

PLYMOUTH STATE UNIVERSITY CAMPUS MASTER PLAN

Chapter Three: Master Plan Strategies

Ten-Year Development

3.0 MASTER PLAN STRATEGIES

The PSU master plan harnesses the physical resources of the campus and recommends several incremental gestures that will significantly improve the physical identity of the campus while unifying its academic, athletic and residential precincts. The plan reinforces the ceremonial core of campus as an academic and administrative district while expanding its residential precincts to the north, adjoining Langdon Park as a future resource. Significant recognition of the athletic and related academic programs will focus on the Holderness Campus as part of an effort to create a critical mass and architectural identity at the campus gateway.

The new “front door,” or ceremonial entry of the campus should be re-oriented onto Plymouth’s Main Street at the Court Street approach to Rounds Hall -- away from High Street which misinterprets the campus and town’s central focus. Rounds Hall would then house the bulk of ceremonial administrative functions, including the Office of the President and the Admissions Office.

As part of Plymouth’s and PSU’s celebration of the natural environment, a new greenbelt park will line the banks of the Pemigewasset River on the Holderness side of campus and will link to the core campus via new pedestrian-friendly streetscape improvements proposed with the realignment of the bridge.

Emphasis has been placed on the creation of both indoor and outdoor spaces where students and faculty can gather informally, including decentralized “mini-hubs,” residential amenities, and the location of student-related commercial uses, like the campus bookstore, on Main Street in town.

Finally, the campus, its infrastructure and buildings, will be designed and maintained according to sustainable design principles to makes best use of PSU’s existing resources while serving as a model for environmental stewardship.

The specific projects are envisioned to be built over an approximately ten year period, with more general recommendations outlined for twenty years hence. Recognizing that there are limits to PSU’s financial resources, the plan has been broken down into smaller components that are fundable and can be implemented over time.

3.1 GATEWAY / APPROACH

The entire entry sequence to campus, including the campus gateway off of I-93 on the Holderness Campus as well as the formal campus “front door” along Main Street should be enhanced and re-oriented to establish a ceremonial campus presence that is distinct, yet integrated into the character of the Town.

1. **Holderness Gateway:** The plan proposes greening the entry sequence beginning at the PSU property line on the north side of Holderness Street, including sidewalk and streetscape enhancements, new cross walks, lighting, and bridge re-alignment improvements that will bring Holderness Street on axis with High Street across the new bridge and traffic circle. An inviting entry plaza with guest parking would be located at the foot of the new Holderness Center to signal the campus gateway to prospective students and visitors, while also orienting them to the central campus by way of the campus shuttle. The design and massing of the new athletic facilities would also be intended to maximize PSU's identity on the Holderness Campus.
2. **Campus Front Door at Rounds Hall:** To provide a formal entry to campus, the plan proposes re-orienting the approach along Main Street to the foot of Rounds Hall -- the most recognizable landmark on campus and the campus' ceremonial heart. The vehicular and pedestrian approach would be enhanced with new tree planting, shrubs buffering parking terraces, as well as a formal drop off for short-term visitors on axis with Mary Lyon Hall. This dramatic entry would be framed by a new academic building on the site of the current Holmes House located to the south of Rounds Hall. Rounds Hall would become the central administration building on campus, home to the Office of the President and Vice Presidents as well as the Admissions Office.

3.2 ACADEMIC / ADMINISTRATIVE PROJECTS

New academic expansion / renovations are designed to accommodate required academic / administrative / athletic expansion. With the exception of athletic and HPER collocating on the Holderness Campus, the plan proposes consolidating the academic /administration precinct within the central campus where academic buildings already exist.

3.2.1 Academic

1. **HPER Relocation:** HPER, an increasingly popular academic program, would leave its current home in Draper Maynard and be collocated with the athletic program at the new Physical Education Complex into approximately 22,000 square feet of its own, state-of-the-art classroom, lab and training facility connected to the larger complex. A new orientation center would also be located at the PE Center to welcome visiting families of prospective students. (See "Athletic Strategies" for details on the new PE Center)
2. **Hyde Addition (and Renovation):** To accommodate needed academic space, the plan proposes an approximately 52,000 square foot addition to Hyde Hall at the building's north end. Needed renovations to the 83,100 square foot existing building could occur after this new addition comes on line.
3. **New Holmes:** Additional academic expansion, required in part to absorb academic displacement from the change in use of Rounds Hall, would be located within a new academic building proposed for the site of the current Holmes House. This "New Holmes" would be approximately 34,800 square feet and could be designed as a compendium piece to Rounds Hall to reinforce the monumental character of the new campus entry.

3.2.2 Administrative Projects

1. Rounds Hall Renovation: Integral to the master plan is that this 34,000 square foot campus landmark change from its current use as an academic building to a more symbolic entrance to the campus. This will be done by relocating the central administration building on campus into Rounds, which is to be the new home of the Office of the President and Vice Presidents as well as the Admissions Office. To accommodate this change of use, substantial renovations to the interior of the building must occur. Most of the academic functions currently located in Rounds would be re-located into the new Holmes building and to space within the Hyde Addition according to desired adjacencies.
2. Speare Hall Renovation: This 32,000 square foot building, where most of PSU's administration offices are currently located, would be substantially renovated into an accessible center for student services and learning support once the former uses are relocated to Rounds.
3. President's House: The approximately 11,000 sf house would be converted into a new alumni and development facility. In the future, the President would be free to relocate elsewhere in town using a housing allowance.
4. Physical Plant Addition: The existing Physical Plant building on the Holderness Campus would be expanded to include additional space for storage and loading. An additional storage shed to accommodate storage lost from the park development on River Street would be located adjacent to the Co-Gen Plant.
5. Co-Generation Plant: Expansion of Co-Gen plant, upgrade balance of utilities.

3.3 ATHLETIC

New Holderness Complex:

The new Holderness Complex at the Holderness Campus will function as an important model for the physical integration of athletic and related academic programs, including the Health, Physical Education & Recreational academic program. The new complex would include:

1. Existing PE Center Renovation: The existing 100,000 SF facility will need substantial renovation to bring it up to code, and achieve desired programmatic uses and adjacencies for a new Field House
2. New Natatorium: 39,700 SF facilities with public access, for the swim and diving teams. This aquatic center would include a diving well, additional lanes, and additional support space (The vacated space in the existing PE Center could be used to provide a full size practice field versus the existing $\frac{3}{4}$ field as well as to correct other space deficiencies on the second floor).
3. New Ice Rink: 39,700 SF facilities would to be the home for men and women's ice hockey programs. The facility could also serve an important public use.
4. New Turf Practice Field

3.4 RESIDENTIAL LIFE

1. **New North Campus Residences Phase 1:**

(Preliminary design to be completed in Summer, 2004) 650 beds designed in suite-style configuration located at North Campus precinct to accommodate sophomore and juniors. 350 beds identified in Phase 1.

2. **Renovations:**

Renovate 46,389 sf Pemigewasset Hall

Renovate 83,819 sf Mary Lyon facility

Renovate 45,899 sf Belknap Hall

Renovate 52,821 sf Grafton Hall

Renovate 54,126 Smith Hall

It was noted that key to any renovation are the following key issues:

- Increase number of electrical outlets
- Mitigate institutional nature of “gang” bathrooms
- Elevate the importance of furnishings

3. **North Campus Residences Phase 2:**

(Preliminary design to be completed in Summer, 2004) 300 beds designed in suite-style configuration to accommodate sophomore and/or juniors.

4. **Renovations:**

- Renovate 40,73 sf Blair Hall

- Renovate 54,126 sf Hall Hall

3.5 STUDENT SERVICES

1. **Speare Hall Renovation:** Relocate administration functions from Speare to Rounds and consolidate all student services and learning support.

2. **HUB Addition:** New 15,700 sf addition to HUB accommodate needed banquet and meeting space

3. **HUB Renovation:** Renovation to existing 71,400 sf facility to accommodate additional recreational facilities in place of relocated student bookstore

4. **Renovate Center Lodge:** Renovation of 5,678 sf building into Mini-hub to provide attractive informal meeting space and light food options

5. **Renovate Russell House:** Renovate former Admissions building into Mini-hub to provide informal meeting space and coffee / beverages

6. **New Mini-Hub at Holderness:** Design space within new PE Center addition’s lobby to provide ‘light’ food service options at this precinct of the campus

3.6 LANDSCAPE & STREETScape IMPROVEMENTS

In general, it is important that site development throughout the campus, and in particular on the Holderness campus, be consistent in terms of paving materials, lighting, street furniture, signage, and planting to help bring a sense of overall unity that is presently missing from the campus

landscape. The primary goal of the site development effort should be to bring about an evolutionary shift in the view of PSU from: (1) two distinct campuses divided by a river to (2) a unified campus that embraces both sides of the river. Adherence to the rigorous and consistent application of site development standards will be crucial in that effort.

At present, the campus experience is inconsistent and lacks unity, thereby detracting from the inherent natural beauty of the site. However, the systematic implementation of a cohesive set of site details, plantings, and materials will complement the natural beauty of the PSU landscape, transforming the campus from a relatively random and inconsistent series of outdoor spaces to a unified campus environment of recognizable and comfortable landscape experiences. A coherent campus landscape combined with the picturesque natural context can help define a unique image for PSU, setting it apart from other New England colleges and universities.

3.6.1 Gateway Greenway

The approach to the campus from I-93 along Holderness Road would be developed to create a much more ceremonial and attractive entry experience for PSU visitors, students, faculty, and staff. A new bridge from Holderness Street across the Pemigewasset River will provide a more direct connection to Main Street and a more gracious entry to the campus. Streetscape and landscape improvements would complement this new entry alignment and promote a more welcoming approach to the campus.

Recommendations:

- Develop a continuous line of closely and regularly spaced street trees on both sides of Holderness Road to: (1) announce entry by introducing a traditional New England landscape element that is familiar and recognizable, especially for new visitors to the campus; (2) frame the view with a focus on the ceremonial approach to the new roundabout at Main Street and High Street; 3) provide a softer, warmer, and more sheltering entry experience;
- Provide continuous sidewalks on both sides of Holderness to promote pedestrian traffic from the main campus to the Holderness campus; to reinforce the sense of a traditional New England street; and to provide continuity of street-edge treatments throughout the campus.
- Include lighting, benches, and other street furniture that is consistent with the overall campus vocabulary.

3.6.2 Court Street campus entry

Court Street should be developed as the culmination of the ceremonial entry experience that begins on Holderness Road, continues along Main Street, and then ends on Court Street with the approach to Rounds Hall. Likewise, this pedestrian connection to town should be reinforced. Streetscape treatments should be consistent along all three streets. However, of the three streets, Main Street will maintain its unique character as the focus of retail activity and the center of town. Although the character and level of activity on Main Street will remain very different from Holderness Road and Court Street, it is important that the vocabulary of paving materials, lighting and furniture be consistent to maintain the continuity of the entry experience. Similar, to Holderness Road, Court Street should be developed with distinct lines of majestic, regularly spaced street trees that complement the scale and character of the architecture and that set an

appropriate tone for the formal entry and mark the “front door” of the campus. The quality and progression of the streetscape treatment from Holderness to Court Street should make the PSU entry sequence unmistakably clear to first time visitor even without the aid of directional signage.

3.6.3 High Street

Although consistent in terms of the vocabulary of materials and furniture, the treatment of High Street should be distinct from the treatment of Holderness Road, Main Street and Court Street. It should be clear that High Street is an internal street and that it is primarily for pedestrian use. The vehicular pavement width should be narrower than the other streets and the pedestrian pavement should be predominant. High Street should be characterized by wide sidewalks, raised crosswalks, sitting areas defined by lush plantings.

3.6.4 Waterside parks

The unique recreational potential of the river should be developed to make the river edge and the new waterside parks the focus of outdoor activity and the central meeting ground of the campus. The waterside parks should supplement and complement the athletic resources that will be developed on the Holderness campus by maximizing opportunities for informal active recreation as well as passive recreational activity, including hiking and biking trails, multi-use fields, and informal gathering areas as well as water related uses. Diagonal paths that bring students directly from the bridge strengthen the perceived connection between Core Campus and Holderness.

3.6.5 Pathways and quads

Wherever possible, pathways should be organized to create distinct outdoor “rooms” as well as to provide clear and direct lines of pedestrian movement. For example, the Alumni Green walkways could be reorganized to bring a greater sense of order and place while still serving the important desire lines for pedestrian travel. In recent years, some new walkways have been developed utilizing the paving systems that were described in the 1994 master plan. As new pathways are developed, they should be consistent in terms of materials, color, and detailing.

3.6.6 Lighting and furniture

New lighting and site furniture should be consistent with the standards that were set forth in the 1994 master plan, relating to the overall theme, while reducing light pollution. However, as new landscape projects are implemented, care should be given to the location and arrangement of site elements. Site furniture should be composed to create spaces for specific purposes rather than randomly placed.

As part of its sustainability study, PSU will investigate ways to reduce the light pollution that casts a substantial glare in the night sky. Wherever possible, PSU will retrofit shields onto existing outdoor lamps. New outdoor lighting will use cut-off lamps consistent with the Town of Plymouth’s new standards for outdoor lighting.

3.6.6 Signage

A new program of directional and informational signage should be developed that is consistent with the vocabulary of site elements. The signage program must clearly communicate information but must also be compatible with and relate to the architectural and landscape themes created for the campus, making the graphics elements an integral part of the interior and exterior environments of the University.

The wayfinding system established for PSU consists of both vehicular and pedestrian-oriented signage that addresses the traffic patterns and functional requirements of the campus. The basic components of the system include:

1. Gateway Identification

PSU identity at Holderness Road, Main Street, and Highland Avenue

2. Primary & Secondary Vehicular and Directional Information Signage

3. Directional elements at key intersections, parking area entrances, and building drop-off zones include Traffic Regulatory Signs and Parking Lot Signs:

A. Traffic Regulatory Signs

- Traffic regulatory signs are all traffic control devices installed on public or private roads to control traffic movements and regulate priorities. They include STOP, YIELD, DO NOT ENTER, ONE WAY, speed limit signs. These signs must follow the directives of the Manual on Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration (2003 Edition).
- Since the campus is generally in a low speed environment, the traffic signs chosen may correspond to the smaller size permitted by MUTCD. The speed humps proposed along High Street and Merrill Street must be signed to alert drivers to the fact that they must slow down. The MUTCD includes signs for speed humps.

B. Parking Lot Signs

- These signs serve two purposes: 1) To identify the lot and 2) to inform the users of the regulations applicable to the lot. The parking lot signs would have the following text: “Lot 101 – A1 Permits Only – B1 Permits after 5PM and Saturdays – No Parking Midnight to 5AM”
- For residential parking in zones 1, 2, 3 or 4, the signs would read “Lot 203 – R2 Permits only”. Overnight parking is allowed in the residential lots. In lots 5 and 6 the signs would read “Lot 501 – H5 Permits Only – No Parking Midnight to 5AM”. The text A1 Permits, B1 Permits, etc. would reflect the parking management and assignment program recommended by the Master Plan.

C. Pedestrian-Oriented Directional Signage and Information Signage

- Wayfinding and information elements at pedestrian entries and along key routes of travel that support and enhance the pedestrian experience.
- Strategically located elements along the pedestrian routes that provide orientation and information

4. **Building Signage**

- Building identification signage: primary and secondary identification on exterior of buildings that addresses vehicular circulation and parking
- Interior Signage: directories, directionals, area / room identification elements and code-required signage within buildings

It is important that the sign system components have uniformity in design and that they are in keeping with the overall vocabulary and family of signage adopted by the Town of Plymouth. Through the use of materials, colors, typographic style and methods of attachment and/or support that are common to all signage elements, a cohesive system can be achieved.

3.7 PARKING

Parking Supply

The current parking supply is about 2,141 spaces and the future supply as per the latest master plan configuration is about 2,732 spaces, an increase of 28%. Table 2 shows the existing and future breakdown of the parking supply by campus zone. As can be seen, Zones 1, 2 and 4 are projected to see significant parking increases, whereas Zones 3, 5 and 6 would have decreases in their parking supply. In Zone 4, the residential zone, a major new parking lot is proposed in the new residential area near Langdon Park.

Campus Parking Principles and Strategies

A certain number of principles and strategies are proposed to increase future parking and operational efficiencies, to improve future transportation sustainability and to maintain the campus character:

- Limited residential parking on Holderness side in flood prone zones
Portions of the Holderness side of the campus are prone to flooding and are therefore not appropriate for overnight parking. The risks of having cars left behind in rising waters are too great. These zones should therefore be designated for day parking only, primarily for commuting students, but also for visitors, faculty and staff.
- No free parking
Today the university subsidizes employees to bring their car onto campus, and in effect discriminates against the few employees that walk, bicycle or share a ride to get to work. It does cost the University to provide parking on campus (a typical monthly cost may vary between \$20 and \$30 per space), especially when PSU is in a growth mode and needs to find sites for future new buildings. Recognizing that staff and faculty view free parking as part of their fringe benefits, we suggest that modest parking fees be introduced at first ranging from maybe \$30 or \$50 per year (basically the administrative cost of parking) to maybe \$100 per year for more convenient parking.
- Combine parking categories and sell (oversell) permits for specific lots or zones
Today there are many categories of parking in the various zones and lots. By segregating parking categories, parking efficiency decreases, since the different parking categories do not all peak at the same time. For instance, in zone 6 there may not be a need for “Reserved Spaces” and “College Vehicles”. Greater efficiencies can be gained by

selling permits for zones or for lots, and, in fact, by overselling them, since not all permit holders will be there at the same time.

- Parking fee related to convenience of parking
Today parking on the main campus is free for staff and faculty and cheap for commuter students, and parking on the Holderness side is more expensive. This is the wrong pricing for parking. For faculty and staff, parking should be very inexpensive on the Holderness side and perhaps \$100 per year to park on the main campus. Similarly, commuter students should get an inexpensive permit to park on the Holderness part of the campus, and those satisfying the age and credit requirement can apply for an on-campus permit for a fee of maybe \$100 per year. Ten-year parking permits should be discontinued.

Future Parking Assignments

The parking plan envisions the following parking permits:

1. Main campus day permit (A Permit): These permits should be sold for an annual fee of about \$100, and can be bought by faculty, staff and qualified commuting students. Permit A spaces would be in zones 1, 2, 3, and to a limited degree in zone 4. Permit A should be sold by zone (or possibly by lot). They would thus be called A1 for permits A valid for any lot in zone 1 (or A101 for permits A valid in lot 101). Parking past midnight is not allowed in permit A spaces. Official University vehicles could always park in permit A spaces.
2. Main campus evening and Saturday permit (B Permit): This permit is similar to the A permit, except it is for evening and Saturday use only. It could be bought by evening and Saturday students (and possibly faculty that works only during those hours) to park in the same lots as the A permits. The annual fee for these permits should be about \$50, or possibly \$30 per semester. The B permits allow access to all A lots from 5 pm to midnight on weekdays and all day Saturday. It would be valid by zone as the A permits.
3. Holderness day permit (H permit): This permit should be sold for a nominal fee (maybe \$10 or \$20 per year) to students and faculty and staff, as an incentive for these parkers to park in zones 5 or 6, and use the PSU shuttle system. Parking in the Holderness zones would not be allowed past midnight.
4. Residential Permit (R permit): These permits allow qualifying residential students to park for a reasonable fee relatively close to their living unit. The fee may be \$100 per year. The permits would be sold by zone, i.e. R1, R2, R3 or R4, and would allow overnight parking.
5. Long-term permit (L permit): This permit would be for students who do not qualify for the R permit or who do not want to pay the R permit fee. It would be good for 24-hour parking in a more remote parking lot in zone 4 or in those portions of zones 5 and 6 that are not prone to flooding. Its annual fee would be about \$30.

Besides the above parking permits, there are only a few additional parking categories that should be considered:

- Visitor parking distributed in a similar fashion as today, all with metered spaces and good for 2 or 3 hours maximum. Some of the visitor spaces may be designated for 15-minute or 30-minute parking. The parking fee should be 50 cents per hour.
- Handicapped parking, distributed in the same manner as today.
- Any reserved, special or permit spaces currently on the campus should be included into the above categories, if possible. If for instance, within one zone there is a need to control the

parking distribution, one could envision a permit for one or two high-demand lots and give it another name (i.e. C permit).

3.8 UTILITY INFRASTRUCTURE

3.8.1 Water

- a. The main on Highland Avenue between Highland Street and High Street has had frequent leakage problems, and is old cast iron type. This main should be replaced with a new 8" cement-lined ductile iron pipe, including new 6" diameter service lines into five building.
- b. The gap between existing mains on Summer Street in the vicinity of Speare Hall should be closed with new 8" pipe to eliminate a dead end and improve fire protection and reliability.
- c. All small diameter service connections for larger buildings campus-wide should be replaced with minimum 6" diameter lines to allow support of fire suppression sprinkler systems.
- d. The mains on Tobey Road from Armory Road to the Moosilauke residence hall should be connected with new 8" pipe to eliminate two dead ends, and improve fire protection and reliability on the north side of the campus.

3.8.2 Sanitary Sewer

- a. Replace the gravity service connection pipe to Mary Lyon Hall, which has been plagued by tree root intrusion.
- b. The pump station by the Field House is over 30 years old, and is a confined space entry problem. It should be replaced in the reasonably near future.

3.8.3 Storm Drains

- a. Roof drains on the south side of Silver Hall are connected to an existing catch basin which frequently freezes in winter. This should be corrected by adding a new manhole with insulated cover for connecting the roof leaders, and the catch basin replaced.
- b. It is reported that storm drainage is sluggish in the vicinity of Main Street and High Street. New larger drains are planned for the near future in both the bridge replacement project and the "T-21" Main Street project, which should handily address this issue.
- c. An inventory of PSU-owned manholes, catch basins, pipe, etc., will be performed to list repairs and replacements.

3.8.4 Underground Steam Distribution

- a. Of greatest concern is the main 8" steam and 4" condensate lines between steam vault No. 1 north of Hyde Hall and Manhole No. 6 at the northeast corner of the Hartman Union Building. RFS recommends that these lines be replaced.
- b. The condensate line in direct burial fiberglass reinforced plastic (FRP) conduit between Pemigewasset Hall and Manhole No. 2 should be replaced in order to conserve the energy being lost and to reduce fuel costs.

- c. The existing 8" steam and 4" condensate lines between Manhole No. 22 adjacent to Memorial Hall and Manhole No. 11 behind Grafton Hall should be upgraded to an 8" steam line and a 4" condensate return.
- d. The 6" steam and 4" condensate lines between Manhole No. 16 on Weeks Street and Manhole No. 11 behind Grafton Hall is in fair to poor condition. The lines should be replaced and upgraded to an 8" steam line and a 4" condensate line. Replacement should be scheduled for the same time frame as Item No. 3.
- e. The main steam and condensate lines in the tunnels and basement of Mary Lyon Hall are fairly old. These lines are being cut into later this year in order to create the secondary artery mentioned earlier and should be examined and a determination made as to their condition relative to future needs.
- f. The condensate returns in the White Mountain Apartment complex are reported to be in poor condition, and should be replaced.
- g. A backup steam and condensate system from the cogeneration plant to the campus system should also be considered. An 8" steam and 4" condensate system from the cogeneration plant up Tobey Road to existing Vault No. 5 should be constructed for this purpose.

3.8.5 Electrical Distribution System

- a. The underground primary electrical loop along Summer Street, between Court Street and High Street should be completed.
- b. The existing Rounds Hall pad-mount, live-front transformer should be replaced with a new loop feed, dead front, pad-mount transformer that the University has purchased and has in storage.
- c. The undergrounding of primary electrical along Highland Avenue should be constructed.
- d. The existing Mary Lyon pad-mount, live-front transformer should be replaced with a new dead front transformer.
- e. Undergrounding of the existing overhead along School Street should be accomplished by completing the underground system between the electrical manhole near the loop-switch and
- f. transformer for Hartman Union Building and the electrical manhole in front of Rounds Hall that will be provided as part of Item "a".
- g. Electrical generation at the cogeneration plant is at full capacity. The capacity of the existing 2500kva transformer should be increased to approximately 3200kva by adding cooling fans.

3.8.6 Telecommunication Distribution System

- a. Underground Conduit Improvements:
 - Connect CPHD9-1 to CHHB13-1 via new conduits along Pearl Street and Weeks Street.
 - Expand conduit bank from CHHB13-1 to CPHB11-1.
 - Construct new conduit bank from CPHB11-1 to CPHB8-1.
 - Extend conduit bank from CPHE8-1 down High Street.
 - Construct new conduit bank into Draper Maynard Hall from High Street.
 - Add conduit between CPHD4-1 and Tunnel.
 - Add conduit bank from Speare to Tunnel.
 - Add conduit between CPHB6-1 and Tunnel.
 - Add conduit capacity from rear of Lamson to CPHB3-2.

- Add conduit capacity into PE Center from manhole/pole B existing conduit is damaged.
 - Add underground conduit to Infirmary.
 - Add conduit capacity from Tunnel to Memoria
- b. Fiber Optic Cable Improvements:-
- Add 36-strand single-mode fiber bundles to existing multi-mode fiber core infrastructure between the following buildings:
 - Boyd-Lamson
 - Boyd-Speare
 - Lamson-Memorial (via underground conduits, not through Hall/Mary Lyon)
 - Memorial-Hyde (via underground conduits behind HUB)
 - Speare-Hyde
 - Speare-Carrigan
 - Carrigan-Hyde
 - Speare-Memorial (Hybrid 24 SM, 12 MM)
 - Increase multi-mode fiber bundles:
 - Memorial-Rounds: Upgrade from 6 strands to 18 strands
 - Most buildings where HVAC and/or fire alarms will require fiber in future should get increased capacity.
- c. Copper Cable Improvements:
- Speare-Hyde needs to be replaced, due to damaged pairs and to increase capacity.
 - Speare-Lamson: new 200 pair via underground conduits.
- d. Emergency Telephones Improvements: Provide conduits from closest building for telephone circuit and AC power.

3.9.0 SUSTAINABILITY DESIGN GUIDELINES

To reinforce its commitment to environmental stewardship, PSU will promote principles of sustainability in the overall operations and design of the university's physical environment through the use of a clear set of guidelines. Future campus planning, architectural, ground maintenance and operations are to be designed according to the PSU Sustainability Design Guidelines. These guidelines will interpret the principles of the U.S. Green Building Council and the LEED (Leadership in Energy and Environmental Design) rating system in a program of sustainability that may be achieved and maintained as a guiding principle for the university. While not always seeking accreditation from LEED, it is the intention that all buildings strive to meet the goals established by these guidelines.

The sustainability guidelines will relate the entire life-cycle of the campus -- its buildings and its components -- as well as its economic and environmental impact and performance. The guidelines are a design and management tool that can be used to overlay environmental issues on the design, construction, and operation of both new and renovated facilities and ground systems. During project development, the PSU Sustainability Design Guidelines will set sustainable priorities and goals; develop appropriate green design strategies; and determine performance measures to guide sustainable design and decision making processes. These 'green guidelines' will be an important management tool to organize and structure environmental concerns during the design, construction, and operations phases.