2011 Master Plan

June 5, 2012 - Revised
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Acknowledgements

The completion of the Master Plan for Daytona State College was accomplished over several weeks of field work, analysis, group design charrettes and solution testing. This has been a collaborative effort involving representatives from facilities, security, faculty, and administration from the main campus, as well as students, faculty and staff from the regional campuses. HuntonBrady Architects and our consulting engineers take this opportunity to express our appreciation to those members of the DSC team who provided direction, information and assistance.

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1 Introduction
Master Plan Overview

The Master Plan for Daytona State College has been developed to provide direction for the future expansion of all Daytona State College Campuses to support the educational needs of the community and the region. It focuses on the most efficient use of existing property and infrastructure to plan facilities that will support student growth projections well into the future. The Master Plan is based upon today’s acquired knowledge and educated predictions of student enrollment growth on each campus.

The master plan process began with an analysis of existing conditions on the campus. This included all existing site utilities, stormwater management, traffic and parking, trees as well as an assessment of eight of the oldest buildings on the main campus. All of the existing conditions have been recorded in a building information model which has been used to create a digital 3D campus master plan.

The master plan design process began with the distribution of questionnaires that became the focus of visioning charrettes that were held regarding each campus. During the visioning process the needs of each campus were outlined and design considerations for each master plan were identified. This information was used along with estimated student enrollment growth charts to develop master plan phasing options. The phasing options were refined by the entire team during master plan charrettes.

Recommendations regarding the reconfiguration and expansion of the existing utilities and storm water drainage systems were developed based upon the phasing plans. Guidelines regarding architectural, mechanical, electrical, plumbing, fire protection and landscape/ hardscape design have been generated as well to provide direction, consistency and cohesion as the campus expands.

The phasing plans were incorporated into the BIM master plan for use as a visualization and planning tool for the College on all future projects. Studies for new building designs will be developed within the BIM master plan so that the relationship to the surrounding buildings and the rest of the campus can be easily explored. Over time, updates to the existing utilities in the BIM master plan will become a historical data base for all campus improvements. In keeping with the BIM concept, the BIM master plan is limitless in it’s ability to store, analyze and share digital information throughout the life of the campus.
Campus History
Over the past 50 years, Daytona State College has evolved from a small campus into an academically superior multi-campus institution providing educational and cultural programs for the citizens of Volusia and Flagler counties. It began in 1957 when the Florida Legislature authorized Daytona Beach Junior College as the state’s first comprehensive community college. The College was divided into three divisions: college credit, adult education and the Mary Karl Vocational School. Although the three divisions were administered by one president, they essentially functioned as separate entities under the Volusia County School System.

Volusia County Community College, also a separate entity under the school system, merged with DBJC in 1965. The 1968 Legislature combined the divisions into a single administrative unit under a District Board of Trustees independent of the county school system. In 1971, the official name of the College was changed from Daytona Beach Junior College to Daytona Beach Community College. In 2008, the District Board of Trustees and the state of Florida approved the college’s request for yet another name change - Daytona State College. This was done to reflect the institution’s transition to a four-year college offering workforce baccalaureate degrees.

Its status as a four-year college began in 2006, when the college offered its first bachelor’s degree - the Bachelor of Applied Science in Supervision and Management. In spring 2009, the college began offering Bachelor's of Science in Education degrees and, in fall 2010, Bachelor’s of Science in Engineering Technology. Additional baccalaureate level programs and articulation agreements are being planned for future implementation to support the region’s economic development and workforce needs.

Over the years, the college has fostered a tradition of excellence in academics and service to a growing community. A leader in the area’s workforce and economic development initiatives, the College is continually developing new means to deliver educational services to the community. Daytona State College now serves more than 35,000 students annually.

The College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools and approved by the State of Florida to award Associate of Arts, Associate of Applied Science, Associate of Science, Bachelor of Applied Science, and Bachelor of Science in Education Degrees. Other professional and academic organizations confer special accreditation to various College programs.
Mission, Goals, Values

VISION
Daytona State College will be the destination of choice for education.

MISSION
The mission of Daytona State College is to advance teaching, learning and innovation. Daytona State College, a comprehensive public college, provides access to a range of flexible programs from community enrichment to the baccalaureate degree, emphasizing student success, embracing excellence and diversity, and fostering innovation to enhance teaching and learning.

VALUES
Community - The Daytona State College community encompasses our students, faculty, staff and the public we serve. Our community is built upon mutual respect, effective and open communication, and civic responsibility.

Integrity - Daytona State strives for the highest ethical standards in all areas of operation, including the fair and consistent treatment of all members of the Daytona State community. The college fully supports academic freedom and the right of intellectual pursuit.

Excellence - To achieve academic excellence, professionalism, and quality in all the programs and services we offer, Daytona State employs a system of continuous improvement based on assessment, accountability and engagement with the entire community.

Diversity - Diversity of people, thought and expression provides energy and vitality for the learning process. Daytona State celebrates both the originality and distinction of individuals and cultures, while at the same time valuing the common bonds that unite us as a global community.

Innovation - Innovation and creativity are the keys to our growth as an institution, as well as the growth and success of our students. Daytona State prides itself on its ability to adapt to a rapidly changing world, finding positive and creative solutions to the challenges it faces.

Student Success - There is no value more important than the success of our students. Our main goal is to provide students with the skills, knowledge and drive to succeed in the classroom, the workplace and in life. Beyond this success, we hope to instill in our students a lifelong love of learning.

STRATEGIC PRIORITIES
To fulfill its vision, carry out its mission, and live its values, Daytona State College pursues the following strategic priorities:

Provide Access
Implement best practices and resources for superior customer relationship management that will increase the quality, efficiency and accessibility of student services on all campuses.

Emphasize Student Success
Foster a sense of community and connection among students, faculty, and staff.

Embrace Excellence
Explore emerging technologies and adopt those that enhance teaching and learning, promote access, and foster student success.

Embrace Diversity
Provide faculty and staff with education, training and leadership development to increase awareness, understanding and effectiveness in meeting the needs of a diverse student population. Increase opportunities for students to gain an appreciation of diversity by learning about and experiencing different cultures.

Foster Innovation
Develop virtual resources that provide students access to all services and programs through an online environment.

Enhance Teaching and Learning
Enhance the quality of academic instruction through a continued focus on student learning outcomes assessment. Identify baccalaureate level educational needs of the region and offer programs to address those needs. Maximize the utility and function of land, facilities, information technology, and instructional systems to provide a positive and safe environment for effective learning at all College campuses.

Community Connections
Offer activities and programs that meet the needs of the community for cultural enrichment, community engagement and lifelong learning. Take a leadership role in economic development and provide education and training that strengthens the region’s economy and workforce competitiveness.
2 Master Plan Process
Visioning Charrettes

The visioning process began with the development of a questionnaire. The questionnaire was distributed in June 2011 to get initial feedback from the Daytona State faculty and staff regarding each campus in preparation for a visioning charrette. The questionnaires posed a series of questions regarding the physical conditions of each campus as well as the educational programs that were being offered at each. On June 27th 2011 a visioning charrette was held at the Daytona State Campus where key representatives from each campus met with the design team to discuss the design drivers and key issues for each campus. These workshops were conducted so that everyone involved would have a clear understanding of the needs of each campus which could then be translated into the master plan process.

The team worked to evaluate each campus on the following conditions where applicable:

• Educational programs currently offered
• Educational programs that need to be added
• Community programs currently offered
• Community programs that need to be added
• Enrollment growth projections
• Parking
• Open Space
• Accessibility
• Vehicular Traffic/ Service
• Security
• Pedestrian Experience
• Drainage and Retention
• Utilities and Infrastructure
• Landscape
• Building Conditions
• Athletic Facilities
• Overall Image

We thank all that participated for their enthusiasm and cooperation. All of the information gathered was recorded in meeting minutes that were used to prepare for the master plan charrettes. This input was refined into design drivers and key issues for each campus which are included at the beginning of each campus master plan in this document.
Daytona State Main Campus Master Plan Charrette 1

The information gathered during the visioning charrettes was used to develop master plan studies for each campus. On July 28th 2011 a master plan charrette was held for the Daytona State Campus. An enrollment growth chart was developed so that the team could evaluate the need for buildings and parking based upon projected student growth in FTE. It was determined that the growth charts would be updated to reflect the current economic impacts on enrollment growth which would be in contrast to the State of Florida’s predictions.

Five separate phases of campus development were identified ending with an ultimate build out of the campus in 25 – 30 years.

Daytona State Regional Campuses Master Plan Charrette Studies – Phases 1 – 5 (7/28/11)

Daytona State Regional Campuses Master Plan Charrette

On August 10th 2011 a master plan charrette was held for the Daytona State Remote Campuses. The enrollment growth charts were updated for these campuses as well to reflect current predications for student growth. The master plans focused on the ultimate build out of each of these campuses. From the ultimate build out sketches, the team was able to discuss the most appropriate option for the first phase of development on each campus.
Daytona State Main Campus Master Plan Charrette 2

The feedback received from the group during the first master plan charrette was documented and the studies were revised. The design team worked with the facilities department to confirm that all issues had been addressed. A second master plan charrette was held on August 22nd, 2011 to review the revised phasing plans with the entire group which now included six separate phases leading up to the ultimate build out. Based upon input received from the group, these studies were refined into the final master plan phasing drawings included in the following sections.
3 Daytona Beach Campus
Existing Campus Analysis
Existing Survey
In order to develop this campus master plan, it was important to understand the existing site physical features and other site regulations that may impact the plan. This site background data was collected from research, DSC staff, the design team surveying efforts, and site visits. The collected data was used to develop maps of the existing site topography, trees, open space, and utilities. The data was also used to understand current zoning and other regulations which may impact the campus master plan. The maps of the existing utilities were put into a Civil 3D ACAD format which can be used as a design tool as the campus expands. The Civil 3D model can be viewed simultaneously with the BIM REVIT model to provide a comprehensive three dimensional view of the campus.

Boundary/Topographic Survey
A Boundary Survey for the Daytona State College, (DSC) main campus was conducted by Sliger and Associates in March, 2011. In addition to the Boundary Survey, Topographic Survey was provided by LIDAR. The LIDAR survey provided one-foot contour lines and the location of buildings, pavement areas, sidewalks, above ground utilities, stormwater management, facilities, hardscape features, and other miscellaneous above-ground improvements. This Topographic Survey effort did not include the surveying of utility pipe sizes and inverts. The Survey data for utility pipe inverts and sizes was conducted by site-specific surveying of the campus in August, 2011 and was added to the Boundary and Topographic Survey.

Tree Survey/Open Space
The open space areas of the campus were located by the LIDAR Survey. The trees were located on campus by Global Positioning Survey (GPS) mapping and the size and specimen of trees determined by site investigation. This information was added to the Boundary/Topographic survey.

Zoning/FAA Requirements
The current zoning for the Daytona State College Main Campus is R1A which is primarily for Single Family dwellings but does allow schools with a Special Use approval. This zoning classification was intended for residential uses which was the original use of the DSC property. However, the college as a state institution, has traditionally been exempt from local permitting requirements. This exemption status has recently come into question by some people on both the state and local level. DSC Staff and the City of Daytona Beach Staff met and discussed the idea of a Master Development Agreement which would address zoning and local permitting criteria so that the school can function and conduct business as it has in the past. The school would continue to coordinate with the City for utility connections and obtain public safety approvals as they always have done in the past.

This Master Development Agreement could also address a Master Signage Plan for DSC. There is a digital identification sign along International Speedway Boulevard (ISB) which does not meet the current City of Daytona Beach sign ordinance criteria. The City has requested that DSC submit a Master Sign Plan for approval. This will provide a mechanism for DSC’s existing digital sign, as well as other existing and future signs to meet the City’s requirements.

The Daytona Beach International Airport (DBIA) is located approximately 2.4 miles Southwest from the DSC Campus. DBIA has a Master Airspace Drawing, which shows the “Imaginary Surfaces” per FAA regulations which cannot be penetrated by buildings or structures. Currently, the Master Airspace Drawing indicates the “Imaginary Surfaces” at 184 feet Mean Sea Level (MSL) elevation for the DSC Campus area. This equates to approximately 149 feet above the average grade on the DSC Campus. Currently the maximum proposed building or structure height in the DSC Master Plan is ±60 feet, which is below the approximate 149 foot maximum allowed by FAA. Prior to proposing a structure which approaches this maximum height, independent verification should be conducted.

Traffic/Roads/Parking
The existing road and parking areas are shown on the Boundary/Topographic Survey. The survey did not include striped parking spaces. The permanent striping was added to the Boundary and Topographic survey based on the information from the existing Master Plan.

Public Transportation/Bike Lanes
Interviews were conducted with DSC Staff to determine the type of public transportation available at DSC campus. Public bus service is provided to the campus by the County through Votran. Designated bike lanes within the campus are limited since the number of student bike riders is minimal. The limited number of bike riders are due to the high vehicular traffic volume and lack of designated bike path facilities in the surrounding public roads. Additionally, many of the students attend class after or before working a job and use vehicles as their primary transportation mode.

Ecological Overview
The DSC Main Campus is a developed, urban campus. The existing soils are well drained and are not conducive to wetland habitat. Based on on-site observations there is no evidence of protected wildlife species within the main campus.
Existing Survey

Utilities Survey

Electrical Distribution  Data Distribution
Stormwater Management  Chilled Water Distribution
Sanitary Sewer  Gas Distribution
Irrigation System  Central Energy Plant

The locations of the existing utilities were collected from several sources. The above ground utilities were obtained from both the DSC current Master Plan and the March, 2011 Boundary/Topographic Survey. Additional information for the above ground utilities was also provided by DSC facility staff members and through site visits by the Design team.

The below grade utilities information was obtained initially from the DSC current Master Plan. This information was provided to the DSC facilities staff to review and revise based on their knowledge of the utility systems. These “red-line” revisions were provided to the Design Team and incorporated into the Existing Utility Plan. The Design team conducted additional site specific survey of the stormwater and sanitary sewer system to obtain pipe sizes and inverts. It should be noted the pipe inverts were based on LIDAR survey which is generally within 0.1 feet of accuracy. The depth of the remaining utilities was provided by DSC Staff as follows:

- Potable Water  30”
- Cable TV/Telephone  30”
- Irrigation Mains/Laterals  24”/10”
- Chilled Water  15”
- Fiber Optic  30”
- Reclaimed Water  36”

The depth and inverts of the utilities are based on the best available information, but actual elevations may vary. Prior to digging or construction in an area, these utility locations and depths should be verified.

Utilities Documentation Civil 3D

The DSC Main Campus Utilities were mapped as described above. This information was created in ACAD Version 2009 and drawn in ACAD Civil 3D. The Campus buildings are being modeled in Building Information Model, REVIT (an architectural software program). By using Navisworks Software, the Civil 3D utility maps and REVIT buildings can be combined to provide a 3D view and model of the overall campus for future use by DSC Staff and other consultants.
Existing Survey – Boundary / Topography / Trees
Existing Survey – Electrical / Data / Gas / Chilled Water
EXISTING STORM WATER LINES
EXISTING SANITARY SEWER LINES

Site Analysis
Existing Survey
Site Access  Access to Daytona State College is obtained from 20 distinct access points from 7 different public roadways: Willis Ave., Welch Dr., Heineman St., Dr. Mary McLeod Bethune Blvd., Highland Ave., White St. and International Speedway Blvd. With the exception of International Speedway Blvd., all of these facilities are 2 lane local roads with low posted speed limits and low traffic volumes.

International Speedway Blvd. is a 6-lane divided State highway which carries 40,500 vehicles per day with a posted speed of 45 mph. The access on International Speedway Blvd. provides the main gateway to Daytona State College, albeit via a limited access (no left-turn egress). Left turn (eastbound exiting) traffic primarily use White Street, which is a signalized intersection at International Speedway Blvd. All of the external access roads operate at an acceptable level of service.

Although there are multiple external site access points, delay occurs for traffic egress during peak periods. The delay is focused in the southeast quadrant of the campus for traffic exiting to International Speedway Boulevard.

Traffic Circulation  There is no continuous internal roadway system on campus, which makes on-site vehicular circulation confusing. Traffic flows through drive aisles of parking lots, driveways connecting parking lots and, at times, on-site roadways. The lack of continuity and variety of design features creates confusion for drivers as to what areas are passable for vehicular flow. Better separation between pedestrian and vehicular traffic is needed, with clear identification of pedestrian crossings.

Freight - Delivery vehicles primarily access central receiving in building 430 in the northwest quadrant and building 1100 in the southeast quadrant of the campus, keeping most of the freight traffic from traversing the campus. Other deliveries include the bookstore (building 210), and building 1200. No issues with freight were observed or mentioned during the visioning charrette.

Pedestrian - The buildings in the campus core are connected by network of sidewalks, some of which are covered. The experience walking from the parking lots to the core is not as positive (pedestrian-friendly), due to distance, lack of shade, scale of the buildings and spaces and lack of cross-walks.

Bicycles – Bicycles aren’t as popular a mode of travel as at some colleges, due to the commuter-nature of Daytona State College. However, due to the size of campus and parking shortage currently experienced by the College, bicycle travel was a consideration for the Master Plan.

Golf Carts/Shuttles – The College currently owns 2 six-seater golf carts that are used as a shuttle service for students around the campus from overflow parking areas and in the evenings. In addition, a number of four-seater golf carts are used by campus security.
Existing Parking

Motorcycle Parking  The following areas on campus are designated for motorcycle parking: East of Building 101, East of Building 150, Northeast of Building 320 and Southeast of Building 530.

Bicycle Parking  Current policy states, “Any bicycle brought to the campus must be put in racks provided around the grounds. No bicycle riding, skateboards, roller skates or roller blades are allowed on campus.”

Parking Demand  According to the State Requirements for Educational Facilities (SREF), there is a current demand of 5,750 parking spaces. The Department of Education (DOE) recommends a parking ratio of 2.0 (2.0 FTEs per parking space). The current parking ratio on the main campus is 3.35. The goal for the master site planning effort is a parking ratio of 2.5.

Parking Deficit  A parking deficit currently exists on campus, based on State Requirements for Educational Facilities (SREF), as noted below. These estimates are consistent with the parking shortage experienced on Campus each semester.

Parking Inventory  Daytona State College currently has 2,966 permanent, paved parking spaces on-site, as shown in the inventory conducted by DSC. The graphic illustration on the next page indicates the color coded parking areas. These spaces are distributed throughout the campus and in 25 separate parking lots/areas. It appears that these lots were designed and added incrementally, as the need for additional parking arose as the college grew. As such, each parking area has a distinct layout and circulation pattern, adding to driver confusion created by the discontinuous traffic flow on-site. Some of the existing parking lots dead-end with no turn-around or loop.

There are no designated spaces or lots for faculty or staff.

Overflow Parking  To address the parking shortage which occurs during the peak attendance periods (generally the first 3-4 weeks of the fall semester and again during the 1st 3-4 weeks of the Spring semester), Daytona State College has designated overflow parking areas. These are depicted in the graphic illustration on the next page and detailed in the table. The overflow parking provides an additional 874 spaces on or adjacent to the campus, for a total of 3,945 parking spaces (including handicap spaces).

Concerns with overflow parking include trip hazards from overflow areas, lack of crosswalks, lighting, etc.

Allowing students to park in these overflow areas during peak periods is inconsistent with general campus policy regarding parking. This creates confusion and encourages students to park illegally the remainder of the year.

Student polls list parking as the #1 issue on campus.

Student capacity at the 100-acre campus is primarily limited by the amount of parking available.

### Traffic / Parking Assessment

<table>
<thead>
<tr>
<th>Location</th>
<th># of Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purple S</td>
<td>252 (2)</td>
</tr>
<tr>
<td>Brown O</td>
<td>455 (2)</td>
</tr>
<tr>
<td>Brown M</td>
<td>98 (2)</td>
</tr>
<tr>
<td>Brown L</td>
<td>93 (9)</td>
</tr>
<tr>
<td>Brown - N</td>
<td>69 (2)</td>
</tr>
<tr>
<td>Blue P</td>
<td>349</td>
</tr>
<tr>
<td>Blue Q</td>
<td>118 (22)</td>
</tr>
<tr>
<td>Blue K - North</td>
<td>98 (4)</td>
</tr>
<tr>
<td>Blue K - South</td>
<td>46 (8)</td>
</tr>
<tr>
<td>Green J</td>
<td>98 (2)</td>
</tr>
<tr>
<td>Green I</td>
<td>175 (4)</td>
</tr>
<tr>
<td>Green H</td>
<td>23</td>
</tr>
<tr>
<td>Green F</td>
<td>145 (1)</td>
</tr>
<tr>
<td>Green G</td>
<td>27</td>
</tr>
<tr>
<td>Green E</td>
<td>50 (11)</td>
</tr>
<tr>
<td>Green D</td>
<td>154 (4)</td>
</tr>
<tr>
<td>Orange C/B</td>
<td>584</td>
</tr>
<tr>
<td>Orange A</td>
<td>52 (20)</td>
</tr>
<tr>
<td>Orange T</td>
<td>11 (8)</td>
</tr>
<tr>
<td>White</td>
<td>70 (2)</td>
</tr>
<tr>
<td>Total</td>
<td>2,966 (105)</td>
</tr>
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</table>

### Parking Inventory

<table>
<thead>
<tr>
<th>Location</th>
<th># of Spaces</th>
</tr>
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<tbody>
<tr>
<td>Multi-Purpose Field</td>
<td>175</td>
</tr>
<tr>
<td>Orange B/C - South</td>
<td>110</td>
</tr>
<tr>
<td>Buildings 140/150</td>
<td>20</td>
</tr>
<tr>
<td>Blue P - East</td>
<td>22</td>
</tr>
<tr>
<td>Brown O - East</td>
<td>22</td>
</tr>
<tr>
<td>Building 1100</td>
<td>50</td>
</tr>
<tr>
<td>Building 455</td>
<td>150</td>
</tr>
<tr>
<td>Building 440</td>
<td>30</td>
</tr>
<tr>
<td>Building 320 - South</td>
<td>20</td>
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<tr>
<td>Total On-Site</td>
<td>599</td>
</tr>
<tr>
<td>Overflow Parking Off-Site</td>
<td>275</td>
</tr>
<tr>
<td>Lion's Club</td>
<td>275</td>
</tr>
<tr>
<td>Total Overflow</td>
<td>874</td>
</tr>
</tbody>
</table>

### SREF Criteria

<table>
<thead>
<tr>
<th>SREF Criteria</th>
<th>Required Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Space/Full-Time Faculty &amp; Staff</td>
<td>650 (est.)</td>
</tr>
<tr>
<td>⅔ the FTE’s for Students</td>
<td>5,000</td>
</tr>
<tr>
<td>1 space/100 FTE for Visitors</td>
<td>100</td>
</tr>
<tr>
<td>Required Parking</td>
<td>5,750</td>
</tr>
<tr>
<td>Permanent Parking Available</td>
<td>2,966</td>
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<tr>
<td>Current Deficit</td>
<td>2,784</td>
</tr>
<tr>
<td>Overflow Parking Available</td>
<td>874</td>
</tr>
<tr>
<td>Deficit with Overflow</td>
<td>1,910</td>
</tr>
</tbody>
</table>
Daytona Beach Campus

Traffic / Parking Assessment
Existing Campus Parking Inventory
Proposed Traffic Flow

**Site Access**
Access to Daytona State College is more defined in the Master Site Plan, with improved access off International Speedway Boulevard from the south and from Stadium Road and Welch Drive from the north.

**Traffic Circulation**
The intent of the Master Site Plan is to create a continuous internal loop roadway system on campus. Traffic flows through drive aisles of parking lots have been eliminated, to the extent feasible.

**Pedestrian**
- A 1200' radius is shown around the parking garage. The 1200' indicates a level of service of C for walking distances from the parking garage. This represents about a 10 minute walk and assumes it would be outdoors, but would have adequate shade and comfort. The illustration indicates that the proposed parking garage is central to campus functions and activities.

Pedestrian crosswalks need to be provided at all vehicular crossings. Conflicts between pedestrians and vehicles have been eliminated, where feasible, by locating parking inside of the loop road, adjacent to the campus core. This eliminates the need for pedestrians to cross vehicular ways to access the parking areas.

**Bicycles**
- Provide bicycle lanes on campus to allow for safe ingress and egress of bicyclists to bicycle parking areas on campus.

**Golf Carts/Shuttles**
- Provide shuttle service to remote parking locations and around campus.

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### Phased Traffic Flow Plan

<table>
<thead>
<tr>
<th>Phase</th>
<th>Proposed Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Traffic Circulation Improvements</strong>&lt;br&gt;- Re-connect Mary McLeod Bethune Blvd.&lt;br&gt;- Eliminate dead-end in Blue Q&lt;br&gt;- Adjust south exit of Orange A</td>
</tr>
<tr>
<td>2</td>
<td><strong>Traffic Circulation Improvements</strong>&lt;br&gt;- Operational Analysis of egress to International Speedway Blvd.&lt;br&gt;- Add left-out/right-out lanes exiting to White Street</td>
</tr>
<tr>
<td>3/4</td>
<td><strong>Traffic Circulation Improvements</strong>&lt;br&gt;- Align intersection-Mary McLeod Bethune/Halifax Hospital parking lot&lt;br&gt;- Monitor egress of new garage to ensure operational efficiency&lt;br&gt;- Improve North-South Traffic Flow and Connectivity&lt;br&gt;- Complete Stadium Road to Mary McLeod Bethune Blvd.&lt;br&gt;- Connect Mary McLeod Bethune to South Internal Road</td>
</tr>
</tbody>
</table>
| 5     | **Pedestrian Circulation Improvements**<br>- Provide pedestrian connection around Buildings “E” and “F” | **Pedestrian Circulation Improvements**<br>- Provide pedestrian connections between Garage and New Buildings
- Eliminate off-site shuttle to Halifax Hospital joint-use lot (joint-use lot no longer needed for parking) |
| 6     | **Pedestrian Circulation Improvements**<br>- Provide clearly designated crosswalks at all pedestrian crossing areas (between parking & buildings/activities) |

---

### Partnering Opportunities

**City of Daytona Beach**
- Work with the City to legalize the use of golf carts on public streets.

**Halifax Hospital**
- Joint Use agreement for parking in Phase II.

### Traffic Circulation Recommendations

- Create internal loop road to improve traffic circulation and better control traffic flows through campus.
- Provide bike lanes on internal roads leading to bike parking areas close to buildings.
- Provide wide sidewalks connecting destinations around campus.
- Provide a designated golf cart path between buildings, internal to campus (inside the loop road).
- Provide clearly designated crosswalks at all pedestrian crossing areas (between parking & buildings/activities).
Proposed Parking

Parking The Master Site Plan addresses the parking deficit on campus for each phase of development. As buildings are added, and parking is displaced, it is provided elsewhere on or near campus. The goal is to immediately address the current deficit and provide enough parking in each subsequent phase to accommodate anticipated growth.

The current parking deficit will be addressed in Phase I by maximizing the efficiency of the existing parking lots by improving the design layout to increase parking spaces.

Parking is addressed in Phase II through low cost, low impact, implementable, off-site shared parking arrangements.

By phase 3/4 structured parking is added, providing 1,050 spaces in the campus core.

In Phase 6, this garage is expanded to provide a total of 2,220 spaces. A total of 5,373 spaces are provided on-campus by Phase 6 of the Master Site Plan.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Change in Parking Inventory</th>
<th>Spaces Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Add 194 Overflow Spaces</td>
<td>3,160</td>
</tr>
<tr>
<td>2</td>
<td>Add Net 1089 Surface Spaces</td>
<td>4,249</td>
</tr>
<tr>
<td>3/4</td>
<td>Add Net 133 Surface Spaces</td>
<td>5,432</td>
</tr>
<tr>
<td></td>
<td>Add 1,050 Garage Spaces</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lose Net 143 Surface Spaces</td>
<td>5,289</td>
</tr>
<tr>
<td>6</td>
<td>Lose Net 1,086 Surface Spaces</td>
<td>Add 1,170 Garage Spaces</td>
</tr>
</tbody>
</table>

Parking Demand By Phase 6, there are projected to be 13,644 FTE students enrolled at Daytona State College. This equates to a parking demand of 7,858 spaces, using SREF criteria. Using the DOE criteria, the Parking Ratio for Phase 6 is 2.5. This meets the goal of 2.5 for the Campus Master Plan.

<table>
<thead>
<tr>
<th>Parking Evaluation</th>
<th>Required Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Space/Full-Time Faculty &amp; Staff</td>
<td>900 (est.)</td>
</tr>
<tr>
<td>½ the FTE’s for Students</td>
<td>6,822</td>
</tr>
<tr>
<td>1 space/100 FTE for Visitors</td>
<td>136</td>
</tr>
<tr>
<td>Required Parking</td>
<td>7,858</td>
</tr>
<tr>
<td>Parking Available</td>
<td>5,373</td>
</tr>
<tr>
<td>Anticipated Deficit</td>
<td>2,485</td>
</tr>
<tr>
<td>Parking Ratio (Goal = 2.5)</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Bicycle Parking According to Promoting Sustainable Transportation through Site Design the minimum number of bicycle parking spaces for a college or university is 6% of the number of students, plus 3% of the number of employees. This would equate to parking racks to accommodate 862 bicycles around campus. This number may be somewhat high, due to the commuter-nature of this campus, with accommodation for 500 bicycles being sufficient.

Regardless, bicycle travel should be given consideration, including the possibility of shared bicycle program on campus, like the one shown below. Students could “borrow” a bike at one location on campus by swiping their identification card and return it at any other campus location. This would reduce walk times to class from more remote areas.
Existing Building Assessments

During the initial master plan meetings, eight existing buildings on campus were identified for building assessments. These buildings are one and two story facilities that are outdated and will one day be replaced with new academic buildings containing three or more stories. Since there is no vacant land close to the core of the campus for future buildings, the goal is to replace these buildings with new state of the art academic buildings that will better support the long term needs of the campus and the students.

The building assessments process included meetings with facilities staff to discuss the existing conditions of the buildings as well as observations made by HuntonBrady and TLC in the field. The following pages include information gathered during this process.
### Building 130 - Lenholt Student Center

#### Description
- **Gross Building Area**: 22,278 GSF
- **Number of Floors**: one
- **Year completed**: circa 1966
- **Additions/renovations built**: renovated in 1995

#### Use
- Food Services
- Student Center
- Student Government
- Multipurpose Room
- Offices

#### Life Safety Compliance
- No fire sprinkler

#### Exterior Envelope Conditions
- Roof Leaks
- Inefficient single pain glazing systems
- No mold/mildew visible
- Precast cracks at joints
- Brick veneer mortar needs repointing
- Exterior sealants in fair condition
- Exterior aluminum framing oxidizing

#### ADA Compliance
- Restrooms do not comply with current Florida Accessibility Code
- Restrooms renovated. ADA stall 7'-8" x 5'-8"
- Accessible entrances with automatic door opener

#### Structural
- Concrete columns are spalling at exterior corners
- Concrete frame
- Reinforcing steel bars are observed to be exposed and rusting.
- Reinforcing steel bars are observed to be exposed and rusting.
- Brick veneer observed un-plumb with efflorescence stains due to water penetration. Mortar joints appears to be in need of repointing.
- Brick veneer ties may be missing and in need of further investigation. Due to building age, building renovation may dictate up grading structural framing and roof diaphragm to meet current building code.
- Slab on grade appears to be in good condition as no signs of settlement are observed at this time.
- Further investigation and structural analysis is required to certify structural integrity of the building.

#### Electrical Systems
- Outdated switchgear

#### Plumbing/Fire Protection Systems
- No Fire sprinkler system

#### Other Comments
- Boiler in building 130 supplies hot water to building 100
- Exhaust fans in Kitchen are outdated and would need to be replaced if kitchen was updated.
- Loading Dock accessibility difficult
- Connected to building 100
- New flooring
- Sagging ceiling tiles

#### Recommendations
- Replace with multi story, energy efficient facility
<table>
<thead>
<tr>
<th>Building 210- Mary Karl Memorial Learning Resources Center</th>
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</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Gross Building Area</td>
</tr>
<tr>
<td>Number of Floors</td>
</tr>
<tr>
<td>Year completed</td>
</tr>
<tr>
<td>Additions/ renovations built</td>
</tr>
</tbody>
</table>

**Use**
- Library/ LRC
- Life Safety Compliance
- No Fire Sprinkler System
- Exiting at Stair 214 and 209 blocked off for repairs

**Exterior Envelope Conditions**
- New roof
- Inefficient single pane glazing systems
- Brick veneer - mortar needs major repairs, expect water intrusion
- Aluminum window frames oxidizing, sealants in poor condition
- Precast panels - crack at joints
- Vinyl wall covering at interior side of exterior walls traps moisture

**ADA Compliance**
- No automatic door opener at entrance
- Stair railings and risers do not comply
- 2nd floor toilets do not comply with Florida Accessibility Code
- Ramp at 2nd floor does not comply at intermediate landing
- Compliant ramp at ground floor.

**Structural**
- Concrete frame
- Steel / Precast concrete roof joists
- Difficult to bring structural framing and roof diaphragm up to current codes
- Roof framing is not consistent with construction documents available
- Further investigation and structural analysis is required to certify structural integrity of the building.
- Walls at the mechanical room observed to have been altered and may be in need of structural reinforcement.
- Brick veneer observed un-plumb with efflorescence stains due to water penetration.
- Mortar joints appears to be in need for repointing. Brick veneer ties may be missing and in need of further investigation. All building joints appear to be in need of repair.

**Mechanical Systems**
- Air Handling Units/ VAV boxes replaced in 1996
- 2nd floor HVAC insufficient

**Electrical Systems**
- Electric Heat issues with wiring connection to building 200
- Indirect lighting appears recent

**Plumbing/ Fire Protection Systems**
- No Fire Sprinkler System

**Other Comments**
- Communications Tower and DMARC room to remain
- Not highly occupied by students
- Connected to building 200
- Old flooring
- New ceilings in two story open area.

**Recommendations**
- Replace with multi story, energy efficient facility

---

**Existing Buildings Assessment**
**Building 210**

3.32
# Building 220 – Theater Center

## Description

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Gross Building Area</td>
<td>35,897 GSF</td>
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<tr>
<td>Number of Floors</td>
<td>2 levels</td>
</tr>
<tr>
<td>Year completed</td>
<td>1966</td>
</tr>
<tr>
<td>Additions/ renovations built</td>
<td></td>
</tr>
</tbody>
</table>

## Use
- Theater Center
- Classrooms on 2nd floor

## Life Safety Compliance
- No fire sprinkler system
- Doors at exit stairs do not comply - no panic hardware

## Exterior Envelope Conditions
- 15 year old fibertite roof
- Brick veneer mortar joints need repair
- Inefficient glazing
- Precast panels have minor cracks
- Aluminum window frames oxidizing, sealants in poor condition

## ADA Compliance
- Ramp and railings at entrance do not comply
- Automatic door opener operational
- Stair railings do not comply
- Water cooler not dual height
- ADA restroom stalls do not comply with current Florida Accessibility Code - 4’-9”x4’-10”
- No ramp to access stage

## Structural
- Concrete columns
- Bar Joist roof system
- Structural cracks observed on second floor slab in need of repair
- Floor vibration felt on second floor in need of further investigation
- Storage mezzanine is overly loaded structural analysis required to determine load capacity
- Orchestra covered with plywood unsafe for walking
- No brick ties at exterior stair wells per construction document
- Rigging beams observed drilled and epoxied loaded in tension must be evaluated for strength and may be in need of reinforcement
- Brick veneer observed un-plumb with efflorescence stains due to water penetration
- Mortar joints appears to be in need for repointing
- Brick veneer ties may be missing and in need of further investigation
- All building joints appear to be in need of repair
- Roof framing and diaphragm must be evaluated and may be in need of reinforcement to meet current building code requirements

## Mechanical Systems
- Aged Air Handling Units
- Original mechanical System

## Electrical Systems
- Original Main Switchgear

## Plumbing/ Fire Protection Systems
- No fire sprinkler system

## Other Comments
- Asbestos in ceiling @ hard ceiling entry lobby
- Noted as remodel in campus survey
- Vinyl wall covering on block or CMU interior walls

## Recommendations
- Replace with a multi-story, energy efficient facility, build further south than current footprint
Existing Buildings Assessment
Building 220
Building 230 – Goddard Performance Hall

Description

<table>
<thead>
<tr>
<th>Gross Building Area</th>
<th>21,187 GSF</th>
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</thead>
<tbody>
<tr>
<td>Number of Floors</td>
<td>one</td>
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<tr>
<td>Year completed</td>
<td>1979</td>
</tr>
<tr>
<td>Additions/ renovations built</td>
<td>1999</td>
</tr>
</tbody>
</table>

Use

- Music Performance
- Practice Rooms
- Black Box Theater
- Faculty Offices
- Choir Room

Life Safety Compliance

- No fire sprinkler system

Exterior Envelope Conditions

- Roof Replacement 1996 (see ECS roof report)
- Energy inefficient glazing systems
- Brick Veneer on CMU Precast panels - cracks at joints, large crack at entrance
- Aluminum window frames oxidizing, sealants in fair condition

ADA Compliance

- Accessible entrance with automatic door opener
- Dual height water coolers provided
- ADA restroom stalls do not comply with current Florida Accessibility Code

Structural

- Concrete columns are spalling at exterior corners
- Concrete frame
- Roof framing and diaphragm must be evaluated and may be in need of reinforcement to meet current building code requirements.
- Brick veneer ties may be missing and in need of further investigation.
- Brick veneer joints in need of repointing in several locations.
- Building structure appears to be in general good condition.

Mechanical Systems

- Air handlers & VAVs replacement 1996
- Feeds chilled water to building 220
- Air velocity in theater is acoustical issue during performances

Electrical Systems

- Original Switchgear

Plumbing/ Fire Protection Systems

- Uses Boiler for hot water
- No fire sprinkler system

Other Comments

- Campus survey suggests moving these functions downtown
- Recent ceilings, older lighting

Recommendations

- Replace with multi story, energy efficient facility or remodel
Daytona Beach Campus

Building 330 – Arts & Sciences Hall

**Description**
- Gross Building Area: 14,997 GSF
- Number of Floors: two
- Year completed: 1974
- Additions/renovations built: Elevator addition

**Use**
- Classrooms
- Offices

**Life Safety Compliance**
- No fire sprinkler system

**Exterior Envelope Conditions**
- Precast panels with brick veneer on bottom
- Energy inefficient glazing systems
- Roof replaced 10-15 years ago. No leaks
- Precast panels have cracks at joints

**ADA Compliance**
- Renovated Toilets
- Dual height water coolers not provided
- Plumbing fixture count is low for occupancy
- Stair railing and landings do not comply
- Accessible with automatic door opener
- ADA stall 7’ x 6’-3 1/2” does not comply with current Florida Accessibility Code

**Structural**
- Concrete frame
- Roof framing and diaphragm must be evaluated and may be in need of reinforcement to meet current building code requirements.
- Second Floor Framing appears in good condition.
- Severe cracking and spalling observed in exterior concrete beams below exterior pre-cast concrete panels.
- Server cracking and spalling observed in exterior concrete stairs.

**Mechanical Systems**
- Original HVAC in good condition

**Electrical Systems**
- Transformer in building 330 feeds building 210
- Retrofitted lighting

**Plumbing/Fire Protection Systems**
- Hot water provided by building 340
- No fire sprinkler system

**Other Comments**
- Flooring and ceilings dated

**Recommendations**
- Replace with multi story, energy efficient facility

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**Existing Buildings Assessment**

**Building 330**

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**Daytona State College**
**Building 340 – Davidson Hall**

**Description**
- Gross Building Area: 16,388 GSF
- Number of Floors: Two levels
- Year completed: 1959
- Additions/ renovations built: Elevator addition 1995

**Use**
- Classrooms
- Faculty Offices
- Laboratories

**Life Safety Compliance**
- Elevator added
- No fire sprinkler system

**Exterior Envelope Conditions**
- Aged roof (see ECS report)
- Energy inefficient glazing systems
- Brick veneer mortar joints need repairs, cracks from movement
- Aluminum windows frames oxidized, sealants in poor condition
- Precast has cracks
- Exposed steel shelf angles rusted
- Exterior concrete stair nosings chipped.

**ADA Compliance**
- Stairs and railings do not comply
- Insufficient plumbing fixture count for occupancy
- ADA stall size 9’-5” x 6’
- Automatic door opener is operational
- Dual height water cooler not provided

**Structural**
- Concrete frame
- Pressure treated piles under footings (confirm existing drawings)
- Precast panels with CMU
- Roof framing and second floor framing appears to be in good condition.
- Brick veneer in need of repair.

- Wind analysis required to evaluate if structure meets current code.
- All pre-cast concrete panel joints are in need of repair.
- Crack observed in lintel above mechanical room door.

**Mechanical Systems**
- Aged Mechanical Systems- AHU units 20 yrs old, not original
- System loud in classrooms

**Electrical Systems**
- Old lighting fixtures

**Plumbing/ Fire Protection Systems**
- Hot water piping in poor condition

**Other Comments**
- Boiler in building 340 supplies hot water to building 330
- First building on campus
- Ceiling tiles sagging

**Recommendations**
- Replace with multi story, energy efficient facility
**Building 420 – Child Care Lab/Criminal Justice Hall**

**Description**

- **Gross Building Area**: 26,050 GSF
- **Number of Floors**: one
- **Year completed**: 1963
- **Additions/ renovations built**: 1996

**Use**
- Public Safety Programs
- Child Care Lab

**Life Safety Compliance**
- No fire sprinkler system

**Exterior Envelope Conditions**
- Roof is leaking (see ECS report)
- Energy inefficient glazing systems
- Split face modular bricks in good condition
- Brick veneer areas need mortar repair
- Portions of exterior wood siding are rotten
- No gutters
- Sealant in poor condition at exterior windows
- Efflorescence at brick veneer in areas

**ADA Compliance**
- Accessible entrance with automatic door opener
- Dual height water coolers provided
- Restrooms do not meet ADA

**Structural**
- Brick veneer on CMU
- Exposed concrete frame with brick infill
- Hollow Core precast slabs at roof
- Bar Joists
- Slab on grade
- Wind analysis required to evaluate if structure meets current code.
- All pre-cast concrete panel joints are in need of repair.
- Building structure appears to be in general good condition.

**Mechanical Systems**
- Split systems/package units not in good condition
- Wind analysis required to evaluate if structure meets current code.
- All pre-cast concrete panel joints are in need of repair.
- Crack observed in lintel above mechanical room door.

**Electrical Systems**
- Switchgear needs to be replaced

**Plumbing/ Fire Protection Systems**
- No fire sprinkler system
- Abandoned grease trap

**Other Comments**
- Access rooms from exterior breezeway
- Old Hillcrest Childcare
- Formerly Elementary School

**Recommendations**
- Replace with multi story energy efficient facility or more parking
### Building 520 – Studio Arts Hall

**Description**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Building Area</td>
<td>36,172 GSF</td>
</tr>
<tr>
<td>Number of Floors</td>
<td>one</td>
</tr>
<tr>
<td>Year completed</td>
<td>1980</td>
</tr>
<tr>
<td>Additions/ renovations built</td>
<td></td>
</tr>
</tbody>
</table>

**Use**
- Welding
- Graphic Arts
- Storage
- Sculpture
- Ceramics

**Life Safety Compliance**
- Fire sprinkler system

**Exterior Envelope Conditions**
- New Roof
- Inefficient glazing systems
- Brick veneer joints in need of repointing and repair
- Areas of movement cracks noted in brick veneer
- Existing overhead doors in poor condition
- Aluminum entrance doors need sealant repair at brick veneer

**ADA Compliance**
- Plumbing fixture count does not comply with occupancy
- Dual height water coolers provided
- Accessible entrances
- Automatic door opener
- ADA stall 7’ x 9’-1”

**Structural**
- Brick veneer on CMU
- Concrete frame, steel joists (confirm struct dwgs)
- Confirm if interior walls are bearing
- Wind analysis required to evaluate if structure meets current code.
- Rusting observed in roll up door in need of repair.
- Water damage observed in atrium.
- Brick joints in need of re-pointing and repair.
- Building structure appears to be in general good condition
- Wind analysis required to evaluate if structure meets current code.
- All pre-cast concrete panel joints are in need of repair.
- Crack observed in lintel above mechanical room door.

**Mechanical Systems**
- 4 Package Units & Chiller Water
- Leaking Fan Coil Units
- Main Corridor and Restrooms without HVAC

**Electrical Systems**

**Plumbing/ Fire Protection Systems**
- Fire sprinkler tied to chilled water system

**Other Comments**
- Originally Automotive building & boat construction
- Ceiling tiles show sagging
- IAQ questionable
- Parking issues, floods no drainage

**Recommendations**
- Replace with multi story, energy efficient facility
4 Daytona Beach Campus Master Plan
Daytona Beach Campus Visioning
Daytona State College Site No. 1

During the visioning charrette, the following items were discussed by the attendees for consideration in the development of the master plan for the main campus.

Assets of DSC Campus:
- Fitness Center – Gym, pool, many program options/sections
- Full Cafeteria & Bookstore
- Hosseini Center/Café 101
- Classroom space, landscape beauty, nice buildings & athletic areas
- Visibility from ISB entrance
- Southeast Museum of Photography
- DSC-UCF joint use building
- Academic Support Center, Library, College Writing Center
- Athletic fields provide connection with community

Programs that should stay at DSC Main Campus:
- Hospitality & Culinary – strengthen these programs
- Allied health, nursing
- EMT, Police & Fire Training could be moved off site since students do not have classes in other buildings on campus.
- Math & Science
- Dental Hygiene, cosmetology, photography, bachelors’ degree programs
- Associate of Arts

Programs that may be able to relocate to remote campus:
- Criminal Justice, Fire Science, EMT may be offsite – Tiger Bay, ATC or Deland
- Athletic Fields could relocate to ATC
- Consider moving welding to ATC
- Cosmetology (Long range)
- Foundation, marketing, credit union? Off campus but nearby.
- Credit union leases from DSC.
- Women’s Center
- In future, consider putting student housing, gym, parking at ATC Campus and shuttle students to main campus.

New Programs to consider at DSC Main Campus:
- Water Utilities management
- License with City and County utilities
- Expand Bachelor Degrees programs
- Homeland security degrees (cyber security) (emergency management): AA, AS, BA, BS - consider ATC site
- New media degree (digital, video, audio)
- Alternative “Green” technologies – consider ATC site
- More science labs
- Medical technology labs in allied health building
- Institutional Research is not predicting growth in next couple of years. 1 in 3 students take classes online.

Needs at DSC Main Campus:
- Provide more parking
- Provide a better space for students. New building to include: Academic support, dining facility, library, writing center, coffee shop, study areas, faculty innovation center, training room, conference room, offices and general education classrooms.
- Multi Purpose Room for 200 occupants, dividable into (2) 100 seat rooms. Need space for Foundation events
- Flexible space
- Loop road
- Separation of vehicular/pedestrian traffic
- Need larger classrooms
- More classroom/lab space (non vocational)

Building Conditions:
- Some areas are dated & drab – old wallpaper, ceiling tiles stained, etc
- Building 500 - rooms too small for classes. Consider removing walls and providing open space for instruction.
Daytona Beach Campus Visioning  (Continued)

Shared Community Services:
- Women’s center offers support services with community based organizations
- Aquatics center coordinates with community groups who use the pool
- Adult education has agreement with the Volusia Literacy Council to offer services on campus
- Women’s center could expand services & availability
- Building 150, allied health & photography have shared community programs
- More community education programs should be offered

Partnership Opportunities:
- Expand on campus availability of non-academic support services needed by students
- More collaboration with NASCAR & with local sports offerings
- Forest service
- Embry-Riddle, Stetson, Bethune Cookman, Tiger Bay
- Writing center (UCF)
- Space industry
- Digital technology/simulation
- Provide flexible spaces for developing technologies-multi-disciplinary.
- Solar energy development

Security:
- Security on campus is superb.
- Consider video cameras in buildings as a standard.
- Consider relocating Campus Safety to 110 to be central to campus activities

Parking:
- “We have a walking problem, not a parking problem”
- Explore joint use agreement with Halifax Hospital during peak enrollment weeks.
- Short term parking needs can be met across White Street and potentially at Blind Services property. Long term parking will require a parking structure more central to the campus.
- Cars backed up exiting south east parking lot on White Street.

Accessibility:
- Elevators are unreliable in some buildings

Landscape:
- Landscape looks awesome from International Speedway Blvd.
- Landscape on Heineman needs improvement

Pedestrian Experience:
- Have to be on the lookout for golf carts
- Prevent walking through parking lots to access buildings
- Provide wide sidewalks

Athletic Facilities:
- Tied to academic programs and gym
- Costly to move playing fields
- Consolidate facilities at ATC possibly
- If 4 yr sports programs are introduced, it would change the face of the campus.

Utilities:
- Multiple lap top charging stations/ Wi Fi
- New Thermal Storage
- Additional emergency generators
- Future car charging stations
- IT equipment rooms need independent HVAC units
- Move IT head end equipment out of 210

Drainage:
- Floods after heavy rain at intersection of Hospital emergency room and Heineman Street
- Building 330 & 130 flooded sidewalks & Building 150
Daytona State Main Campus Enrollment / Growth Projections

The enrollment/growth projections chart was developed to assist the group to evaluate the needs for buildings and parking based upon the expected FTE for the campus over time. The graph at the top of the chart provides a visual description of the reduction in the number of students that has been projected for the coming year. Each of the six phases highlighted in the chart correlate directly with the six phases of the master plan.

<table>
<thead>
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Daytona Beach Campus

Master Plan Phasing
Phase 1

Phase 1 Site Data

Existing Building Area: 1.034,566 GSF

New Building: 2.086 GSF

Parking (Pavil): 2,966 Cars
Parking (Overflow): 144 Cars
Total: 3,110 Cars

FTE: 10,001
Parking Ratio: 3.16-FTE/CAR
SF/FTE Ratio: 103.43

North
Master Plan Phasing
Phase 2
Daytona Beach Campus

Master Plan Phasing
Phase 6

Daytona State College

EXISTING FACILITIES

100 Wellness Student services / Administration
101 Utility Building
116 Bargeron/CBI
140 UCF Joint Use Facility I
150 UCF Joint Use Facility II
200 Learning Resources Center II
300 J.G. Greene Center
310 L. Gale Larmond Center
311 Pod Support
312 Central Refrigeration
314 Central Utility Plant
320 Allied Health
400 Educational Telecommunications Center-WOSCTV/15
410 Schlechter Science
420 Facilities Services
440 Baseball Facility - Field
450 Kindergarten Day Care Center
490 Softball Facility - Field
500 Academic Support Center
510 Applied Science
530 Photography
540 Bailey Hall
590 Motorcycle Hall
540 Conference Center
810 News Journal CTR
1100 Business Services
1200 The von Hoerner Center

Property owned by Daytona State College
Existing Parking
Proposed Parking Reductions

PHASE 6 SITE DATA

Existing Building Area 1,285,962 GSF
Phased Out Building 21,197 GSF
New Building In Previous Phase 230 J.M. Goddard Ctr. GSF Expansion

90,000 GSF A
60,000 GSF B
60,000 GSF C
60,000 GSF D
60,000 GSF E
75,000 GSF F
75,000 GSF G
75,000 GSF H

New Building Area 1,275,853 GSF
Parking (Present) 2,733 Cars
Parking Proposed Overflow 'B' 400 Cars
PH-ph Proposed Parking (GH) 2,200 Cars
Total 5,373 Cars

FTE 13,772
Parking Ratio 2.55 FTE / CAR
50 / FTE Ratio 104.49

North
Campus Zones

- Strengthen the separation of the campus core from vehicular zones.
Campus Core Green Space

- Reinforce campus commons through building placement and massing.
Existing Conditions Building Information Model

An integral part of the master plan process has been the development of a BIM Existing Conditions Model and a BIM Master Planning Model of the Daytona State College Campus. A simple definition of BIM (Building Information Modeling) is a digital, three dimensional model embedded with a database of project information.

The Existing Conditions BIM Model is a living document containing all buildings, roads, parking areas and trees, as well as all existing underground utilities and storm water drainage systems for the purpose of maintaining a current representation of the campus as new projects and improvements develop. In order to accomplish this task, the team assembled digital drawings, surveys and as-built construction documents and reconstructed the information in the digital site model. Further survey work was performed in the field to confirm any conflicting information. Using a LiDAR survey of the campus, a 3D topographical map of the ground surface was produced and incorporated into the model. The facilities department collaborated with the design team to bring all of this information together into a single BIM model.

The goals the team outlined for the Existing Conditions BIM Model are as follows:

- Create a digital database that can become a historical record of existing buildings, parking, utilities and other site related information that typically exists in several different documents and files.
- Digital model to have relationship to GIS (Geographic Information System) for collaboration with other web based resources like Google Earth.
- Digital model to have the ability to be expanded to include more detailed models of individual buildings as future projects are developed over time.
Master Planning Building Information Model

A BIM Master Planning model was also produced which three dimensionally represents how the campus will look at each of the 6 phases of development. Existing buildings are shown in yellow and new buildings are shown in orange. When a new building is being designed, conceptual ideas can be developed within the digital model. The ability to visualize new projects with a full understanding of the existing context of the master plan will lead to more informed and cohesive design on the campus.

The goals the team outlined for the BIM Master Plan are as follows:

• Use digital model to visualize potential projects three dimensionally for better communication with the Board of Trustees, the faculty/staff and the community.

• Use digital model to understand the impact a new project will have on existing buildings, parking, utilities and storm water systems.
Master Planning Building Information Model

Daytona State Campus – Existing Plan

Daytona State Campus – Phase 1
Daytona State Campus – Phase 2

Daytona State Campus – Phase 3
Master Planning Building Information Model

Daytona State Campus – Phase 4

Daytona State Campus – Phase 5
5 Daytona Beach Campus
Utilities Assessment & Recommendations
Stormwater Management

In order to develop a master plan which provides for infrastructure for the future campus explanation the existing utilities were reviewed assessed and recommendations were made. Each utility element was assessed for the campus. The recommendation included issues which need to be addressed with the existing system as well as recommendations for expanded infrastructure to accommodate the build-out of the master plan.

Existing Conditions

The Daytona State College campus lies north of International Speedway Boulevard, and is abutted by Halifax Hospital on the west, White Street on the east and Willis Avenue on the north. The campus consists of approximately 100 acres with generally well drained, sandy soils. The topography of the campus generally slopes from west to east with a high elevation of approximately 35 feet to a low elevation of approximately 25 feet. The northwest portion of the campus slopes north toward Willis Avenue. The campus is developed with school facility buildings, paved parking, athletic fields and open space areas.

The campus currently lies within the St. Johns Rivers Water Management District (SJRWMD) jurisdiction for stormwater management regulation. The SJRWMD regulatory requirements began in the early 1980’s after it was turned over from the Florida Department of Environmental Protection. FDEP began regulating stormwater in the late 1970’s. Prior to that there was no stormwater management regulatory criteria.

Since stormwater regulations were not required prior to the late 1970’s portions of the campus have no stormwater pond facilities. The campus stormwater collection system consists of a network of drainage inlets, pipes and swales, which collects rainfall runoff and transports it to stormwater ponds or directly to larger conveyance pipes running west to east through campus or sheet flow off-campus. The systems which discharge into stormwater ponds are those which have been constructed after the late 1970’s. These systems which discharge directly to larger conveyance pipes or sheet flow off-campus without pre-treatment in a stormwater pond are generally those which were constructed before the late 1970’s. These off-campus stormwater pipes eventually flow to one of the campus stormwater trunk lines which convey water east off-campus. The stormwater ponds hold rainfall runoff for a period of time until it percolates into the ground or eventually overflows into the off-site conveyance system. All discharge and conveyance systems eventually flow east to the Nova Canal and then to the Halifax River. The existing campus ponds are all “dry” bottom ponds with the exception of one which is a “wet” pond. Dry bottom ponds are passive, grassed depressional areas designed to retain stormwater runoff. Because the campus lies on well drained soils, the runoff eventually percolates into the ground recharging the water table.

The “wet” pond is located at the Mori Hosseini Hospitality Center. Due to the well drained soils and low water table of the area, a pond liner was installed to allow the pond to constantly detain water. This design, which includes a fountain, provides stormwater management treatment as well as aesthetics for the Mori Hosseini Hospitality Center.

The overall stormwater management system at DSC consists of a variety of newer and older construction. The stormwater runoff is collected and either routed to a stormwater pond or conveyed to a pipe system which conveys the water east off-campus, or sheet flows off-campus.

Assessment

Survey data and site visits were utilized to review the existing stormwater management facilities at the Daytona State College. The stormwater infrastructure varies greatly in both age and condition. Some of the older parts of the campus consist of stormwater infrastructure at or beyond its typical life service. However, the campus has continued to be redeveloped so some components of the stormwater management system are in good condition. During periods of heavy rainfall, localized flooding has been observed in several locations throughout campus, particularly on the west side of campus along Heineken Street adjacent to the Halifax Medical Center. This area experiences the most severe campus flooding problem as evidenced by the existing roadway sign on Heineken Street (see attached picture). The flooding issues in this area appear to be a result of drainage runoff areas being larger than the associated inlet capacity. The survey results are unclear as to the outfall pipes. It appears the drainage flows south then east through the campus. This system should be inspected to determine the outfall path, condition of the pipe system and the capacity of the outfall system. During heavy rainfall events, the hydraulic capacity of the inlet intake and potentially the pipe are overwhelmed resulting in temporary flooding of the roadway.

Other localized flooding problems throughout the campus were brought to our attention by the Facilities Staff. Based on our assessment, most of these are a result of the existing stormwater management system needing maintenance, and in some cases, the pipe systems being under-sized. Additionally, some of the older pipes may be damaged, limiting the conveyance capacity of the system. The stormwater pipes were not televised so this could not be verified. These areas which pond temporarily following heavy rainfall events do not remain standing after the rain subsides due to the well drained nature of the soils percolate in the ground after the rainfall subsides.

There have been numerous SJRWMD permits obtained throughout the campus for the projects which were constructed since the early 1980’s. Currently there is not a Master Stormwater Plan or Conceptual Permit with the SJRWMD. Each permit obtained over the years has been for individual projects.

Recommendations

The existing campus drainage system needs to be assessed by detailed visual above-ground inspection to identify specific maintenance work which needs to be performed. Furthermore, additional underground inspections could be performed by using remote camera technology. Concurrent with the existing system maintenance assessment, an analysis of the hydraulic capacity of the existing system is also recommended. At the conclusion of the analysis, a maintenance, cost estimate and budget program should be prepared. This program will include routine cleaning, as well as upgrading undersized and damaged portions of the system.

The maintenance and upgrades to the existing system will be important as the proposed Master Plan development program is implemented. The stormwater improvements associated with the Master Plan development will address the needs for these new areas. It is recommended DSC consider permitting a Master Drainage Plan with the St. Johns River Water Management District (SJRWMD). The recommended approval with SJRWMD would be to obtain a Conceptual permit which will have a 20-year expiration period. This will allow the school to establish a Stormwater Plan and be “locked” into the current criteria. As the Master Plan phases develop, the construction drawings for the improvements would be submitted to SJRWMD to demonstrate they are in compliance with the Conceptual Master Stormwater Plan and Permit. The approved Conceptual Permit allows streamlining and expanding approvals for subsequent construction phases.

Utilities Assessment & Recommendations

Stormwater Management
5.20

Utilities Assessment & Recommendations
Stormwater / Potable Water

Stormwater / Potable Water

Below is a description of the Stormwater Management improvements for the six phases of the Master Plan. Specific improvements for each phase are as follows:

**Phase 1:**
The Phase 1 of the Master Plan will include the expansion of the Chilled Water Plant (CEP) and the construction of a stormwater pond (SW1) adjacent to Heineman Street and Highland Avenue. This pond will provide stormwater management for the Chill Water Plant expansion and also provide relief to the flooding that occurs on Heineman Street during periods of heavy rainfall. Underground piping will be designed and constructed to direct runoff from the new construction to the stormwater pond. Additionally, the Southeast parking lot will be reconstructed. DSC has an existing SJRWMD permit for this construction which is valid through November, 2012 so the stormwater management improvement will follow the permit requirements. DSC will also modify a driveway and parking in the center of the campus as shown on the Phase 1 Management Plan. The stormwater treatment for these improvements will be done in roadside swales.

**Phase 2:**
The Phase 2 of the Master Plan will include the construction of Building “A” and a stormwater pond (SW2) just south of Dr. Mary McLeod Bethune Boulevard as depicted on the Phase 2 Plan. This pond will provide stormwater management for new building, future Building “B”, and associated walkways. Underground piping will be designed and constructed to direct runoff from the new construction to the stormwater pond. The pond will discharge to the 30’ stormwater pipe on Dr. Mary McLeod Bethune Boulevard.

DSC recently acquired property from the Florida Division of Blind Services at the northeast corner of White Street and Willis Avenue. This area will be developed in Phase 2 as overflow parking for approximately 287 vehicles. This development will provide on-site stormwater management system. This stormwater system will be a “stand-alone” system and not connected to the main campus facilities.

Additionally, DSC is proposing to reach an agreement with Halifax Hospital to utilize their lot north of Willis Avenue as shown in the Phase 2 Master Plan drawing. This parcel will be developed to provide overflow parking similar to the lot mentioned above. This parcel will also provide its own stormwater management pond system to meet the SJRWMD requirements.

**Phase 3:**
Phase 3 of the Master Plan will include the construction of Building “B”. The stormwater management storage requirements for Building “B” were provided in Phase 2 in Pond SW2.

**Phase 4:**
Phase 4 of the Master Plan includes the construction of Building “C”. Two existing stormwater ponds (SW3 and SW4) will support the two new buildings proposed for this area. These ponds currently provide stormwater treatment for an existing parking lot where Building “C” will be constructed. We recommend this existing pond area be considered for an underground stormwater storage system. This will allow the area to be used for a green area in front of Building “C”.

**Phase 5:**
Phase 5 of the Master Plan includes the construction of Buildings “D” and “F” and stormwater plans SW5 and SW6. Ponds SW5 and SW6 will be constructed north of Building “D” as shown on the master plan. These ponds will be dry bottom ponds and overflow into the 24” stormwater trunk line running to Dr. Mary McLeod Bethune Boulevard.

**Phase 6:**
This Phase of the Master Plan includes the second phase expansion of the elevated parking structure, Buildings “F” and “G”, and a plaza area as shown on the Phase 6 Master Plan. The exfiltration system constructed in Phase 4 will be designed to accommodate this expansion.

**Potable Water Distribution**

**Existing Condition**
The Daytona State College’s potable water supply is provided by the City of Daytona Beach. The City has distribution mains around the perimeter of the campus as well as a 16” water main which runs through the campus. All other water mains within the campus boundary are owned by DSC. The water supply is provided by the City of Daytona Beach Water treatment plant. All new mains or modification to existing campus mains are permitted by the Florida Department of Environmental Protection (FDEP).

**Assessment**
There were no physical deficiencies for the potable water system found based on our discussions with the DSC staff and our review of the available information. The school’s water mains are looped and interconnected which provided adequate water supply for domestic uses. There was no fire flow testing done with this Master Plan effort, but, based on review of previous testing there appears to be adequate fire flow for the campus.

There was limited information available about the location and condition of some of the older underground water mains. This lack of location and condition data could be an issue when new construction occurs in areas where the location and condition of the water main is unknown. There is also limited knowledge regarding which water valves control specific water distribution mains. This creates problems when a campus water main breaks or repair to a water line needs to be made. Often DSC’s contractor or the DSC’s Facilities staff can’t find or determine the appropriate water main valve to shut-off to repair a break or connect a new line.

The current estimated domestic water flow demand is approximately 160,000 GPD. As the campus grows and the water demand reaches approximately 220,000 GPD, further analysis will be needed to insure these future demands are being met.
Potable Water / Sanitary Sewer / Irrigation

Recommendations
It is recommended a study and documentation be done to determine valve controls for the existing water mains. This information will assist DSC Staff and their contractors to close the appropriate water valves off when needed. Furthermore, this will prevent shutting off valves which may provide fire protection for buildings. As existing water mains are located this information can be added to the Civil 3D model. The fire hydrants on-site should be inspected and a matrix developed to ascertain that adequate spacing is provided for existing facilities. It is also recommended that a program be implemented to routinely test backflow preventers, meters and valves to ensure that this system is operating efficiently.

As the Master Plan develops and new demands are refined, it is recommended that a water distribution model of the water system be conducted to specifically determine the size to provide adequate domestic and fire protection capacity.

Phases 1 through Phase 6: In each phase of the Master Plan, the buildings will require backflow preventers, valves, meters and fire line service connections to provide adequate water supply. The existing water main distribution system should be able to provide water supply for the buildings in Phases 1-5. A formal water distribution analysis and conditions study should be done to verify. A new water main trunk line is anticipated to be extended north to serve the buildings in Phase 6.

Sanitary Sewer

Existing Condition
The Daytona State College’s sanitary sewer flows to the City of Daytona Beach sanitary sewer system and is eventually treated at the City’s wastewater plant. The DSC’s sanitary sewer is a gravity sewer system with a network of manholes and pipes throughout the campus. The wastewater is collected and conveyed to a 15” City sewer main on White Street. The City’s 15” sewer main flows east, to the Shady Oaks Lift Station. The Shady Oak Lift Station force main manifolds with a larger force main at the City’s troubled K-Mart lift station. Based on a recent meeting with City representatives, the City plans to upgrade both the K-Mart lift station and the downstream force main. This proposed improvement will insure no future downstream adverse impact to the Shady Oak Lift Station.

There are several off-site sewer mains which flow into the DSC Sewer System. There are three gravity sewer mains, which flow from Willis Avenue on the north and one which flows from the Halifax Hospital from the west. These flows are conveyed through the DSC sanitary sewer system to the 15” gravity main on White Street. Estimated sewer flow for the college is currently 140,000 GPD and expected to be approximately 200,000 GPD at the completion of Phase 6. The capacity of the 15” gravity main through campus is approximately 1,000,000 GPD.

Assessment
The existing sanitary sewer system consists of both old and new sewer mains. The condition of the older mains is unknown since a video of the system was not done as part of the Master Plan. Based on our discussion with the DSC Facility’s Staff there are no significant problems with the existing sanitary sewer system. Part of the Master Plan effort included additional survey to obtain pipe size and inverts for the sanitary system. This information was input into the Civil 3D model of the existing utilities. This will allow future projects to be planned and designed in a cost effective manner without damage to the existing system.

Assessment
The existing sanitary sewer system consists of both old and new sewer mains. The condition of the older mains is unknown since a video of the system was not done as part of the Master Plan. Based on our discussion with the DSC Facility’s Staff there are no significant problems with the existing sanitary sewer system. Part of the Master Plan effort included additional survey to obtain pipe size and inverts for the sanitary system. This information was input into the Civil 3D model of the existing utilities. This will allow future projects to be planned and designed in a cost effective manner without damage to the existing system.

Recommendation
It is recommended DSC continue to utilize the reclaimed water as feasible to meet future irrigation demands. It is recommended DSC continue to monitor the pressures received from the City’s reclamation system and coordinate with the City on the pressures to provide for the needs of the growing campus.

Irrigation

Existing Condition
The City of Daytona Beach has a 12” reclaimed water main along the Willis Ave., White Street and Heinaman Street. The athletic fields have an on-site well for the irrigation source. A Consumption Use Permit is in place with SJRWMD (Permit No. 8589 which allow 27.24M gallons per year (MGY) from the Floridian aquifer and 8.32 MGY of reclaimed water from the City of Daytona Beach. This permit allows for the additional 8.32 MGY groundwater withdrawn as back-up.

Assessment
The 12 inch reclaimed water main will provide adequate irrigation capacity for the existing campus as well as the Master Plan future phases. However, DSC has had previous problems with the high pressure provided from the reclaimed system doing damage to the school’s irrigation system. DSC has taken measures by adding pressure reducing devices. New connections to the City’s reclaimed system will require City approval and installation of meters on backflow preventors.

Recommendation
It is recommended DSC continue to utilize the reclaimed water as feasible to meet future irrigation demands. It is recommended DSC eventually convert the irrigation for the ball fields to the reclaim system, but maintaining the existing well as a backup source. DSC should continue to monitor the pressures received from the City’s reclamation system and coordinate with the City and/or add pressure reducing devices as needed.
Stormwater Master Plan

Daytona Beach Campus

Stormwater Master Plan
Water and Sewer Distribution Master Plan

EXISTING PIPE TO BE REMOVED (TYPICAL)
RELOCATE WATER MAIN AND VALVE

EXISTING BUILDINGS
PROPOSED BUILDING
PROPOSED STORMWATER FORD
EXISTING SANITARY LINE
SANITARY LINE DEMO
PROPOSED SANITARY LINE
PROPOSED WATER LINE
PORTABLE WATER MAIN (DIS)
PORTABLE WATER MAIN (CITY)
PROPOSED FIRE HYDRANT
Existing Electrical Power System

The Daytona State College Electrical System consists of a 13.2KV medium voltage distribution fed from three utility meters. West Side Distribution is fed from two Utility Meters at West End that distribute to Man Hole 5. East Side Distribution is fed from one Utility Meter at East End that distribute to Man Hole 5.

Electrical Demolition Work per Phase:

Phase 1:
• None

Phase 2:
• Remove PAD 107-5, 300KVA Transformer for existing Building 220
• Remove Feeder to PAD 107-27, 500KVA Transformer for Building 230 due to impact of removing Building 220
• Man hole 5 to be removed. Current Location where East and West Distribution meet but are not connected.
• Remove Primary back to Man hole 356 and PAD 107-7, 500KVA Transformer for Building 130

Phase 3:
• Remove PAD 107-7, 500KVA Transformer for existing Building 130

Phase 4:
• None

Phase 5:
• Remove VAULT 184, 500KVA Transformer for existing Building 330, 340, and 210
• Remove Primary back to Man Hole 69
• Disconnect VAULT 279 and rework based on new work for removed Building 210

Phase 6:
• Remove PAD 107-27, 500KVA Transformer for existing Building 230
New Electrical Power System

Electrical New Work per Phase:

Phase 2:
- New Primary Feed to PAD 107-27, 500KVA Transformer for Building 230 due to impact of removing Building 220
- New Man hole NMH1 for new distribution for Building 220 and 230
- New Primary Distribution from Man Hole 356 to Man Hole NMH1
- New PAD NP1, 750KVA Transformer for new Building
- New PAD NP2, 750KVA Transformer for new Building
- Provide New Primary from Existing PAD 10 to New PAD NP2

Phase 3:
- New PAD NP3, 750KVA Transformer for Building 130
- Provide new Primary Tie and Switch between East and West Distribution at Man Hole NMH1
- New Temporary Feed to New Parking Garage from Building 220

Phase 4:
- New PAD NP8, 750KVA for new building
- New Primary Feeder to New PAD NP8

Phase 5:
- Provide New Primary to new Man Hole NMH2
- Provide new PAD NP4 and NP5 for new buildings
- Re-feed Existing Building 200 from VAULT 279

Phase 6:
- New PAD NP6 750KVA Transformer for new Building
- New PAD NP7 750KVA Transformer for new Building
- Provide New Feeder to Garage
- Provide New Primary from NMH2 to PAD NP7

Existing Primary/Secondary Distribution – 13.2KV
New Electrical Distribution – 13.2KV
Existing PAD/VAULT – Location of Transformer
New PAD/VAULT – Location of Transformer
New Buildings
Existing Telecommunications System - Existing
New Telecommunications System - New

Telecommunications System
New
Telecommunications Narrative

Phase 1:
Add CEP Building to the South of Building 314...
Bldg. 314 shows no utilities feeding it from the drawings we received.
F/O – Feed from the manhole at the N/W corner of Bldg. 530.
TV – Feed from the manhole at the S/W corner of Bldg. 530.
Telephone – If required feed copper to new CEP from the manhole to the North of Bldg. 530.

Phase 2:
Replace Bldg. 220 with new Building...
If Bldg. 220 is demo’ed remove existing conduit and F/O back to existing manhole at the N/W corner of Bldg. 220.
Telephone – Set new Manhole on West side of Bldg. 220 and splice assigned feed to serve new building.
TV – Bldg. 230 is fed from Bldg. 220. New TV feed to both Bldg. 220 and 230 will feed from the manhole at the S/W corner of Bldg. 130.
Add new Bldg. B:
F/O - Feed Bldg. B from existing manhole.
Telephone – Feed Bldg. B from existing manhole
TV – Feed from the manhole.

Phase 3:
Add new Parking Garage South of ball field:
F/O - Feed from manhole to the N/W of Bldg. 210.
Telephone: Feed from manhole to the N/W of Bldg. 210
TV – If TV is required in the Parking Garage feed from Bldg. 210.

Add new Building C (Replaces Bldg. 130):
F/O – The existing F/O feeds run under Bldg. 130 and will need to be re-routed prior to demo of Bldg. 130.
Feed Bldg C (Old Bldg. 130) from the manhole at the S/E corner of Bldg. 130.
TV – Feed Bldg. C from manhole at the South corner of Bldg. 130. Note... Bldg. 220 and Bldg. 230 are fed from Bldg. 130. Recommended to re-feed Bldg. 220 and Bldg. 230 prior to demo of Bldg. 130.
Telephone – Feed from manhole between Bldg 220 and Bldg. 130.

Phase 4:
Bldg. D – (In Parking Lot):
F/O – Feed to Bldg. D from manhole N/W of Bldg. 110.
TV – Feed to Bldg. D from manhole West of Bldg. 110.
Telephone – Telephone lines currently run under the footprint of Bldg. D. Re-locate these lines prior to construction.
Telephone – Feed Bldg. D from manhole S/E of Bldg. 300.

Phase 5:
Add new Bldg. E (Replaces Bldg. 330 and 340):
F/O – Feed Bldg. E from manhole North of existing Bldg. 330 which now serves Bldg. 330 and Bldg. 340.
Note: The new building footprint may cover the F/O feeding Bldg. 300 and the Telephone feeding Bldg. 330, 340 and 210. If it does, the manholes will need to be re-located outside of the new bldg. footprint prior to construction.
Telephone – Feed Bldg. E from the manhole South of Bldg. 340 or the re-located manhole.
TV – Feed Bldg. E from the manhole located between the new Bldg. D and existing Bldg. 220.

Add new Bldg. F (Replaces Bldg. 220):
F/O – Feed new Bldg. F from the manhole at the N/W corner of Bldg. 220.
TV – Bldg. 220 feeds Bldg. 230 from Manhole at the S/W corner of Bldg. 130. New feed to Bldg. 230 will be needed prior to demo of bldg. 220. Feed both Bldg. 220 and 230 from this manhole.
Telephone – There are multiple telephone feeds to existing Bldg. 220. Feed new Bldg. from manhole to the East of Bldg. 220.

Phase 6:
Add new Bldg. G and H:
F/O – Feed Bldg. G and H from new manhole.
Telephone – Feed Bldg. G and H from the new manhole.
TV – Feed Bldg. G and H from the new manhole.
The existing central energy plant (CEP) generating chilled water (CHW) for the campus is located on the west side of campus, in Building 314. The CEP currently includes four (4), 780-ton water-cooled chillers and associated cooling towers and pumps, for a total installed capacity of 3,120 tons. There is space to add another chiller to the existing plant building.

A thermal energy storage (TES) feasibility study was recently performed, dated March 25, 2011. As a result, DSC is planning an expansion of the CEP by adding a 2.5 million gallon CHW storage tank to incorporate TES. This tank addition will shift some CEP electrical demand to off-peak hours, and will also serve as a “virtual” chiller in the daytime should one of the physical chillers fail.

Below are the buildings receiving CHW from the CEP, with their associated areas. The buildings in red italics are planned for phased demolition/replacement.

<table>
<thead>
<tr>
<th>Bldg #</th>
<th>SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>89,620</td>
</tr>
<tr>
<td>110</td>
<td>23,650</td>
</tr>
<tr>
<td>130</td>
<td>22,278</td>
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<tr>
<td>140</td>
<td>54,218</td>
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<tr>
<td>150</td>
<td>42,041</td>
</tr>
<tr>
<td>200</td>
<td>72,679</td>
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<tr>
<td>210</td>
<td>32,492</td>
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<tr>
<td>220</td>
<td>35,897</td>
</tr>
<tr>
<td>230</td>
<td>21,187</td>
</tr>
<tr>
<td>300</td>
<td>56,311</td>
</tr>
<tr>
<td>310</td>
<td>64,818</td>
</tr>
<tr>
<td>320</td>
<td>119,986</td>
</tr>
<tr>
<td>330</td>
<td>14,997</td>
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<tr>
<td>340</td>
<td>16,388</td>
</tr>
<tr>
<td>400</td>
<td>27,141</td>
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<tr>
<td>410</td>
<td>47,508</td>
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<tr>
<td>500</td>
<td>58,510</td>
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<tr>
<td>510</td>
<td>17,775</td>
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<tr>
<td>520</td>
<td>36,172</td>
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<tr>
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<td>56,350</td>
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<tr>
<td>540</td>
<td>16,448</td>
</tr>
<tr>
<td>600</td>
<td>18,904</td>
</tr>
<tr>
<td>1200</td>
<td>20,590</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,012,960 SF</strong></td>
</tr>
</tbody>
</table>

The peak CEP load measured recently was 2,412 tons; thus the diversified existing plant load is 420 SF/ton. ASHRAE guidelines characterize this as a very low CEP load for an educational campus. The measured load indicates all four (4) chillers must operate at peak periods. The planned addition of TES will enable a chiller to act as standby.

The existing CHW piping through the campus is shown at the left in red. The CEP design is for a 16°F CHW delta-T. However, older buildings will have a much lower CHW delta-T. As old buildings are demolished and new buildings as added utilizing a design 16°F delta-T, the overall campus loop delta-T will increase and the cooling capacity of the existing piping will increase. The existing main CHW lines exiting the CEP are capable of conveying in the range of 4000 to 5000 tons depending on the CHW delta-T realized. The 14” main CHW lines through the campus are capable of conveying 2800 tons at 16°F delta-T. We note that the lines running between buildings 300 and 310, serving buildings 300, 330, 340, 200 and 210 are old Transite (asbestos) piping. These lines should not be reused for new buildings.
Phase 2: The work of this phase includes the demolition of Building 220 (35,900 sf), which is connected to the existing campus CHW loop. A new 90,000 sf Building A will be built in the location vacated by Building 220. This creates a challenge as this location is farthest from the existing CEP. As a part of Phase 2, new large (~14") CHW loop piping will be extended from the existing 14" CHW mains near the southeast corner of Building 300. The new Building A will be fed from this new main, and existing Building 200 will be connected to this new main. This new large CHW main running north-south thru campus will serve to interconnect a future satellite CEP on the north side of campus with the existing 14" CHW loop piping near the center of campus.

Also included is the demolition of Building 130 (22,300 sf), which is connected to the existing campus CHW loop. It is to be noted that existing Building 100 receives heating HW from a boiler system in Building 130. Therefore when Building 130 is demolished, provision will need to be made to heat Building 100.

Also constructed with this phase will be a new 60,000 sf Building B to be located just east of the main campus entrance, in an area that is currently a parking lot. This new Building B will be fed from the existing 10" CHW main running along the main entrance road that currently feeds existing Building 1200.

Phase 3: The work of this phase includes the addition of new 60,000 sf Building C, to be built in the location vacated by Building 130. This new Building C would be fed from the existing 14" CHW mains running east-west thru campus.

Also constructed with this phase will be a new satellite CEP on the north side of campus, perhaps in the new parking garage P1. A new set of 14" CHW lines will be run from the new plant and connected to the lines added in Phase 2 above. This allows the new satellite CEP to assist the existing CEP in providing CHW to the expanded campus. We recommend this new satellite CEP incorporate TES, either with CHW storage or ice storage.

Phase 4: The work of this phase includes the demolition of Building 520 (36,000) which is connected to the existing campus CHW loop. A new 60,000 sf Building D will be built near the center of campus. This new Building D would be fed from the existing 14" CHW mains running east-west thru campus.

Phase 5: The work of this phase includes the demolition of Buildings 330 (15,000 sf), 340 (16,400 sf) and 210 (32,500 sf), all connected to the existing campus CHW loop via original Transite asbestos piping. New 60,000 sf Building E will be built in place of 330 and 340, and a new 75,000 sf Building F will be built in place of 220. Both new Building E and F will be fed from the new CHW main running north-south thru campus.

Phase 6: The work of this phase includes the addition of two (2) new buildings: Building G (70,000 sf) & Building H (75,000 sf). Both new Building G and H will be fed from the new CHW main running north-south thru the new area of campus.

It is recommended that all new buildings be heated utilizing high-efficiency fully-condensing gas boilers, or electric heat, as determined by life-cycle cost analysis.
6 Daytona Beach Campus Guidelines
Campus Organization

• Promote campus program organization clusters with academic programs located at the core and specialized programs at the periphery.
Campus Connectivity

• Develop pedestrian linkages between buildings.
Architectural Massing / Elevations

The Daytona State College Campus buildings are characterized as urban in scale, ranging from primarily two story buildings to the five story Allied Health building. The inner campus buildings are loosely organized around a campus green. An outer ring of buildings are sited adjacent to the inner core, forming irregular spaces between the buildings. The campus is further characterized by an outer ring of parking lots that separate the campus from the city. The Mori Hosseini Center is the exception, as it fronts on International Speedway Blvd. and helps define the campus edge.

The older buildings tend to be smaller in scale with a style and character representative of the time they were built. The elevations often have little indication of the activities that occur within and there are few queues to building entrances.

Recommendations:

• Look for opportunities to strengthen the forms of spaces between buildings. Define the edge of urban spaces by the buildings form and massing.

• As the campus grows the density of massing will increase. New buildings should be between three and four stories.

• Design gathering spaces for people in the urban spaces between buildings.

• Reinforce linkages between buildings and clusters of buildings. Develop a hierarchy of the pathways that make up those linkages.

• Promote designs that articulate the form and massing of the buildings elevation, expressing a connection between the interior and exterior, signaling entry points and vertical circulation.

• Maintain the separation of pedestrian and vehicular traffic.

• Continue to develop the core as an academic hub, with specialized program nodes at the core periphery.

• Design buildings to have multiple faces. Campus buildings should be accessible from all sides. Service entries should be concealed from the pedestrian experience.
Materials / Colors

The Daytona State College Campus buildings are comprised of a variety of materials, including brick, architectural precast and painted stucco. The color palette is neutral in tone and complemented by extensive landscaping.

Recommendations:
- Articulate elevations with elements and materials that relate to a human scale by avoiding large flat areas of building surfaces.
- Use of high performance/ transparent glazing to engage the interior and exterior spaces, particularly at entry ways.
- Curtain-wall, storefront systems; and coping and cap flashing should be clear anodized aluminum.
- Promote the use of regionally produced materials to further sustainability.
- Continue to employ a neutral color palette that compliments the current materials and colors of the campus.
- Screen roof top equipment from views at pedestrian level.
- Encourage sun shading devices.
- Accent colors can be used to strengthen building elements and inform the pedestrian.
- Use durable, timeless materials to reinforce the character of the campus.
Building Entry / Connectors

Entries can be voids in the massing, with visual queues that promote way-finding. Entries can be gathering spaces when spacious and shady.

Allow for iconic sculptural building forms. Entries should be unobscured and reinforced by the architecture in addition to providing shelter.

Encourage entry ways that inform the pedestrian with archetypical entry forms that project forward and allow for protection from the elements.

Design the spaces between buildings as gathering spaces for people.

Connect buildings above ground with pedestrian bridges.

Create quality constructed walkways using durable and timeless materials that evoke a sense of permanence. Design to a human scale.
Open Space Recommendations

Create an open space environment that promotes health and is sustainable.
• Develop a diversified urban forest on the campus with a high percentage of shade to minimize the urban heat island effect.
• Utilize best practices in water conservation including an integrated campus wide system with efficient control systems using the lowest available quality water (storm water reuse, if possible).
• Create a cohesive landscape that reflects the regional natural landscape.
• Develop landscape criteria that support LEED® certification of buildings.

Create an open space environment that improves campus connectivity.
• The landscape and hardscape should visually and physically connect the campus and its buildings.
• The open space should provide barrier-free access.

The campus open space should promote collaboration.
• Establish outdoor spaces that encourage interaction between students, faculty, and staff.

The campus open space should be comfortable.
• Provide outdoor spaces that are climate sensitive, inviting, and accessible to all.

The campus open space should be visually appealing.
Landscape Recommendations

- Provide shade and spatial definition to create livable campus places for people.
- Layer and mass landscape material in response to buildings to create spaces.
- Create a biologically diverse landscape that is predominately native and based on the natural ecological plant communities of the region.
- Utilize water efficient landscape plants and group plants into appropriate hydro zones.
- Utilize “right plant, right place.”
- Utilize high maintenance landscape (e.g. irrigated sod) intentionally and in specific areas to maximize aesthetic benefits and minimize ecological impacts.
- Provide landscape around storm water ponds with shrubs, groundcovers, and aquatics to create a no-mow and no-fertilizer zone around ponds.
- Promote green roof landscapes, where appropriate.
- Landscape shall be designed to meet LEED Certification.
Hardscape & Site Furnishings Recommendations

General Hardscape Recommendations
• Pathways and surface paving should be consistent with a practicality toward simple solutions in most settings and special treatments in feature locations.
• Pedestrian walkways on campus should occur in several forms and scales.
• Utilize pavement types that have high Solar Reflectance Index (SRI) values (29 or greater) to reduce non-roof heat island effect as much as possible.
• Hardscape should be accessible conforming to Chapter 11 of the Florida Building Code.

Special Roadway Paving
• Special roadway paving can be used to bring attention to important areas (e.g., campus entrances) and key intersections within campus.
• Specialty roadway paving may include raised crosswalks, raised intersections.
• All specialty roadway paving to be coordinated with infrastructure civil design.

Pedestrian Paving
• Pavers and other specialty paving are encouraged in the design of the campus. Plazas, entry-walks and courtyard areas may utilize varied alternative pavers.
• Specialty paving must be ADA accessible or not preclude an accessible route.
• Pervious paving can be utilized and should be evaluated on a case by case basis.

Site furnishings
• Heat tolerant
• Comfortable
• Skate resistant
• Site furnishings should always be installed and anchored to a hardscape surface (such as a concrete slab) to provide a clean mowing and maintenance edge, with the exception of moveable tables and chairs.
• Benches should be located in shaded areas along pathways, in courtyards, and proximate to building entries.
• Trash receptacles should be near benches, picnic tables, and building entries, but not immediately adjacent because they may have an odor and draw insects.
• Trash receptacles should also be placed liberally around all student activity areas and be emptied frequently.
• Picnic tables should be placed in activity or study areas and always be in the shade.
• Bicycle racks should be located near building entries and at student activity areas.
• Bicycles racks should be a “U-rack” style providing two points of contact for the bicycle.
• Recreational equipment as well as any metal fencing should either be dark green or black vinyl or powder coated finish to match the site furnishings or the lights, and in material that has a warranty against paint degradation, rust or corrosion. Plain galvanized / silver chain link fencing should not be used.
Green Technologies & Irrigation Recommendations

**Green Roofs**
- A roof of a building that is partially or completely covered with vegetation and soil, or a growing medium, planted over a waterproofing membrane, absorbing rainwater and reducing runoff.

**Cisterns**
- A receptacle built for catching and storing rainwater. Ideal for water reuse needs. They range in capacity from a few liters to thousands of cubic meters.

**Rain Gardens**
- A planted depression that is designed to absorb rainwater runoff from impervious urban areas like roofs, driveways, walkways, and compacted lawn areas.

**Bio-swales**
- Depressed landscape elements designed to remove silt and pollution from surface runoff water.

**Pervious Pavement**
- Paving methods for roads, parking lots and walkways that allow the movement of water and air through the paving material.

**Irrigation Recommendations**
- The irrigation system should be designed as a comprehensive smart system.
- All irrigation shall be connected to a campus wide central control system with a weather system.
- The irrigation system should provide for state of the art water management and utilize innovative technologies, such as moisture sensors.
- Plants with like water requirements should be grouped and irrigated together.
- The lowest quality of water available should be utilized for irrigation. If feasible, utilize cistern and storm water reuse technologies.

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**Open Space Recommendations**

Green Technologies & Irrigation Recommendations
7 Advanced Technology Center
Master Plan
Advanced Technology Center
1170 Technology Blvd., Daytona Beach

The mission of the Advanced Technology Center is to educate students in engineering, technical, and high tech fields. This technological training is customized to meet the needs of businesses in Volusia and Flagler counties. The ATC houses occupational classrooms and lab areas with state-of-the-art equipment and smart classrooms designed for each specific program. The facility has wireless access throughout the building. The two-story classroom building is organized around an enclosed atrium which acts as a student-gathering space. The ATC is designed to serve a wide variety of students. College students who seek additional technological training or degrees, as well as high school juniors and seniors in Volusia and Flagler counties are in attendance. The ATC is a public/private partnership. Daytona State College, the Volusia County School System and the Flagler County School System represent the public side of the project and are joined by the ATC Board of Directors, which is composed of business and community leaders who represent the private side of the project. The ATC is a member of the Volusia Flagler Career Connection Consortium and is supported by the business communities of Volusia and Flagler counties.

Design Drivers:
• Potential partnership with high tech companies
• Potential Growth: Engineering Technology
• Incubator programs (leasable high-tech space)
• Potential relocation of athletic programs from D.B. Campus
• M.E.T. Program (manufacturing engineering technology) future
• Solar programs in house
• Machine mechanics programs in house
• A.S. programs in construction future
• BAS & BOS Programs can be expanded
• Consider partnerships/Halifax Florida Hospital/Embry Riddle Research
• A.S. program in Pre-Engineering future – 1st priority

Considerations:
• Low facility utilization. High online class utilization. 20-30% of FTE are students on campus, others are online.
• Existing facility serves program needs with a surplus of parking
• Highly accessible campus
• Wetlands mitigation required to build on site.
• Property purchase required to enlarge campus. Consider property to north of site.

Programs Offered at the ATC:

**Engineering Technology Programs**
- Engineering Technology (BSET)
- Electrical Engineering Technology (BSEET)
- Information Systems Technology (BISIST)

**Computer Science Programs**
- Cable Installation
- Computer Information Technology
- Computer Engineering Technology
- Computer Engineering Technology Cisco (CCNA)
- Computer Programming and Analysis
- Computer Programming (Software Engineering Technology)
- Computer Programming
- Computer Specialist
- Drafting and Design Technology
- Electronics Engineering Technology
- Information Technology Administration
- Information Technology Analysis
- Information Technology Management
- Information Technology Support Specialist
- Interior Design Technology
- Information Technology Technician
- Internet Services Technology
- Microcomputer Repairer/Installer
- Network Communications (LAN)

**Construction, Manufacturing & Engineering Programs**
- Air Conditioning, Refrigeration and Heating, Mechanic and Technology
- Architectural and Building Design Technology
- AutoCAD Foundations (Architectural)
- AutoCAD Foundations (Engineering)
- Drafting & Design Technology
- Interior Design Technology
- Kitchen and Bath Specialization
- Manufacturing Technology
- Apprenticeships
- Electrical Non-Union
- Electrical Union

Network Communications (WAN)
Networking Services Technology
Network System Developer
Simulation and Robotics Technology
Web Development Specialist
Wireless Communications

Automotive Programs
- Automotive Collision Repair & Refinishing
- Automotive Service Certificate
- Automotive Service Management Technology
- Advanced Automotive Technology

Construction, Manufacturing & Engineering Programs
- Air Conditioning, Refrigeration and Heating, Mechanic and Technology
- Architectural and Building Design Technology
- AutoCAD Foundations (Architectural)
- AutoCAD Foundations (Engineering)
- Drafting & Design Technology
- Interior Design Technology
- Kitchen and Bath Specialization
- Manufacturing Technology
- Apprenticeships
- Electrical Non-Union
- Electrical Union
Advanced Technology Center Enrollment Growth Projections

The enrollment/growth projections chart was developed to assist the group to evaluate the needs for buildings and parking based upon the expected FTE for the campus over time. The graph at the top of the chart provides a visual description of the FTE that has been projected for the coming years based upon current data.
Master Plan
Proposed Campus Master Plan Option A

Advanced Technology Center
Master Plan
Proposed Campus Master Plan Option B

Advanced Technology Center
8 Deland Campus
Master Plan
Deland Campus
1155 County Road 4139, Deland

The Deland Campus offers college credit courses which meet the general education requirements for the Associate of Arts Degree and some Associate of Science Degree programs as well as various certificate programs. The Bert Fish Building houses up-to-date facilities for dental assisting, dental hygiene, nursing, science labs and a multi-media learning center. Comprehensive student support services include: counseling, Student Disability Services, the Women’s Center, career advisement, individual tutoring, a computerized learning/tutoring center and a foreign language laboratory.

Design Drivers:
• Growth: BAS Business
• Develop destination program for campus such as cosmetology or high tech computer science to serve the I-4 high tech corridor
• Centrally located campus, close to I-4 is a benefit to continuing education programs.
• Dental Hygiene expansion is potentially viable.
• Fitness Center proposed as an additional amenity
• Writing Center proposed as additional program

Considerations:
• Portables should be replaced long term
• Shortage of parking
• Building 5 will need to be renovated
• Shortage of faculty offices
• Need larger classrooms (60, 65, 70 student stations)
• Academic support space is needed.
Deland Campus Enrollment Growth Projections

The enrollment/growth projections chart was developed to assist the group to evaluate the needs for buildings and parking based upon the expected FTE for the campus over time. The graph at the top of the chart provides a visual description of the FTE that has been projected for the coming years based upon current data.
Master Plan
Proposed Campus Master Plan
9 Flagler/Palm Coast Campus Master Plan
Flagler/Palm Coast Campus
3000 Palm Coast Parkway Southeast, Palm Coast

The Flagler/Palm Coast Campus offers college credit, college preparatory, adult basic education, general education development (GED) and English for Speakers of Other Languages (ESOL) courses. Students can also take the first year of the two-year Associate Degree Nursing Program and public school teacher certification courses. All general education requirements for the associate of arts degree and many requirements for the associate of science degree programs may be completed here. Facilities include a Nursing laboratory, two science laboratories, an academic support center, two computer laboratories, an amphitheater, and state-of-the-art “smart classrooms”.

Design Drivers:
• Academic support/ writing center is needed
• Bookstore to be added
• New Programs: 2nd year nursing, hospitality, advanced sciences
• New AA programs
• Add faculty offices, staff office space, student center
• Athletic Facilities- possible partnering with YMCA
• Move assessment to core campus with registration/admissions
• Consider partnership with Flagler Hospital.
• Consider joint venture with the Whitney Lab (UF Marine Land) Marine biology and oceanography.

Considerations:
• Modular Building #1 is old and needs to be replaced
• Future construction of 2 story classroom building south side of existing Building #2
• Need: small cafeteria, conference room or multi-purpose room, student union
• Need more and larger classrooms (40 seats)
• Need more science labs
• Need multi-purpose room (70 – 80 5.9 / 2)
• Need more student gathering/informal study areas and computer commons
• Split entrance- Administration is not clearly identifiable
• Portables are fully occupied
• Lighting at parking areas needs improvement
• Parking needs improvement
• 35 full time faculty, 29 adjuncts
• Student Center: Bookstore/Cafeteria
Flagler/ Palm Coast Campus Enrollment Growth Projections

The enrollment/growth projections chart was developed to assist the group to evaluate the needs for buildings and parking based upon the expected FTE for the campus over time. The graph at the top of the chart provides a visual description of the FTE that has been projected for the coming years based upon current data.
Proposed Campus Master Plan
10 New Smyrna Beach Center Master Plan
New Smyrna Beach-Edgewater Center
940 Tenth Street, New Smyrna Beach

The New Smyrna Beach-Edgewater Center offers college credit, college preparatory, continuing education, adult high school, adult basic education, general education development (GED) and English as a Second Language (ESL) courses. All general education requirements for the associate of arts degree and many requirements for associate of science degree programs may be completed at New Smyrna Beach-Edgewater Center. The center has expanded its nursing, health occupations, science, computer, engineering, public service and occupational programs. It also has two science laboratories, a nursing laboratory, a learning center and state-of-the-art “smart classrooms.”

Design Drivers:
• Create more “Certificate” programs: Cosmetology, Patient Care Assistant, Culinary, Auto Mechanic and HVAC
• Possible partnership with Boston-Whaler, Edgewater Marine, Everglades
• Growth: Dual enrollment, Childcare, Early Childhood Education, EMT, Assisted Living Facility PCA
• Possible partnership with New Smyrna Beach High School- Dual Enrollment - Culinary programs - Technology - Marine Biology
• Consider a destination program that is dedicated to the campus
• Potential partnerships with industrial park close by, air park industry, Bert Fish Medical Center.

Considerations:
• Conservative projections for FTE growth
• Low facility utilization rate
• Need faculty office space
• Building 1 furnishings need to be updated.
• FCA moved out of south campus
• Student Center needed with cafeteria/bookstore
New Smyrna Beach Center Enrollment Growth Projections

The enrollment/growth projections chart was developed to assist the group to evaluate the needs for buildings and parking based upon the expected FTE for the campus over time. The graph at the top of the chart provides a visual description of the FTE that has been projected for the coming years based upon current data.
11 Deltona Center Master Plan
Deltona Center
2351 Providence Boulevard, Deltona

The Deltona Center is the result of the College recognizing a lack of access to quality postsecondary education and advanced training in the rapidly growing Deltona area, situated in the midst of the Florida High-Tech Corridor. A variety of Daytona State’s business and industry training programs, as well as technology disciplines are housed at the Deltona facility. The first building features 42,000 square feet of space, including classrooms, computer labs, an incubator and administrative offices.

**Design Drivers:**
- Faculty & Staff office shortage
- Provide new B.S. education programs
- Growth in Nursing and A.A. degrees.
- Expand environmental science program
- Expand cosmetology program

**Considerations:**
- New education space is needed
- Losing (4) classrooms to City Hall
- Parking shortage
- Fast growing campus
- Need Academic Support (AAC)/writing center
- Student Center desired
- Bookstore desired
- Need more lab space
- Could double FTE in 18 months with another building.
- Food Service desired
Deltona Center Enrollment Growth Projections

The enrollment/growth projections chart was developed to assist the group to evaluate the needs for buildings and parking based upon the expected FTE for the campus over time. The graph at the top of the chart provides a visual description.