The Michigan City Plan Commission met in a regular meeting in the Common Council Chambers, City Hall Building, 100 East Michigan Boulevard, Michigan City, Indiana, on Tuesday, April 23, 2019, at 6:00 p.m.; the date, hour, and place duly established for the holding of said meeting.

**CALL TO ORDER**
With positions of President and Vice-President being vacant, Secretary Larry Zimmer called the meeting to order at approximately 6:05 p.m.

**ROLL CALL**
Assistant Planner Skyler York called the roll with attendance noted as follows:

**Present:**
Sharon Carnes, Braedan Gallas, Dan Granquist, Phil Latchford, Fred Klinder, Charles Peller, Andy Sperling, Larry Zimmer (8)

**Absent:**
Faye Moore (1)

**Staff Present:**
Planning Director Craig Phillips, Assistant Planner Skyler York, Attorney Steven Hale, Planning Department Administrative Assistant Debbie Wilson

**Staff Absent:**
None

Commissioner Zimmer welcomed new members Dan Granquist (replacing Michael Gresham) and Andy Sperling (replacing G. Wallace Hook).

**ELECTION OF OFFICERS**
The floor was opened to nominations for President.

Sharon Carnes nominated Larry Zimmer for President. The nomination was seconded by Phil Latchford.

*There were no other nominations; therefore, nominations were closed, and the roll called. (Ayes) Sharon Carnes, Braedan Gallas, Dan Granquist, Phil Latchford,*
Fred Klinder, Charles Peller, Andy Sperling, Larry Zimmer – 8; (Nays) None – 0. With a unanimous vote, Larry Zimmer was elected as President.

The floor was opened to nominations for Vice-President.

Larry Zimmer nominated Sharon Carnes for Vice-President. The nomination was seconded by Braedan Gallas.

There were no other nominations; therefore, nominations were closed, and the roll called. (Ayes) Sharon Carnes, Braedan Gallas, Dan Granquist, Phil Latchford, Fred Klinder, Charles Peller, Andy Sperling, Larry Zimmer – 8; (Nays) None – 0. With a unanimous vote, Sharon Carnes was elected as Vice-President.

Regarding the position of Secretary, Attorney Hale spoke and advised that both state statute and local zoning ordinance provide that this body elects two officers – the president and vice-president, and it appoints a secretary. The secretary may be a member of the Plan Commission but does not need to be a member. He explained that there is no true distinction between electing someone and appointing them as there still will need to be a nomination and vote.

Commissioner Klinder inquired if this is for discussion purposes tonight and voting on at the next meeting, or if it must be voted on this evening.

Attorney Hale replied that it can be taken care of this evening, pointing out that historically the secretary has always been voted on and has always been a member of this body. He said he was just providing Commissioners with all options and information that it does not necessarily have to be member.

Commissioner Zimmer asked if it could be the Planning Department Administrative Assistant, Debbie Wilson.

Attorney Hale advised that it could.

Mr. Phillips clarified that the role of the secretary is to sign the minutes and fill the role of either the president or vice-president in their absence.

After consideration, Larry Zimmer nominated Dan Granquist for Secretary. The nomination was seconded by Sharon Carnes.

There were no other nominations; therefore, nominations were closed, and the roll called. (Ayes) Sharon Carnes, Braedan Gallas, Dan Granquist, Phil Latchford, Fred Klinder, Charles Peller, Andy Sperling, Larry Zimmer – 8; (Nays) None – 0. With a unanimous vote, Dan Granquist was appointed as Secretary.
Officers for the remainder of 2019 are: Larry Zimmer, President; Sharon Carnes, Vice-President; Dan Granquist, Secretary.

In a related matter, President Zimmer advised that the Plan Commission must appoint a member of this body to the Board of Zoning Appeals as that position is currently vacant due to Mr. Hook’s resignation from the Plan Commission and his appointment to the Board of Zoning Appeals.

Attorney Hale advised that there are two requirements for the Plan Commission’s appointment to the Board of Zoning Appeals. One, it must be a member of this body, and two, it must be one of the five citizen members of this body but not the same one appointed by the Mayor to the Board of Zoning Appeals (Larry Zimmer). The other four eligible members would include Dan Granquist, Andy Sperling, Braedan Gallas, and Fred Klinder.

Sharon Carnes nominated Fred Klinder. The nomination was seconded by Braedan Gallas.

There were no other nominations; therefore, nominations were closed, and the roll called. (Ayes) Sharon Carnes, Braedan Gallas, Dan Granquist, Phil Latchford, Fred Klinder, Charles Peller, Andy Sperling, Larry Zimmer – 8; (Nays) None – 0. With a unanimous vote, Fred Klinder was appointed as the Plan Commission appointment to the Board of Zoning Appeals.

APPROVAL OF MINUTES
President Zimmer entertained a motion for approval of the minutes of the regular meeting of February 26, 2019.

Motion by Commissioner Peller – seconded by Commissioner Carnes accepting the minutes of the regular meeting of February 26, 2019 as submitted. The roll was called, and the vote taken: (Ayes) Sharon Carnes, Braedan Gallas, Dan Granquist, Charles Peller, Larry Zimmer – 5; (Nays) None – 0; (Abstain) Phil Latchford, Fred Klinder, Andy Sperling – 3; (Absent) Faye Moore – 1. With a vote of 5 ayes, 0 nays, 3 abstentions, and 1 absent, the MOTION CARRIED, AND MINUTES APPROVED.

POLICY OF CONDUCT AND PROCEDURES
The Policy of Conduct and Procedures for the Michigan City Plan Commission states that the Commission is composed of nine persons. By statute, five must vote affirmatively to approve a petition. Thus, whenever less than a full board is present, the petitioner may wish to continue his/her hearing. Anyone wishing to speak on a petition or to the board in general at the end of the meeting may do so by approaching the speaker’s roster and giving his/her name and address. Comments should be
addressed to the Plan Commission, not to a petitioner or remonstrator or others in the audience. The Plan Commission vote is based on the evidence presented.

**PETITION(S)**
(No petition)

**REPORT BY DIRECTOR**
(No report)

**REPORT BY ATTORNEY**
(No report)

**OLD BUSINESS**
(No old business)

**NEW BUSINESS**
(Resolution 1-19 for Dedicated Service – G. Wallace Hook)
President Zimmer read the resolution into the record (attached hereto and made a part of this record [1]).

The chair entertained a motion.

*Motion by Commissioner Carnes – seconded by Commissioner Peller approving RESOLUTION 1-19 OF THE MICHIGAN CITY PLAN COMMISSION FOR DEDICATED SERVICE – G. WALLACE HOOK. The roll was called, and the vote taken: (Ayes) Sharon Carnes, Braedan Gallas, Dan Granquist, Phil Latchford, Fred Klinder, Charles Peller, Andy Sperling, Larry Zimmer – 8; (Nays) None – 0; (Absent) Faye Moore – 1. With a vote of 8 ayes, 0 nays, and 1 absent, the MOTION CARRIED, AND THE RESOLUTION APPROVED.*

(Commitment letter – violations at Whisper Dunes Subdivision, Dunescape at Beachwalk, LLC)
Attorney Hale opened discussion recalling that this body previously approved Whisper Dunes Planned Unit Development (PUD). He explained that as part of that approval process, included in the plan approved by this body were conservation easement areas which primarily covered the dune areas to protect them from destruction or disturbance. After the conservation easement was recorded and sometime during the summer of 2018, the areas of the conservation easement on Lots 1 and 5 were damaged, destroyed, and denuded of material and vegetation. Mr. Hale stated Planning Department staff became aware of the situation in October 2018.

Attorney Hale continued stating that there were discussions and negotiations between the developer (Dunescape at Beachwalk, LLC) and staff over what should be done with this. The outcome was a series of events that should occur to resolve the issue along
with restoration required by the Planning Department. Mr. Hale noted that Commissioners were provided with a copy of his letter dated March 1, 2019 to the developers’ attorney outlining resolution of the violation (attached hereto and made a part of this record [2]) as well as a copy of a commitment letter from the developer and his attorney accepting resolution of the violation (attached hereto and made a part of this record [3]). Mr. Hale summarized that resolution of the violation includes repairing the areas which were disturbed and in addition, additional areas of conservation easement must be set aside equal to the area that was disturbed. The developers’ surveyor has provided the Planning Department with the appropriate documentation so that computation can be made by staff. In addition, monies (up to $20,000) must be spent to provide additional cover for the areas that were disturbed. If that amount is not needed as determined by the City Forester, the excess money will be held in escrow for 1 year to be used if necessary to replace failed plantings. After that time, if the money is not needed, the excess will be returned to the developer.

Attorney Hale advised that soon the developer will file an application for modification of the final PUD plan. He explained that as part of the approval process for a PUD, the developer must provide a plan. The zoning ordinance allows for minor modifications to be made by staff if those modifications just involve an increase in conservation easements. If approved by staff, the developer will file a new subdivision plat which will be taken care of as an administrative subdivision because it will only involve moving around the lines of the conservation easement.

Attorney Hale stated that staff is asking the Plan Commission to approve this process for resolving the violation.

Mr. Phillips clarified that the area disturbed from action taken on the part of the developer was approximately 2,095 square feet on Lot 5 of Whisper Dunes and approximately 3,571 square feet on Lot 1 of Whisper Dunes, for a total area disturbed and needing replacement resulting in approximately 5,666 square feet of additional conservation easement to be added to the plat, with approval being delegated by himself as the enforcement official.

Commissioner Granquist referred to the reference made about the additional conservation easement areas and asked if it would replace the current one.

Attorney Hale explained that the original conservation easements are scattered throughout the project and they will remain as conservation easements. These additional areas would be in addition to the original easements.

Mr. Phillips added that the additional easements will basically offset the impact of the removal of the vegetation and the regrading of the dune area, although the original areas will remain as conservation easements as well.
Commissioner Latchford referred to the “up to $20,000” in remediation costs and asked what happens if the costs end up being greater than that.

Mr. Phillips stated that the consultants for the project have given staff estimates of what they believe the costs to be for the work needed to be done. Those estimates were not more than $20,000 and staff believes those estimates to be valid. Mr. Phillips said if they can restore the area for less than that, then so be it. The work will be inspected and approved by staff.

Commissioner Latchford asked what happens if the $20,000 does not complete the project.

Mr. Phillips replied that staff provided the square footage of the area which needs to be restored. The developer had consultants put together an estimate of what that was. Staff reviewed it along with the City Forester and believe it is valid.

Commissioner Latchford again asked what would happen if the plantings don’t hold and there is not enough money to pay for it.

Mr. Phillips stated that staff would be able to go back through the standard enforcement procedures in the ordinance. For example, he said if the restoration was not done properly or not maintained properly, staff could follow up on the matter through the regular enforcement process outlined in the ordinance.

Commissioner Granquist inquired into if the work to be done is the specific requirement and the escrow is just a mechanism of funding, so they would still need to accomplish the work regardless of the cost.

Attorney Hale explained that there is a plan which was proposed by the City Forester and vetted by the developers’ professional landscaper; those two got together and came up with the plan.

Commissioner Granquist confirmed that the escrow is just a funding mechanism to accomplish that. If it is less than that the developer will get a refund, if it is more than that the developer will still have to accomplish the work specified.

Attorney Hale acknowledged that the developer will have to accomplish the work specified.

Commissioner Latchford asked if he understands it correctly that this is a not to exceed contract.

Attorney Hale replied affirmatively.
Commissioner Klinder asked Mr. Phillips if he has any idea why the developer decided to bulldoze down that area of the sand dunes.

Mr. Phillips replied to Mr. Klinder stating that there was work being done in the subdivision in preparation for the road access to the subdivision. Mr. Phillips said he thinks in an effort to utilize economies of scale the developer directed the contractors to do some additional clearing at that time. Mr. Phillips said he does not think the developer had a full understanding of what exactly was being done when it occurred.

Mr. Phillips pointed out that there is a provision in the ordinance which allows a certain amount of property to be cleared for the construction of a home as a permitted use on the lots within a subdivision; although, he said it is staff’s position that the work done in Whisper Dunes Subdivision exceeded what would have been allowed by ordinance, especially within the conservation easements which should have remained in their natural state in perpetuity.

Commissioner Klinder commented that earlier he thought he heard they will redevelop this whole area with 10-14 plots.

Mr. Phillips wanted it to be clear that the Plan Commission approved 10 lots, regardless of what marketing materials show for this property or what has been put out to the public as far as what might be available. 10 lots were approved by this body as the final plat of this subdivision.

With no further discussion, the chair entertained a motion.

*Motion by Commissioner Peller – seconded by Commissioner Klinder approving the Commitment Letter dated March 14, 2019 from the Developer, William McLinden of Dunescape at Beachwalk, LLC and his Attorney, Barry F. McDonnell, which outlines the Developers’ acceptance to resolution of this violation. The roll was called, and the vote taken: (Ayes) Sharon Carnes, Braedan Gallas, Dan Granquist, Phil Latchford, Fred Klinder, Charles Peller, Andy Sperling, Larry Zimmer – 8; (Nays) None – 0; (Absent) Faye Moore – 1. With a vote of 8 ayes, 0 nays, and 1 absent, the MOTION CARRIED.*

**GENERAL DISCUSSION**

Relating to Whisper Dunes Subdivision, Commissioner Peller noted that on the south side of the access road there is supposed to be some type of erosion control on the slopes to keep the sand from washing down onto the road. Mr. Peller said that the sand has already washed down onto the road and he suggests that the Planning Department look at it because there is a special drainage system with storage tanks which may be filling up with sand. He suggested that the developer clean it out before it gets worse.

President Zimmer gestured to Attorney Barry McDonnell to convey that to his client.
Attorney McDonnell acknowledged that he would.

PUBLIC COMMENT
(None)

ADJOURNMENT
The chair entertained a motion to adjourn.

Motion by Commissioner Sperling – seconded by Commissioner Gallas and unanimously approved.

With no further business, President Zimmer declared the meeting adjourned at approximately 6:35 p.m.

ATTACHMENTS
1) Resolution 1-19
2) Proposed resolution of violation dated 3/1/19 from Steven A. Hale
3) Commitment Letter dated 3/14/19 from developer and his attorney

Larry Zimmer, President

ATTEST:

Dan Granquist, Secretary
RESOLUTION 1-19

RESOLUTION OF THE
MICHIGAN CITY PLAN COMMISSION
FOR DEDICATED SERVICE – G. WALLACE HOOK

WHEREAS, the Michigan City Plan Commission is the body which maintains the Michigan City Comprehensive Plan; and

WHEREAS, G. Wallace Hook served on the Michigan City Plan Commission as the Mayor’s appointee; and

WHEREAS, G. Wallace Hook served on the Michigan City Plan Commission for 31 years from February 1988 through February 2019; and

WHEREAS, G. Wallace Hook served as the Commission’s President consecutively from 1996 until his resignation; and

WHEREAS, G. Wallace Hook served as the Plan Commission’s appointment to the Board of Zoning Appeals for 18 years from September 2001 until his resignation;

WHEREAS, G. Wallace Hook has given his efforts and time to faithfully serve on the Plan Commission.

NOW THEREFORE, BE IT RESOLVED, that G. Wallace Hook be recognized and thanked for his tireless efforts on behalf of the Michigan City Plan Commission.

The Plan Commission, by adoption of this resolution, does hereby acknowledge Mr. Hook’s dedicated services, and further that he will always be appreciated and held in high esteem by this Honorable Board.

Dated and passed this 23 day of April, 2019.

MICHIGAN CITY PLAN COMMISSION

By: [Signature]
President – Larry Zimmer

By: [Signature]
Secretary – Dan Granquist
March 1, 2019

Barry F. McDonnell
601 Franklin Street, Suite 200
Michigan City, IN 46360
bfmesquire@comcast.net

Re: Violation of Whisper Dunes Subdivision PUD overlay (clearing of conservation easement area) and violation of Zoning Ordinance (clearing dune without permit)

Your client: Dunescape at Beachwalk LLC (the "Developer")

Dear Mr. McDonnell:

As you know, I have recommended that resolution of this matter, and particularly approval of a revised PUD site plan, should include a Plan Commission decision. This was a major component of my suggestions in my January 8, 2019 letter to Dunescape at Beachwalk, LLC. Your response letter to me dated February 21, 2019 contained an alternative approach, Plan Commission approval of the overall resolution as detained in your client's Commitment Letter (see below). I believe your proposal has some merit and I would recommend to the Planning Department and the Plan Commission that global resolution of this matter be accomplished in the following manner.

- A detailed letter from Developer and signed by Mr. McLinden (the "Commitment Letter") outlining his commitment to proceed as follows:
  - Letter to be addressed to the Planning Department, to reference all outstanding issues (see above) and to be filed no later than March 15, 2019 and to request that these issues be resolved as set out in this letter.

- This proposed resolution will be placed on the Plan Commission agenda for its March 26, 2019 meeting.

- The proposed resolution shall include (and the Commitment Letter shall reference):
  - Developer shall file an Application For Minor Modification to Final PUD Site Plan (the "Application") after Plan Commission approval of the Commitment Letter but no later than April 1, 2019.
  - The format of the Application is not critical, but it should follow generally the application for final PUD site plan approval.
The content of the Application must include only additions to the conservation easement area:

- Developer must retain the current conservation easements (including those on Lots 1 and 5) and increase the total conservation easement area by an amount equal to the area damaged on Lots 1 and 5 as determined by the Enforcement Official. The additions to conservation easement areas can be determined by the Developer.

- Developer must spend a total of at least $20,000.00 in matting, plants and installation in areas disturbed on Lots 1 and 5 within the conservation easements and between the rear setback and the conservation easement area on Lot 5 by June 30, 2019.

- Upon approval of the Application by the Enforcement Official, the Developer shall file a Petition For Re-Subdivision of Whisper Dunes and the appropriate plat (the "Administrative Subdivision") within ten (10) days of said approval but no later than April 10, 2109.

- The new Administrative Subdivision and plat shall only add to the conservation easement areas as set out in the Application.

- If it is in appropriate form, the Administrative Subdivision and plat shall be reviewed by the Enforcement Official under the review and approval procedures for an administrative subdivision.

- Upon receipt of the Commitment Letter conforming to the provisions contained herein, the Planning Department will process Developer's application for a building permit for Lot 7 and will (so long as all standard requirements for a building permit are met) issue the building permit.

This whole process can be initiated upon receipt of the Commitment Letter; I don't see any need for further refinement. The building permit for Lot 7 can be processed immediately but any other permits should wait until the Administrative Subdivision is approved. So time is critical. I hope all current issues can be resolved in this matter as that is the intent of my suggested plan.

Sincerely yours,

Steven A. Hale, as Attorney for the
Michigan City Plan Commission

SAH/kw

cc: By Electronic Message Only
Craig Phillips, AICP, Planning Director
Amber Lapaich-Stalbrink, Corporate Counsel
Sue Downs, Building Commissioner
Skyler York, Assistant Planner
March 14, 2019

Planning Department
City of Michigan City
100 East Michigan Boulevard
Michigan City, Indiana 46360
Attn: Craig Phillips, Director

Re: Violation of Whisper Dunes Subdivision PUD overlay (clearing of conservation
easement area) and violation of Zoning Ordinance (clearing dune without permit)

My client: Dunescape at Beachwalk, LLC (the “Developer”)

Dear Mr. Phillips:

Please consider this Commitment Letter as acceptance and confirmation of the
proposed resolution of the above violations as outlined in your attorney’s letter to me
dated March 1, 2019. I will outline my client’s commitment to proceed below and will
note that since the March 1st letter, there will need to be slight modifications to the
timeline proposed. The specific commitments are as follows:

1) This proposed resolution will be placed on the Plan Commission agenda for its
April 23, 2019 meeting. (The March 26, 2019 meeting was cancelled).

2) Developer shall file an Application for Minor Modification to Final PUD Site Plan
(the “Application”) after Plan Commission approval of the Commitment Letter
but no later than May 1, 2019.

3) The content of the Application will include only additions to the conservation
easement area as follows:

   a) Developer shall retain the current conservation easements (including those
      on Lots 1 and 5) and increase the total conservation easement area by an
      amount equal to the area damaged on Lots 1 and 5 as determined by the
      Enforcement Official. The additions to conservation easement areas can
      be determined by the Developer.

   b) Developer shall provide dune remediation, including matting, plants and
      installation, in areas disturbed on Lots 1 and 5 within the conservation
easements and between the rear setback and the conservation easement
      area on Lot 5 by June 30, 2019. Dune remediation shall, at a minimum,
      conform to the proposed remediation as set out in the letter to Michigan
      City Forester Adam Garza from Developer’s Landscape Architect Jeffreys

(219) 874-4276 • BFMESQUIR@COMCAST.NET • FAX (219) 874-9699
W. Oltmanns dated March 8, 2019 (a copy of which is attached). City Forester Adam Garza, or his successor, shall determine all questions regarding the remediation, including dune slope, plant spacing, and other technical details, needed to assure successful and appropriate remediation. Developer shall spend up to $20,000.00 in remediation costs as confirmed by paid receipts. If the actual cost is less, the excess shall be held in escrow for 1 year and, if needed to replace failed plantings, shall be used to replant. If not needed, said excess shall be returned to Developer.

4) Upon approval of the Application by the Enforcement Official, the Developer shall file a Petition For Re-Subdivision of Whisper Dunes and the appropriate Plat (the “Administrative Subdivision”) within ten (10) days of said approval but no later than May 10, 2019.

a) The new Administrative Subdivision Plat shall only add to the conservation easement areas as set out in the Application.

b) If it is in appropriate form, the Administrative Subdivision Plat shall be reviewed by the Enforcement Official under the review and approval procedures for an Administrative Subdivision.

My client has countersigned this letter and it is our understanding that the Building Permit of Lot 7 shall be released immediately, but in no event later than March 18, 2019.

Thank you for your cooperation in this regard.

Very truly yours,

Barry F. McDonnell

Agreed to this 5th day of March, 2019

Dunescape at Beachwalk, LLC

By: William McLinden

BFM/jm

cc: William McLinden
    Hesham Khalil
    Steven A. Hale
    Skyler York
    Sue Downs
    Amber LaPaich-Stalbrink
March 8, 2019

Mr. Adam Garza
Michigan City Forester
1801 Kentucky Street
Michigan City, IN 46360

RE: Request for dune remediation

Dear Mr. Garza,

Per your request, the following restoration technique is proposed for the Whisper Dunes Subdivision Lots 1 and 5.

Global Engineering recommends that the areas of remediation receive dune grass plantings. Specifically, Ammophila breviligulata (American Beachgrass or Merram Grass per the attached USDA/NRCS cut sheet) as recommended for dune establishment by the USDA/NRCS and Save the Dunes for areas within the foredune, or, predominantly consisting of dry sandy soil where the dune slope requires protection and stabilization from wind and water displacement of soil.

Recommended establishment consists of installation of dormant stem divisions from October 15 to April 1 at least (2) culms, 8 inches deep, and staggered 18-24 inches apart. Areas of severe wind erosion (not anticipated at this location) should reduce the spacing to 12 inches on center. Installation shall include fertilizer to promote vigorous root growth. Plantings on slopes in excess of 1 foot of rise per 2 feet of run (2:1) shall be installed through a biodegradable fiber blanket to protect the slope as shown on Michigan DEQ NPS BMP Manual pages SDS-4 and 5. Lastly, slopes in areas where surface stormwater runoff may engage the planted slope shall be protected with silt fencing or other approved stormwater BMP to interrupt the velocity of stormwater to prevent displacement of soil/plantings until the plantings have established.

This recommendation is based on the USDA/NRCS and Michigan DEQ information attached as well as information from the Save the Dunes website and past installation. Global Engineering provided similar restoration services for the Town of Long Beach in 2018 at “Stop 24” at the intersection of Lake Shore Drive and St. Lawrence Avenue using Ammophila breviligulata in a similar manner as described above to restore an exposed 2:1 slope facing Lake Michigan following the removal of a structure.

Sincerely,

[Signature]
Jeffrey W. Oltmanns
Landscape Architect
(219) 809-6330
oltmanns@global-landsurveying.com
AMERICAN BEACHGRASS
Ammophila breviligulata Fern.
Plant Symbol = AMBR

Contributed by: USDA NRCS Plant Materials Program

Uses
American beachgrass is the predominant plant species utilized along the Atlantic and Great Lakes coastlines for initial stabilization of frontal sand dunes. It has also been utilized on extreme, non-dune sites, some having high salinity levels and droughty conditions, for erosion control and initial cover.

Status
Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Description
American beachgrass is a leafy, spreading, strongly rhizomatous grass, producing up to of 100 stems per clump annually. This cool season perennial grass species will spread up to 6-10 feet annually by subsurface rhizomes. It will grow to 2 or 3 feet tall, tolerating annual over-topping accumulations of sand up to a foot. The leaves have deeply furrowed upper surfaces and smooth undersides. The long narrow leaves may become rolled or folded when exposed to intense heat, excessive sunlight, or drying winds.

Another moisture conservation attribute of American beachgrass is that the rough upper leaf surface, containing gas exchange openings (stomata), will orient itself away from winds. The seedhead emerges in late July or August as a spike-like cluster at the tips of long stalks. This multi-flowered panicle extends about ten inches above the leaves. Seed production is usually poor.

Adaptation and Distribution
This grass is a native of the mid-Atlantic coastal region from Maine to North Carolina and the Great Lakes. It will grow on sandy or other coarse textured soils on inland sites with or without high salinity, given that supplemental fertilizers are applied. This grass does not tolerate much soil moisture before it begins showing signs of stress.

For a current distribution map, please consult the Plant Profile page for this species on the PLANTS Website.

Establishment
Vegetative establishment of American beachgrass, with dormant stem divisions, from October 15 to April 1, is effective. Seed production is sparse so it is not normally considered as an establishment option. Beachgrass culms must be planted at least 8 inches deep. This prevents plants from drying out, as well as being blown out by the wind. A tilling or dicing spade is an excellent tool for opening the planting hole.

For erosion control and cover applications, two or more 18 to 24 inch long stems are mechanically or hand placed, 18 to 24 inches apart, per planting hole. If the site is exposed to severe wind erosion, spacing needs to be reduced to 12 inches and rows staggered. Utilizing an 18” spacing will require 38,720 culms per acre.

For nursery production, the soil should be well worked prior to planting. Single stems (12” to 18” long) should be planted one foot apart in rows, spaced wider than 30 inches to match cultivation equipment. Mechanical planting equipment is most productive under these site conditions for areas greater than 1/2 acre.

Management
Properly applied fertilizer is the key to good vigorous initial growth of newly established stands of American beachgrass. Applications providing
between 30 and 60 lbs. of nitrogen per acre annually are adequate. These annual fertilizer amounts are more effective if split into a spring and early summer application. The spring application should be applied at least 30 days after establishment, but no earlier than April 1. Once the stand is established, the rate of fertilizer applied can be reduced by half, or applied only when the stand appears to be weakening.

Pedestrian or vehicular traffic that bends or breaks the culms will seriously damage or kill the plants. On frontal dunes, areas devoid or with declining communities pose the threat of blowout. Replanting stands of beachgrass where openings or voids have developed should be an annual maintenance procedure, and exclusion of traffic with fencing is strongly advised.

Cultivars, Improved, and Selected Materials (and area of origin)
There are two named varieties available for conservation purposes: 'Cape' (Massachusetts), and 'Hatteras.' 'Cape' was selected and developed by the Cape May PMC then released to the commercial market in 1971. 'Hatteras' is an older variety, released by the North Carolina Agricultural Experiment Station in the early 1960's. It is better adapted for southern climates. 'Cape' is considered the industry's standard, and has been proven to outperform all other varieties for conservation applications from Maine to North Carolina. Foundation stock of 'Cape' is available to commercial nurseries from the Cape May PMC in New Jersey. Certified material is available to the public from numerous commercial nurseries.

Prepared By & Species Coordinator:
USDA NRCS Plant Materials Program

Edited: 31Jan2002 JLK; 30may06jsp

For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site: [http://plants.usda.gov](http://plants.usda.gov) or the Plant Materials Program Web site: [http://Plant-Materials.nrcs.usda.gov](http://Plant-Materials.nrcs.usda.gov)

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Read about Civil Rights at the Natural Resource Conservation Service.
Michigan DEQ NPS BMP Manual

- Turfgrass versus Native Vegetation - Minimize the use of turfgrass, because it can worsen runoff issues when water readily runs off mowed grass, and the soil underneath tends to become compacted over time, losing infiltration capacity. Instead, plant or maintain native vegetation (Michigan, 2014). Combinations of native grass, forb, shrub, and tree species are recommended.

- Vegetated Buffer Strips - Plant vegetated buffer strips 5 to 10 feet wide, landward of the top of slope or dune to be protected. Native vegetation with deep roots including grasses, forbs, and shrubs are recommended, to help slow and absorb erosive runoff, as well as to hold in place any loose soil. Avoid using typical lawn grass species, which tend to have shallow root systems.

- Ground Surface/Slope Stabilization – Combine runoff control measures with other soil stabilization measures to permanently prevent erosion and off-site sedimentation.

- Revegetation – Plant trees, shrubs, and ground covers to stabilize sandy soils and serve as integral parts of the site’s erosion control plan. Review Michigan’s plant list to ensure that invasive species (Michigan, 2017) are not included in the revegetation plan. Runoff is directed to the vegetated areas while directing flow away from structures and building foundations. Areas stabilized with vegetation slow and infiltrate runoff, filter pollutants, moderate temperature changes, and add shade. Information on plant species and planting methods appropriate for sandy areas is provided in the “Revegetation/Planting Guide” below.

- Bioengineering with Fiber Blankets - Installation of fiber blankets on shoreline banks, bluffs, and other steep slopes helps stabilize loose soils (sand) in place while planted vegetation takes root, as depicted in Figure 1. The planted vegetation then actively holds the bluff or slope in place as it develops root structure while the fiber blanket biodegrades. Some design considerations include:
  - Selecting a fiber blanket of materials that will decompose after vegetation is established.
  - Fiber blankets are most effective in areas with higher beach elevations where the toe of the bank is not constantly subject to erosion from waves.
  - Blankets are typically installed over the entire surface of a non-vegetated bank or bluff, but they can also be placed in specific areas where a bank or bluff is devoid of vegetation.
  - Blankets will not prevent erosion on unstable slopes or in areas subject to erosion from a seiche or storm waves.
On banks/bluffs where the toe is subject to erosion from storm waves, it might be appropriate to combine natural fiber blankets and vegetation with other shoreline stabilization options. Coir rolls can be installed at the toe to help prevent erosion there, and any subsequent sloughing or slope failure.

- Refer to the Rolled Erosion Control Products BMP for further information on selecting and installing/planting different fiber blanket types.

- Bioengineering with Coir Rolls - If the toe of a bank is eroding, the upper bank might collapse even if it is well vegetated. Coir rolls can be used to protect and stabilize the toe of a bank or bluff by providing a physical barrier that buffers waves and reduces erosion of exposed sediment, as depicted in Figure 2. Coir rolls provide stability and protection to the site while the vegetation planted in and above the rolls becomes established. As the coir rolls disintegrate, typically over 5 to seven 7 years, the plants take over the job of site stabilization. Considerations in the design and use of coir rolls include:

- For sites exposed to very high wave energy, consider an alternate form of bank stabilization. If coir rolls are used, it might be necessary to replace and maintain the coir rolls at the toe of the bank to provide longer-term stability.