

Article XII. Sea Turtle Protection Management Plan

Article	Page
I. Introduction	2
II. Objectives	2
III. Regulatory History	3
A. Federal Legislation	3
B. State Legislation	3
C. Local Legislation & Policies	3
IV. Habitat Management	4
A. Community Involvement	4
V. Implementation Guidelines	5
A. Coastal construction	5
B. Beachfront Lighting	5
C. Other Obstacles	8
VI. Education	9
VII. Enforcement	9
VIII. Inter-Agency Cooperation & Coordination	9
Appendix A – Contact Information	10
Appendix B – References	11
Appendix C – FWC Example Lighting Fixtures	12
Appendix D – Dark-sky Lighting Web Page	13

Article XII, Sea Turtle Protection Management Plan

I. Introduction

This management plan was developed in order to provide clarification and supplemental information on Article XII, Sea Turtle Protection Ordinance. It is the intent of this management plan to provide a balance between the needs of residents and visitors and threatened and endangered sea turtles. This document is also designed to provide the beachfront community a greater understanding of how the County will implement the sea turtle ordinance.

Five of the world's eight remaining sea turtle species--the Loggerhead, Green, Leatherback, Hawksbill, and Kemp's ridley--may be found in Florida's coastal waters. Four of these species are classified as endangered in Florida by both federal and state governments; the Loggerhead is listed as threatened.

As outlined in the Charlotte County Comprehensive Plan, sea turtles spend most of their lives in the ocean, feeding in seagrass beds, worm reefs, and other shallow coastal areas. Each year, female sea turtles crawl onto the County's beaches to lay their eggs in the loose dune sands. Several types of human activities can interfere with nesting activity and the ability of hatchlings to find their way into the Gulf. Artificial lighting can disorient the hatchlings that depend upon the illuminated horizon for direction. Night pedestrian traffic can cause the turtles to return to the ocean without nesting. Coastal development and beach renourishment activities that compact the sands can be equally detrimental. To address these problems, Charlotte County adopted a Sea Turtle Protection Ordinance (Ordinance 89-31) which provides standards and criteria for coastal development, and prohibits illumination of the nesting zone during the nesting season. The County is also supportive of citizen volunteers who monitor nesting activities on area beaches during the nesting season.

Other threats to sea turtles include pollution, boats and jet skis, fishing lines and other ocean debris that can entangle them, floating balloons or plastic bags which resemble a part of their diet (jellyfish), and nets.

II. Objectives

- A. Provide public education and outreach programs**
- B. Ensure public safety while managing beachfront lighting**
- C. Monitor development within the Coastal Construction Control Line (CCCL) and the Sea Turtle Lighting Zone through effective governmental coordination**
- D. Preserve nesting habitat for sea turtles and hatchlings**
- E. Facilitate the establishment of safe habitat through the removal of artificial obstructions (i.e. beach furniture)**

This plan addresses light management measures, public outreach, enforcement and additional activities which impact sea turtle nesting. The purpose is to prevent interference with sea turtle nesting habitat while addressing public safety concerns.

III. Regulatory History

A. Federal Legislation

- Adopted by Congress in 1973, the Endangered Species Act (ESA) establishes criteria for the listing and protections mandated for species of plants and animals listed as threatened or endangered.
- The Coastal Zone Management Act (CZMA) of 1972 establishes a cooperative state and federal program to manage coastal zones in the United States. Implementation of the CZMA may be delegated to individual states which adopt their own programs which meet the criteria of the federal program. The Florida Coastal Management Program, which was approved in 1982, is administered by the Florida Department of Community Affairs.
- The Marine Turtle Protection Act of 1991 strengthened marine turtle protection measures by requiring states to consider turtle protection in all permit applications for coastal construction and excavation.

B. State Legislation & Policies

- Chapter 161, Florida Statutes (*FS*), and Chapter 62B-33, Florida Administrative Code (FAC), establish the State's beach and shore preservation regulations including structural requirements, Coastal Construction Control Line (CCCL) guidelines, and sea turtle protection regulations.
- Chapter 163, FS (Local Government Comprehensive Planning and Land Redevelopment Act) requires that each city and county prepare and adopt a comprehensive plan containing mandatory elements that address growth management issues including conservation and coastal zone management.
- The Florida Endangered and Threatened Species Act and the Preservation of Native Flora of Florida Act establishes criteria for the listing, protection and management of plant and animal species considered to be endangered, threatened, or of special concern.
- Chapter 39, FAC, the Florida Wildlife Code, restricts the pursuit, molestation, harm, harassment, capture, or possession of a listed species. The Code establishes a permitting program for such activities, including permits for the "incidental take" (lawful killing "incidental to" otherwise allowable activities) of individual animals.

C. Local Legislation & Policies

- Charlotte County Code, Article XII. Sea Turtle Protection Ordinance protects threatened and endangered sea turtles, which nest on Charlotte County beaches. This code addresses construction within the sea turtle nesting zones during the nesting season (May through October). Both new and existing beachfront lighting is regulated to prevent the direct, indirect, or cumulative artificial illumination of the nesting zone from sunset to sunrise.
- Comprehensive Plan Policy, the Natural Resource Conservation and Coastal Planning Element provide the foundation and detailed policies regarding the conservation, use and protection of natural and coastal resources.

IV. Habitat Management

It is only through the cooperative efforts of the community, County Staff, the Sheriff's Office, and regulatory agencies that we will ultimately succeed in balancing the needs between threatened and endangered sea turtles, residents and visitors.

Provided below is a chart outlining County, State, and Federal functions.

AGENCIES AND FUNCTIONS	FUNCTIONS								
	Provide Education & Outreach Programs	Provide consultation for lighting and construction	Conducts nighttime patrol to identify violations	Conduct lighting inspections on construction projects	Contact Property Owner regarding violations & corrections	Work collaboratively with Federal, State, & Local Agencies	Investigates & prosecutes violations	Issues notices of violations	Present cases to Code Enforcement Board
AGENCY									
Charlotte County Environmental & Extension Services Natural Resources Division	x	x	x	x	x	x	x	x	x
Community Development - Code Compliance Div.			x*	x*	x	x	x	x	x
Charlotte County Sheriff's Office	x		x*	x*	x	x	x		
FL Fish & Wildlife Conservation Commission (FWC) Informational	x	x				x			
FL Fish & Wildlife Conservation Commission (FWC) Division of Law Enforcement	x				x	x	x	x	
FL Department of Environmental Protection (DEP)	x	x		x	x	x	x	x	
United States Fish & Wildlife Service (FWS)	x	x			x	x	x	x	

*Assists Natural Resource Division with these activities.

A. Community Involvement

Property owners, managers, realtors

- Inform their tenants and guests of their obligation to comply with the sea turtle ordinance
- Encourage incentives for tenants and guest to achieve voluntary compliance with the sea turtle ordinance
- Educate tenants and guests of the penalties for non-compliance
- Work collaboratively with Federal, State and local agencies
- Report violations to Charlotte County
- Report harassment or life threatening activity to State & Federal Agencies
- Keep unattended beach furniture and other obstructions off beach during nesting season
- Seek County guidance in reducing lighting and construction activity that may be disruptive to sea turtles

Permitted Turtle Monitors/Volunteer Groups

- Implement activities as outlined by FWC including sea turtle surveys, marking nest and monitoring activities pertaining to sea turtles
- Report violations to appropriate Federal, State and local governmental agencies for investigation and enforcement
- Work collaboratively with Federal, State and local agencies

V. Implementation Guidelines

A. Coastal Construction

New construction and remodeling can produce the most profound impacts on nesting habitat. Section 3-5-298 of the Charlotte County Code addresses construction of commercial, single and multi-family dwellings, accessory structures, and remodeling projects. This includes, but is not limited to parking lots, beach walkovers, and any outdoor construction or remodeling that may negatively impact nesting habitat.

Construction seaward of CCCL and the Sea Turtle Lighting Zone requires additional consideration and review. The CCCL is a line established by the Florida Dept of Environmental Protection (DEP). For further understanding of the CCCL you may contact DEP. The Sea Turtle Lighting Zone was developed by Charlotte County as a means to identify areas outside the CCCL which pose additional concerns.

Corrective Measures

- Projects within the CCCL shall require written approval from the DEP pursuant to 62B-33, Florida Administrative Code, Chapter 161, Florida Statutes, and Section 370-12, Florida Statutes. To determine if your property/project is within the jurisdictional boundaries of the CCCL go to Charlotte County Geographical Information System website at www.ccqis.com
- Projects within the Sea Turtle Lighting Zone shall be reviewed by Charlotte County Staff for potential impacts to the sea turtle nesting zone. Staff shall conduct surveys of the construction site to determine if the affected area is utilized or potentially utilized by sea turtles. To determine if your property/project is within the boundaries of the Sea Turtle Lighting Zone go to the Charlotte County Geographical Information System, website at www.ccqis.com under layers, highlight Sea Turtle Lighting Zone.
- The County shall conduct a mid-construction survey which shall include visual inspection for any indoor and outdoor lighting, overhead balcony lighting, or any other lighting sources that may be visible to any person in a standing position on the beach.
- Upon completion of construction and prior to the issuance of a Certificate of Occupancy, County Staff shall conduct a site inspection which shall include a night survey with all lighting turned on.

B. Beachfront Lighting

Artificial lighting is a known deterrent that disrupts nesting activities. "Critical sea turtle behaviors affected by light pollution include the selection of nesting sites by adult turtles and the movement off the beach by hatchlings and adults" *Florida Marine Research Institute, Technical Reports 2003R*. Research demonstrates that nesting females deposit their eggs in the ocean if nesting attempts are

unsuccessful. Unnatural lighting disrupts the ability of hatchlings to find the sea from their nest, an effect termed "hatchling disorientation" which often leads to hatchling mortality.

Brightness is an essential cue used by hatchlings to find the sea. Artificial lighting on developed beaches is often the brightest light seen by hatchlings. This light misinterpretation strongly attracts the hatchlings in a direction away from the sea.

Artificial lighting can be the most manageable of the human-caused sea turtle disturbances. Homes along the coast require lighting for safety and security. Light management measures will prevent interference with sea turtle nesting habitat while still addressing human safety concerns.



Exterior & Interior lighting visible on nesting zone



Dead hatchlings found on doorstep. Cause of death: Dehydration
Hatchlings followed the brightest light resulting in their death.

Corrective Measures

- Balconies, lanais and decks that exit to the ground level, shall have lighting installed no higher than one foot from the floor (i.e. no overhead or wall lighting). Positioning of lighting fixtures shall be such that they cannot be seen, or cast a glare, on the nesting beach. Step lighting for safety and regulatory purposes are encouraged and are positioned so they cannot be seen, or cast a glare, on the nesting beach.
- Balconies, lanais, and decks that do not exit to the ground level, shall not have permanent lighting installed. Wall outlets are encouraged to allow for temporary lighting appliances during the non-nesting period.
- Lights illuminating dune crosswalks or any areas seaward of the CCCL must not be visible to County Staff in a standing position on the beach. Visible lighting shall be modified, repositioned or turned off from sunset to sunrise during the nesting season.
- Security lighting shall be permitted throughout the night so long as the lighting is not visible to County Staff in a standing position on the beach. Visible lighting shall be modified, repositioned or turned off from sunset to sunrise during the nesting season.
- Interior lighting shall be repositioned, modified, or situated so that they are not visible to County Staff in a standing position on the beach. This can be accomplished by removing lights close to windows or glass doors, closing drapes and curtains, using low wattage bulbs, and adding window tinting.
- All windows and glass doors on the seaward and shore perpendicular sides of any new construction or remodeling shall be tinted to transmittance value (light transmittance from inside to outside) of 45% or less through the use of tinted glass or window film or screens.

- Lighting surveys and inspections shall be conducted on a regular basis. Inspections shall be conducted by County Staff.
- Property owners shall be notified by certified mail of any violation on their property along with corrective measures. Violations not corrected within a specified timeline will be sent to the Code Enforcement Board.

**Unnatural Lighting Disrupts the Ability Of Hatchlings To Find The Sea
From Their Nest, an Effect Termed "Hatchling Disorientation"
Which Often Leads To Hatchling Mortality.**

Reported Disorientation Events in Florida (As of DECEMBER, 2003)					
	1999	2000	2001	2002	2003
Total Number of Hatchling Disorientation Events (Nests Disoriented)	668	1,043	741	896	1,442
Total Number of Hatchlings Involved	28,157	46,845	28,764	43,226	79,107

Statistics outline the number of hatchlings that traveled landward resulting in hatchling mortality. Data source: *Florida Fish and Wildlife Conservation Commission*.

Chart outlines light sources that cause hatchling and adult sea turtle disorientations. Condominium lights cause a higher number of disorientations than Space Center/Launch Pads. These statistics demonstrate how an area requiring the highest level of security measures has identified ways to support sea turtle conservation while ensuring public safety. Data source: *Florida Fish and Wildlife Conservation Commission*.

Light Sources Contributing to Reported Disorientation Events in Florida, 2002		
Light Source	Number of Disorientation Events	Percent of Total Disorientation Events
Condominium	335	35.91%
Street Light	291	31.19%
Parking Lot	203	21.76%
Single Family Home	190	20.36%
Space Center/ Launch Pads	30	3.21%

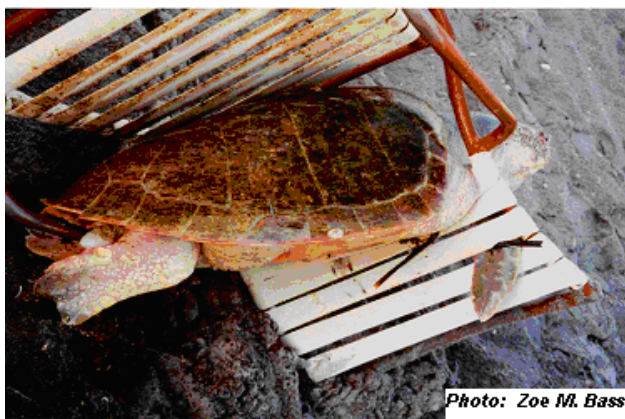
* Please note that multiple light sources can contribute to the occurrence of a single disorientation event. For that reason, more than one light source may be cited when reporting disorientation events, resulting in the sum of the percentages amounting to greater than 100%.

C. Other Obstacles

Additional activities which impact sea turtle nesting include obstacles such as beach furniture, other structures and vehicles. Beach furniture that is left on the beach at night can prevent nesting sea turtles from reaching the critical nesting habitat, cause entrapment leading to death and disrupt hatchlings from their sea-finding journey. In areas where illegal beach driving occurs, the use of headlights during night driving can disrupt the nesting process and disorient hatchlings. Tire ruts can interfere with the ability of hatchlings to reach the sea and vehicles can damage nests and run over hatchlings.

Corrective Measures

- During turtle season, all temporary structures, including but not limited to beach chairs, umbrellas, cabanas, as well as personal watercraft, or other vessels and items that have the potential for entrapment of marine turtles and which may interfere with the use of the natural beach environment for nesting habitat, must be removed from the nesting zone from sunset until sunrise when not in use.
- During turtle season, furniture shall be stored in areas situated to minimize interference with sea turtles. Appropriate storage areas shall be determined by Charlotte County Staff after a survey of the proposed area is conducted.
- Charlotte County Staff will tag with a Warning Notice any temporary structures left unattended on the nesting beach at any time from sunset to sunrise during the nesting season. If the items are not removed within 24 hours of tagging, the items shall be deemed abandoned and will be removed by Charlotte County Staff to a safe location off the nesting beach. If the items are not reclaimed within 24 hours of their removal, they will be donated to a non-profit organization.



- The operation of motor vehicles is prohibited on the beach with the exception of emergency and law enforcement, vehicles permitted by FWCC used for sea turtle conservation, and vehicles used by the mobility impaired as defined by state statute.
- State and County regulations prohibit dogs on State and Federal lands. Dogs can easily dig up nests and destroy eggs, attack adult sea turtles or kill sea turtle hatchlings. The sea turtle is a vulnerable creature, and dogs are especially dangerous to their survival. Violations are to be reported to Animal Control Services and the local Sheriff's Department.

VI. Education

This management plan recognizes the success of sea turtle conservation efforts depends upon the involvement and education of the public. Citizens and visitors should be informed of the human effects on sea turtles and their habitat as a result of coastal development and public use of nesting beaches on a year round basis. Education of the public, particularly of non-residents who may not be aware of the need to protect sea turtles, can solve many problems. A number of potential ideas were identified and are listed as follows. The following list is not comprehensive and additional educational methods may be identified in the future.

Methods

- Printed Brochures
- Video - CCTV-20 the County's information station
- Website - Online information and printable brochure
- Mailings – yearly information prior to beginning of season
- Workshops and educational programs
- Press releases

VII. Enforcement

Charlotte County has established regulations protecting sea turtles and their nesting habitat on the coastline through its Sea Turtle Protection Code. However, they are ineffective if the regulations are not complied with or enforced. This compliance is requested of all and enforcement should be consistent and follow a plan established in a cooperative effort by Charlotte County's Natural Resources Division, Code Compliance Division, and the Sheriff's Office who are responsible for enforcing the Charlotte County Sea Turtle Protection Ordinance.



VIII. Inter-Agency Cooperation and Coordination

Charlotte County works collaboratively with government and private entities in sea turtle protection and conservation efforts. These activities include but are not limited to establishment of funding sources, enforcement activities, research, and education.

APPENDIX A

CONTACT INFORMATION

CHARLOTTE COUNTY ENVIRONMENTAL & EXTENSION SERVICES

Natural Resources Division
25550 Harbor View Rd.
Port Charlotte, Florida 33980
941-764-4360

CHARLOTTE COUNTY COMMUNITY DEVELOPMENT DEPARTMENT

Code Compliance Division
18550 Murdock Circle
Port Charlotte, Florida 33980
941-743-1247

CHARLOTTE COUNTY SHERIFF'S OFFICE

7474 Utilities Rd.
Punta Gorda, Florida 33952
941-639-2101

UNITED STATE FISH & WILDLIFE SERVICE

To report violations contact the Area Special Agent:
239-561-8144

FLORIDA FISH & WILDLIFE CONSERVATION COMMISSION (FFWC)

3900 Drane Field Rd.
Lakeland, Florida 33811
863-648-3203

TO REPORT A VIOLATION, DEAD, INJURED, OR STRANDED SEA TURTLE:

1-888-404-3922

FWC – FISH & WILDLIFE RESEARCH INSTITUTE (FWRI)

100 Eighth Avenue SE
St. Petersburg, Florida 33701-5095
727-896-8626

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP)

2295 Victoria Avenue, Suite 364W
Ft. Myers, Florida 33908
239-323-6975

FOR INFORMATION ON SEA TURTLE VOLUNTEER OPPORTUNITIES, AND NAMES OF PRINCIPAL PERMIT HOLDERS FOR SEA TURTLE MONITORING ACTIVITIES IN YOUR AREA CONTACT:

Florida Fish & Wildlife Conservation Commission
561-575-5407

APPENDIX B

ONLINE AND BOOK REFERENCE GUIDE

ONLINE SEA TURTLE REFERENCES

www.SEATURTLE.ORG - provides online resources and solutions in support of sea turtle conservation and research.

www.myfwc.com – Florida Fish and Wildlife Conservation Commission. FWC provides information on sea turtle conservation efforts, statewide and local data and educational resources.

<http://www.helpingseaturtles.org> - Caribbean Conservation Corporation. Helping Sea Turtles survive.

BOOKS

Sea Turtles: an ecological guide, David Gulko and Karen Eckert

Sea Turtles: a complete guide to their biology, behavior, and conservation, James Spotila

Windward Road, Archie Carr

So Excellent a Fische, Archie Carr

Fire in the Turtle House, Osha Grey Davidson

Sea Turtles of the World, Doug Perrine

Loggerhead Sea Turtles, Alan Bolten and Blair Witherington

Search for the Great Turtle Mother, Jack Rudloe

“Understanding, Assessing, and Resolving Light-Pollution Problems on Sea Turtle Nesting Beaches”, Florida Marine Research Institute, Blair Witherington and R. Erik Martin

*Light pollution isn't just a problem for sea turtles, many astronomers are also trying to control light pollution all over the world so they can get a good view of the night sky. Many of the light applications they support can be used near turtle beaches as well

[.http://www.darksky.org/~ida](http://www.darksky.org/~ida)

Migratory birds also have problems with light pollution. Information about this subject can be found at the Fatal Light Awareness Program (FLAP) web site <http://www.flap.org/GIF%20Free/home1.htm>

The US National Park Service also has concerns about light pollution. Their web site has an executive summary regarding the Vanishing Night Skies at <http://www.npsca.org/readaboutit/executivesummary.html>

*Information provided by the FWC Imperiled Species web site at <http://www.myfwc.com/psm/turtles/lighting/resource.htm>

APPENDIX C

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION EXAMPLE LIGHTING FIXTURES AND EXCERPTS






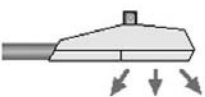
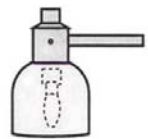
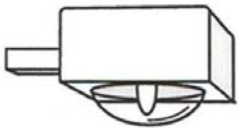

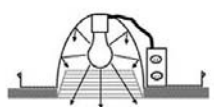


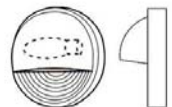

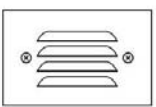

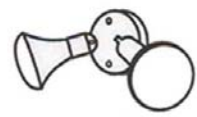

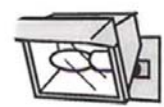
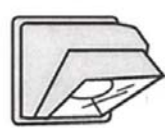



EXAMPLE LIGHTING FIXTURES

These fixtures are meant to show typical acceptable/unacceptable lighting fixtures in respect to lighting for structures along Florida's coast to protect Sea Turtle Nesting.

For guidance please contact
Florida Fish and Wildlife Conservation Commission
Division of Wildlife - Bureau of Protected Species Management
620 South Meridian Street DOW-BPS Tallahassee, FL 32399-1600
(850) 922-4330 Fax (850)921-6988



	ACCEPTABLE ONLY WITH PROPER BULB(S)	UNACCEPTABLE
WALKWAY/PATH LIGHTING	 <p style="text-align: center;">Low Profile Bollards with Louvers</p>	 <p style="text-align: center;">Globe Fixture</p>  <p style="text-align: center;">Unshielded Carriage</p>  <p style="text-align: center;">Wallpack</p>  <p style="text-align: center;">Acorn Fixture</p>
STREET/PARKING LIGHTING	 <p style="text-align: center;">Full Cutoff Streetlight</p>  <p style="text-align: center;">Fully Shielded NEMA Light</p>	 <p style="text-align: center;">Drop-Lens/Sag-Lens w/ exposed bulb</p>  <p style="text-align: center;">Unshielded Streetlight</p>
ARCHITECTURAL LIGHTING	 <p style="text-align: center;">Recessed Can w/ baffles</p>  <p style="text-align: center;">Glare Buster</p>  <p style="text-align: center;">Canister Downlight</p>  <p style="text-align: center;">'Eyelid' Step Light</p>  <p style="text-align: center;">Downlight</p>  <p style="text-align: center;">Louvered Step Light</p>	 <p style="text-align: center;">Nautical Wall Sconce</p>  <p style="text-align: center;">Floodlight</p>  <p style="text-align: center;">NEMA Security Light</p>  <p style="text-align: center;">Partially Shielded Floodlight</p>  <p style="text-align: center;">Shielded Security Light</p>  <p style="text-align: center;">Drop-Lens Canopy Light</p>

Bulbs for all fixtures should be of the Yellow 'Bug' Light variety incandescent or compact fluorescent.

APPENDIX D

IDA-Approved™ Dark-Sky Friendly Fixtures

The following fixtures are examples of IDA-Approved™ as Dark-Sky Friendly fixtures. For more information on IDA's Fixtures, please visit <http://www.darksky.org/~ida>

[Listing of Lighting Manufacturers with IDA-Approved™ Fixtures](#)



Area
[Roadway -Utility](#)



Area
[Roadway/Parking](#)



Area
[High Mast](#)



Area
[Pedestrian Arch.](#)



Area
[Pendants & Bells](#)



Area
[Post Top - Arch.](#)



- [LED Luminaires](#)



Area - Shoe Box
[Parking / Pedestrian](#)



Area
[LPS Luminaires](#)



Area
[Wall Mounted](#)



Wall Mounted
[Sconce](#)



Wall Mounted
[Shields & Mods.](#)



Wall Mounted
[Utility](#)



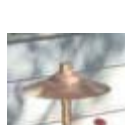
Wall Mounted
[Cylinders & Cans](#)



Wall Mounted
[Facade & Sign](#)



[Canopy](#)



[Landscape Lighting](#)



[Ped/Land Bollards](#)



- [Industrial](#)