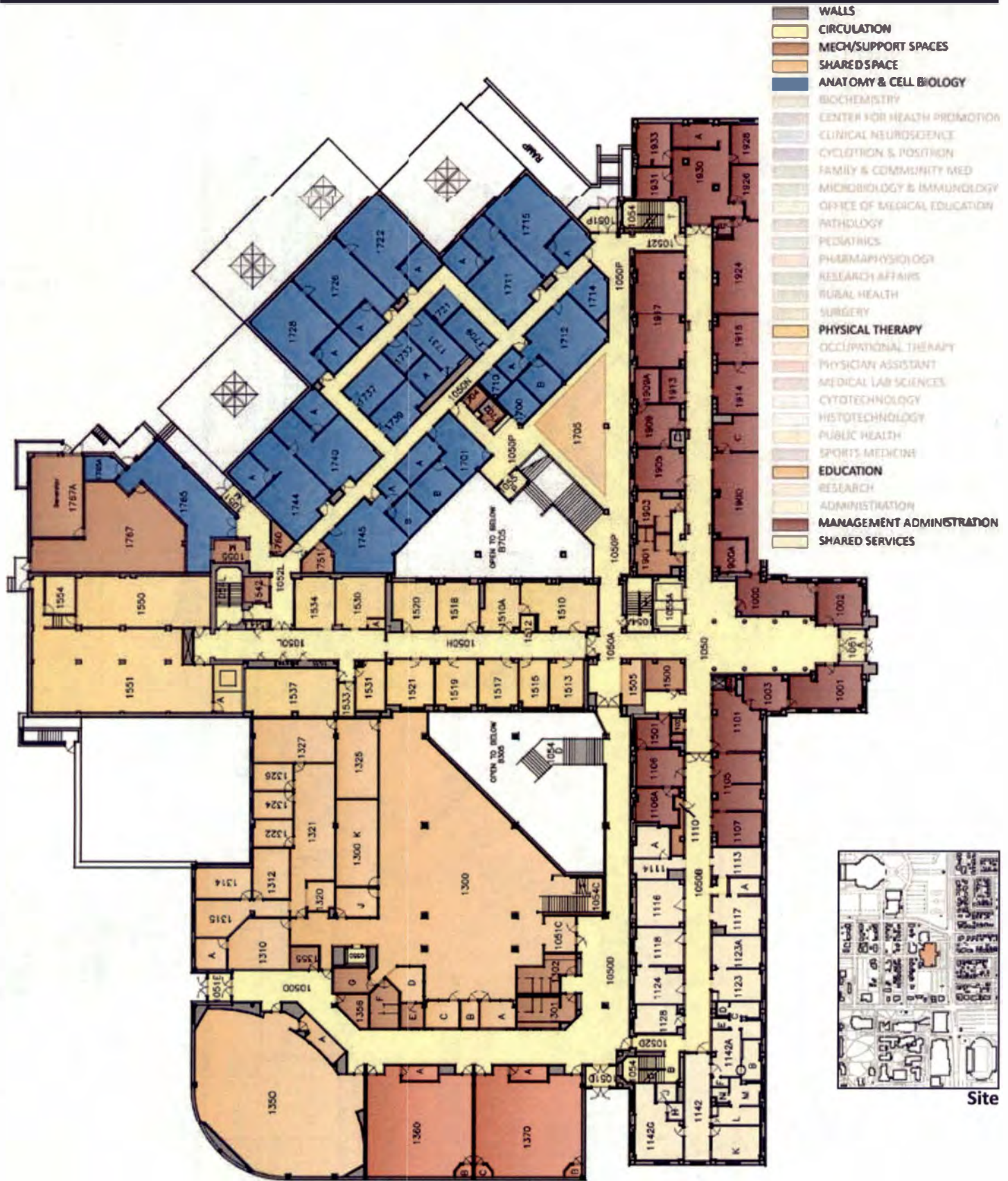
Project budget	SF	Cost/SF	cost
Renovation			
Education/Offices	0 s.f.	\$125.00	0
Research/Labs	0 s.f.	\$225.00	0
Contingency (10%)			0
	- s.f.	\$	-
New Construction			
Education/Offices	173,751 s.f.	\$225.00	39,093,975
Research/Labs	44,800 s.f.	\$325.00	14,560,000
Non-Assignable SF	158,261 s.f.	\$225.00	35,608,725
Contingency (10%)			5,365,398
	376,812 s.f.	\$	94,628,098
TOTAL CONSTRUCTION COST \$			94,628,098
Site Work			2,000,000
Parking & Student Conveyance			1,000,000
Moving			250,000
Fees			6,623,967
Technology			10,000,000
FF&E			9,462,810
TOTAL PROJECT COST \$			123,964,874

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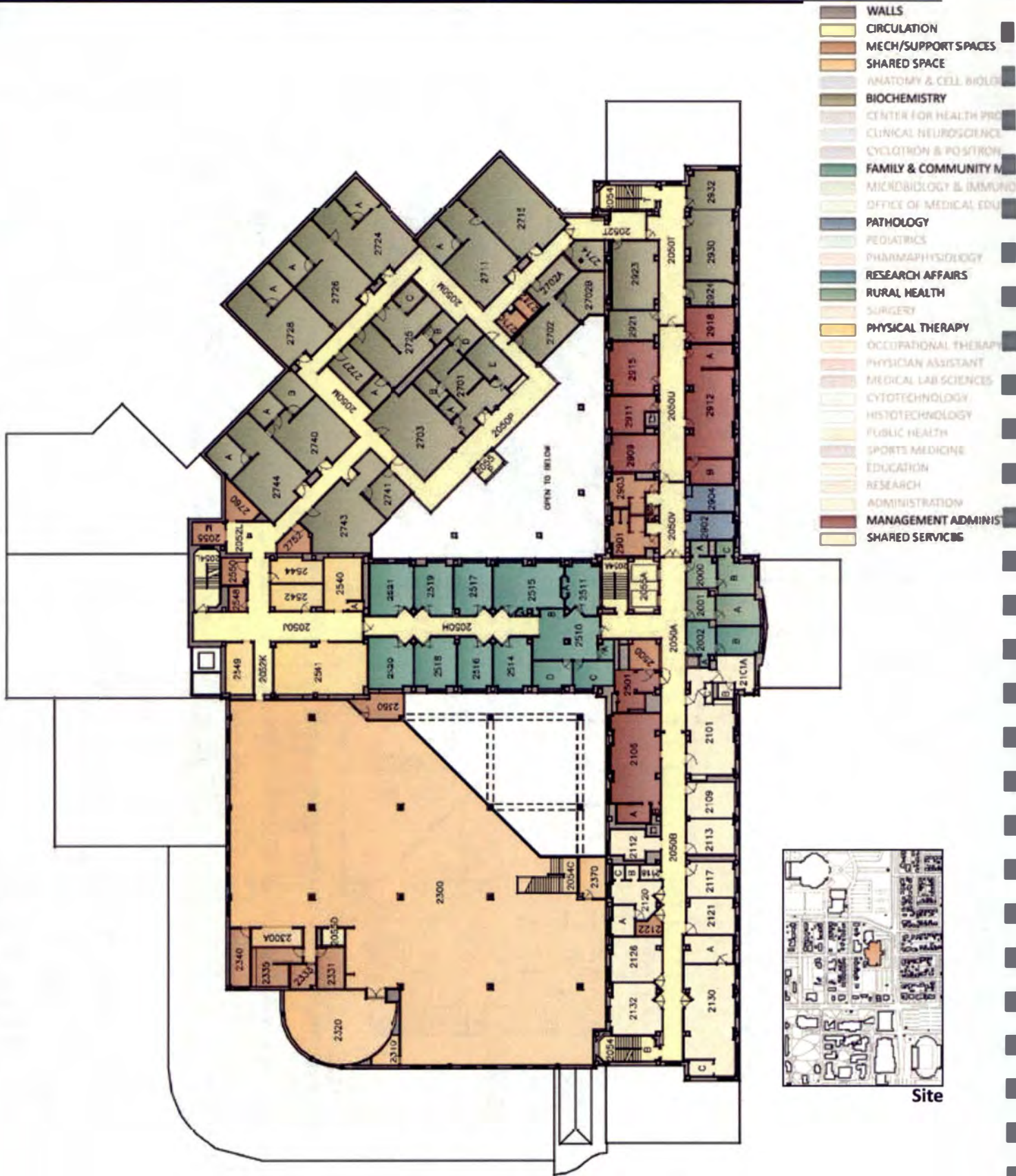
Basement Floor - Space Use Diagram

Figure 6.1



First Floor - Space Use Diagram

Figure 6.2



Second Floor - Space Use Diagram

Figure 6.3



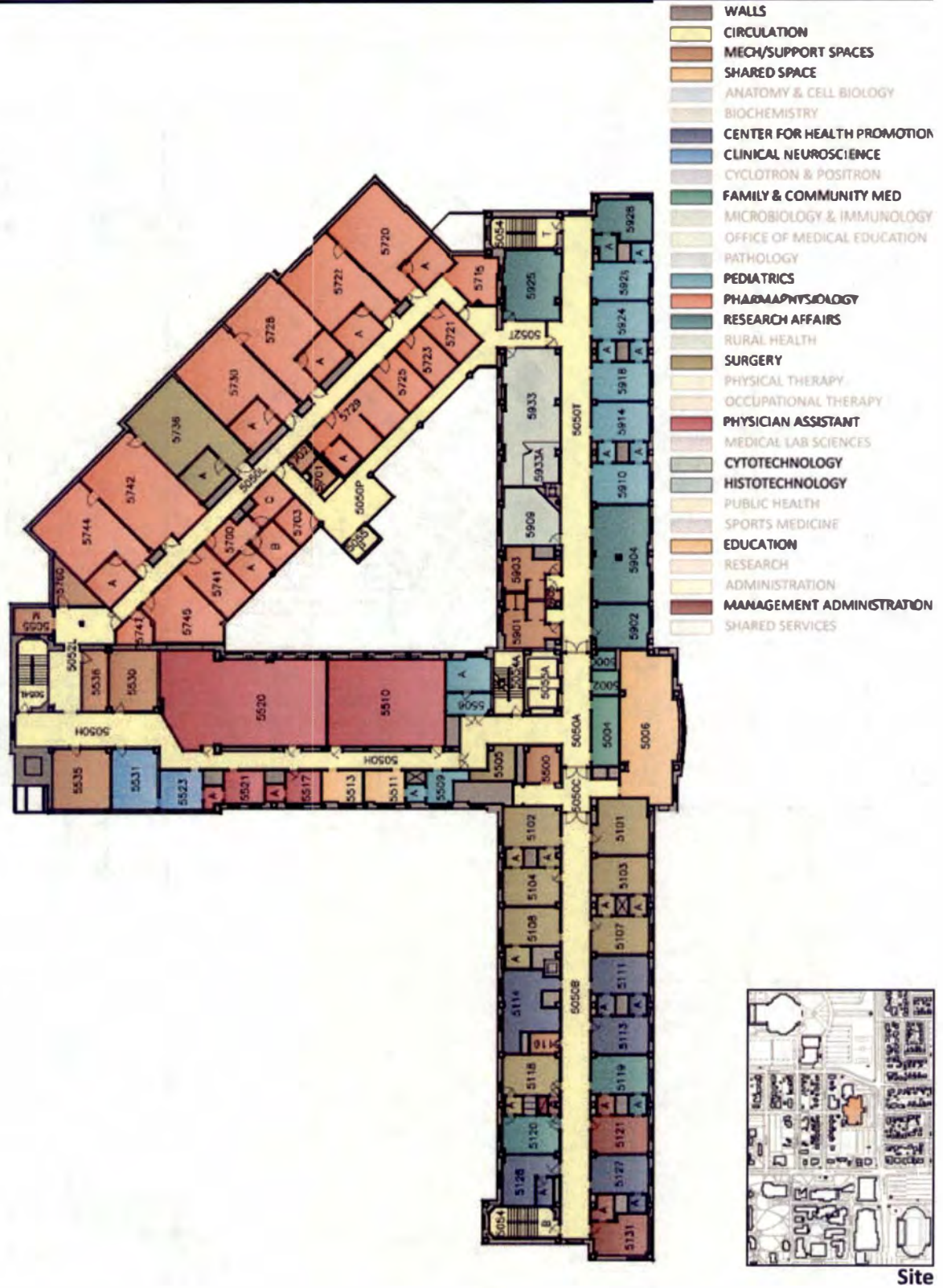
Third Floor - Space Use Diagram

Figure 6.4



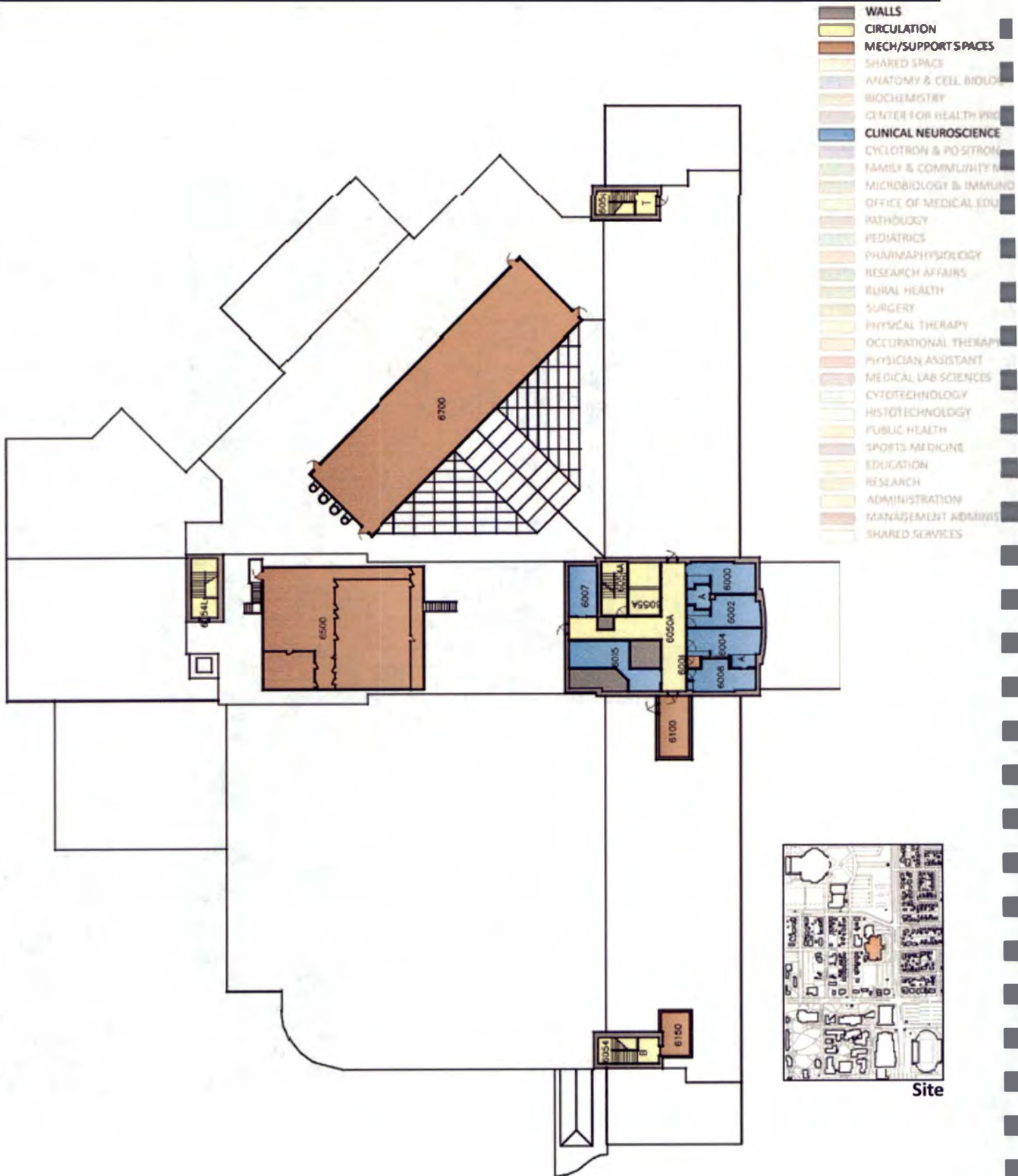
Fourth Floor - Space Use Diagram

Figure 6.5



Fifth Floor - Space Use Diagram

Figure 6.6



Sixth Floor - Space Use Diagram

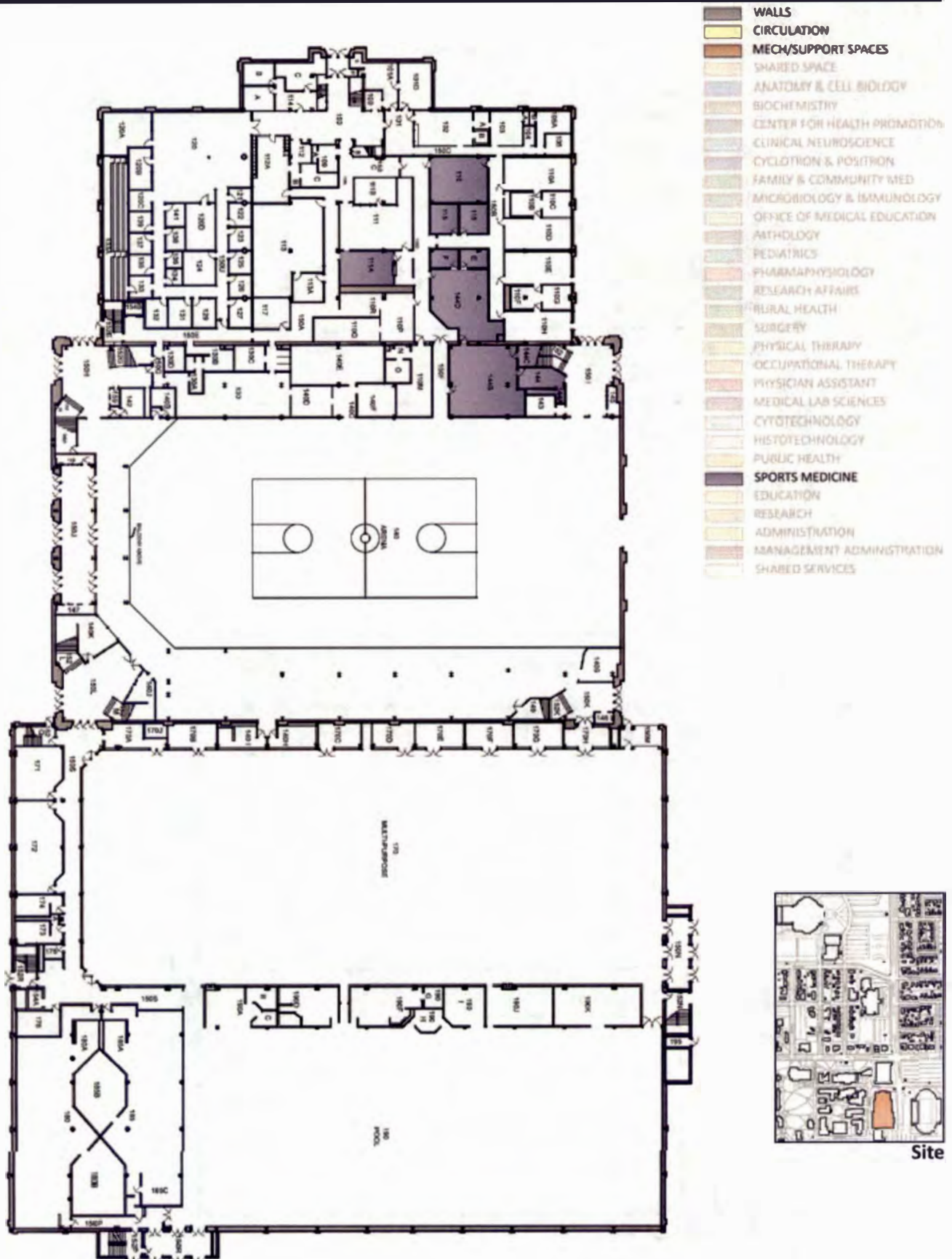
Figure 6.7

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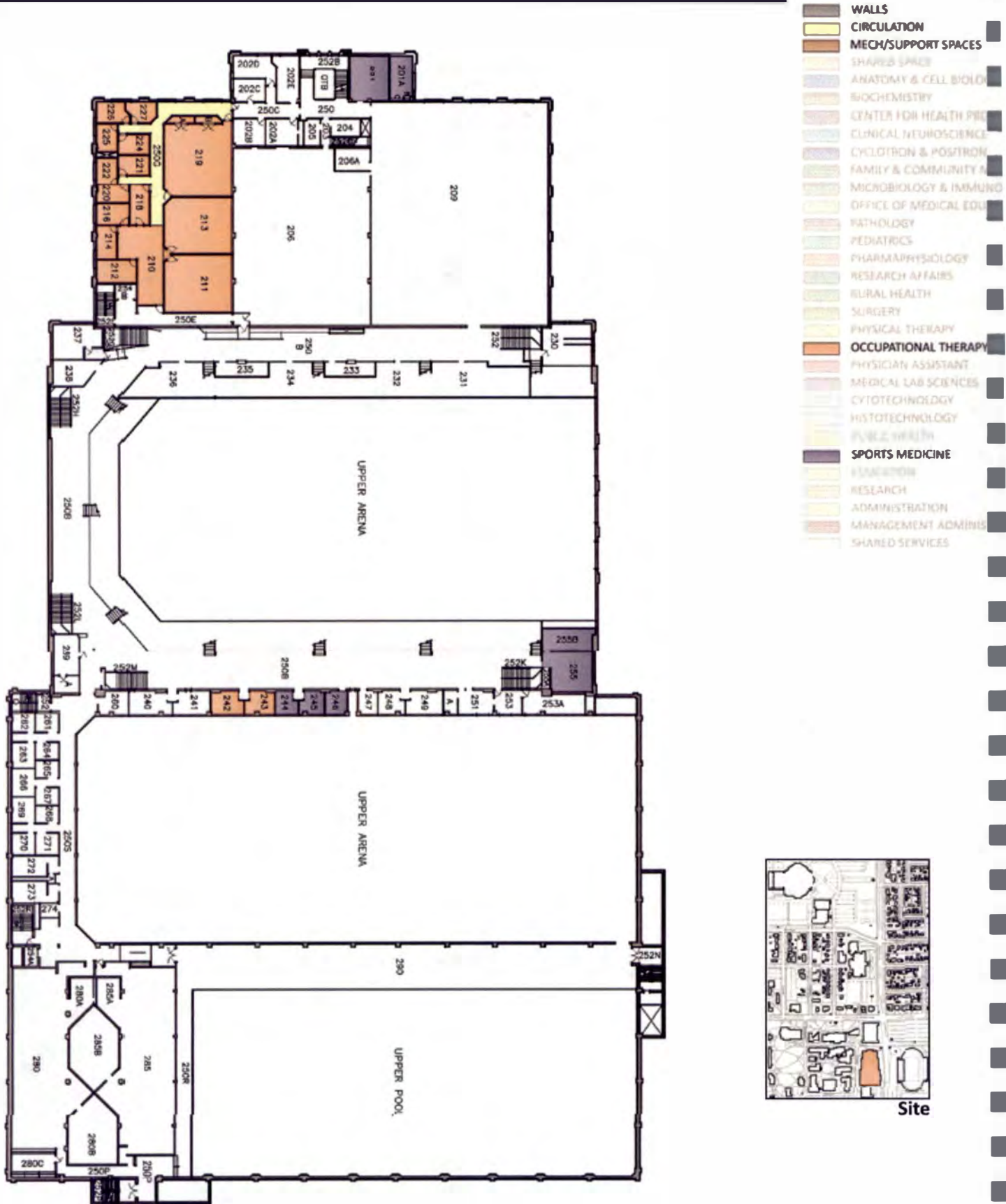
Biomedical Research Facility - Space Use Diagram

Figure 6.8



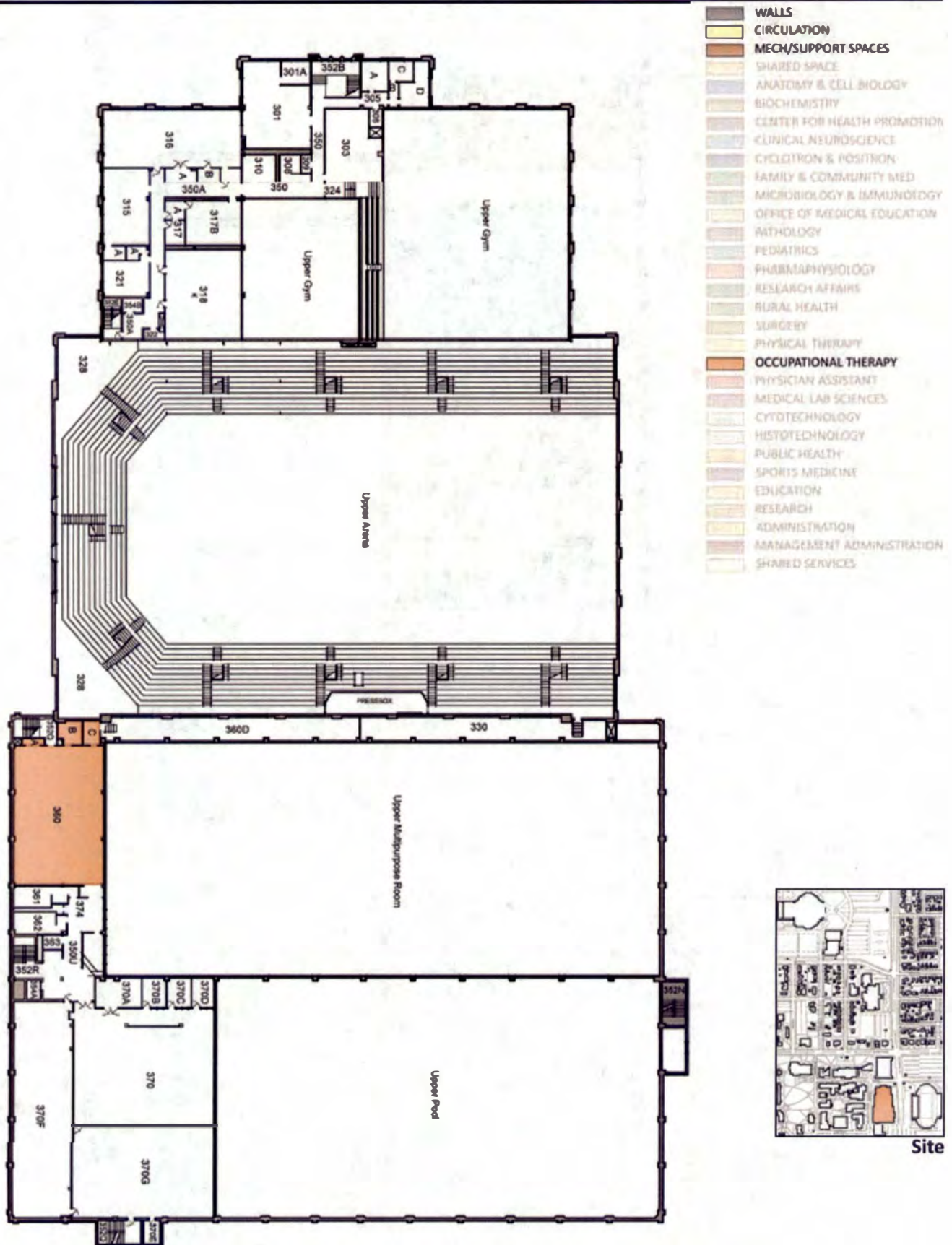
Hyslop - First Floor - Space Use Diagram

Figure 6.9



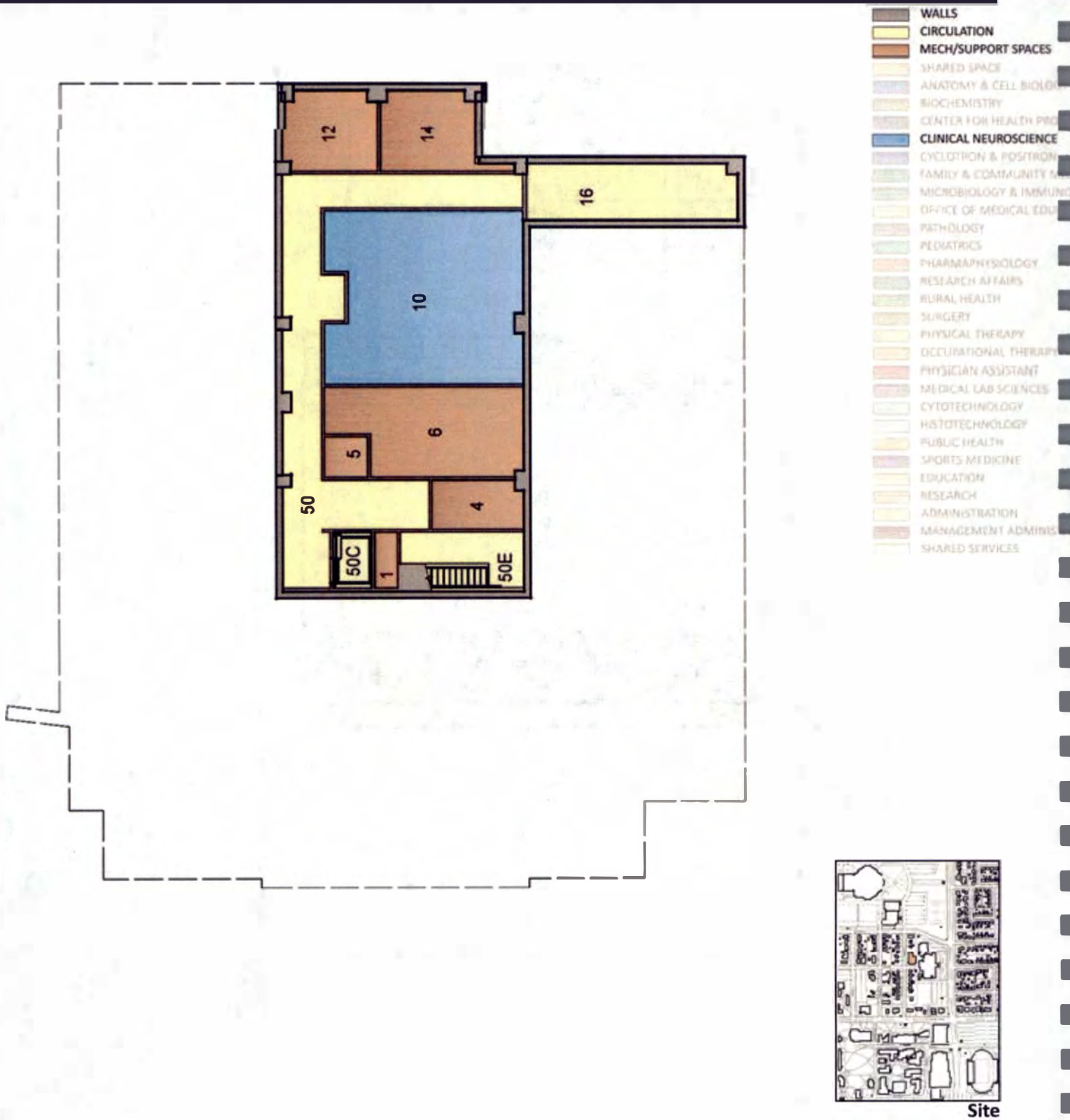
Hyslop - Second Floor - Space Use Diagram

Figure 6.10



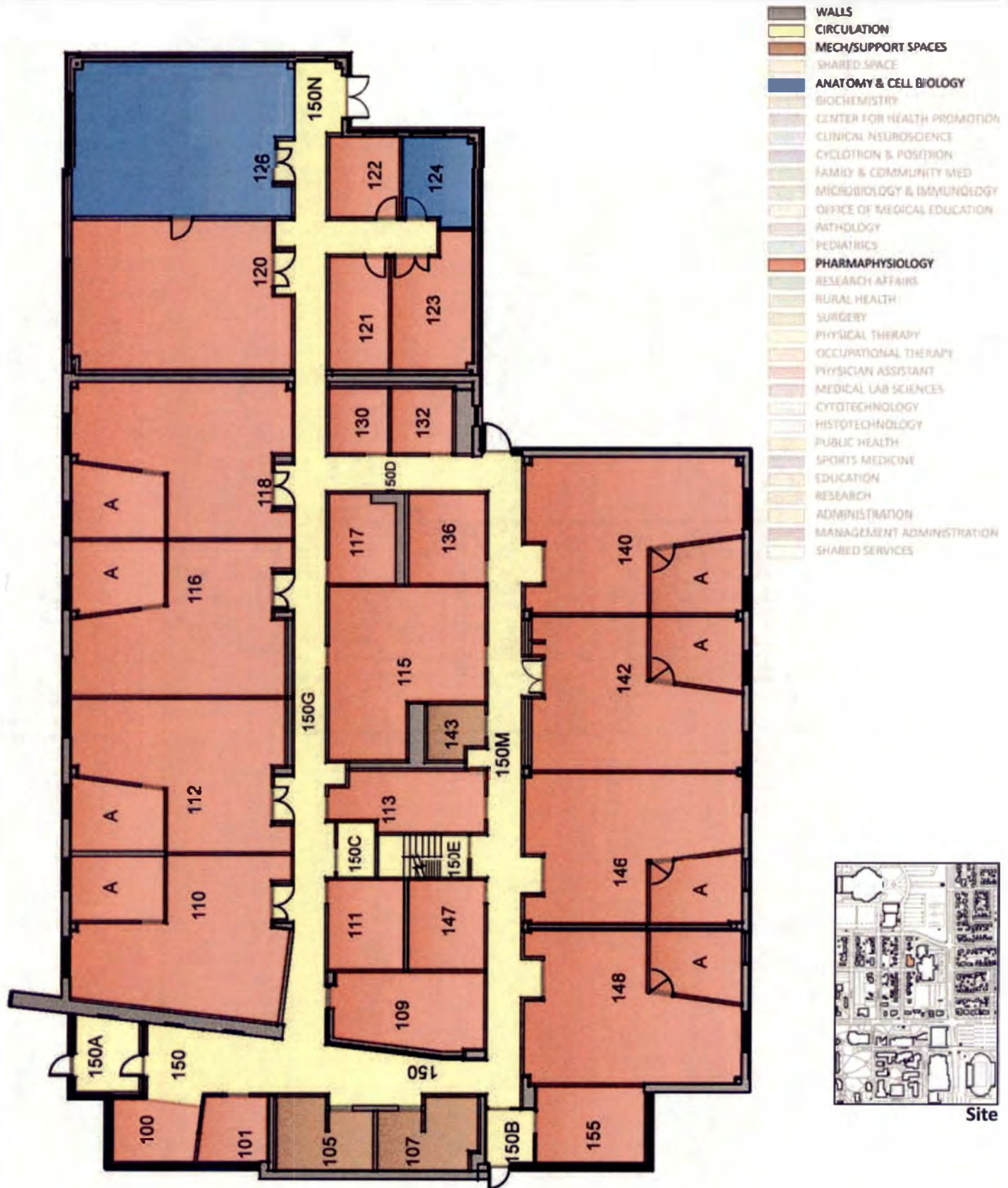
Hyslop - Third Floor - Space Use Diagram

Figure 6.11



Clinical Neuroscience - Lower Floor - Space Use Diagram

Figure 6.12



Clinical Neuroscience - Main Floor - Space Use Diagram

Figure 6.13

Figure 6.14



Site

Clinical Education Center - Lower Floor - Space Use Diagram

Figure 6.15



Site

Clinical Education Center - Main Floor - Space Use Diagram

Stacking Diagrams:

The following diagrams show departmental functions on a floor-by-floor basis.

Most departments in the existing School of Medicine building are spread across two or more floors. This makes collaboration much more difficult on a department by department basis. Efficiencies that could be gained by sharing departmental supplies & resources are reduced in several cases.

Many departments have a large separation between their faculty/ research areas & education areas. This is not beneficial to students as it limits the opportunity for contact with professors outside the classroom.

In extreme cases, such as Medical Laboratory Sciences, it causes severe disruption to the education process. The laboratory/ education space is located in the basement, while faculty spaces, graduate student offices, and overflow storage are located on the third floor. This creates situations where faculty spend an inordinate amount of time moving equipment & supplies between the two areas.

Figure 6.16

Figure 6.17

Figure 6.18



Anatomy & Cell Biology

Biochemistry

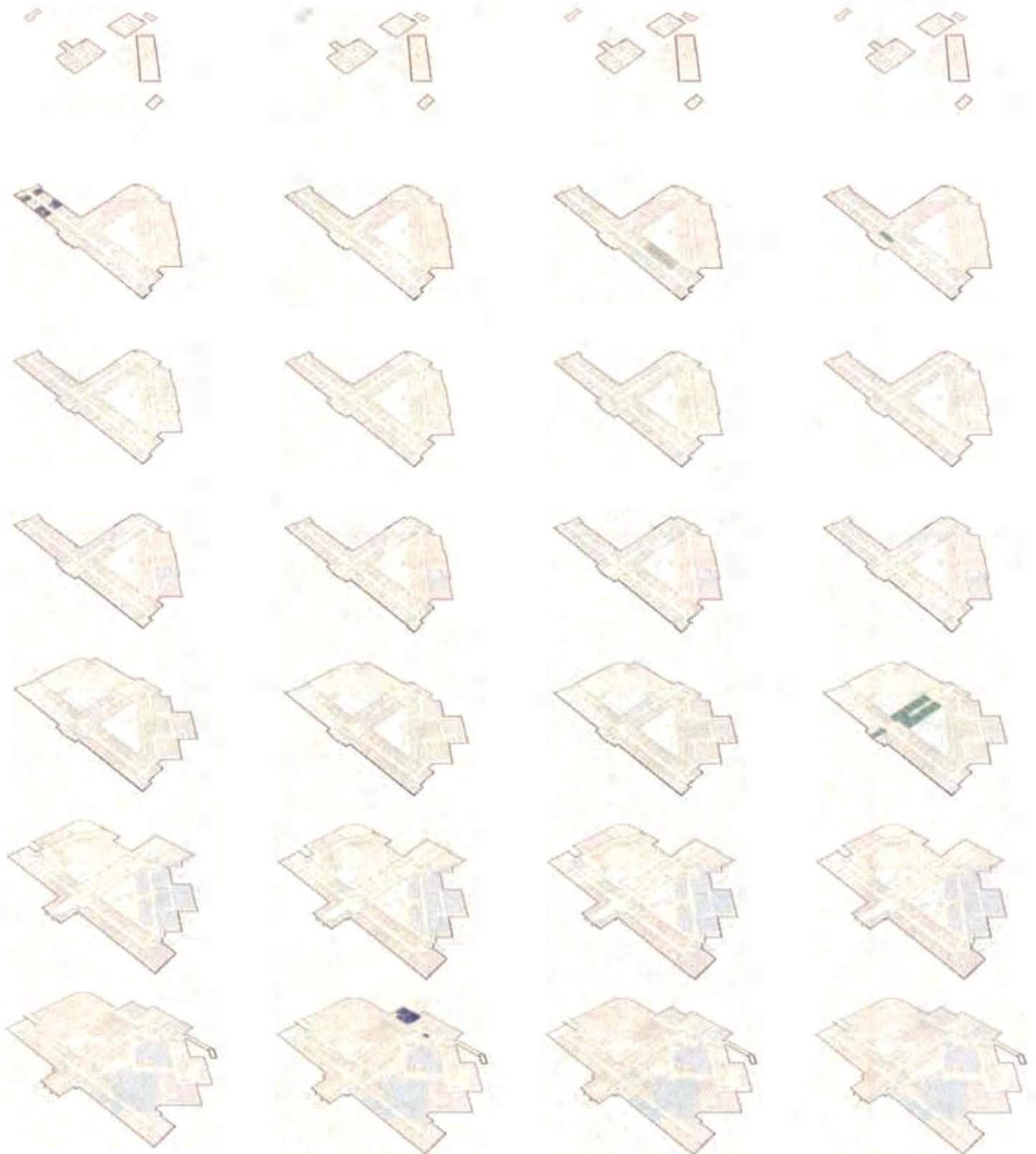
Clinical Neurosciences

Figure 6.19

Figure 6.20

Figure 6.21

Figure 6.22



Center for Health
Promotion & Prevention

Cyclotron

Cytotechnology

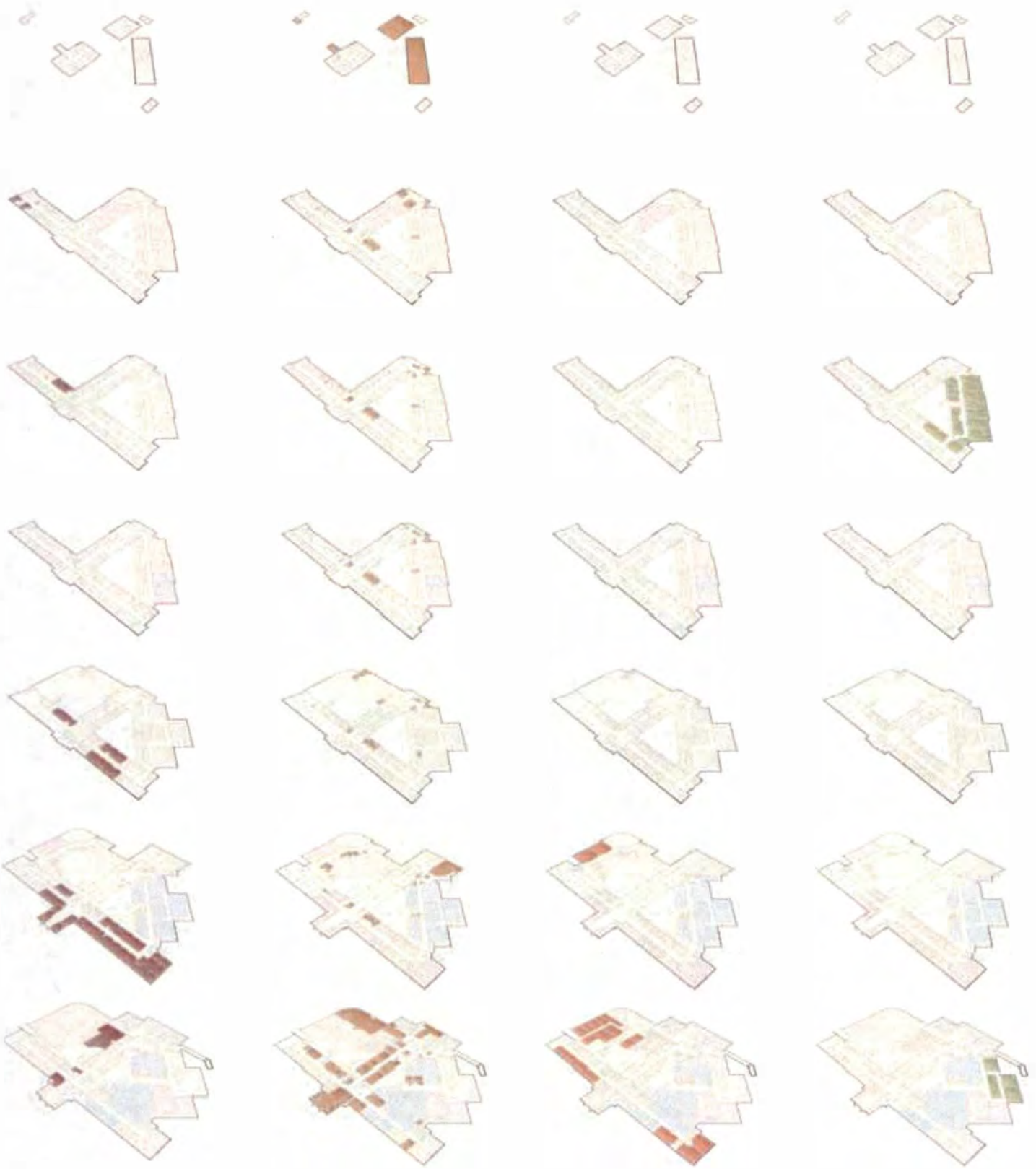
Family & Community
Medicine

Figure 6.23

Figure 6.24

Figure 6.25

Figure 6.26



Management
Administration

Mechanical & Support
Spaces

Medical Education Shared
Space

Microbiology &
Immunology

Figure 6.27

Figure 6.28

Figure 6.29

Figure 6.30



Medical Laboratory
Science

Office of Medical
Education

Physician Assistant

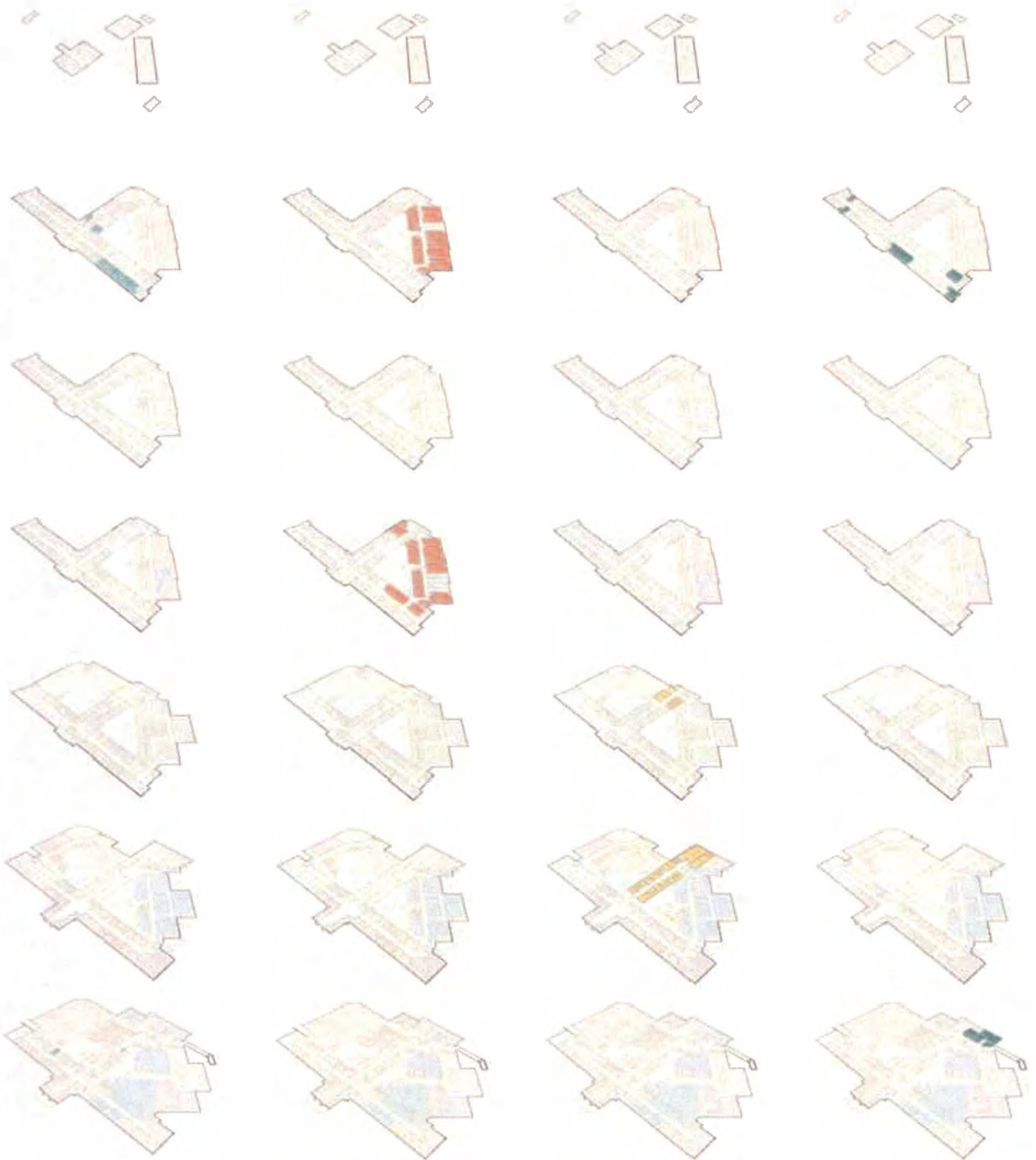
Pathology

Figure 6.31

Figure 6.32

Figure 6.33

Figure 6.34



Pediatrics

Pharmacology, Physiology & Therapeutics

Physical Therapy

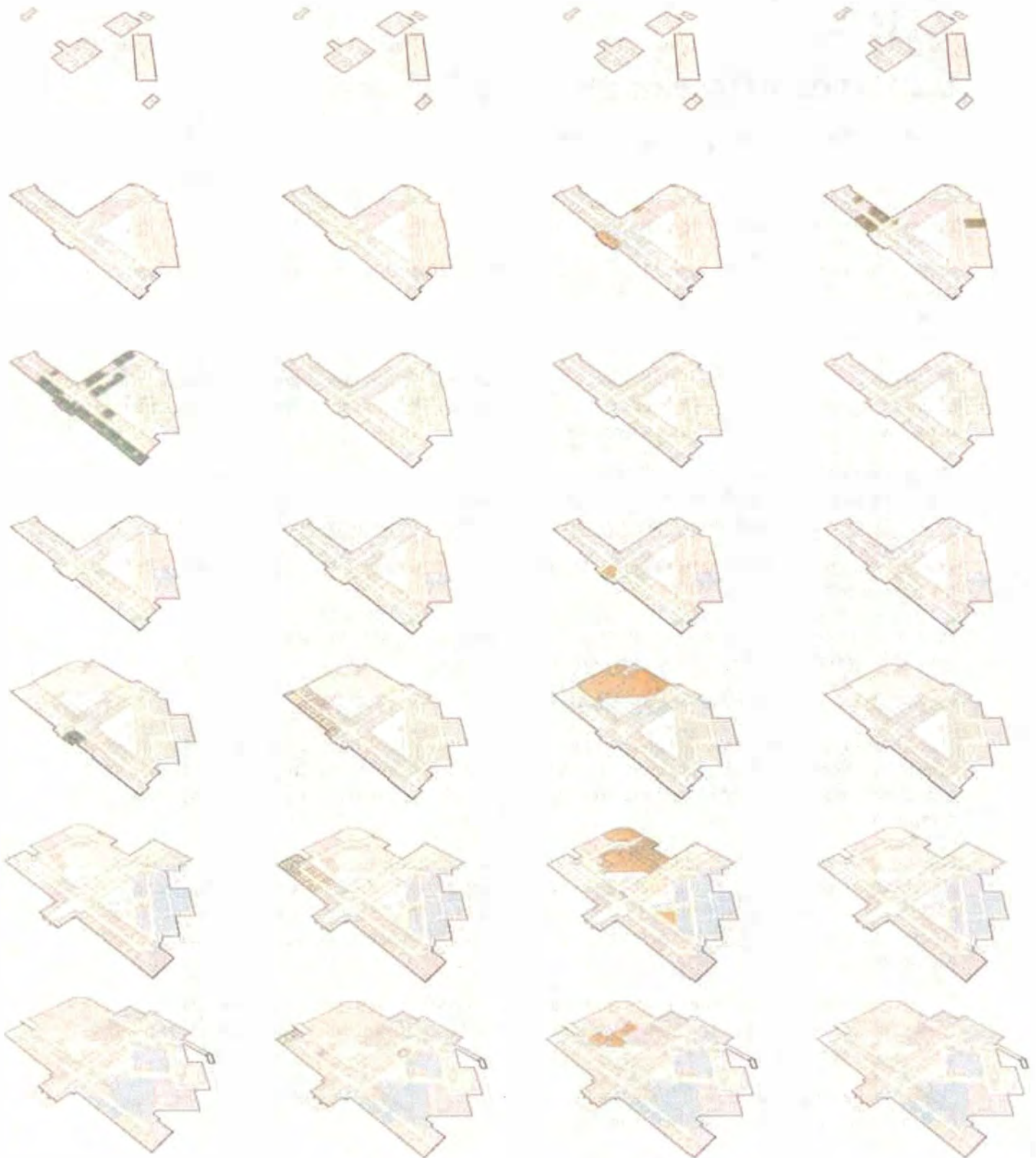
Research Affairs

Figure 6.35

Figure 6.36

Figure 6.37

Figure 6.38



Rural Health

Information Research

Shared Space

Surgery



UND School of Medicine & Health Sciences

Existing Mechanical Systems Condition Assessment

Heating, Ventilating, and Air Conditioning

Refer to the color coded drawings M100 through M107 for areas of each system type and locations of wings 0, 1, 3, 5, 7, and 9.

Green - Heat Pumps

The green areas are heated and cooled with water-to-air heat pumps. Most are located above the ceilings. Some larger units are in mechanical rooms. There is a cyclotron located in the basement of wing 3 which is cooled by a water-to-water heat pump.

The outside air is provided by an air handling unit in the basement of wing 3. There are outside air and relief air ducts in vertical chases in wings 1 and 9 for outside air to the heat pumps in those areas. The air handling unit has steam humidifiers which is typical for all air handling units in the building.

The heat pumps are connected to two fluid coolers southwest of the building. There are two pumps in the basement.

Many of the heat pump controls are Honeywell micro cells which were phased out more than 10 years ago. The controls are about four generations back from current controls.

Magenta - Wing 7 Penthouse Air Handling Units

The magenta areas are heated, cooled, and ventilated from two built-up air handling units on the roof of wing 7. There are variable air volume (VAV) boxes with hot water reheat coils for zone control. The heat is from a steam-to-hot water heat exchanger (HX-1) and pumps in the basement. The steam is campus steam.

Cooling is connected to the building chilled water system which consists of three chillers. The lead chiller is a Trane 400 ton variable speed R-123 centrifugal chiller about 9 years old. The other two chillers are each McQuay 400 ton R-134a and are about 17 years old. The Trane chiller is connected to an open cooling tower. The McQuay chillers are connected in parallel with the heat pumps system to the same fluid coolers.

The heating water, chilled water, heat pump water, and condenser water piping in the building is black steel with grooved fittings. The pumps are base-mounted end suction type. There are no reported problems with the systems.

There is a mix of pneumatic and Honeywell digital controls. There are older Phoenix laboratory controls and some 10 year old TCI laboratory controls.

Light Blue - Wing 5 Penthouse Air Handling Units

The light blue areas are heated, cooled, and ventilated from one of three built-up air handling units on the roof of wing 5. There are variable air volume (VAV) boxes with hot water reheat coils for zone control. The heat is from a steam-to-hot water heat exchanger (HX-3) and pumps in the basement. Another steam-to-water heat exchanger (HX-2) provides reheat coils in the basement laboratory areas. Cooling is connected the building chilled water system described above. There is a mix of pneumatic and Honeywell digital controls. There are older Phoenix laboratory controls and some 10 year old TCI laboratory controls.

Yellow - Portable Air Conditioners and Steam Radiation

The yellow areas have operable windows for ventilation. There are portable air conditioners used in each room with hoses that are routed to the outside of the building through the window opening. Before winter, the hoses are removed and the window is closed. Heating is provided by steam radiation. Thermostatic radiator valves have been added to some radiation to improve controls in addition to or instead of the outlet damper. See Figure 1 for a picture of the radiation and a portable air conditioner.

Dark Blue - Air Handling Units on top of Wing 1

The dark blue areas are ventilated both with operable windows and two air handling units located on the top floor of wing 1. The air handling units have steam coils for heating and direct expansion cooling coils with condensing units located on the roof adjacent to the mechanical penthouse. The air handling units are about 60 years old. One condensing unit is about 25 years old and the other unit is a couple of years old. There are also steam radiators in each room for additional heating. The controls are pneumatic.

Plumbing and Fire Sprinkler

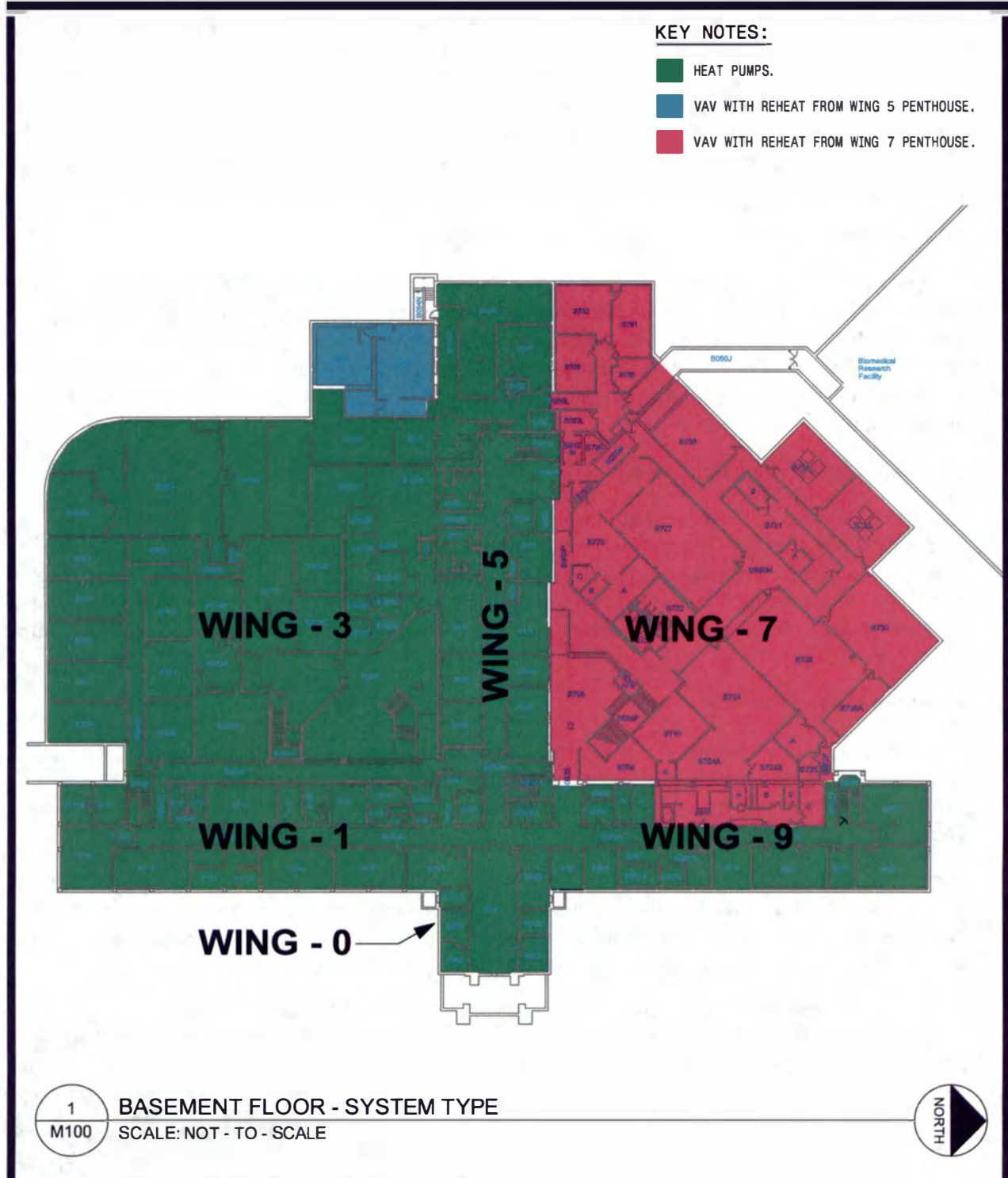
There are temperature control and laboratory air compressors in the basement of wing 7. The water service and steam service are in the basement. Most of the hot water is provided by an Aereco water heater. The heater is an instantaneous steam-to-water heater and appears to be about 15 years old. There are no reported problems with the water heater capacity or condition.

The plumbing fixtures are in fair condition. The water piping is copper and is in good condition. The sanitary and storm are cast-iron and there are no reported problems. It appears that most of the plumbing was replaced during additions and remodel projects during the last 20 years. There is a water softener in the penthouse on top of wing 7 for the laboratories.

There is a wet pipe sprinkler system in some areas of the building. The building is not entirely sprinklered. There is a vertical fire pump in the basement of wing 7. The seal appears to be leaking, but otherwise appears in good condition. There are standpipes in the north stair of wing 9 and in the south stair of wing 1.



Figure 1 - Portable Air Conditioner and Steam Radiation

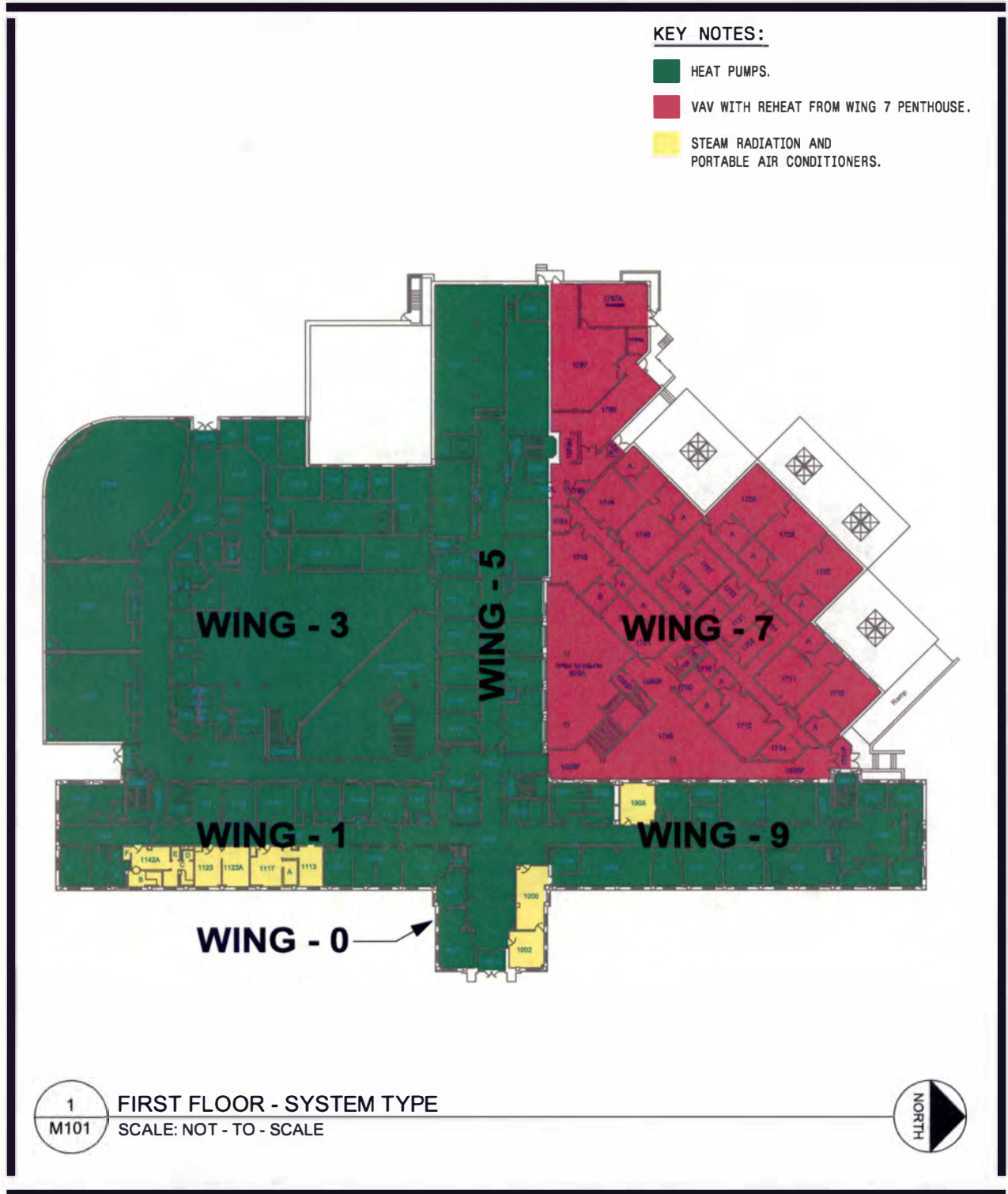


UNIVERSITY OF NORTH DAKOTA,
SCHOOL OF MEDICINE & HEALTH SCIENCES

MBN JOB #: 11-156
DATE: 12-20-11

GRAND FORKS, NORTH DAKOTA

M100



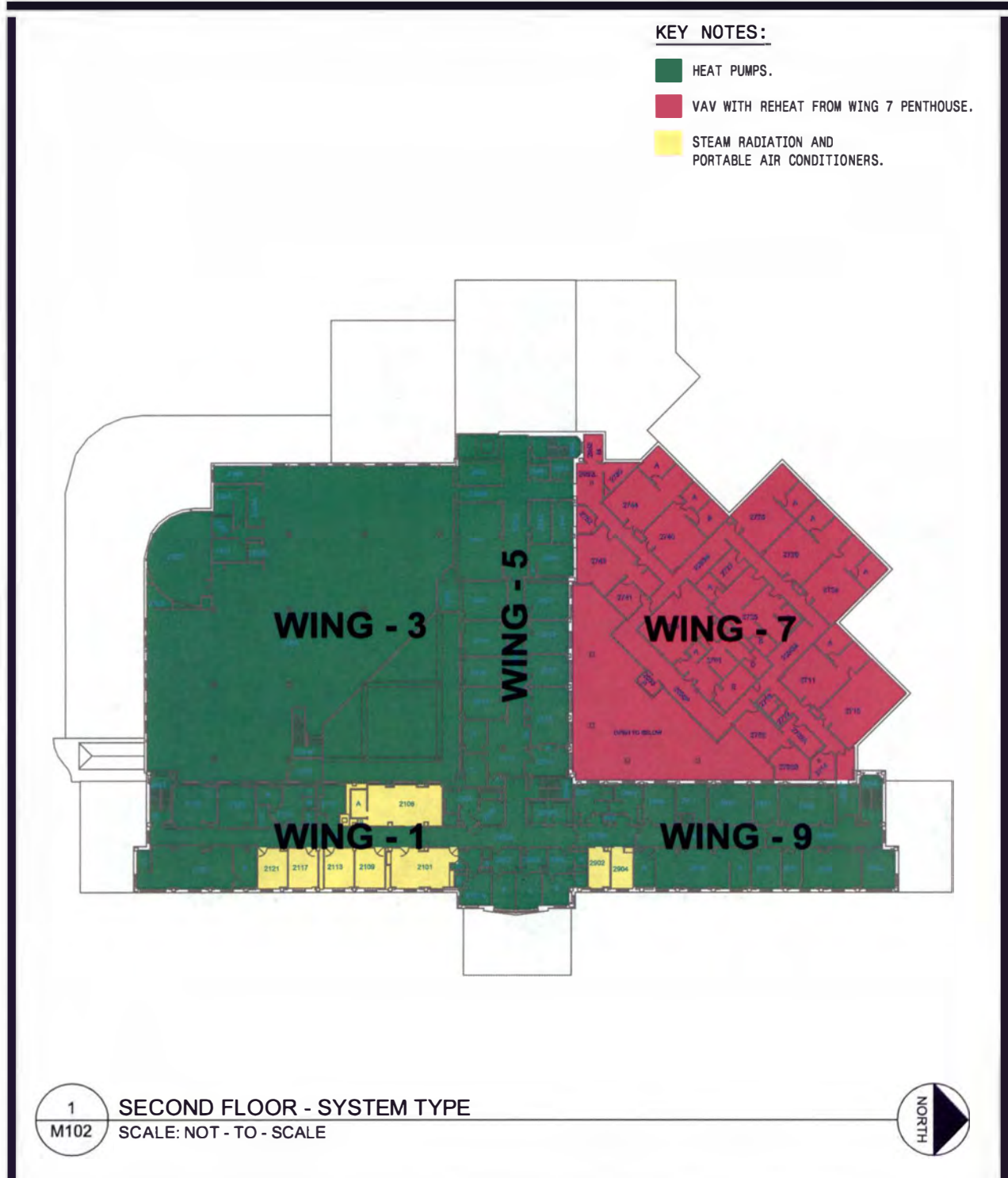
MBN
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 583 7TH ST. N
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 FARGO, ND 58102
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 FAX: 701.478.8340

UNIVERSITY OF NORTH DAKOTA,
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MBN JOB #: 11-156
 DATE: 12-20-11

M101



UNIVERSITY OF NORTH DAKOTA,
 SCHOOL OF MEDICINE & HEALTH SCIENCES

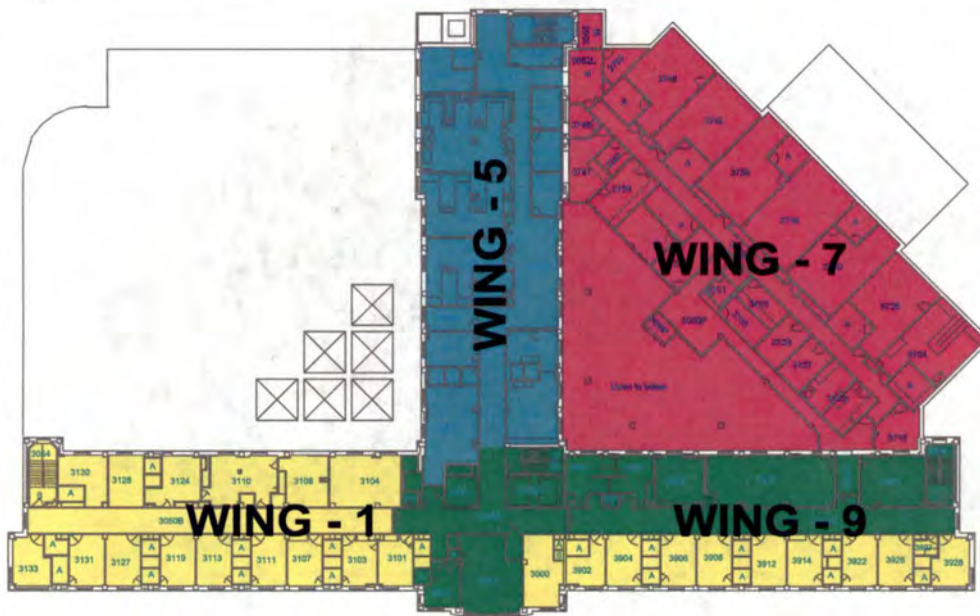
MBN JOB #: 11-156
 DATE: 12-20-11

GRAND FORKS, NORTH DAKOTA

M102

KEY NOTES:

- HEAT PUMPS.
- VAV WITH REHEAT FROM WING 5 PENTHOUSE.
- VAV WITH REHEAT FROM WING 7 PENTHOUSE.
- STEAM RADIATION AND PORTABLE AIR CONDITIONERS.



1
M103 THIRD FLOOR - SYSTEM TYPE
SCALE: NOT - TO - SCALE

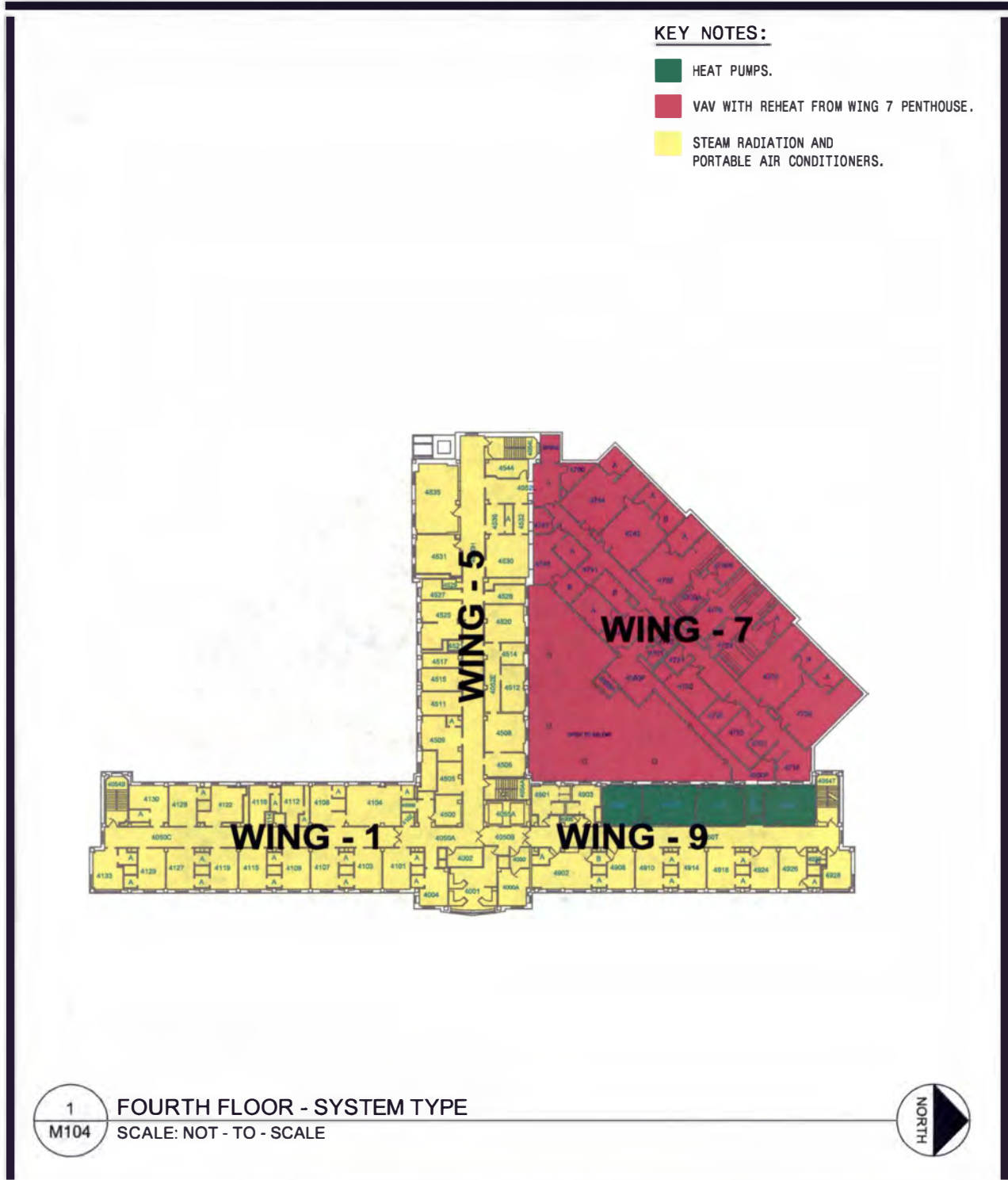


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M103



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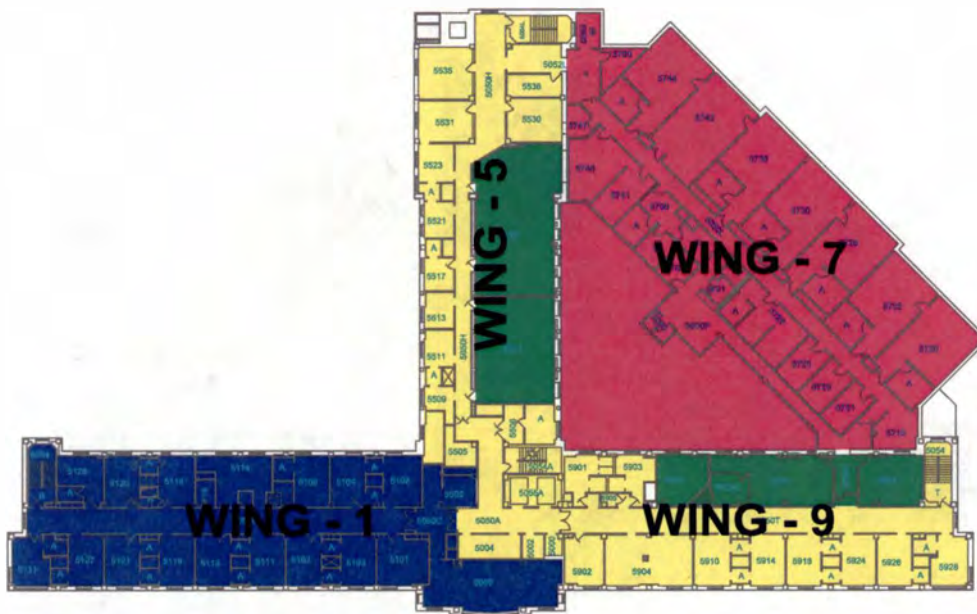
MBN JOB #: 11-156
 DATE: 12-20-11

GRAND FORKS, NORTH DAKOTA

M104

KEY NOTES:

- HEAT PUMPS.
- VAV WITH REHEAT FROM WING 7 PENTHOUSE.
- STEAM RADIATION AND PORTABLE AIR CONDITIONERS.
- STEAM RADIATION AND DX COOLING FROM WING 1 PENTHOUSE AHU'S.



1 FIFTH FLOOR - SYSTEM TYPE
 M105 SCALE: NOT - TO - SCALE

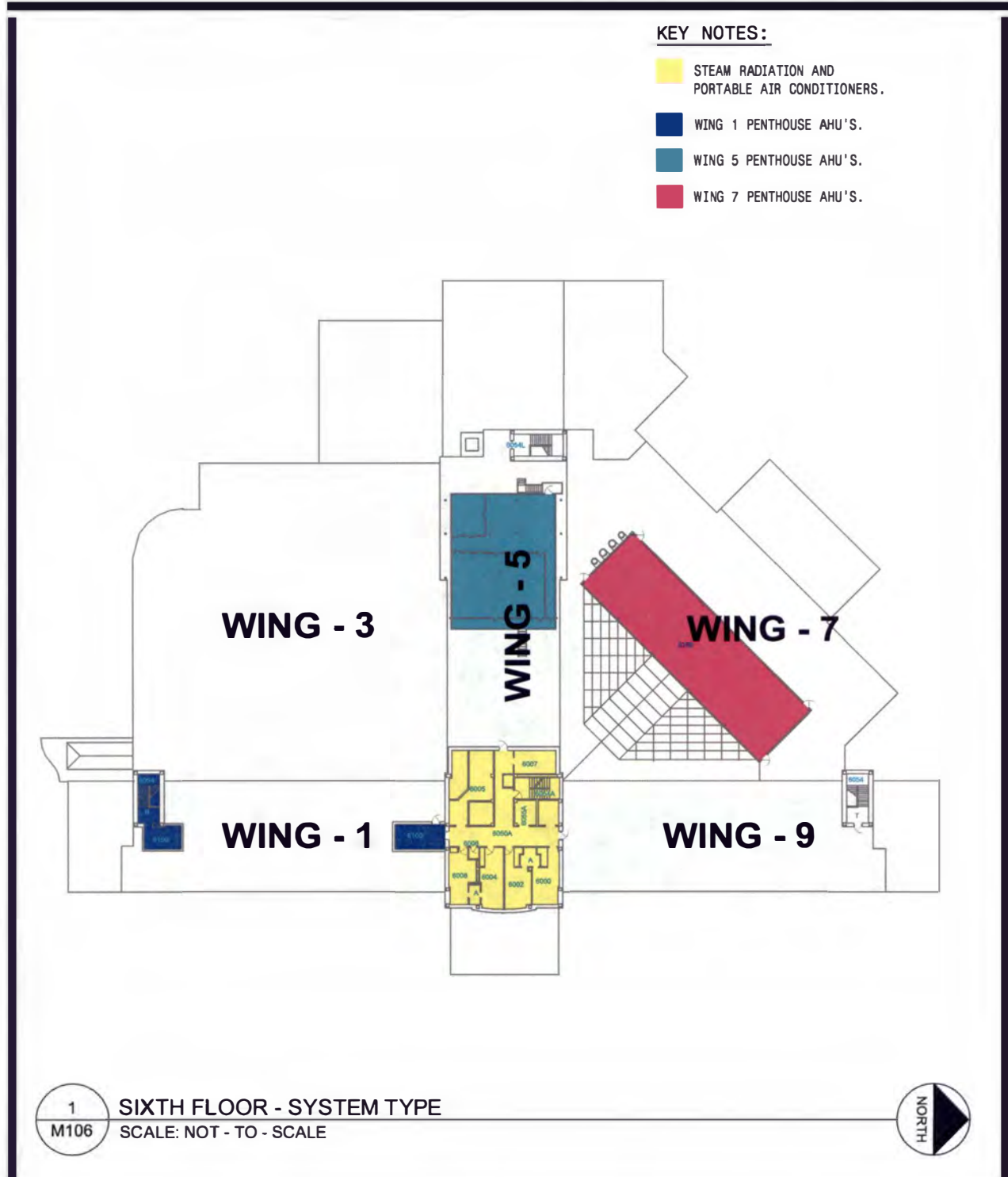


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MBN JOB #: 11-158
 DATE: 12-20-11

M105

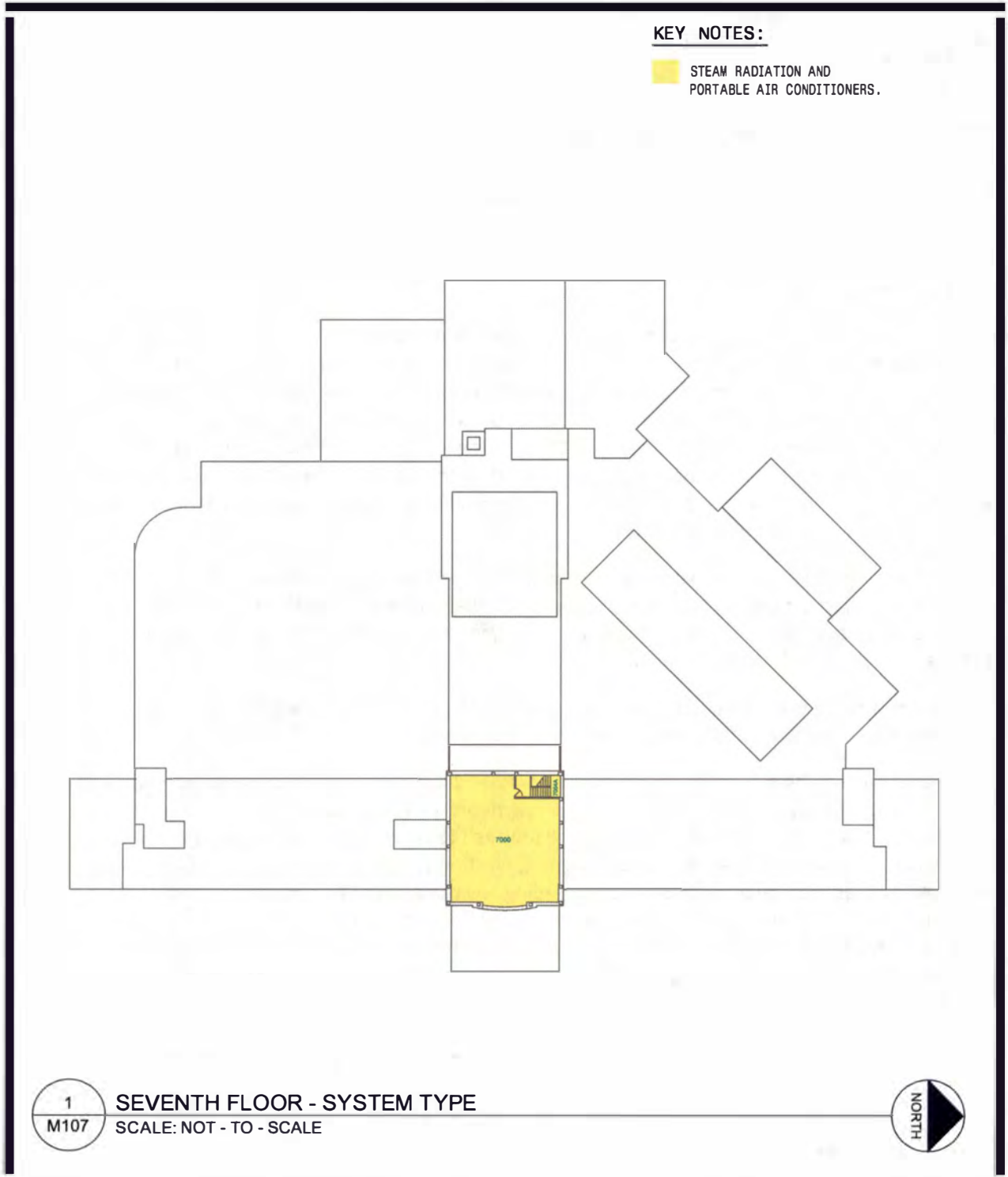


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M106



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M107



UND School of Medicine & Health Sciences

Existing Electrical Systems Condition Assessment

Lighting Systems and Controls

The lighting systems within all areas of the building consist primarily of fluorescent lay-in and surface mount light fixtures in offices, classrooms, library, labs and corridors; compact fluorescent down lights in some corridors, conference rooms and other locations for accent lighting; and metal halide HID lighting in the large atrium spaces in the center of the building. The lighting level in most areas is adequate for the function of the space. The lighting levels and color rendering within the atrium spaces is not ideal. These spaces are under-lit when the skylights are not able to adequately supplement the light levels in the space. Also, the color rendering attributes in the space are poor with metal halide as the primary light source.

The fluorescent light fixtures that were installed as part of the 1994 building expansion utilize T12 lamps and ballasts. Some of those light fixtures have been retrofitted with new T8 lamps and electronic ballasts to improve the energy efficiency of those fixtures. There are still a number of areas where the T12 lamps and ballasts remain.

The lighting controls within the building consist of local switches to control each space. Widespread use of occupancy sensors or centralized controls was not observed.

If the building were to be remodeled, we would recommend the following: design new high efficiency fluorescent or LED lighting to replace all of the existing fluorescent light fixtures that have been previously retrofitted, replace any lighting that still utilizes T12 lamps and design a new dimmable LED lighting system for the atriums controlled by a light harvesting system to make full use of the skylights. In addition, in areas that are not remodeled, upgrading any remaining T12 light fixtures would be highly recommended. Also, the new International Energy Conservation Code (IECC), which is part of the current ND building code, will require that all spaces are controlled by an automatic lighting control system. We would recommend that occupancy or vacancy sensors be designed for all offices, storage rooms, corridors, labs, and small conference rooms and be part of an overall building lighting control system that provides the required automatic off feature in all classrooms, large conference rooms or auditoriums, the library and other large spaces where specific local control is needed.

Power Distribution Systems

The existing power distribution system is in good working condition in most areas of the building. Most of the switchgear and panelboards were installed new in 1994 or later remodeling projects. There are some panelboards in the original 'T' shaped portion of the building that are approximately 40 years old. As part of any remodeling project in those areas, those panelboards should be upgraded.

The building presently has a backup power generator rated at 1600 kilowatts that provides emergency power for most of the building except for the library wing. The generator was originally designed to backup the entire facility, however load growth has required that only selected areas of the building and loads are now on emergency power. If the building is remodeled or expanded, a careful study of the generator capacity will be required to determine what can be powered from the generator and if additional areas of the building would need to be disconnected from the generator. A major building expansion would likely require a separate electrical service for the expansion and another generator for emergency power if emergency power is needed for the function within that expansion space.

The existing HVAC system motor controllers consist of motor control centers with motor starters and variable frequency drives. All of the motor control equipment is in good working order.

Telecommunications Systems

The existing telecommunications service to the building consists of an 1800 pair telephone backbone cable and a 12 strand single mode fiber optic cable. The main distribution frame (MDF) for the building is in the basement, room B008. Backbone telephone and fiber optic cables are routed from the MDF room to telecommunications wiring closets in the library and in two other locations on each floor. The horizontal wiring on each floor consists of category 5e cables from the telecommunications closets to the data and phone outlets in all spaces as required.

The existing telecommunications wiring system is in good condition, however, the new UND campus standard is to install category 6 rated horizontal cable to all workstation outlets. If the building were to be remodeled, the telecommunications wiring closets and MDF room would remain in their present location and any new horizontal cables would utilize category 6 rated cabling.

Life Safety Systems

The existing fire alarm system within the building consists of a Simplex 4200 series control panel with a voice evacuation annunciation system. The fire alarm system consists of manual fire alarm boxes at all exits from the building and at the stairwell entrances on each floor, automatic detection in areas that are not presently sprinklered and within all HVAC systems. If the building is remodeled, a new fire alarm system would be recommended to replace the existing system that is nearly 20 years old.

Emergency egress lighting within the facility is presently powered by the emergency generator. Selected light fixtures in the egress paths are connected to a dedicated wiring system that is powered from the emergency generator in the event of a power outage. Any remodeling or expansion project would continue to use the emergency generator as the power source for the emergency egress lighting system.

Future Space Needs- Program Breakdown

The following pages contain a detailed analysis of the current space utilization compared with the optimum space needs that were determined based on our review. Each department (color coded) has a listing of existing spaces, the recommended changes, and the resulting new areas. The complete summary of all optimally sized spaces is located in the "Future Needs Program Summary".

Education

Number	Space Type	EXISTING				Change	NEW					
		Cap	Ave. ASF	Qty	Total ASF		Description	Cap	ASF/ Unit	ASF	Qty	Total ASF
1.0 Shared Education												
1.01 Classroom / Lecture / Lab												
1.01.1	Small Group Learning					New spaces	8	19	150	10	1,500	
1.01.2	Classroom, Small	20 to 25	710	5	3,551	- 1 room	20	25	500	4	2,000	
1.01.3	Classroom, Medium	40 to 50	1,572	2	3,143	Removed						
1.01.4	Team Classroom, Medium					New spaces	40	30	1,200	4	4,800	
1.01.5	Classroom, Large	72	1,119	1	1,199	Removed						
1.01.6	Team Classroom, Large					New spaces	100	30	3,000	3	9,000	Tiered with tables for 9
1.01.7	Learning Hall, Small	55 to 70	1,194	2	2,387	- 1 room	70	18	1,260	1	1,260	
1.01.8	Learning Hall, Medium	105	1,159	2	2,317	Removed					0	
1.01.9	Learning Hall, Large	295	2,416	1	2,416	- 100 students capacity	200	18	3,600	1	3,600	Two u-shaped tiered seating arrangements, divided by movable partition
1.01.10	Learning Hall Control Room	1	75	4	298	- 2 rooms	1	100	100	2	200	
1.01.11	Wet Labs, Small	18 to 24	777	4	3,108	Increase capacity, -2 rooms	40	25	1,000	2	2,000	
1.01.12	Wet Lab, Large	36	1,654	1	1,654	Increase capacity	40	50	2,000	1	2,000	
1.01.13	Anatomy Lab (Undergrad)	16 tables	1,581	1	1,581	Increase SF per table			2,560	1	2,560	16 Dissection tables at 160 SF each
1.01.14	Cadaver "Theater"					New spaces			400	1	400	
1.01.15	Anatomy Lab Storage					New space			250	1	250	
1.01.16	Plinth Labs	48	1,638	1	1,638	+1 lab	60	40	2,400	2	4,800	
1.01.17	Plinth Labs Storage				305	2.5X the size			750	1	750	
1.01.18	Locker Room, Female		258	1	258	Increase capacity	200	5	1,000	1	1,000	
1.01.19	Locker Room, Male		206	1	206	Increase capacity	160	5	800	1	800	
1.01.20	Showers, Female					New space	1	40	40	5	200	
1.01.21	Showers, Male					New space	1	40	40	4	160	
1.01.22	Furniture & Equipment Storage					New Space			500	3	1,500	

1.02 Doctoring, Standardized Patients & Simulation Center												
1.02.1	*Doctoring Exam Rooms*					New spaces			100	6	600	
1.02.2	Standardized Patient Exam Room		101	12	1,206				100	12	1,200	
1.02.3	Standardized Patient Control Room					New space			200	1	200	
1.02.4	Standardized Patient Lockers					New space			200	2	400	
1.02.5	Standardized Patient Lounge & Prep Area		373	1	373				400	1	400	
1.02.6	Lobby / Reception		566	2	1,131	Reduced size and quantity			200	1	200	
1.02.7	Simulation Room		244	4	976	+ 4 rooms			350	8	2,800	Average size, range from 300 to 400 SF.
1.02.8	Sim. Control Room		113	2	225	+ 2 rooms			100	4	400	
1.02.9	A/V Room		15	1	15	2X the size			30	1	30	
1.02.10	Storage		233	8	1,866	Reduced size			250	1	250	Existing storage includes shelled space
1.02.11	Debriefing Room		263	2	525	+ 2 rooms			400	4	1,600	
1.02.12	Video Conference Room		265	1	265				250	1	250	
1.02.13	Video Control Room			1	134	Reduced size			50	1	50	
1.02.14	Faculty Office		126	2	251	Standardized	1	120	120	2	240	
1.02.15	Admin Office	1.2	128	6	765	Standardized	1	64	64	12	768	
1.02.16	Grad Student Office			1	100				100	1	100	
1.02.8	Classroom		629	1	629	Removed					0	
1.02.10	Lecture Hall Control Room			1	72	Removed					0	
1.02.11	Student Lounge		413	1	413	Removed					0	
	<i>Suite Circulation</i>						20%				1,898	

10. Appendix

Education

Number	Space Type	EXISTING				Change	NEW					Comments
		Cap	Ave. ASF	Qty	Total ASF		Description	Cap	ASF/ Unit	ASF	Qty	
1.0 Shared Education												
1.01 Classroom / Lecture / Lab												
1.01.1	Small Group Learning					New spaces	8	19	150	10	1,500	
1.01.2	Classroom, Small	20 to 25	710	5	3,551	- 1 room	20	25	500	4	2,000	
1.01.3	Classroom, Medium	40 to 50	1,572	2	3,143	Removed						
1.01.4	Team Classroom, Medium					New spaces	40	30	1,200	4	4,800	
1.01.5	Classroom, Large	72	1,119	1	1,199	Removed						
1.01.6	Team Classroom, Large					New spaces	100	30	3,000	3	9,000	Tiered with tables for 9
1.01.7	Learning Hall, Small	55 to 70	1,194	2	2,387	- 1 room	70	18	1,260	1	1,260	
1.01.8	Learning Hall, Medium	105	1,159	2	2,317	Removed					0	
1.01.9	Learning Hall, Large	295	2,416	1	2,416	- 100 students capacity	200	18	3,600	1	3,600	Two u-shaped tiered seating arrangements, divided by movable partition
1.01.10	Learning Hall Control Room	1	75	4	298	- 2 rooms	1	100	100	2	200	
1.01.11	Wet Labs, Small	18 to 24	777	4	3,108	Increase capacity, -2 rooms	40	25	1,000	2	2,000	
1.01.12	Wet Lab, Large	36	1,654	1	1,654	Increase capacity	40	50	2,000	1	2,000	
1.01.13	Anatomy Lab (Undergrad)	16 tables	1,581	1	1,581	Increase SF per table			2,560	1	2,560	16 Dissection tables at 160 SF each
1.01.14	Cadavar "Theater"					New spaces			400	1	400	
1.01.15	Anatomy Lab Storage					New space			250	1	250	
1.01.16	Plinth Labs	48	1,638	1	1,638	+1 lab	60	40	2,400	2	4,800	
1.01.17	Plinth Labs Storage				305	2.5X the size			750	1	750	
1.01.18	Locker Room, Female		258	1	258	Increase capacity	200	5	1,000	1	1,000	
1.01.19	Locker Room, Male		206	1	206	Increase capacity	160	5	800	1	800	
1.01.20	Showers, Female					New space	1	40	40	5	200	
1.01.21	Showers, Male					New space	1	40	40	4	160	
1.01.22	Furniture & Equipment Storage					New Space			500	3	1,500	

2.0 School of Medicine Education												
2.01 Classroom / Lecture / Lab												
2.01.1	PCL Rooms	8	483	18	8,702	+ 6 rooms	8	63	500	24	12,000	
2.01.2	Gross Anatomy Lab (Med Students)	10 tables	1,836	1	1,836	+ 6 tables & increase square footage per table	16 tables	200	3,200	1	3,200	11 Dissection tables and 5 prosection tables at 200 SF each (per Faculty recommendation)
2.01.3	Cadevar "Theater"					New spaces			400	1	400	
2.01.4	Anatomy Lab Storage		238	1	238	+ 1 space			250	1	250	
2.01.5	Morgue		944	1	944	1.5X larger			1,500	1	1,500	
2.01.6	Lab Prep for Classes	2	750	1	750				750	1	750	
2.01.7	Classroom Storage		183	11	2,008	Reduced size			500	1	500	
2.01.8	General Storage				1,095	Removed						
Subtotal:					17,645						23,480	
2.02 Student Collaboration & Resources												
2.02.1	Student Collaboration Space		849	2	1,698	+ 2 spaces			900	4	3,600	
2.02.2	Student Lounge			1	374	Removed						See Shared Collaboration Space for student lounges
2.02.3	Tutor Rooms					New Space	4	20	80	8	640	Adjacent to Student Collaboration Space
2.02.4	3rd & 4th Year Study Carrols					New Space	8	20	160	4	640	Adjacent to Student Collaboration Space. Carrols to include lockable storage.
Subtotal:					17,645						23,480	
3.0 Occupational Therapy												
3.01 Classroom / Lecture / Lab												
3.01.1	Lab - Apartment Mock-UP					New space			600	1	600	
3.01.3	Classroom Storage				260	Removed						
4.0 Medical Lab Sciences												
4.01 Classroom / Lecture / Lab												
4.01.1	Lab Storage			1	274	3.5X the size			1,000	1	1,000	
5.0 Cytotechnology												
5.01 Classroom / Lecture / Lab												
5.01.1	Lab	8	508	1	508				500	1	500	Includes stations for 7 students and a 10-head microscope
6.0 Sports Medicine (Currently 23 student per year, no growth)												
6.01 Classroom / Lecture / Lab												
6.01.1	Clinical Practice / Treatment				1,654	1.2X the size			2,000	1	2,000	
23.01.3	PT Room		336	1	336	Removed						
6.01.2	General Storage				600	Increase size			800	1	800	
Health Sciences Subtotal:					3,632						4,900	
Education Subtotal:					79,837						99,346	

Research

Number	Space Type	EXISTING				Change	NEW					Comments	
		Cap	Ave. ASF	Qty	Total ASF		Description	Cap	ASF/ Unit	ASF	Qty		Total ASF
7.0 School of Medicine Research													
7.01 Research Labs													
	7.01.1	Research Labs		445	55	24,456	Increase size			600	55	33,000	Updated to current design standards
	2.02.2	Lab Service / Support		133	59	7,824	Increase size			200	55	11,000	Updated to current design standards
		Subtotal:				32,280						44,000	
8.0 Physical Therapy													
8.01 Research Labs													
	8.01.1	Research Lab		543	1	543	Increase size			600	1	600	Updated to current design standards
	8.01.2	Lab Service / Support					New space			200	1	200	
		Subtotal:				543						800	
6.0 Cyclotron & Position Operation													
6.02 Research													
	6.02.1	Cyclotron & Positron				1,423	Removed					0	
		Departments Subtotal:				34,246						44,800	

Faculty

Number	Space Type	EXISTING				CHANGE	NEW					Comments
		Cap	Ave. ASF	Qty	Total ASF		Description	Cap	ASF/Unit	ASF	Qty	
9.0 Shared Faculty Space												
9.01 Technology												
9.01.1	Video Conferencing Center					New spaces			500	2	1,000	
9.01.2	Recording Studio					New spaces			80	4	320	
9.01.3	Recording Control Room					New space			80	1	80	
9.02 Technology												
90.2.1	Lounge / Break Rm			12	1,267	1.5X larger			500	4	2,000	
90.2.2	Faculty Collaboration Space					New spaces			300	4	1,200	
Subtotal:					1,267						4,600	

10.0 School of Medicine Faculty Space												
10.01 Offices												
10.01.1	Faculty Offices	1	158	75	11,850	+27 offices	1	120	120	102	12,240	
10.01.2	Admin Offices	1	171	32	5,462	+ 5 offices	1	100	100	37	3,700	
10.01.3	Admin Wksts	1	70	14	977	+ 5 wksts	1	64	64	19	1,216	
10.01.4	Graduate Students	52	30		1,534	Increased ASF	1	50	50	52	2,600	Updated to current campus standards
10.02 Amenity Spaces												
10.02.1	Reception	1	109	6	654	Removed					0	
10.02.2	Conference Room, Medium		350	6	2,100	Standardized			400	6	2,400	
10.02.3	Conference Room, Large			1	627	Standardized			600	1	600	
10.02.4	Work Rooms		169	3	508	Standardized			200	4	800	
10.02.5	Library / Reference Room			2	503	1/2 smaller			200	2	400	
10.02.6	General Storage		81	19	1,530	Reduced size			100	10	1,000	
10.02.7	Private Office Storage		28	27	750	Removed					0	
<i>Suite Circulation</i>							20%				4,991	
Subtotal:					26,495	3,452					29,947	

10. Appendix

11.0 Health Sciences Admin Space												
11.01 Offices												
11.01.1	Faculty Offices	1	160	44	7,019	+ 17 offices	1	120	120	61	7,320	
11.01.2	Admin Offices	1	181	12	2,167	+ 2 offices	1	100	100	14	1,400	
11.01.3	Graduate Students		408	2	815	+ 1 workroom			450	3	1,350	
11.01.4	Hoteling Office					New Space	1	120	120	1	120	
11.02 Amenity Spaces												
11.02.1	Reception					New Space			100	1	100	
11.02.2	Conference Room, Small					New Space			200	1	200	
11.02.3	Conference Room, Medium			1	473	+ 3 rooms			400	4	1,600	
11.02.4	Work Rooms			1	181				200	1	200	
11.02.5	General Storage		78	3	233	Increase sized			100	5	500	
11.02.6	Private Office Storage		30	18	546	Removed					0	
	<i>Suite Circulation</i>								20%		2,558	
	Subtotal:				11,434						3,914	15,348
	Faculty Subtotal:				39,196						10,699	49,895

Administration

12.0 Management Administration													
12.01 Academic Affairs													
	12.01.1	Admin Wksts	1	99	12	1,182	Standardized	1	65	65	12	780	
	12.01.2	Executive Office	1	225	2	450	Standardized	1	200	200	2	400	
	12.01.3	Storage			1	12				25	1	25	
12.02 Alumni and Community Relations													
	12.02.1	Admin Offices	1	138	2	275	Standardized	1	100	100	2	200	
	12.02.2	Admin Wksts	1	65	3	195	Standardized	1	65	65	3	195	
12.03 Continuing Medical Education													
	12.03.1	Admin Office	1	234	1	234	Standardized	1	100	100	1	100	
12.04 Dean's Office													
	12.04.1	Admin Offices	1	183	18	3,286	Standardized	1	100	100	18	1,800	
	12.04.2	Admin Wksts	1	65	9	583	Relocated from reception	1	65	65	12	780	
	12.04.3	Emertus Faculty Office	1	165	4	661	Standardized	1	120	120	4	480	
	12.04.4	Faculty Office	1	170	1	170	Standardized	1	120	120	1	120	
	12.04.5	Executive Office	1	209	1	209	Standardized	1	200	200	1	200	
	12.04.6	Dean's Office	1	447	1	447	Standardized	1	400	400	1	400	
	12.04.7	Dean's Private Restroom		30	1	30	Standardized			65	1	65	
	12.04.8	Conference Room, Small		142	1	142	Standardized	10	20	200	1	200	
	12.04.9	Conference Room, Large		612	1	612	Standardized	30	20	600	1	600	
	12.04.10	Reception	4	441	1	441	Relocated to workstations	1	150	150	1	150	
	12.04.11	Work Room		145	2	290				150	2	300	
	12.04.12	Mail Room		158	1	158				150	1	150	
	12.04.13	General Storage		239	2	478				200	2	400	
	12.04.14	Video Conferencing Room		480	1	480	Relocated to Shared Space						
	12.04.15	Private Office Storage		30	6	179	Removed						
12.05 Intell Prop Communication & Economic Development													
	12.05.1	Admin Office	1	168	1	168	Standardized	1	100	100	1	100	
12.06 Student Affairs & Admissions													
	12.06.1	Admin Office	1	199	4	797	Standardized	1	100	100	4	400	
	12.06.2	Admin Wksts	1	155	3	465	Standardized	1	65	65	3	195	
	12.06.3	Office Storage		126	1	126				100	1	100	
	12.06.4	Conference Room		169	1	169	Standardized	10	20	200	1	200	
	<i>Suite Circulation</i>												20%
	Subtotal:					12,239							10,008

10. Appendix

13.0 Shared Services												
13.01 Indians Into Medicine												
13.01.1	Admin Offices	1	173	5	865	Standardized	1	120	120	5	600	
13.01.2	Admin Wksts	1	94	5	472	Standardized	1	65	65	5	325	
13.01.3	Work Room		133	1	133	Standardized	1	100	100	1	100	
13.01.4	Public Lounge		190	1	190	1.5X larger			300	1	300	
13.01.5	Reading / Study Room		260	2	519	1.5X larger			350	2	700	
13.01.6	Library Storage		569	1	569				500	1	500	
13.01.7	General Storage		32	3	96				100	1	100	
13.01.8	Private Office Storage		37	6	222	Removed					0	
13.02 Center for Rural Health												
13.02.1	Admin Offices	1	163	22	3,585	+ 10 offices	1	100	100	32	3,200	
13.02.2	Admin Workstations	1	77	25	1,931	+ 7 workstations	1	65	65	32	2,080	
13.02.3	Graduate Students					New dedicated space	1	50	50	10	500	
13.02.4	Office Storage		53	4	210	2.4X Increase			250	2	500	
13.02.5	Work Room		147	1	147	Standardized			200	1	200	
13.02.5	Private Office Storage		28	13	359	Removed					0	
13.03 Information Resources												
13.03.1	Admin Offices	1	172	6	1,029	Standardized	1	100	100	6	600	
13.03.2	Admin Wksts	1	83	2	166	Standardized	1	65	65	2	130	
13.03.3	Faculty Office	1	179	1	179	Standardized	1	120	120	1	120	
13.03.4	IT Offices	1	173	5	864	Standardized	1	100	100	5	500	
13.03.5	Student Office	2	99	1	99	Standardized	1	80	80	2	160	
13.03.6	Multi-Media Production Wksts	1	48	6	286	Standardized	1	65	65	6	390	
13.03.7	Multi-Media Production Studio		502	1	502	60% smaller			200	1	200	
13.03.8	Multi-Media Production Control Room		213	1	213	60% smaller			80	1	80	
13.03.9	General Storage		76	10	759				800	1	800	
	<i>Suite Circulation</i>								20%		2,417	
	Subtotal:				13,395						14,502	
	Administration Subtotal:				25,634						(1,124)	24,510

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Adjacency Diagrams

Introduction

Adjacency Diagrams describes space/room groupings and their spatial relationships. Support spaces (such as an electrical room or staff restroom) do not occur in the following diagrams unless a specific functional adjacency occurs.

Within each adjacency diagram, a room or space is represented by a colored block. This block shows the scaled size of the room/space in comparison to the other spaces. All the adjacency diagrams use the same scale and can be compared against each other. While given a general shape and proportion, these blocks do not represent (nor are they meant to suggest) the final room designs.

A graphic item (example: dotted line) between spaces or around spaces delineates different types of relationships. A legend for these graphic items appears on each page.

General Terms

Immediate adjacency: a physical connection between spaces allowing for direct access from one space to another

Close proximity: located within the same general area but not requiring a physical connection

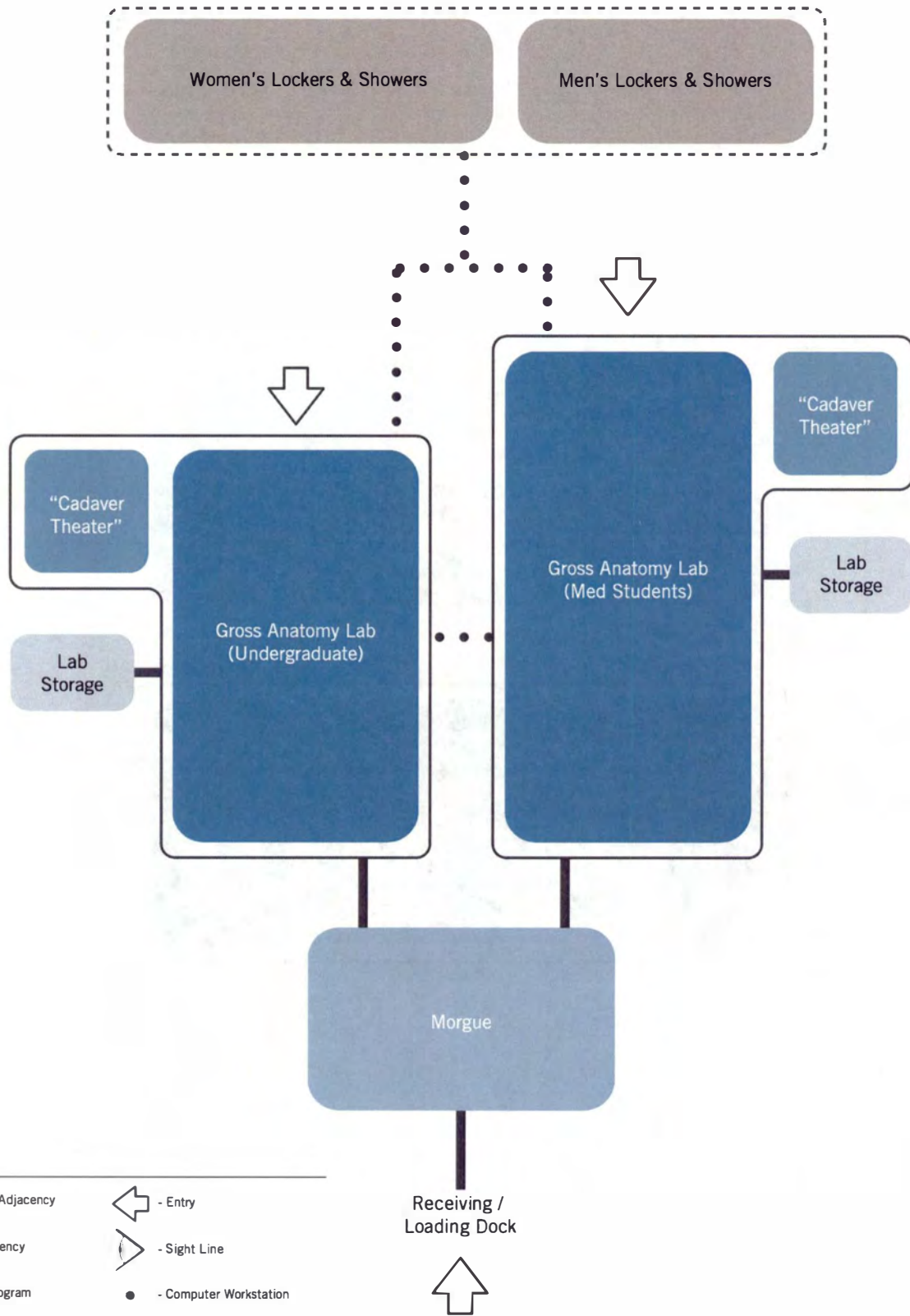
Contiguous Area: delineation of a large room boundary in which several programmatic spaces occur

Grouped Program: room or spaces of a similar type/function which together form a suite or cluster

Sight Line: visual connection between spaces

Operable partition: a manufactured wall system consisting of movable panels which collapse into a designated area





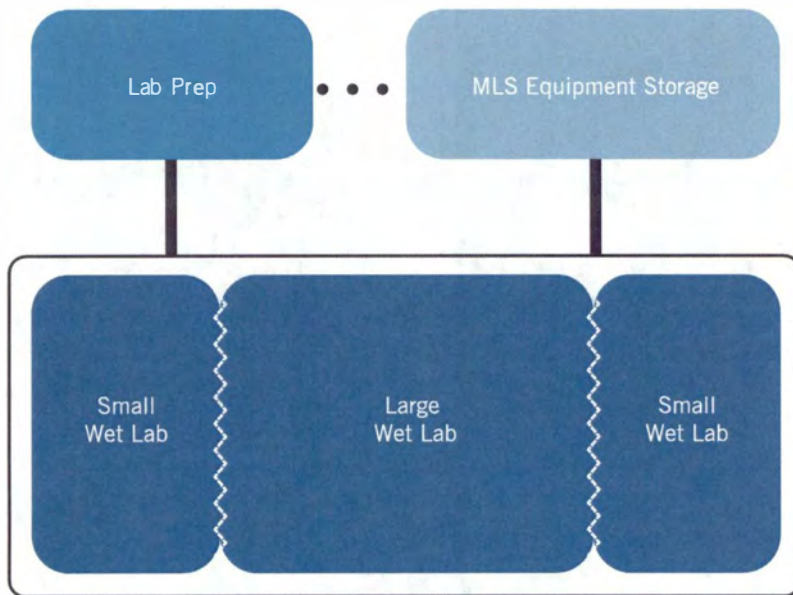
LEGEND

- - Immediate Adjacency
- - - - - Close Adjacency
- ⋯ - Grouped Program
- - Contiguous Area
- ↖ - Entry
- △ - Sight Line
- - Computer Workstation
- ~ - Operable Partition

Anatomy Diagram

LEGEND

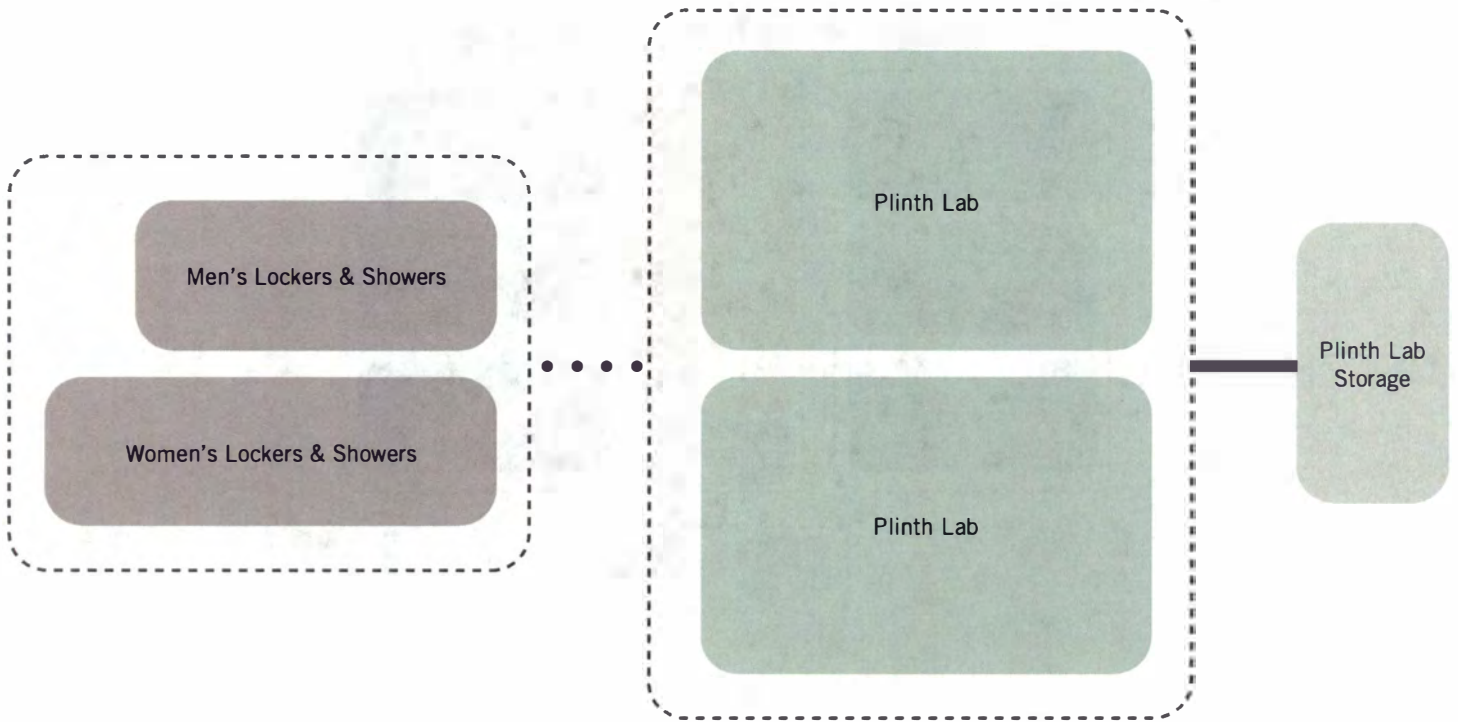
- - Immediate Adjacency
- • • - Close Adjacency
- - Grouped Program
- - Contiguous Area
- ↩ - Entry
- ◁ - Sight Line
- - Computer Workstation
- ∩ - Operable Partition



Wet Lab Diagram

LEGEND

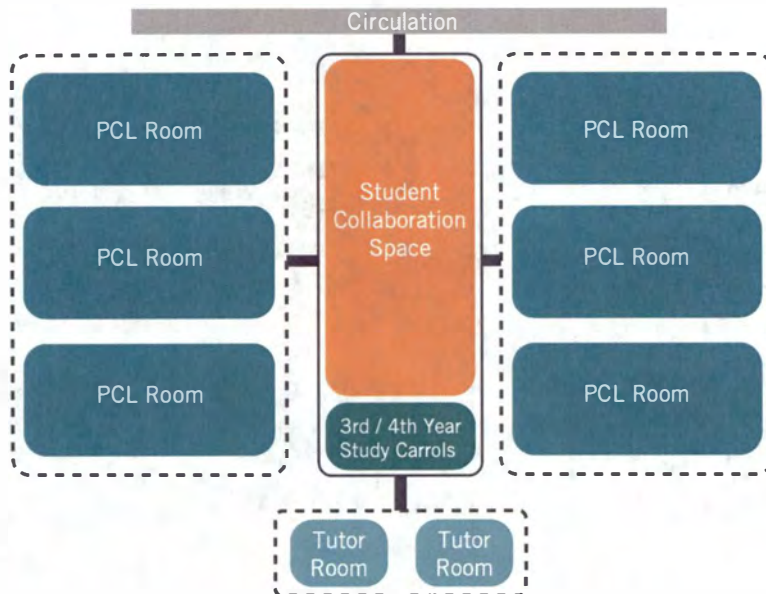
- - Immediate Adjacency
- • • - Close Adjacency
- ⋯ - Grouped Program
- - Contiguous Area
- ↩ - Entry
- ◁ - Sight Line
- - Computer Workstation
- ⋈ - Operable Partition



Plinth Labs Diagram

LEGEND

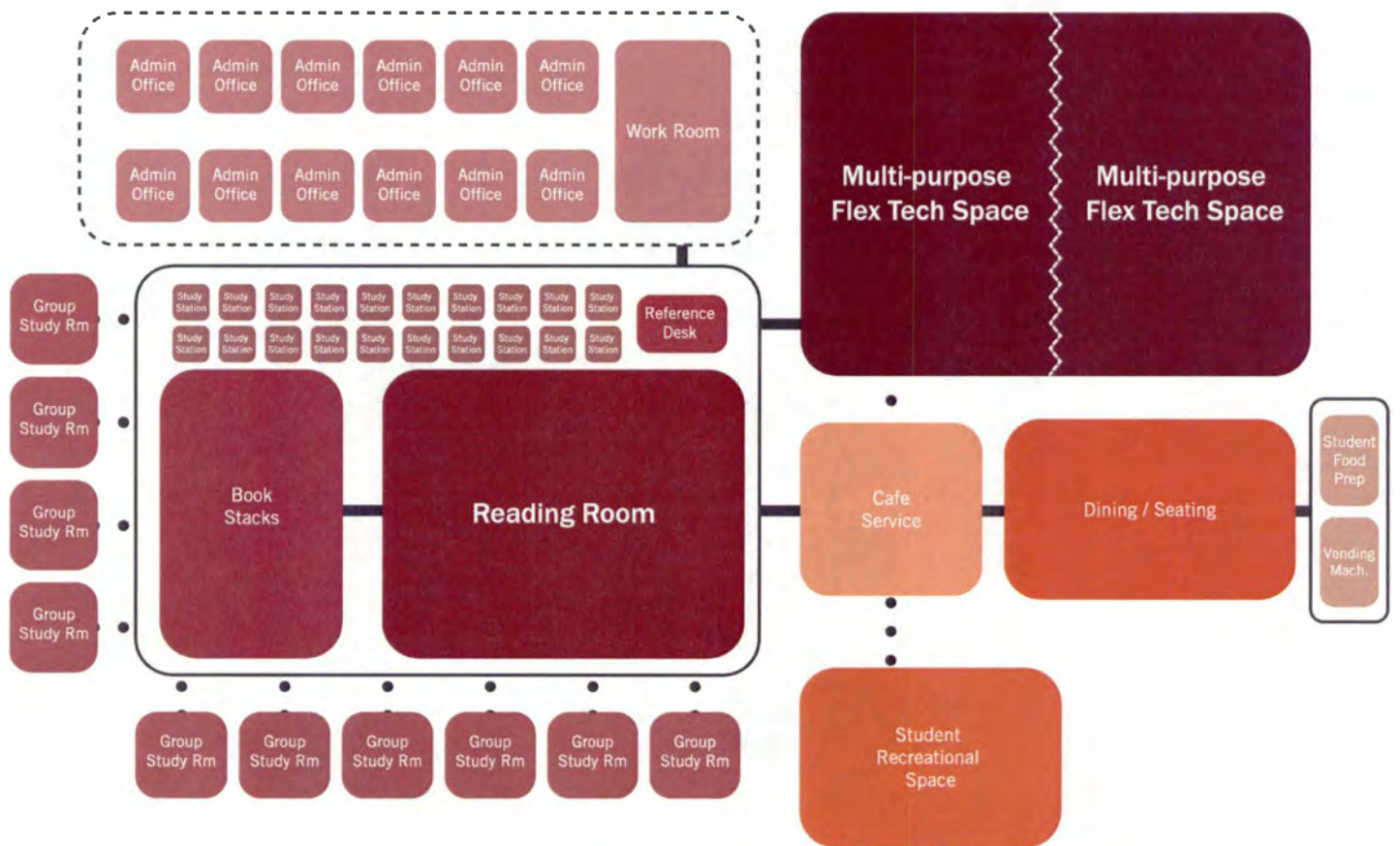
- - Immediate Adjacency
- • • - Close Adjacency
- - - - - Grouped Program
- - Contiguous Area
- ↔ - Entry
- ◁ ▷ - Sight Line
- - Computer Workstation
- ~ - Operable Partition



Student Clusters Diagram

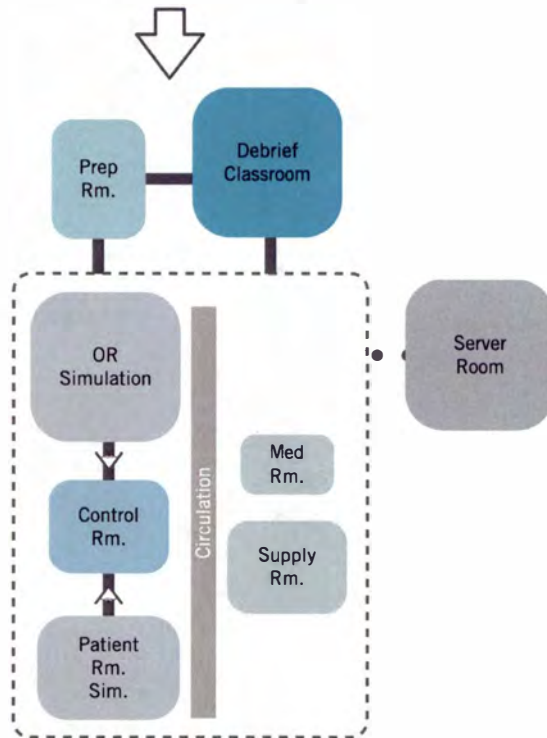
LEGEND

- - Immediate Adjacency
- - Close Adjacency
- ⊖ - Grouped Program
- - Contiguous Area
- ↖ - Entry
- ◁ - Sight Line
- - Computer Workstation
- ⋈ - Operable Partition



LEGEND

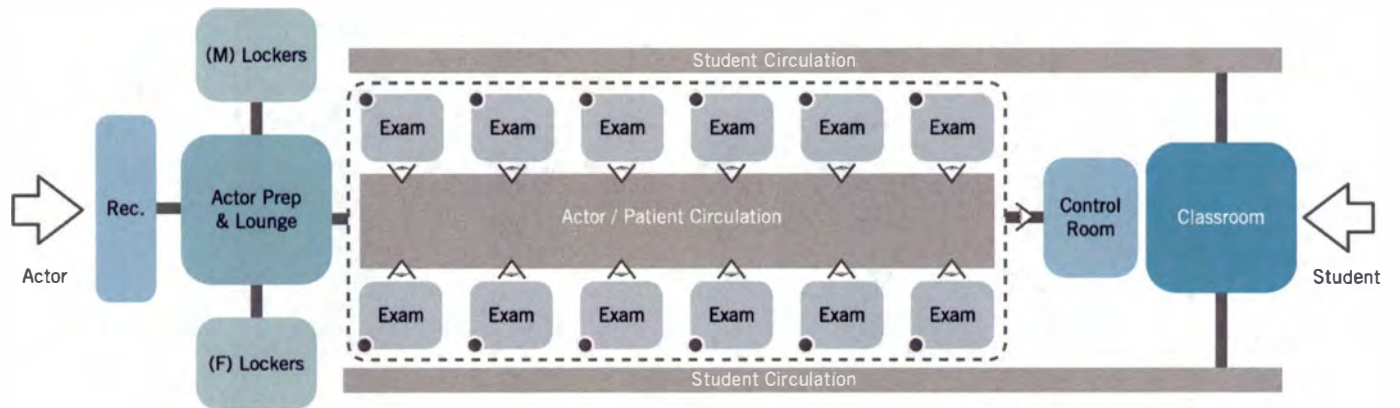
- Immediate Adjacency
- Close Adjacency
- Grouped Program
- Contiguous Area
- Computer Workstation
- Operable Partition
- Entry
- Sight Line
- Computer Workstation
- Operable Partition



Simulation Suite Diagram








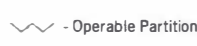
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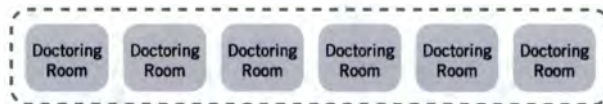
- - Immediate Adjacency
- - Close Adjacency
- ⊖ - Grouped Program
- - Contiguous Area
- ↔ - Entry
- ◁ - Sight Line
- - Computer Workstation
- ∩ - Operable Partition



Patient Diagram

LEGEND

-  - Immediate Adjacency
-  - Close Adjacency
-  - Grouped Program
-  - Contiguous Area
-  - Entry
-  - Sight Line
-  - Computer Workstation
-  - Operable Partition



Doctoring Room Diagram

Construction Narrative for Civil Site Design

UND School of Medicine and Health Sciences – Option 1

Site Description of Option 1

Option 1 includes a five floor building addition immediately north of the existing School of Medicine & Health Sciences facility. Each floor of the addition will have a footprint of approximately 16,000 square feet, resulting in a total addition area of approximately 80,000 gross square feet. The building addition will displace the parking lot north of the existing facility. Site design, including layout, parking lots, pedestrian facilities, green space, and building set back will conform to the requirements of the University of North Dakota and the City of Grand Forks Land Development Code.

Potable Water Supply

Potable water for fire protection and domestic use will be supplied by the City of Grand Forks municipal water system. An existing 16 inch water main, including fire hydrants, is located along North Columbia Road immediately east of School of Medicine. From this main, another 16 inch water main is routed west along Sixth Ave. North. These two water mains provide the trunk infrastructure for the City's water distribution system in the vicinity of the School of Medicine. From these two water mains, branch lines can be readily extended to provide adequate service to the proposed building addition for domestic and fire protection uses.

Sanitary Sewer Service

Sanitary sewer service for the proposed building addition will be provided by the City of Grand Forks municipal sanitary sewer system. Wastewater in this area of the City is conveyed by gravity sewer mains to Lift Station 13, which is located along Sixth Ave. North, immediately north of the existing School of Medicine. Sanitary sewer mains are located in close proximity to the proposed building expansion area. Services lines can be readily extended to provide necessary sanitary sewer service. The existing sewers are anticipated to be of adequate depth to provide gravity service to all building areas. However, it may be advisable to provide gravity sanitary service from all above ground spaces and pumped service from any basement areas, thereby creating a physical break to reduce risk of potential sewer back-up.

Storm Water Drainage

Underground storm sewer in the project vicinity is minimal in size and can accept additional storm water flows from roof or site areas in limited capacity. Current storm water regulations apply limitations to maximum rate, total volume, and water quality of storm water discharges. Because of capacity limitations and runoff regulations, implementation of a storm water management system will be required. To address both capacity and runoff water quality concerns, a storm water management system consisting of retention pond, underground storm water chambers, rain water garden, or combination of such temporary storm water holding facilities should be incorporated into site design. Siting of a storm water facility will be a challenge because of limited site areas available for this purpose. However, such a facility can be important to LEED considerations and also be a visual amenity. The landscape architect will assist the design team in incorporating an appropriate storm water management element. A system of underground storm sewer pipes for drainage of roof, parking lots, and other site areas will be provided to convey storm water to the storm water management facilities.

Steam Heat

Steam lines from the University of North Dakota system are routed to the existing School of Medicine. While capacity will need to be verified relative to anticipated loads, it appears feasible to route steam lines to serve the building expansion area on the present site. The mechanical engineer will perform evaluation and design of steam heating components of the project.

Natural Gas Service

Natural gas is provided by Xcel Energy. Xcel representatives have indicated natural gas is presently served to the existing facility from their pipe system in the alley west of the School of Medicine. The existing service has capacity for approximately 4 million BTUs. When the capacity and desired location of natural gas service is determined, Xcel Energy has indicated a willingness to install service facilities of appropriate capacity, including upgrades to increase capacity, if necessary.

Parking Lots

Construction of a building addition north of the existing School of Medicine will necessitate replacing the parking spaces lost within the footprint of the building, plus addition of parking spaces associated with the expanded building area. A parking lot could potentially be constructed north of Sixth Ave. North to provide a portion of the necessary parking. The parking lots associated with Ralph Engelstad Arena also present an opportunity for efficient use of shared parking, as arena events usually occur on week-end evenings, leaving large parking lots relatively unused at other times. Additionally, because of reasonably close proximity of the School of Medicine to the intersection of University Ave. and North Columbia Road, the parking ramp and lots in the vicinity could provide some of the necessary parking. When staffing and students numbers at the facility are projected, an analysis of necessary and available parking will be performed.

Because pedestrian traffic is anticipated to cross Sixth Ave. North in significant numbers, an enclosed pedestrian conveyance facility in the form of a tunnel or overhead walkway would be highly desirable. An overhead walkway may be more readily implemented because of the large number of underground utilities in the Sixth Ave. North corridor. Feasibility of either an underground or overhead walkway would require additional study.

Construction Narrative for Civil Site Design

UND School of Medicine and Health Sciences – Option 2

Site Description of Option 2

Option 2 includes a five floor building addition immediately north of the existing School of Medicine & Health Sciences facility. Each floor of the addition will have a footprint of approximately 34,000 square feet, resulting in a total addition area of approximately 170,000 gross square feet. The building addition will displace the parking lot north of the existing facility. Site design, including layout, parking lots, pedestrian facilities, green space, and building set back will conform to the requirements of the University of North Dakota and the City of Grand Forks Land Development Code.

Potable Water Supply

Potable water for fire protection and domestic use will be supplied by the City of Grand Forks municipal water system. An existing 16 inch water main, including fire hydrants, is located along North Columbia Road immediately east of School of Medicine. From this main, another 16 inch water main is routed west along Sixth Ave. North. These two water mains provide the trunk infrastructure for the City's water distribution system in the vicinity of the School of Medicine. From these two water mains, branch lines can be readily extended to provide adequate service to the proposed building addition for domestic and fire protection uses.

Sanitary Sewer Service

Sanitary sewer service for the proposed building addition will be provided by the City of Grand Forks municipal sanitary sewer system. Wastewater in this area of the City is conveyed by gravity sewer mains to Lift Station 13, which is located along Sixth Ave. North, immediately north of the existing School of Medicine. Sanitary sewer mains are located in close proximity to the proposed building expansion area. Services lines can be readily extended to provide necessary sanitary sewer service. The existing sewers are anticipated to be of adequate depth to provide gravity service to all building areas. However, it may be advisable to provide gravity sanitary service from all above ground spaces and pumped service from any basement areas, thereby creating a physical break to reduce risk of potential sewer back-up.

Storm Water Drainage

Underground storm sewer in the project vicinity is minimal in size and can accept additional storm water flows from roof or site areas in limited capacity. Current storm water regulations apply limitations to maximum rate, total volume, and water quality of storm water discharges. Because of capacity limitations and runoff regulations, implementation of a storm water management system will be required. To address both capacity and runoff water quality concerns, a storm water management system consisting of retention pond, underground storm water chambers, rain water garden, or combination of such temporary storm water holding facilities should be incorporated into site design. Siting of a storm water facility will be a challenge because of limited site areas available for this purpose. However, such a facility can be important to LEED considerations and also be a visual amenity. The landscape architect will assist the design team in incorporating an appropriate storm water management element. A system of underground storm sewer pipes for drainage of roof, parking lots, and other site areas will be provided to convey storm water to the storm water management facilities.

Steam Heat

Steam lines from the University of North Dakota system are routed to the existing School of Medicine. While capacity will need to be verified relative to anticipated loads, it appears feasible to route steam lines to serve the building expansion area on the present site. The mechanical engineer will perform evaluation and design of steam heating components of the project.

Natural Gas Service

Natural gas is provided by Xcel Energy. Xcel representatives have indicated natural gas is presently served to the existing facility from their pipe system in the alley west of the School of Medicine. The existing service has capacity for approximately 4 million BTUs. When the capacity and desired location of natural gas service is determined, Xcel Energy has indicated a willingness to install service facilities of appropriate capacity, including upgrades to increase capacity, if necessary.

Parking Lots

Construction of a building addition north of the existing School of Medicine will necessitate replacing the parking spaces lost within the footprint of the building, plus addition of parking spaces associated with the expanded building area. A parking lot could potentially be constructed north of Sixth Ave. North to provide a portion of the necessary parking. The parking lots associated with Ralph Engelstad Arena also present an opportunity for efficient use of shared parking, as arena events usually occur on week-end evenings, leaving large parking lots relatively unused at other times. Additionally, because of reasonably close proximity of the School of Medicine to the intersection of University Ave. and North Columbia Road, the parking ramp and lots in the vicinity could provide some of the necessary parking. When staffing and students numbers at the facility are projected, an analysis of necessary and available parking will be performed.

Because pedestrian traffic is anticipated to cross Sixth Ave. North in significant numbers, an enclosed pedestrian conveyance facility in the form of a tunnel or overhead walkway would be highly desirable. An overhead walkway may be more readily implemented because of the large number of underground utilities in the Sixth Ave. North corridor. Feasibility of either an underground or overhead walkway would require additional study.

Construction Narrative for Civil Site Design

UND School of Medicine and Health Sciences – Option 3

Site Description of Option 3

Option 3 consists of a new four floor building north of Sixth Avenue North and immediately west of North Columbia Road. The site of the proposed building is presently a grassed area used as the University of North Dakota soccer field. Each floor of the building will have a footprint of approximately 94,000 square feet, resulting in a total building area of approximately 377,000 gross square feet. Site design, including layout, parking lots, pedestrian facilities, green space, and building set back will conform to the requirements of the University of North Dakota and the City of Grand Forks Land Development Code.

Potable Water Supply

Potable water for fire protection and domestic use will be supplied by the City of Grand Forks municipal water system. An existing 16 inch water main, including fire hydrants, is located along North Columbia Road. From this main, another 16 inch water main is routed west along Sixth Ave. North. These two water mains provide the trunk infrastructure for the City's water distribution system in the vicinity of the School of Medicine. From these two water mains, branch lines can be readily extended to provide adequate service to the new facility for domestic and fire protection uses.

Sanitary Sewer Service

Sanitary sewer service for the proposed new facility will be provided by the City of Grand Forks municipal sanitary sewer system. Wastewater in this area of the City is conveyed by gravity sewer mains to Lift Station 13, which is located along Sixth Ave. North, immediately north of the existing School of Medicine. A sanitary sewer main is located in close proximity west of the new building area. A services line can be readily extended to provide necessary sanitary sewer service. The existing sewer is anticipated to be of adequate depth to provide gravity service to all building areas. However, it may be advisable to provide gravity sanitary service from all above ground spaces and pumped service from any basement areas, thereby creating a physical break to reduce risk of potential sewer back-up.

Storm Water Drainage

Underground storm sewer in the project vicinity is minimal in size and can accept additional storm water flows from roof or site areas in limited capacity. Current storm water regulations apply limitations to maximum rate, total volume, and water quality of storm water discharges. Because of capacity limitations and runoff regulations, implementation of a storm water management system will be required. To address both capacity and runoff water quality concerns, a storm water management system consisting of retention pond, underground storm water chambers, rain water garden, or combination of such temporary storm water holding facilities should be incorporated into site design. Siting of a storm water facility will be a challenge because of limited site areas available for this purpose. However, such a facility can be important to LEED considerations and also serve as a visual amenity. The landscape architect will assist the design team in incorporating an appropriate storm water management element. A system of underground storm sewer pipes for drainage of roof, parking lots, and other site areas will be provided to convey storm water to the storm water management facilities.

Steam Heat

Steam lines from the University of North Dakota system are routed to the existing School of Medicine and continue north to serve the Ralph Engelstad Arena. While capacity will need to be verified relative to anticipated loads, it appears feasible to extend steam service to the new site north of Sixth Ave. North. The mechanical engineer will perform evaluation and design of steam heating components of the project.

Natural Gas Service

Natural gas is provided by Xcel Energy. Xcel representatives have indicated natural gas is presently served to the existing facility from their pipe system in the alley west of the School of Medicine. The existing service has capacity for approximately 4 million BTUs. When the capacity and desired location of natural gas service is determined, Xcel Energy has indicated a willingness to install service facilities of appropriate capacity to the new facility, including upgrades to increase capacity, if necessary.

Parking Lots

Construction of a new building will necessitate the addition of parking spaces appropriate to the anticipated occupancy and uses of the new facility. A large portion of the parking associated with the new facility may be provided by the existing parking lots north and south of the present School of Medicine and Health Sciences facility. Additionally, if the existing facility were to be demolished, the land could be redeveloped as a parking lot to serve the new facility.

The land area available to install additional parking lots north of Sixth Ave. North is very limited. However, the parking lots associated with Ralph Engelstad Arena present an opportunity for efficient use of shared parking, as arena events usually occur on week-end evenings, leaving large parking lots relatively unused at other times. When staffing and student numbers at the facility are projected, an analysis of necessary and available parking will be performed.

Construction Narrative for Mechanical Design

UND School of Medicine and Health Sciences – Option 1 or Option 2

The addition would have a new heating, ventilating, and air conditioning system. The system type might be air handling units with variable air volume boxes or heat pumps. The remodel area has some existing heat pumps. There is also capacity in the air handling unit above wing 5. Either system could be extended into the area of remodel.

The existing chilled water and steam service to the building should be adequate for the addition. Fire sprinkler and water could be extended from the existing building into the addition. Sanitary and storm sewer would be new services for the addition.

Construction Narrative for Mechanical Design

UND School of Medicine and Health Sciences – Option 3

The new building systems could be evaluated when there is a proposed floor plan. If there are several laboratory spaces, the VAV from central air handling units may be the new system type. If there are offices, it may be either VAV or heat pumps. Other systems, such as ground source heat pumps could also be considered. Campus steam would be considered for the heat source.

Construction Narrative for Electrical Design

UND School of Medicine and Health Sciences – Option 1

The 1952 portion of the existing building will be largely renovated under this option. This portion of the building has a power distribution system that is out of date and inadequate.

A new power distribution system that serves both normal and emergency power to critical loads would be designed for the renovated areas.

The new building addition will require a separate electrical service. This service would be rated at 480 volts, 3 phase and approximately 1600 amperes. The existing 1600 kilowatt emergency generator for the facility presently only provides emergency power to critical loads and in particular most of the research wing. The new addition is presently programmed to be mostly education space, which may have a lower requirement for emergency power.

Under that assumption, the existing generator may have adequate capacity for the new addition. If, however, there are more extensive needs for emergency power including elevators, air handling equipment, cooling equipment and heating equipment, then a new emergency generator would also be required for the new addition.

Lighting systems and controls under this option would be designed to provide modern energy efficient lighting systems and automatic controls in both the new addition and the remodeled spaces. In addition, the out-of-date lighting systems in the areas of the building that are not being remodeled would also be proposed for replacement. The existing systems in some areas are not energy efficient and replacing them with new lighting systems and controls would have a good return on investment.

The telecommunications infrastructure and backbone for both the telephone systems and data network systems would be extended to the new building addition under this option. The existing fiber optic data network backbone copper telephone backbone would be extended to the new addition and new data closets would be established on each floor for terminating both backbone and horizontal cabling.

Construction Narrative for Electrical Design

UND School of Medicine and Health Sciences – Option 2

The 1952 portion of the existing building will be largely renovated under this option. This portion of the building has a power distribution system that is out of date and inadequate.

A new power distribution system that serves both normal and emergency power to critical loads would be designed for the renovated areas.

The new building addition will require a separate electrical service. This service would be rated at 480 volts, 3 phase and approximately 2500 amperes. The existing 1600 kilowatt emergency generator for the facility presently only provides emergency power to critical loads and in particular most of the research wing. The new addition is presently programmed to be mostly education space, which may have a lower requirement for emergency power, however this expansion is a large area of square footage. It is assumed under this option that a new emergency generator to power critical loads in the new expansion will be required.

Lighting systems and controls under this option would be designed to provide modern energy efficient lighting systems and automatic controls in both the new addition and the remodeled spaces. In addition, the out-of-date lighting systems in the areas of the building that are not being remodeled would also be proposed for replacement. The existing systems in some areas are not energy efficient and replacing them with new lighting systems and controls would have a good return on investment.

The telecommunications infrastructure and backbone for both the telephone systems and data network systems would be extended to the new building addition under this option. The existing fiber optic data network backbone copper telephone backbone would be extended to the new addition and new data closets would be established on each floor for terminating both backbone and horizontal cabling. The design phase would require consultation with UND to ensure that the existing fiber optic data network backbone and copper telephone copper backbone that presently serve the facility are adequate to serve the additional square footage. Additional backbone capacity for both the data network and telephone system may be needed under this option.

Construction Narrative for Electrical Design

UND School of Medicine and Health Sciences – Option 3

This option would require all new electrical infrastructure both within a new facility but also from the campus medium voltage distribution system. The electrical service for this facility would be rated at 480 volts, 3 phase and approximately 4000 amperes. A new medium voltage distribution switch, and either one or two new medium voltage transformers would be required and connected to the existing campus medium voltage distribution system. A new emergency generator would be designed for this facility. It is assumed that only critical emergency loads would be powered from this unit including the research lab areas and equipment, research lab ventilation, emergency lighting, the heating system for the facility and at least a portion of the facilities cooling system.

Lighting systems and controls for the new facility would be modern energy efficient lighting systems with automatic controls to meet current ND Building Code requirements.

New telecommunications infrastructure and backbone cabling for both the data network and the telephone system would be required for this new facility. A new underground duct system connected to the existing campus telecommunications duct system would be extended to this new site. New fiber optic data network backbone cabling and telephone system copper backbone cabling would be routed from the existing campus systems and connected to this new facility.

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