



# CAPE COD COMMISSION

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DATE: May 16, 2002

TO: Tara Calabrese  
Industrial Communications and Electronics, Inc.

FROM: Cape Cod Commission

RE: Development of Regional Impact  
Cape Cod Commission Act, Sections 12 and 13

APPLICANTS: Industrial Communications & Electronics, Inc.  
40 Lone Street  
Marshfield, MA 02050

Sprint PCS  
1 International Boulevard, Suite 800  
Mahwah, NJ 07495

PROJECT #: TR 20069

PROJECT: ICE / Sprint - Barnstable

BOOK/PAGE: 13638 / 55

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## DECISION OF THE CAPE COD COMMISSION

### SUMMARY

The Cape Cod Commission (Commission) hereby approves with conditions the application of Industrial Communications & Electronics, Inc. and Sprint PCS as a Development of Regional Impact (DRI) pursuant to Sections 12 and 13 of the Cape Cod Commission Act (Act), c.716 of the Acts of 1989, as amended, for the proposed ICE / Sprint tower in Barnstable, MA. The decision is rendered pursuant to a vote of the Commission on May 16, 2002.

### PROJECT DESCRIPTION

Industrial Communications and Electronics, Inc. (ICE) and Sprint PCS (Sprint) propose to build a 180' high monopole wireless communications facility in the town of Barnstable. The monopole will serve the wireless communications network of ICE, Sprint and up to four other



wireless carriers, each of which will place a standard array of antennas on the tower. The monopole will be located on private property leased from the owners, Roderick and Marilyn Komar, along a private road off Old Falmouth Road, in Marstons Mills. ICE will lease a 10,000 square foot section of the parcel and has an easement for the fall zone around the tower. The leased area is currently undeveloped and wooded. The parcel is 12.6 acres, in a residentially zoned section of Barnstable. The applicant will petition the town's Zoning Board of Appeals to request a variance for use.

### **PROCEDURAL HISTORY**

The project was referred to the Commission by the Barnstable Town Manager on August 10, 2001; the Commission received the referral on August 14, 2001. The hearing was opened by a hearing officer on October 10, 2001. The DRI application and supporting material were submitted December 13, 2001. An extension agreement was approved and signed January 7, 2002, extending the decision time limit to May 3, 2002. A duly noticed public hearing was conducted pursuant to Section 5 of the Act by an authorized subcommittee of the Commission on March 13, 2002 at the Marstons Mills Middle School. A continued hearing was held April 1, 2002, after which the hearing was closed. An extension agreement was approved and signed on April 1, 2002, extending the decision time limit to June 2, 2002. A subcommittee meeting was held on April 18, 2002. At this meeting, the subcommittee voted unanimously to recommend to the full Commission that the project be approved as a DRI, with conditions. The final public hearing was held before the full Commission on May 16, 2002. At this hearing, the Commission voted eleven to one to approve the project as a DRI, with conditions.

### **Materials Submitted for the Record**

#### From the Applicant:

- DRI application and supporting material, received December 13, 2001
- Natural Resources Inventory, received February 1, 2002
- Copy of letter sent to David Maxson, received by fax, March 12 2002
- Letter, photographs, additional viewshed map, and additional existing-structures map, received March 13, 2002
- Letter in response to staff report, received by fax, March 29, 2002
- Letter, photograph, and cash contribution calculation, received April 3, 2002
- Reduced size (11"x17") elevation drawings of revised equipment shelter design, received April 4, 2002
- Letter in response to staff report, received by fax April 17, 2002

#### From Commission staff or Consultant:

- DRI notification letter, August 22, 2001
- 45-day notification letter, December 28, 2001
- Initial Review report from David Maxson, received March 1, 2002
- Staff Report, March 4, 2002
- 45-day notification letter, sent March 19, 2002
- Supplemental Staff Report, March 26, 2002
- Final Report from David Maxson, received April 1, 2002

- Second supplemental Staff Report, April 16, 2002

From State or Local officials:

- DRI referral, received August 14, 2001
- Letter from Barnstable Department of Public Works, notifying of intention to seek Requests for Proposals, received March 11, 2002

From the Public:

No letters or other correspondence received

The application and notices of public hearings relative thereto, the Commission staff's notes, exhibits and correspondence, the transcript and minutes of meetings and hearings and all written submissions received in the course of the proceedings are incorporated in the record by reference.

### TESTIMONY

The Commission subcommittee heard oral testimony at the public hearing on March 13, 2002. Tara Calabrese of ICE presented the project details and responded to the staff report comments. Van Morrill, the project planner, explained the Commission staff concerns and noted the new information provided. David Maxson, consultant to the Commission, discussed the technical aspects of the project. Public comments and questions began with Mr. Richard Andres, who asked if ICE had considered using the adjacent town landfill for its monopole. Don Cody of ICE explained that the capped landfill is not a suitable place for a tower because of instability. Mr. Frank Schengel inquired if the monopole affects TV transmission. Mr. Cody said that wireless communications are on different frequencies than television signals and do not cause interference. Mr. Roderick Komar explained why he had agreed to lease a portion of his land to ICE for the monopole, saying that it is a low-impact project and preferable to subdividing the parcel for new homes.

A continued public hearing was held April 1, 2002, at the Commission office. Van Morrill reviewed the status of project issues. Tara Calabrese and Don Cody of ICE discussed the new information they had provided. David Maxson talked about the nature of the monopole and the effect of the surrounding landscape on the tower's effectiveness. Arthur Traczyk, the Barnstable Town Planner, explained that a use variance would have to be sought to put a wireless communications structure in a residentially zoned area. Tom Mullen, the Barnstable DPW Director, stated that the town is pursuing a request for proposals to put a tower within the town transfer station parcel. Mr. Cody said that ICE would provide space on the tower for municipal emergency system radio antennas, at no charge to the town. Public comments came from Mr. Richard Andres, who asked about the type of tower proposed. Mr. John Kennefick inquired about the nature of ICE's communications system and how it compares with cellular phone service. Mr. Maxson explained the two systems.

## **JURISDICTION**

The proposed project qualifies as a Development of Regional Impact under Chapter A, Section 3(i) of the Commission's Regulations of General Application which states that "construction of any wireless communication tower exceeding thirty-five (35) feet in height from the natural grade of the site on which it is located" is presumed to be a Development of Regional Impact.

## **FINDINGS**

The Commission has considered the application of Industrial Communications & Electronics, Inc. and Sprint PCS for the proposed wireless communications structure in Barnstable, MA, and based on consideration of such application and upon the information presented at the public hearings and submitted for the record, makes the following findings pursuant to Sections 12 and 13 of the Act:

### General

1. The proposed project is to construct a monopole, 180 feet in height, to hold antennas in a standard array for ICE, Sprint, and up to four additional wireless companies. It will be located on Bourgeois Lane, a private road off Old Falmouth Road, in the Marstons Mills village of Barnstable. The site is a 10,000 square foot section of land, part of a 12.6 acre parcel, which will be leased from the parcel owners, Roderick and Marilyn Komar.
2. The proposed monopole is needed to provide sufficient signal propagation for ICE's and Sprint's wireless communications network. ICE and Sprint have shown that there are significant gaps in their network coverage in Barnstable and Yarmouth, which creates the need for a new facility in this area. ICE provides a specialized mobile radio service (SMRS), through a wholly owned subsidiary, Industrial Wireless Technologies (IWT). ICE has provided documentation that IWT provides an interconnected phone service, which qualifies the SMRS as a personal wireless service that is protected by the Telecommunications Act of 1996.
3. The proposed monopole will provide space for additional cellular companies that also need to improve their network coverage in this region. In addition to Sprint, ICE contacted five wireless communications companies to offer space on the proposed monopole. To date, one wireless company, Cingular Wireless, has indicated its commitment to co-locate. ICE has also stated that it will provide space on the monopole at no charge for the Town of Barnstable emergency response communications system. This capacity for additional carriers meets Minimum Performance Standard 4.3.2.1 of the Regional Policy Plan, which requires new communications facilities to provide co-location in order to limit the number of wireless facilities and minimize visual impacts.
4. Elevation drawings submitted December 13, 2001 show the location of antennas for the co-location of wireless companies on the monopole at 10-foot intervals, in a standard array. ICE will have an antenna array at 180 feet and a receive-antenna at 160 feet above ground level, Cingular Wireless will have an antenna array at 170 feet, and Sprint will have its antenna array at 150 feet. Additional antenna arrays may be placed at 140 feet, 130 feet, and 120 feet above ground level.

5. The proposed site is zoned as residential ("RF"), in which monopoles or towers are not among the allowed uses. The project will require a use variance and a height variance from the Barnstable Zoning Board of Appeals.

6. Barnstable's Local Comprehensive Plan (LCP) does not address telecommunications or cellular towers.

7. ICE has signed a lease with the site parcel owners, Roderick and Marilyn Komar, for the use of 10,000 square feet of the parcel for the construction and operation of a monopole wireless communications structure, equipment shelters and access. The lease covers a period of 25 years, starting from the date of operation, and requires ICE to remove the monopole when the lease is terminated.

8. The Cape Cod Commission's Technical Bulletin 97-001 (*Guidelines for DRI Review of Wireless Communications Towers*), states that a proposed tower or monopole should meet standards for location, dimensions, setbacks, design, noise, Radiofrequency Radiation (RFR), hazardous materials, co-location, monitoring, and abandonment.

9. A summary review of the proposed ICE/Sprint tower was prepared by David Maxson of Broadcast Signal Lab, the Commission's consultant on wireless facilities projects. He received copies of all material from the applicant and attended the subcommittee hearings and meetings. His report analyzes ICE and Sprint's proposals and supporting material, and indicates that the proposed monopole would provide multiple carriers with necessary coverage in the area. His analysis of coverage, height, and number of viable carriers at the proposed location weighs favorably with the documented visual impact evidence, and the Commission finds that proposed facility is in keeping with the goals of minimizing visual impact and encouraging multiple users on wireless communications towers.

#### Location

10. The applicants stated that the Komar parcel is the only available and feasible site for the proposed tower. ICE conducted an alternatives analysis of sites in Barnstable and Mashpee. The owners or operators of twelve potential sites were contacted, including seven existing towers, a water tank, power line stanchions, and vacant parcels. All the sites were deemed unfeasible due to lack of capacity, inadequate height, or disinterest of the owner. Sprint PCS had an alternatives study prepared by a site acquisition specialist, who reviewed seven options in Barnstable, none of which were suitable or feasible.

#### Dimensions

11. The Technical Bulletin states that the height of a wireless service facility should not be more than 10 feet above the average building height. There are several houses within 300 feet of the proposed site, all of approximately 25-30 feet in height. To the south of the proposed site is a capped landfill, which extends approximately 70 feet above ground level. The proposed monopole height of 180 feet is necessary to overcome the landfill's height, to provide sufficient

coverage for the network of ICE, Sprint, and Cingular, and to avoid the need for additional towers in the foreseeable future.

12. The Technical Bulletin states that a fall zone should be equal to the height of the proposed structure. The proposed ICE/Sprint monopole will be 180 feet high and will be located 181 feet from the nearest property line, which meets the fall zone requirement.

#### Scenic Landscapes and Vistas

13. Section VI-A of the Technical Bulletin states that wireless facilities should not be located in areas open to view from public roads, recreational areas or residential development. The proposed wireless communications structure and associated buildings would be visible from some public roads. Based on a crane and balloon test, a viewshed map of the monopole's visibility was submitted by ICE, which indicated that the monopole would be visible within the town transfer station parcel, from limited segments of Old Falmouth Road to the east of the site, from a short section of Flint Street to the south of the site, and from some residential parcels on Starlight Lane to the west of the site.

#### Design Standards

14. The ICE/Sprint monopole is proposed to be constructed of galvanized steel, gray in color, with gray antenna arrays. The tower base and equipment shelter will be surrounded by existing trees and additional landscaping.

15. The equipment shelter will be constructed with traditional design and materials, as shown on elevation drawings dated April 2, 2002, indicating white cedar shingles siding and a shingled, pitched roof.

16. Lighting of the equipment shelters will not be needed. ICE applied to the Federal Aviation Administration (FAA) for a lighting waiver for the monopole, which was approved on November 8, 2001.

#### Noise and Radiofrequency Radiation (RFR)

17. Noise impacts from wireless communications facilities should not exceed 50 decibels (dB) at the property line, according to Section VI-B of the Technical Bulletin. Noise can be created by wind shear and resistance across the tower face, and by the operation of electrical equipment at the base of the tower. Noise from the monopole and associated equipment will not exceed 50 dB, according to a report of sound impacts prepared by Tech Environmental Inc., dated November 14, 2001.

18. Section VI-C of the Technical Bulletin requires authorization to certify that the Radiofrequency Radiation (RFR) from a proposed wireless communications is not a health concern. A RFR Study was done for the applicant by Donald L. Haes, PhD, CHP, on September 21, 2001, stating that the proposed monopole was within all regulatory limits for RF exposure.

The applicant received a letter from the Massachusetts Department of Public Health, Radiation Control Program on August 2, 2001, stating that it approved the proposed structure.

#### Other Technical Bulletin issues

19. Section IX of the Technical Bulletin requires monitoring and maintenance of a wireless communications facility after it has been constructed. Ambient measurements must be taken prior to construction of the monopole, followed by measurements of RFR and noise levels taken 90 days after operation begins, and at annual intervals thereafter.

20. If the monopole is no longer needed or not feasible to operate, ICE may abandon it upon written notice to the parcel owner, other carriers, and the Commission. If abandoned, ICE will be required to physically remove the monopole and all associated equipment. ICE will be required to post a performance bond of \$40,000 with the Town of Barnstable to cover the expense of removal in the event that the company cannot or will not remove the structure.

#### Hazardous Materials

21. According to maps produced for the 1996 Regional Policy Plan, the project site is in a Wellhead Protection Area (Zone II). As such, Minimum Performance Standard 4.2.2.3 applies to this project, and limits the amount of hazardous materials and wastes on site to household quantities. Section VI (D) of Technical Bulletin 97-001 states "the Commission may require provisions for full containment of any hazardous materials on site, including...a sealed floor...and a prohibition on floor drains."

22. Information submitted for the DRI review, including the site development plan, and a letter from Tech Environmental about noise impacts, indicates there will be an on-site emergency generator.

23. Based on the site's location in a Wellhead Protection Area, containment alone is insufficient to meet the requirements of MPS 4.2.2.3. To meet this requirement, all carriers must use either compressed gas fuels or batteries to provide on-site and emergency backup power.

#### Exterior Lighting

24. Section VI (A)(5)(a) of the Commission's *Wireless Guidelines* states that "lighting of equipment shelters and any other facilities on the ground" should be designed in accordance with the Commission's Technical Bulletin 95-001 on exterior lighting.

25. A letter from Industrial Communications, the project applicant, dated April 2, 2002 states that there will be no exterior lighting of the equipment shelter.

### Natural Resources

26. The project site is located within a Significant Natural Resource Area (SNRA) as mapped by the Regional Policy Plan due to the presence of unfragmented forest and public water supply wellhead protection area. The site is not mapped as estimated rare species habitat.

27. The proponents have submitted a natural resources inventory (NRI) as required by the Regional Policy Plan. According to the NRI, the site is wooded with the typical upland mix of oaks and pitch pines, though white pines and red maples are also present. The NRI indicates the presence of wildlife habitat, noting a den (possibly red fox) and woodpecker activity on standing snags. This wildlife may relocate if the project is approved and constructed. In addition, aerial photos suggest that the 12.6-acre parcel where the monopole is proposed may function as a wildlife corridor between Hamblin's Pond to the north, wetlands to the south and associated upland around these resources.

28. The NRI also indicates that at least one specimen white pine tree (diameter at breast height ~30") is present on the site, and the proponent has confirmed the presence of a second specimen white pine on the property but outside of the project area. MPS 2.4.1.2 requires the protection of specimen trees. The proponent has proposed reconfiguration of the parking and driveway areas to avoid impacting the tree located in the project area, and staking with hay bales around the dripline of the tree during construction.

29. The open space area is calculated based upon the leased area for the ICE monopole, or 10,000 sq. ft. Due to the project's location within SNRA, 65% of the project area must be permanently protected as open space, or 6,500 sq. ft. The proponent has opted to meet the open space requirement through a cash contribution to the Barnstable Land Bank Fund. The cash amount of \$6,379 is calculated from recent conservation sales prices in the town of Barnstable.

### Other Regional Policy Plan issues

30. There are no transportation impacts anticipated from the construction or operation of the proposed wireless communications facility.

## **CONCLUSION**

Based on the findings above, the Commission hereby concludes:

- The proposed project is consistent with the applicable Minimum Performance Standards of the Regional Policy Plan.
- The applicant will seek a use variance and height variance from the Barnstable Zoning Board of Appeals in order to comply with zoning bylaws. This DRI approval is in no way intended to support or oppose the granting of these variances by the town.

- The Barnstable Local Comprehensive Plan does not address telecommunications structures or cellular towers.
- The benefits of the proposed project outweigh the detriments resulting from the development. This is supported by the facts that the project as proposed would provide improved wireless communications service in Barnstable and Yarmouth to customers of ICE, Sprint, and Cingular (finding #2) and will provide space for local emergency system communications antennae (finding #3). These benefits outweigh the detriment of the visual impact resulting from the project.

The Commission hereby approves with conditions the application of ICE and Sprint for the proposed monopole wireless communications facility in Barnstable, MA as a Development of Regional Impact, provided the following conditions are met.

### CONDITIONS

1. This DRI decision is valid for 7 years. Local development permits may be issued pursuant hereto for a period of 7 years from the date of the written decision. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this decision.
2. The applicant shall obtain all necessary Federal, state and local permits for the proposed project.
3. No development work, as the term "development" is defined in the Act, shall be undertaken until all appeal periods have elapsed, or if such an appeal has been filed, until all judicial proceedings have been completed.
4. Prior to the issuance of a Building Permit for any phase of construction, the applicant shall obtain a preliminary Certificate of Compliance from the Commission that states that all conditions in this decision pertaining to the issuance of a Building Permit have been met. The applicants shall obtain a final Certificate of Compliance from the Commission for ICE and for each wireless carrier, prior to operation of each company's facility. Notification of the need for a final Certificate of Compliance shall be given to the Commission at least 30 days in advance of the intended start of operations for ICE and each other carrier, to allow time for staff to inspect the site and ascertain that all conditions have been met.
5. Prior to issuance of a preliminary Certificate of Compliance for any phase of proposed construction, the applicant shall submit final plans as approved by local boards for review by Commission staff to determine their consistency with Section 7 of the Cape Cod Commission Administrative Regulations, Modifications to Approved DRIs, dated 6/3/99 and as amended from time to time.
6. The proposed structure shall be constructed as a monopole at a height limited to 180 feet and mounted with standard antenna arrays for ICE, Sprint, Cingular Wireless and additional wireless

carriers, with accessory equipment shelters and landscaping, as shown on the site plans dated November 7, 2001 prepared by Land Planning, Inc. The monopole shall be steel gray in color, with gray antenna arrays, as shown on the color board submitted December 13, 2001. The equipment shelter(s) shall be constructed with a peaked roof and traditional materials, as shown on elevations drawings prepared April 2, 2002.

7. Prior to issuance of a preliminary Certificate of Compliance, ICE shall provide a plan indicating the location of the two specimen trees identified on the project site. The proponents shall identify a limit of work around the specimen trees in the vicinity of the site in order to ensure that the trees are not damaged during construction. This limit of work shall encompass an area on the ground that extends 10 feet beyond the canopy of the trees, and shall be reviewed and approved by Commission Staff. The applicant shall document that a copy of this plan has been provided to the general contractor prior to the issuance of a preliminary Certificate of Compliance.

8. Prior to issuance of the preliminary Certificate of Compliance, ICE shall make a cash contribution in the amount of \$6,379.00 to the Barnstable Land Bank Fund.

9. Prior to the issuance of a preliminary Certificate of Compliance, the applicant shall submit a report of the ambient and existing conditions of Radiofrequency Radiation (RFR) and noise at the site to the Commission. After the monopole is constructed and operational, the applicant shall submit a report of measurements of RFR and of noise/sound measurements from the tower. The first RFR and noise reports shall be submitted to the Commission within 90 days of commencing operations for ICE or the first carrier, and at annual intervals from the date of issuance of the final Certificate of Compliance for ICE or the first carrier. The noise report shall be signed by an acoustical engineer and show that the facility continues to meet the maximum noise threshold of 50 dB at the property boundary.

10. Prior to the issuance of a preliminary Certificate of Compliance, all co-locators on the monopole shall provide to the Commission a report of Radiofrequency Radiation expected to be generated from their antennas, showing all calculations and assumptions. The carriers shall provide a copy of written clearance from the Massachusetts Department of Public Health that the RFR emissions are below the Department's threshold levels.

11. The applicants shall maintain the monopole in good condition for the entirety of its operational period. Such maintenance shall include, but not be limited to, structural integrity of the mount and security barrier, painting, and landscaping. The applicants shall not build upon or disturb any areas other than those within 15 feet of the leased area to facilitate construction.

12. If ICE decides to abandon the monopole, it shall notify the property owners and the Town of Barnstable of this intention and the proposed date of abandonment, by certified U.S. Mail. Such notice shall be given no less than 30 days prior to abandonment. Within 90 days of abandonment, ICE shall physically remove the monopole and accessory buildings, including all antennas, mounts, footings, and security barriers, as well as remove and properly dispose of any waste material from the site, and restore the site to its original condition. The monopole shall be considered abandoned if it is not used for a period of at least six (6) months.

13. Prior to the issuance of a preliminary Certificate of Compliance, ICE shall provide a bond of \$40,000 to the Town of Barnstable, to be held for the purposes of removal of the tower facility. The bond shall be returned to the applicant at such time that the monopole is removed and the site restored to its original condition.

14. ICE agrees to provide antenna space on the monopole and equipment shelter space, at no charge, to the Town of Barnstable for its police and fire emergency communications system.

15. All equipment shelters and cabinets shall be constructed on an impervious concrete pad, without floor drains, consistent with the Technical Bulletin 97-001. All carriers shall be restricted to use of compressed gas fuels or battery backup for on-site power and/or emergency power supplies.

16. There shall be no lighting on the equipment shelters or buildings.

17. If all required site work and landscape improvements are not complete at the time a final Certificate of Compliance is sought from the Commission, any work which is incomplete shall be subject to an escrow agreement of form and content satisfactory to Commission counsel. The amount of the escrow agreement shall be equal to 150% of that portion of the incomplete work, including labor and materials, with the amount approved by Commission staff. The escrow agreement may allow for partial release of escrow funds upon partial completion of work. The escrow amount shall be payable to Barnstable County with the work approved by Commission staff prior to release of the escrow funds. Unexpended escrow funds shall be returned to the applicant, with interest, upon completion of the required work. All site and landscape work shall be completed within three months of the issuance of a final Certificate of Compliance.

18. Prior to issuance of a Preliminary Certificate of Compliance, the applicant shall submit for Commission staff review and approval a draft landscape maintenance agreement for three (3) full growing seasons that follows guidelines established by Commission staff. Prior to issuance of a Final Certificate of Compliance, the applicant shall submit documentation of a final maintenance agreement contract.

19. Prior to the issuance of a final Certificate of Compliance, a field inspection shall be conducted by Commission staff to verify compliance with the conditions noted above.

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The Cape Cod Commission hereby approves with conditions the application of Industrial Communications & Electronics, Inc. and Sprint PCS as a Development of Regional Impact pursuant to Sections 12 and 13 of the Act, c. 716 of the Acts of 1989, as amended for the proposed wireless communications tower in Barnstable, Massachusetts.

Elizabeth Taylor  
Elizabeth Taylor, Chair

May 16, 2002  
Date

Commonwealth of Massachusetts

Barnstable, ss.

On this 16<sup>th</sup> day of May, 2002, before me personally appeared Elizabeth Taylor to me known to be the person described in and who executed the foregoing instrument, and acknowledged that she executed the same as her free act and deed.

Katharine L. Peters

Notary Public

My Commission expires:

