

Jeffrey Ribeiro

From: Amy Ball <aball@horsleywitten.com>
Sent: Thursday, September 03, 2015 9:14 AM
To: Jeffrey Ribeiro
Cc: Jonathon Idman; bill.richardson@jacobs.com; Magner, Maryann; Irvin.Baptiste@jacobs.com
Subject: Additional Materials Request #2
Attachments: NPS Signed Airport DRI submission 8-28-2015.pdf; 150428_GROUNDWATER MOUNDING CALC_4027_RACcheck.pdf; Sightseeing Shack photos of building materials_4027.pdf; CCNS Zoning Standards-2(1).pdf; 18July2014 RDA_PVC Floodlight Plans and Specifications (reduced file).pdf; WQC Mitigation Plan excerpt.pdf; bike path signage photos.pdf

Hi Jeff and Jon –

Please see our response below to your request for additional information. I've included your original message as well, with our responses in blue font directly below.

On the matters below, we need a narrative on the Airport's consistency with the Seashore district zoning requirements, not just its classification. This should include things like the additional parking proposed, which is elaborated upon below. The LCP analysis is sufficient. On the sightseeing shack, we specifically need to know the materials and changes proposed. The referenced alternatives analysis deals with the equipment located within the shack, not the shack itself. The Commission has building design standards that apply to all structures, historic or otherwise. Plans of any changes clearly referencing materials would be preferred, but photos and a narrative of materials, colors, and proposed changes along with photos of existing conditions may be sufficient.

[CCNS District Zoning Requirements](#)

The CCNS has zoning standards (see attached), which identify zoning objectives, and allow for exceptions, but do not specifically reference the Airport. As noted, the Airport operates under a Special Use Permit with the Park Service.

[Sightseeing Shack](#)

Attached are three views of the existing white clapboard building. The proposal for the Sightseeing Shack is to restore the structure in kind, with the same type of materials, following removal of the electrical equipment. No changes are proposed beyond those repairs.

Given that the Airport is operating under a Special Use Permit, the signature from the Seashore will be required before the application can be declared complete and DRI hearings can be scheduled.

Please see attached a signed copy of the DRI application cover sheet forwarded from the National Park Service.

Commission technical staff has reviewed the materials, and we request the materials listed below. Commission staff reserves the right to request further materials throughout DRI review. We are happy to answer any questions on these requests.

1. The MPS consistency chart discusses bike signage in reference to MPS TR1.7. Staff could not identify such signage on the plans provided. Further clarification would be appreciated.
[Existing bike path signage will be maintained. Photos of the signage and pavement markings across Airport Road \(as shown on the plans, Sheet 9\) are attached.](#)

- ~~2. The MPS consistency chart states that the minimum number of spaces required under local zoning is proposed. By my reading of the zoning, there appears to be in excess of the minimum. Under MPS TR2.9, parking in excess of any minimum must be justified by a parking analysis acceptable to the Commission. Please provide either clarification on zoning requirements to a parking analysis.
[no response necessary per CCC email on 08/12/15]~~
3. All lighting proposed aside from that required by the FAA must comply with MPS HPCC2.11. Fixture cut sheets and a lighting plan showing foot candle levels and fixture details must be provided. Further details on lighting requirements can be found in the RPP and in Technical Bulletin 95-001.
All lighting will be designed in accordance with the specifications within the RPP. The Airport permitted a lighting replacement project through the Provincetown Conservation Commission in 2014 with the specifications provided in the attached planset (18July2014_RDA_PVC_Floodlights Plans and Specifications) document (see pages 35, 36, and 37 of the PDF file). New lights proposed within the parking lot area will meet these same specifications.
4. Figure 16 shows the proposed vegetation management plan. Please provide a plan showing existing conditions/activities.
The vegetation management plan shown in Figure 16 illustrates both the existing management program and the proposed conditions. The MA Natural Heritage and Endangered Species Program (NHESP) had requested this plan during earlier discussions. The intent is to continue the same mowing schedule and vegetation management plan as is currently implemented.
5. The Stormwater Checklist in the Stormwater Report indicates that separation to seasonal high groundwater beneath the porous pavement is less than 4 feet and a mounding analysis is provided as an appendix, but no appendix could be found. Please provide either the location of the appendix or the mounding analysis referenced.
The groundwater mounding calculations are attached. A maximum mound will occur at 0.364 ft above groundwater levels, which is well below the 2' required groundwater separation distance, so there is no possibility for breakout. Using a Sandy Loam soil with an infiltration rate of 1.05"/hr (0.087 ft/hr), the mound will drawdown in 4.16 hours (0.364 ft/0.087ft/hr), well below the 3 day required drawdown rate.

Inputs for the groundwater mounding analysis included:

R: Recharge over the entire porous pavement area (6,988 sq ft) = 4.8" (the precipitation of the 10 year storm) = 0.40 ft/day

Sy: Specific yield = 0.1; very conservative for sandy loam materials (0.1 is typical for till or peat), so conservative.

K: Horizontal hydraulic conductivity = 50 ft/day; very conservative for sandy loam materials.

x: ½ the length of the basin (calculated from total surface area/width = (6,988 sf/60 ft) = 116.5 ft/2 = 58.2 ft.

y: ½ the width of the basin = 60/2 = 30 ft.

t: duration of the infiltration period = 24 hour rainfall event = 1 day.

Hi(0): initial thickness of the saturated zone = 50 ft = very conservative for a groundwater elevation at 6 ft above sea level.

Also, as discussed, we still need the wetlands mitigation plan.

A draft of our mitigation plan (excerpted from our recently submitted Water Quality Certification application package) is attached. This is designed to provide further narrative detail than that provided on the project

plans. Please note that details of the full mitigation plan for the wetland areas are being worked through with the Army Corp of Engineers and the Water Quality Certification staff at MassDEP, and that we will plan to share these with the CCC as they become available over the next couple of weeks/months, as well as incorporate input from CCC and NHESP staff.

Thanks, and as always, please do not hesitate to contact me with any additional requests or questions.

Amy

Amy M. Ball, PWS, CWS

Project Manager - Senior Ecologist

Horsley Witten Group, Inc.

90 Route 6A, Sandwich, MA 02563

(508) 833-6600 - office

(508) 246-5378 - cell

www.horsleywitten.com

Sustainable Environmental Solutions



From: Jeffrey Ribeiro [<mailto:jeffrey.ribeiro@capecodcommission.org>]

Sent: Wednesday, August 12, 2015 1:56 PM

To: Amy Ball

Cc: Jonathon Idman

Subject: RE: Additional Materials Request

Amy,

I've received substantive comment from our Transportation staff, and, despite some earlier discussion, they have decided that the 2008 parking analysis is acceptable. Given that, you can ignore #2 on the list below. My apologies for the confusion.

Thanks,

Jeffrey

From: Jeffrey Ribeiro

Sent: Tuesday, August 11, 2015 10:37 AM

To: 'Amy Ball'

Cc: Jonathon Idman

Subject: RE: Additional Materials Request

Amy,

Thank you for the prompt response. On the matters below, we need a narrative on the Airport's consistency with the Seashore district zoning requirements, not just its classification. This should include things like the additional parking proposed, which is elaborated upon below. The LCP analysis is sufficient. On the sightseeing shack, we specifically need to know the materials and changes proposed. The referenced alternatives analysis deals with the equipment located within the shack, not the shack itself. The Commission has building design standards that apply to all structures, historic

or otherwise. Plans of any changes clearly referencing materials would be preferred, but photos and a narrative of materials, colors, and proposed changes along with photos of existing conditions may be sufficient.

Given that the Airport is operating under a Special Use Permit, the signature from the Seashore will be required before the application can be declared complete and DRI hearings can be scheduled.

Commission technical staff has reviewed the materials, and we request the materials listed below. Commission staff reserves the right to request further materials throughout DRI review. We are happy to answer any questions on these requests.

6. The MPS consistency chart discusses bike signage in reference to MPS TR1.7. Staff could not identify such signage on the plans provided. Further clarification would be appreciated.
7. The MPS consistency chart states that the minimum number of spaces required under local zoning is proposed. By my reading of the zoning, there appears to be in excess of the minimum. Under MPS TR2.9, parking in excess of any minimum must be justified by a parking analysis acceptable to the Commission. Please provide either clarification on zoning requirements to a parking analysis.
8. All lighting proposed aside from that required by the FAA must comply with MPS HPCC2.11. Fixture cut sheets and a lighting plan showing foot candle levels and fixture details must be provided. Further details on lighting requirements can be found in the RPP and in Technical Bulletin 95-001.
9. Figure 16 shows the proposed vegetation management plan. Please provide a plan showing existing conditions/activities.
10. The Stormwater Checklist in the Stormwater Report indicates that separation to seasonal high groundwater beneath the porous pavement is less than 4 feet and a mounding analysis is provided as an appendix, but no appendix could be found. Please provide either the location of the appendix or the mounding analysis referenced.

Also, as discussed, we still need the wetlands mitigation plan.

Thanks,

Jeffrey

From: Amy Ball [<mailto:aball@horsleywitten.com>]

Sent: Wednesday, August 05, 2015 10:46 AM

To: Jeffrey Ribeiro

Cc: Jonathon Idman; Richardson, Bill; Magner, Maryann; Baptiste, Irvin; Butch Lisenby; pvcairport@hotmail.com; richard.doucette@faa.gov; michelle.ricci@faa.gov; nathan.rawding@state.ma.us

Subject: RE: Additional Materials Request

Hi Jeff –

Below is our response to your request for additional information on the Provincetown Airport DRI application.

1. A consistency analysis of the project in terms of the local zoning and local comprehensive plan

An assessment of the project in terms of local zoning and comprehensive plans was done to support the Environmental Notification Form (ENF) submitted in April 2006. We provide an excerpt from the ENF below, as well as updated information since the ENF filing.

“... the Airport is zoned within the [Cape Cod National Seashore] CCNS, and falls within the Seashore District. The CCNS’s 1998 General Management Plan and a Memorandum of Understanding (MOU) with the Town of Provincetown recognize the right of the airport to exist, to provide year-round commuter air service, and to provide such improvements as are required in the interests of public safety.”

The proposed CIP Project is consistent with the 2005 Airport Master Plan, the Airport Commission's Mission Statement, and current municipal plans, including the Local Comprehensive Plan or LCP, approved at the April 3, 2000 Annual Town Meeting. Per the Provincetown website (<http://www.provincetown-ma.gov/index.aspx?nid=575>), "the LCP is a master plan which constitutes Provincetown's Local Comprehensive Plan as defined in Section 9 of the Cape Cod Commission Act (Chapter 716 of the Acts of 1989). It contains sections on Town Vision, Land Use and Growth Management, Natural Resources, Open Space and Recreation, Historic Preservation and Community Character, Economic Development, Affordable Housing, and Community Facilities and Services."

The Provincetown Municipal Airport is cited as an important transportation facility for air transport between Provincetown and Boston, and is recognized as economically significant for both tourist-related travel and the livelihood of many year-round residents. The LCP notes that air travel to and from the Airport reduces Cape-wide road congestion, and provides more convenient and expedient off-Cape travel options. Further, the LCP encourages the promotion of air transport service to additional destinations such as Providence (T.F. Green Airport) and Hartford (Bradley International Airport). The LCP also cites the 1988 Provincetown Municipal Airport Master Plan and encourages the continued implementation of the transportation goals outlined in that plan. While the Airport had updated its Master Plan since 1988, the most recent being in 2005, the LCP has not yet been updated since its adoption in 1990.

The Cape Cod Commission's 2012 Regional Policy Plan (as updated), recognizes the Provincetown Municipal Airport as one of the important regional transportation modes and an alternate mode of transportation. The Cape Cod Regional Transportation Plan (Cape Cod 2012 Regional Transportation Plan for 2012-2035 (endorsed August 22, 2011 and revised May 20, 2013) includes the goal of developing alternate modes of transportation, including air transport, and includes a recommendation to assess the capacity of Cape Cod's airports in accommodating air traffic and recommend strategies to solve existing air traffic congestion or prevent future congestion. The CIP Project will preserve existing transportation infrastructure and improve public safety.

2. Any renewals of the ground lease for the airport and any special use permits that may be applicable

The Airport currently operates under a 20-year Special Use Permit (CACO 2170-02047, May 3, 2002) that is valid through the year 2022. A copy of the Special Use Permit is provided in Appendix 5 of the FEIR/EA document (Attachment #6B on the CD accompanying the DRI application).

3. Further detail on what changes are proposed for the sightseeing shack (plans or specifications, if available)

A detailed discussion of the changes to the sightseeing shack is provided in the FEIR (Section 3.6 – as found in Attachment 6A on the DRI Application CD). The plan has not changed since then. Essentially, the door and door jamb will be removed from the front of the building, and the doorframe will be widened to allow sufficient room for the electrical equipment to be removed from the Sightseeing Shack, and then will be restored in kind. The Massachusetts Historical Commission (MHC) has determined that the building is not historically significant (see Section 10.1 of this same document). There are no specifications at this time.

Proof of Delivery to Local Officials

In addition, I confirmed with Butch Lisenby, the Airport Manager, that he dropped off copies at the Town on Wednesday, July 29, 2015. The Town Manager (Planning Board Office) and the Town Clerk each have copies. In addition, we are sending a copy to the Conservation Commission, and the Airport Manager also has a copy. A copy has also been sent to the CCNS, c/o Ms. Lauren McKean, our primary point of contact. We will continue to coordinate with the National Park Service Staff to obtain their sign-off on the DRI.

Please feel free to contact me with any questions.

Thanks.
Amy

Amy M. Ball, PWS, CWS
Project Manager - Senior Ecologist

Horsley Witten Group, Inc.
90 Route 6A, Sandwich, MA 02563
(508) 833-6600 - office
(508) 246-5378 - cell
www.horsleywitten.com
Sustainable Environmental Solutions



From: Jeffrey Ribeiro [<mailto:jeffrey.ribeiro@capecodcommission.org>]
Sent: Tuesday, July 28, 2015 4:50 PM
To: Amy Ball
Cc: Jonathon Idman
Subject: Additional Materials Request

Amy,

I've done a preliminary review of the materials you provided today, and I have sent the materials to Commission technical staff for review. We may request additional materials after their review, but at this time there are a few items I know we need:

1. A consistency analysis of the project in terms of the local zoning and local comprehensive plan
2. Any renewals of the ground lease for the airport and any special use permits that may be applicable
3. Further detail on what changes are proposed for the sightseeing shack (plans or specifications, if available)

Please feel free to call or email if you have any questions on this.

Thanks,

Jeffrey Ribeiro
Regulatory Officer II
Cape Cod Commission
3225 Main Street, PO Box 226
Barnstable, MA 02630
(508) 744-1210



Application Cover Sheet

Cape Cod Commission
3225 Main Street, PO Box 226
Barnstable, MA 02630
Tel: (508) 362-3828 • Fax: (508) 362-3136

For Commission Use Only	
Date Received:	
Fee (\$):	
Check No:	
File No:	

A Type of Application (check all that apply)

- Development of Regional Impact (DRI)
 Hardship Exemption
 Limited DRI Review
 Jurisdictional Determination
 DRI Exemption
 Request for Joint MEPA/DRI Review

B Project Information

Project Name: Provincetown Municipal Airport CIP Total Site Acreage: 331 ac
 Project/Property Location: 176 Race Point Rd Zoning: S State Class 9310

Brief Project Description:
 Include total square footage of proposed and existing development, gross floor area, number of lots existing or to be created, specific uses, description of existing conditions, as applicable (attach additional sheets if necessary).

The Provincetown Airport Commission proposes to implement a Capital Improvements Plan consisting of eleven project elements. Please see attached for details.

C Owner(s) of Record

List the following information for all involved parcels. Provide copies of each Deed and Purchase and Sale Agreement and/or evidence of leasehold interest, if applicable, for all involved parcels. Proof of ownership/legal rights for Applicant(s) to proceed with the proposed development must be documented prior to the Commission deeming any application complete (attach additional sheets if necessary).

Map/Parcel	Owner's Name	Lot & Plan	Land Court Certificate of Title #	Registry of Deeds Book/Page #
1-8-631	Cape Cod National Seashore			1423/968

There **ARE/ARE NOT** (circle one) court claims, pending or completed, involving this property (if yes, please attach relevant information).

D Certification

I hereby certify that all information provided on this application form and in the required attachments is true and accurate to the best of my knowledge. I agree to notify the Cape Cod Commission of any changes on the information provided in this application, in writing, as soon as is practicable. I understand failure to provide the required information and any fees may result in a procedural denial of my project.
NOTE: For wireless communication facilities, a licensed carrier should be either an applicant or a co-applicant.

APPLICANT
 CO-APPLICANT
 CONTACT
 PROPERTY OWNER
 BILLABLE ENTITY

Applicant(s) Name: Arthur Lisenby Tel: 508-487-0240 Fax: _____

Address: PO Box 657, Provincetown MA 02657

Signature: [Signature] Date: 7/20/15

Co-Applicant(s) Name: _____ Tel: _____ Fax: _____

Address: _____

Signature: _____ Date: _____

Contact: Amy Ball Harsley Wotton Group Tel: 508-033-6600 Fax: _____

Address: 90 Route 1A, Sandwich MA 02563

Signature: [Signature] Date: 24 July 2015

Property Owner: George Price, Jr., Director Tel: 508-349-3785 Fax: _____

Address: Cape Cod National Seashore, 99 Marconi Site Rd, Wellfleet MA 02667

Signature: [Signature] Date: 8/28/15

Name: _____ Tel: _____ Fax: _____

Address: _____

CAPE COD NATIONAL SEASHORE; ZONING STANDARDS

CODE OF FEDERAL REGULATIONS, Title 36, PART 27

Sec.

27.1 General objectives.

27.2 Commercial and industrial activities.

27.3 Seashore District.

27.4 Variances and exceptions.

AUTHORITY: Secs. 1, 5, 75 Stat. 284, 290; 16.S.C. 459b, 459b-4.

SOURCE: 27 FR 6714, July 14, 1962, unless otherwise noted.

§ 27.1 General objectives.

(a) Consistent with the objectives set out in section 5 of the Act of August 7, 1961 (75 Stat. 284), development and management of the Cape Cod National Seashore will be conducted in a manner which will assure the widest possible public use, understanding and enjoyment of its natural, cultural and scientific features. The regulations in this part are designed and promulgated to establish minimum standards which local zoning bylaws must meet in furtherance of those purposes.

(b) The standards hereby established for approval of zoning bylaws or amendments of zoning bylaws—are intended: (1) To contribute to the effect of prohibiting the commercial and industrial use, other than existing commercial or industrial use not inconsistent with the purposes of the Act of August 7, 1961 (75 Stat. 284, 291), of all property within the boundaries of the Cape Cod National Seashore and situated in the towns of Provincetown, Truro, Wellfleet, Eastham, Orleans and Chatham; and (2) to promote preservation and development, in accordance with the purposes of the said Act, of the area comprising the seashore, by means of acreage, frontage and setback requirements and other provisions which may be required to be included in zoning bylaws consistent with the laws of Massachusetts. Zoning bylaws or amendments of zoning bylaws applicable to the area within Cape Cod National Seashore, in order that they may be approved, shall conform to the standards herein set forth relating to preservation and development of the seashore in accordance with the purposes of the said Act. The Secretary shall be given notice of any amendments to approved zoning bylaws that affect the Seashore District. Nothing in these standards or in the zoning bylaws adopted pursuant thereto for the area within Cape Cod National Seashore shall preclude the Secretary of the Interior from fulfilling the responsibilities vested in him by the Act of August 7, 1961, or by the Act of August 25, 1916 (39 Stat. 535), as amended and supplemented.

(c) Wherever the term “‘improved property’” is used in this part it shall mean a detached, one-family dwelling, the land on which it is situated, and accessory structures, and as further defined in section 4(d) of the Act of August 7, 1961 (75 Stat. 284).

§ 27.2 Commercial and industrial activities.

No commercial or industrial districts may be established within the Cape Cod National Seashore.

§ 27.3 Seashore District.

(a) Description. The Seashore District shall include all those portions of the towns of Provincetown, Truro, Wellfleet, Eastham, Orleans and Chatham lying within the exterior boundaries of the Cape Cod National Seashore.

(b) Zoning bylaws for the Seashore District shall be consistent with the objectives and purposes of the Act of August 7, 1961, so that—to the extent possible under Massachusetts law—the scenic, scientific and cultural values of the area will be protected, undeveloped areas will be preserved in a natural condition, and the distinctive Cape Cod character of existing residential structures will be maintained.

(c)(1) No moving, alteration, or enlargement of existing one-family residential dwellings or structures accessory thereto situated within this District shall be permitted if such would afford less than a 50-foot setback from all streets measured at a right angle with the street line, and a 25-foot distance from the abutters' property lines (or less than such lesser setback or distance requirements already in existence for such dwellings or accessory structures).

(2) If through natural phenomena or causes a lot or lots are so diminished in size that an owner would be unable to comply with the setback or sideline requirements herein prescribed, such owner or the zoning authorities may, as provided in § 27.4(b), request the Secretary of the Interior to determine whether a proposed move, reconstruction, alteration or enlargement of an existing residential dwelling or accessory structure would subject the property to acquisition by condemnation.

(d) Zoning bylaws adopted pursuant to this regulation shall contain provisions designed to preserve the seashore character of the area by appropriate restrictions or prohibitions upon the burning of cover, cutting of timber, filling of land, removal of soil, loam, sand or gravel and dumping, storage, or piling of refuse and other unsightly objects or other uses which would detract from the natural or traditional seashore scene.

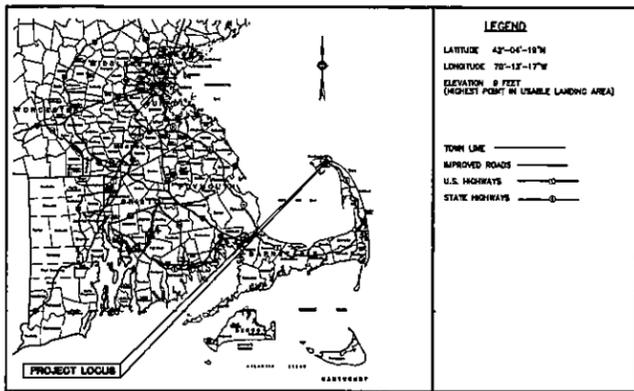
(e) Zoning bylaws for the Seashore District may permit residential uses of “improved property” and other uses of such dwellings and their accessory structures: Provided, Such other uses are traditional to these seashore communities, are customarily incidental to the principal residential use and do not alter the essential character of the dwelling and premises as a private residence. Subject to those conditions such uses may include, but are not limited to: (1) Partial use of dwellings by residents for a professional office (as for the practice of theology, law or medicine), as an artists' studio, for appropriate small scale home occupations as the making and selling of traditional Cape Cod products produced on the premises, and for the rental of rooms and serving of meals by residents of the premises to overnight guests; (2) the existence of structures, such as a garage, barn or boathouse accessory to the dwelling; (3) display of a sign which may be indirectly but not directly illuminated and not to exceed two square feet in the area, referring to the occupancy, sale, or rental of the premises; (4) traditional agricultural uses of cleared land, but not including such objectionable uses as a piggery or the raising of livestock, poultry, or fur-bearing animals for commercial purposes; and (5) the opening of shellfish, the storage and use of fishing equipment, and other traditional fishing activities. No commercial or industrial ventures (other than of the types described above), may be established within the Seashore District.

§ 27.4 Variances and exceptions.

(a) Zoning bylaws may provide for variances and exceptions.

(b) Bylaws adopted pursuant to these standards shall contain provisions which constitute notice to applicants for variances and exceptions that, under section 5(d) of the Act of August 7, 1961, the Secretary of Interior is authorized to withdraw the suspension of his authority to acquire, by condemnation, "improved property" that is made the subject of a variance or exception which, in his option, fails to conform or is in any manner opposed to or inconsistent with preservation and development of the seashore as contemplated in the said Act. The Secretary may be consulted at any time by zoning authorities or by the owner of "improved property" regarding the effect of a proposed variance or exception upon the status of the affected property with regard to the suspension of the Secretary's authority to condemn. The Secretary, within 60 days of the receipt of a request for such determinations, or as soon thereafter as is reasonably possible, shall advise the owner or zoning authorities whether or not the intended use will subject the property to acquisition by condemnation.

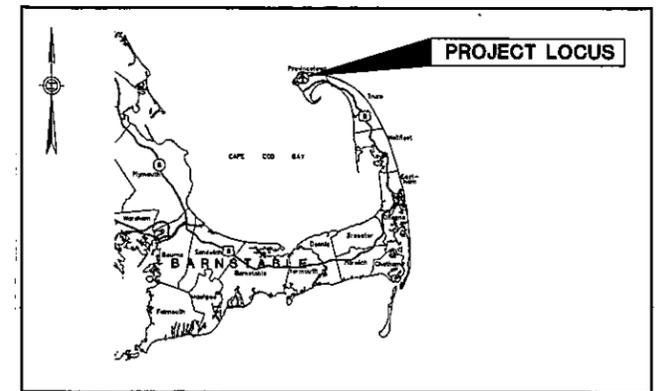
(c) The Secretary shall be promptly notified of the granting of any variance or exception.



LOCATION PLAN

TOWN OF PROVINCETOWN MASSACHUSETTS

CONSTRUCTION PLANS FOR



VICINITY PLAN

PROVINCETOWN MUNICIPAL AIRPORT

AIP NO. 3-25-0043-37-2014

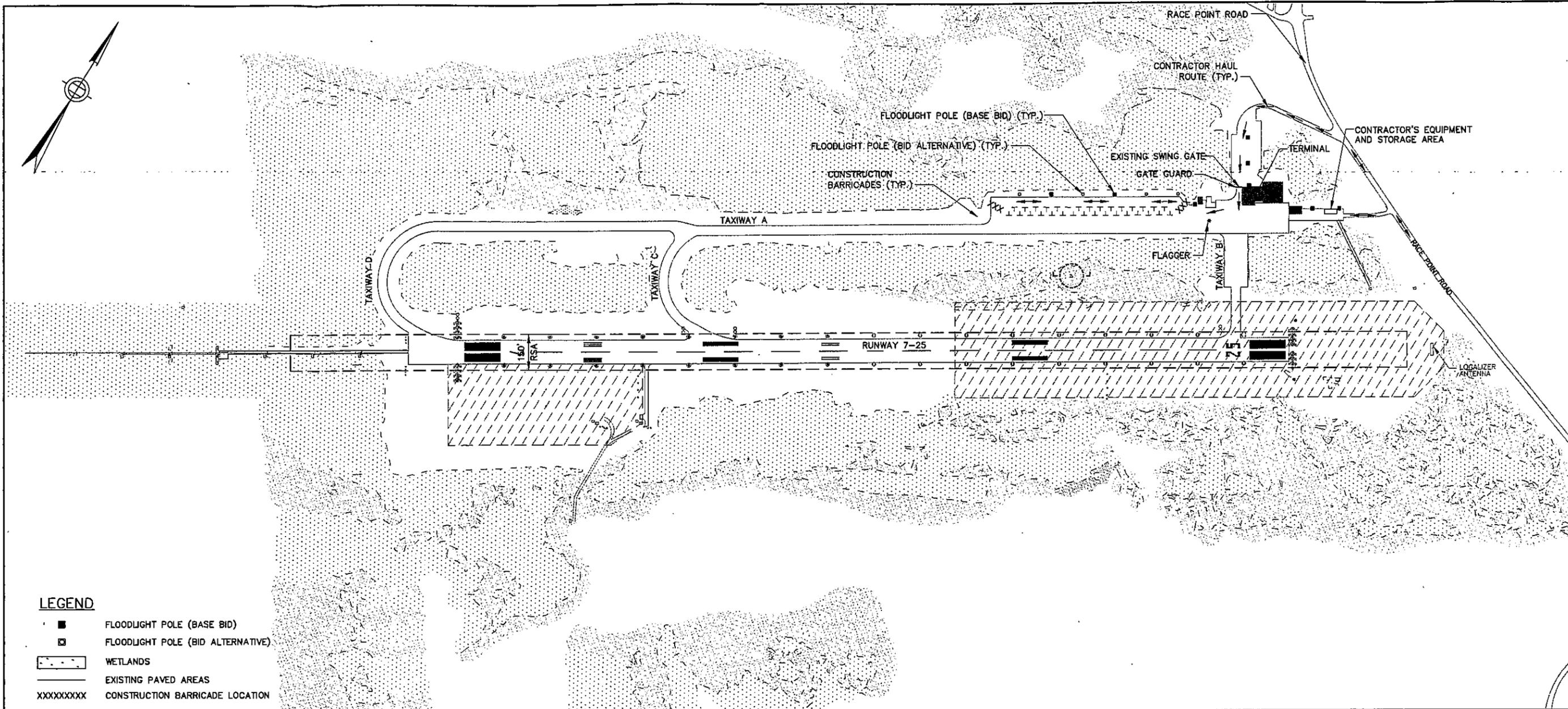
JULY 2014

INDEX OF DRAWINGS	
SHEET NUMBER	TITLE
1	TITLE SHEET
2	GENERAL, PHASING AND SAFETY/OPERATIONS PLAN
3	ENVIRONMENTAL PLAN
4	EXISTING CONDITIONS PLAN - 1
5	EXISTING CONDITIONS PLAN - 2
6	ELECTRICAL PLAN 1
7	ELECTRICAL PLAN 2
8	ELECTRICAL DETAILS



REPLACE FLOOD LIGHTING AS ADVERTISED

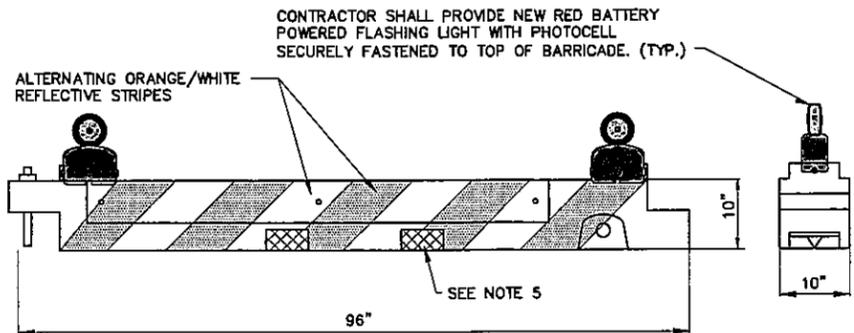
JACOBS
 JACOBS HEREBY CERTIFIES THAT THESE CONSTRUCTION DRAWINGS AND ACCOMPANYING SPECIFICATIONS HAVE BEEN PREPARED IN ACCORDANCE WITH CURRENT FAA ADVISORY CIRCULARS FOR AIP PROJECTS. THESE ADVISORY CIRCULARS ARE INDICATED ON A LISTING HAVING AN EFFECTIVE DATE OF MARCH 20, 2014.
 APPROVED BY _____ AIRPORT DIVISION
 DATE: _____



- LEGEND**
- FLOODLIGHT POLE (BASE BID)
 - ⊠ FLOODLIGHT POLE (BID ALTERNATIVE)
 - - - WETLANDS
 - EXISTING PAVED AREAS
 - XXXXXXX CONSTRUCTION BARRICADE LOCATION

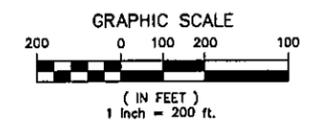
CONSTRUCTION SCHEDULE
 BASED ON A NOTICE TO PROCEED DATE OF SEPTEMBER 25, 2014
 45 CALENDAR DAYS (BASE BID AND/OR BID ALTERNATIVE)

- GENERAL PHASING NOTES:**
1. CONTRACTORS WORK HOURS SHALL BE 7 AM TO 5 PM MONDAY THROUGH FRIDAY.
 2. A PRE CONSTRUCTION MEETING SHALL BE HELD WITH THE AIRPORT MANAGER, ENGINEER, CONSERVATION COMMISSION MEMBER OR ITS AGENT, AND CONTRACTOR TO DISCUSS SCHEDULE OF THE WORK AND COMPLIANCE WITH THE ORDER OF CONDITIONS FOR THE PROJECT.
 3. SEE ENVIRONMENTAL NOTES ON SHEET 3.
 4. WETLAND RESOURCES AND OTHER PROTECTED AREAS ARE SHOWN ON SHEETS 4, 5 AND 6.
 5. CONTRACTOR MUST PROVIDE A GATE GUARD WHENEVER TRAFFIC IS PRESENT ON THE HAUL ROAD, AND A FULL-TIME FLAGGER.



- BARRICADE NOTES:**
1. 20 BARRICADES SHALL BE MULTI-BARRIER SAFETY BARRICADES WITH REFLECTIVE STRIPING (MODEL AR-10X96 - OR APPROVED EQUAL).
 2. BARRIERS SHALL BE PLACED END TO END AND INTERLOCKING TO CREATE A CONTINUOUS BARRICADE UNLESS OTHERWISE NOTED.
 3. BARRICADES SHALL BE ADEQUATELY WEIGHTED TO WITHSTAND HIGH WINDS AND/OR JET BLAST.
 4. PRIMARY USE IS TO DELINEATE CONSTRUCTION AREA FROM AIRCRAFT ACTIVITY.
 5. CONTRACTOR SHALL SECURE WIRE MESH TO BARRICADE TO PREVENT TURTLES.
 6. ALL COST TO SUPPLY, PLACE, MAINTAIN, AND REMOVE SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
 7. BARRICADES MUST BE PLACED AND MEET ALL FAA REQUIREMENTS.

WATER BALLASTED LIGHTED CONSTRUCTION BARRICADE
 NOT TO SCALE



NO.	REVISIONS	BY	APP.	DATE

SUBMITTED BY:

 JACOBS

AS-ADVERTISED

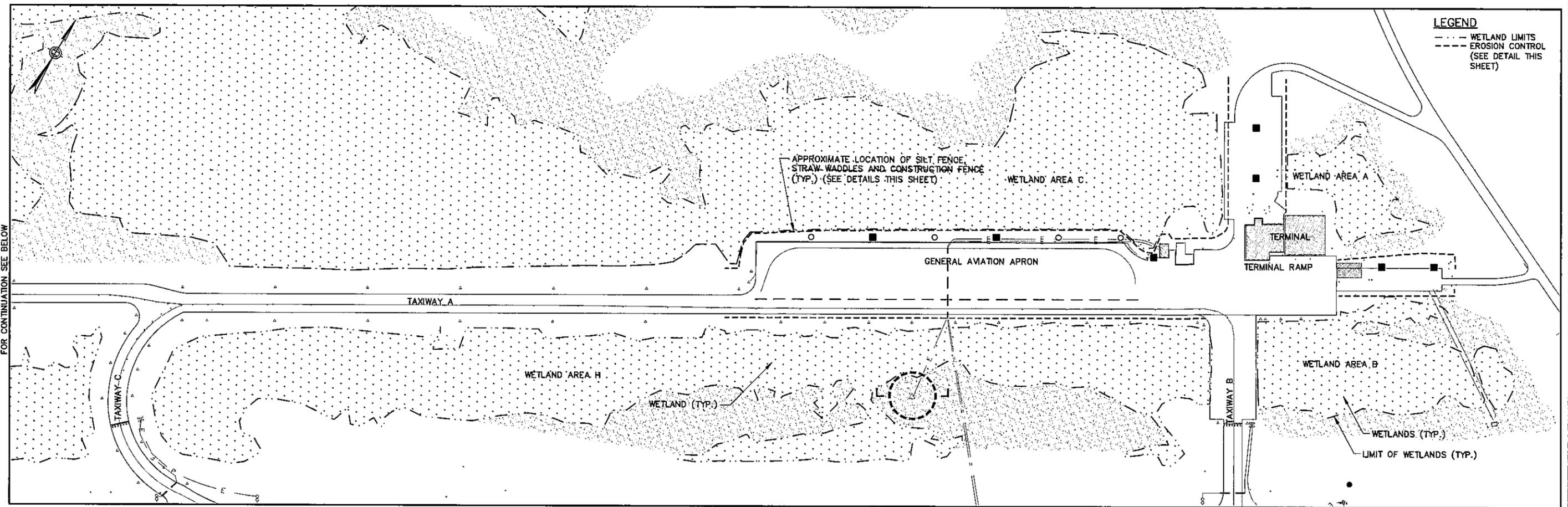
TOWN OF PROVINCETOWN
 AIP NO. 3-25-0043-37-2014

PROVINCETOWN MUNICIPAL AIRPORT
 PROVINCETOWN, MASSACHUSETTS

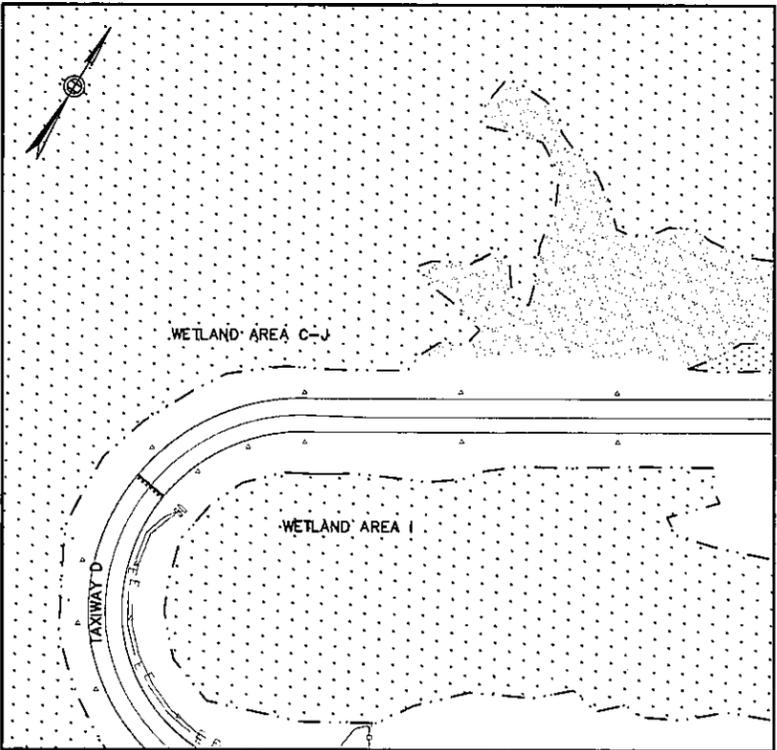
**GENERAL, PHASING AND
 SAFETY/OPERATIONS PLAN**

JACOBS

DESIGNED SNA DATE 07/14 SCALE: AS SHOWN
 DRAWN SNA DATE 07/14 DRAWING NO. _____
 CHECKED SJF DATE 07/14 SHEET NO. 2 OF 8

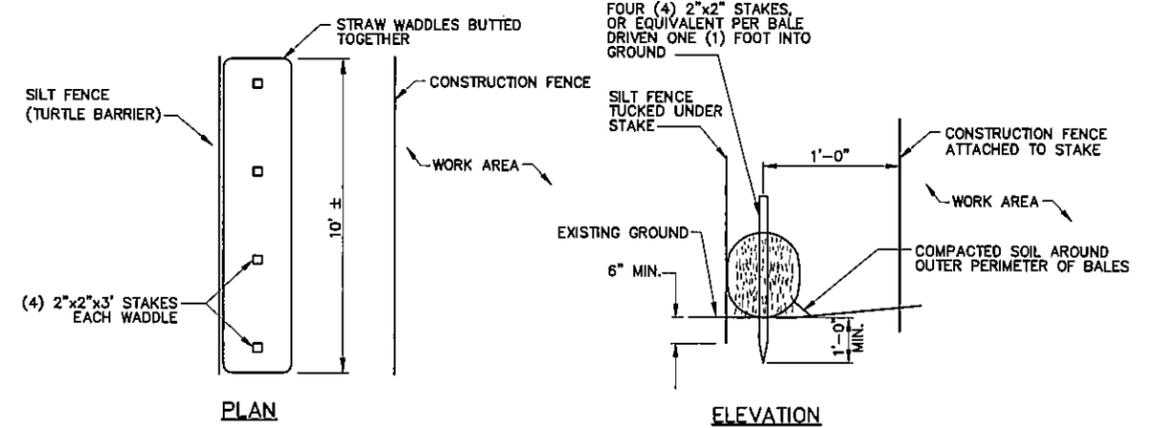


ENVIRONMENT PLAN
 SCALE: 1"=100'

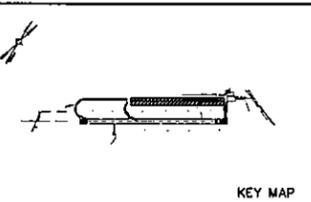


NOTES

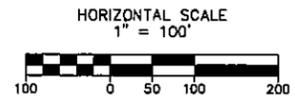
1. CONTRACTOR MUST BE FAMILIAR WITH THE ORDER OF CONDITIONS ISSUED BY THE PROVINCETOWN CONSERVATION COMMISSION AND MUST COMPLY WITH ALL THE CONDITIONS OF THE ORDER. A COPY OF THE ORDER MUST BE KEPT AT THE PROJECT SITE.
2. IN COMPLIANCE WITH THE CONDITIONS RESULTING FROM THE PROVINCETOWN CONSERVATION COMMISSION DETERMINATION OF APPLICABILITY
3. EROSION CONTROL AND TURTLE BARRIER FENCE MUST BE APPROVED BY TOWN OF PROVINCETOWN CONSERVATION COMMISSION OR OTHER AGENT PRIOR TO START OF ANY WORK.
4. STRAW WADDLES (NOT HAY) MUST BE USED.
5. A NATIVE SEED MIX, SUCH AS THE "NEW ENGLAND COASTAL SALT TOLERANT GRASS MIX," OR A SIMILAR CUSTOM SEED MIX THAT CONTAINS A VARIETY OF NATIVE GRASSES THAT WILL TOLERATE COASTAL CONDITIONS WILL BE APPLIED. THIS CUSTOM SEED MIX IS COMMERCIALY AVAILABLE AND INCLUDES NATIVE SPECIES SIMILAR TO THOSE FOUND WITHIN THE EXISTING MANAGED TURF AREAS AT THE AIRPORT: BIG BLUESTEM (ANDROPOGON GERARDII), CANADA WILD RYE (ELYMUS CANADENSIS), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), SAND DROPSEED (SPOROBOLUS CRYPTANDRUS), CREEPING RED FESCUE (FESTUCA RUBRA), SWITCHGRASS (PANICUM VIRGATUM), AND INDIAN GRASS (SORGHASTRUM NUTANS). THE SEED MIX WILL BE APPLIED AT THE RECOMMENDED APPLICATION RATE OF 70 LBS/ACRE AND WILL BE LIGHTLY RAKED IN AND COVERED WITH A LIGHT MULCHING OF STRAW TO CONSERVE MOISTURE DURING GERMINATION. SEED TAGS SHALL BE COLLECTED BY THE ENGINEER FOR EACH BAG DELIVERED TO THE AIRPORT.
6. SOIL BROUGHT TO THE SITE SHALL BE CLEAN AND WEED FREE. SOIL USED FOR RESTORATION SHOULD MATCH EXISTING TOPSOIL AND BE APPROVED BY THE ENGINEER.
7. EQUIPMENT AND MATERIALS SHALL BE STORED IN GRAVEL OR PAVED AREAS.



SILT FENCE, STRAW WADDLE & CONSTRUCTION FENCE DETAIL
 (EROSION CONTROL AND TURTLE BARRIER FENCE)
 NOT TO SCALE



ENVIRONMENT PLAN
 SCALE: 1"=100'



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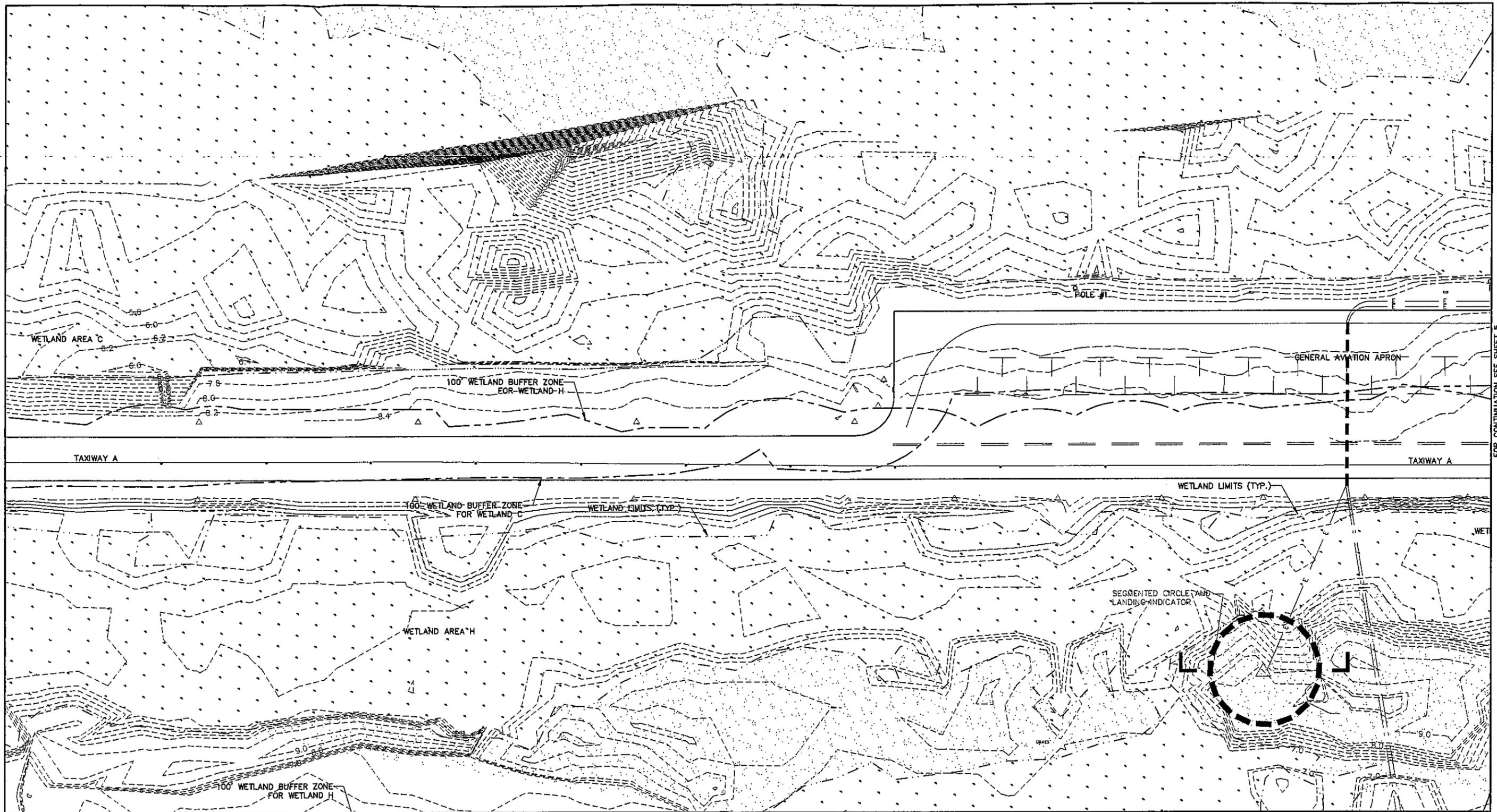
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ENVIRONMENTAL PLAN

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 CHECKED S.F. DATE 07/14 SHEET NO. 3 OF 8



FOR CONTINUATION SEE SHEET 5

PLAN
SCALE: 1" = 40'

AS-ADVERTISED

LEGEND			
△	TAXIWAY EDGE RETROFLECTIVE MARKER	□	MISCELLANEOUS SIGN
○ _{H.H.}	HANDHOLE	⊙	PROPERTY LINE SPIKE
□ _{C.M.}	CABLE MARKER	○	MISCELLANEOUS LIGHT
— E —	CABLE (DIRECT BURIED)	— — —	WETLANDS
●	RUNWAY EDGE LIGHT	■	MONUMENT
⊙	RUNWAY THRESHOLD LIGHT	■	VEGETATED WETLANDS
●	T/W CENTERLINE RETROFLECTIVE MARKER	--- 7.8 ---	CONTOUR
○	ELECTRIC MANHOLE	---	ELECTRICAL DUCT
⊙	MONITOR WELL	---	EDGE OF PAVEMENT
⊕	BENCHMARK	---	100' BUFFER ZONE

NOTES

1. UTILITY AND TOPOGRAPHICAL BACKGROUND SHOWN ARE BASED ON BEST AVAILABLE INFORMATION AND MUST BE FIELD-VERIFIED PRIOR TO CONSTRUCTION.

HORIZONTAL SCALE
1" = 40'



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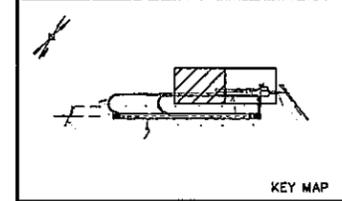
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AIP NO. 3-25-0043-37-2014
PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

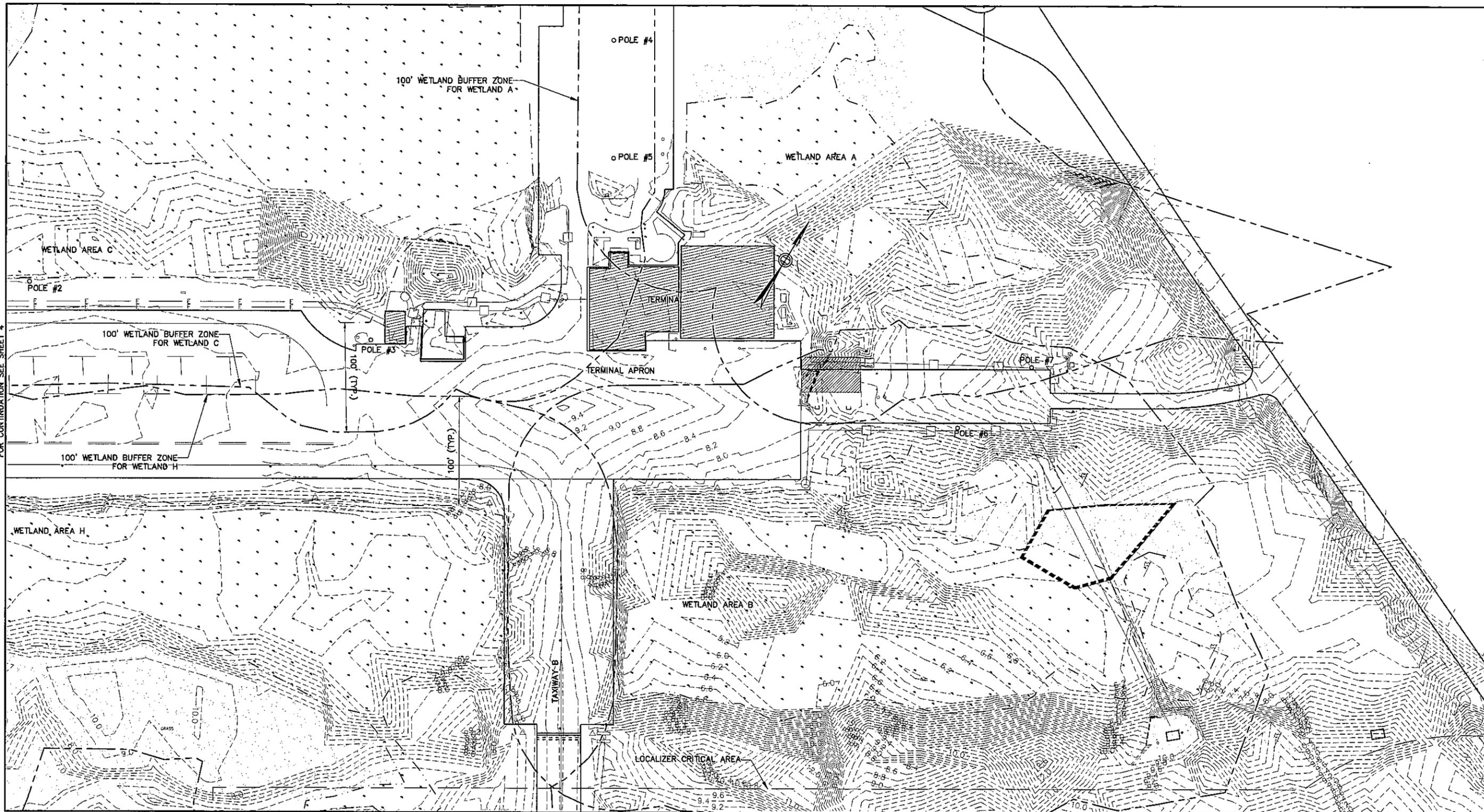
EXISTING CONDITIONS PLAN - 1

JACOBS

DESIGNED SJF DATE 07/14 SCALE: AS SHOWN
DRAWN SNA DATE 07/14 DRAWING NO.
CHECKED SJF DATE 07/14 SHEET NO. 4 OF 8

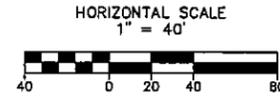
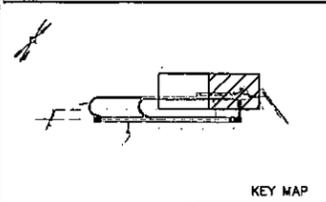
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PLAN
SCALE: 1" = 40'

NOTES
1. SEE SHEET 4 FOR LEGEND.



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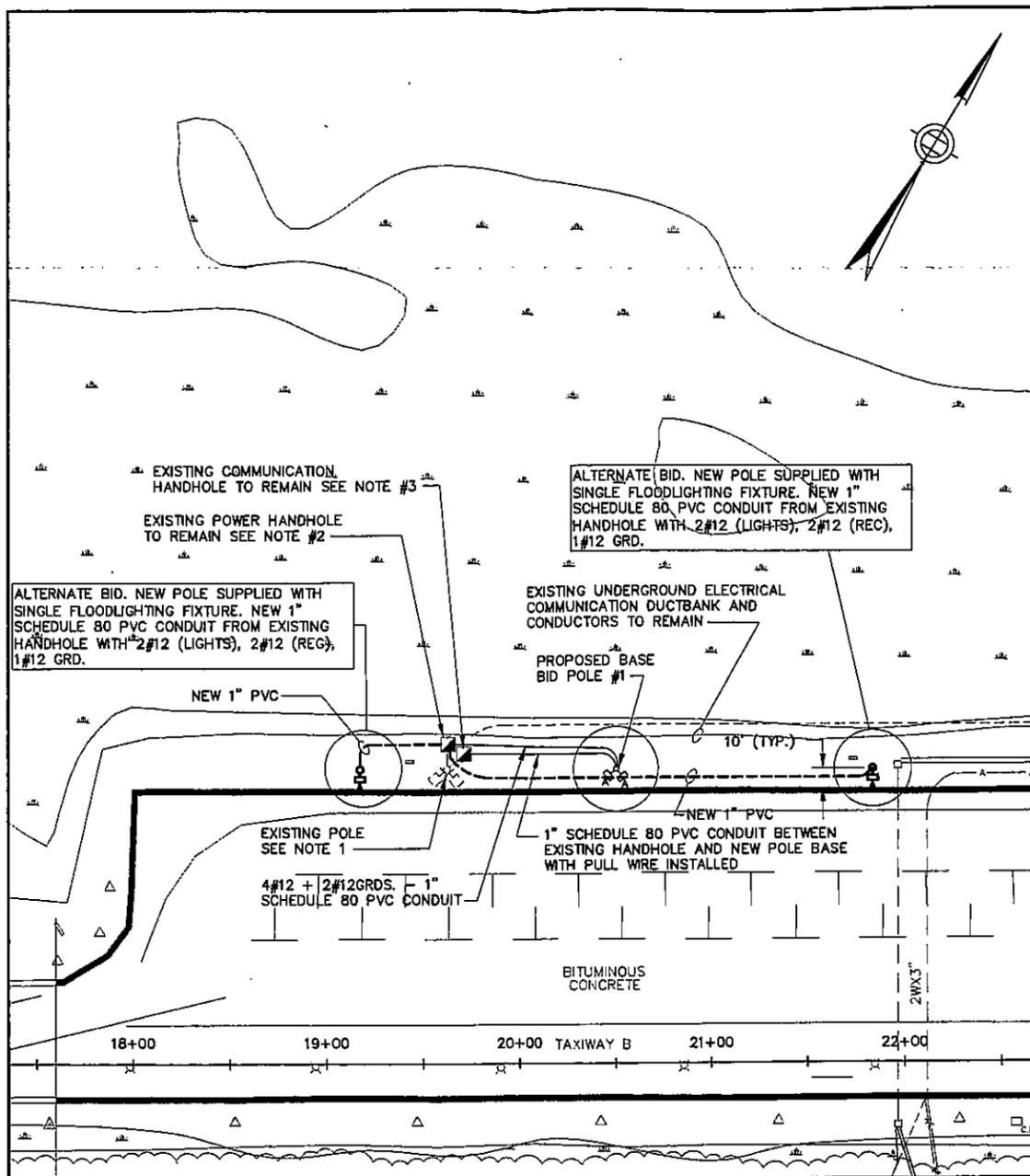
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PROVINCETOWN, MASSACHUSETTS

EXISTING CONDITIONS PLAN - 2

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DRAWN S.H.A. DATE 07/14 DRAWING NO.
CHECKED S.F. DATE 07/14 SHEET NO. 5 OF 8



FOR CONTINUATION SEE SHEET 7

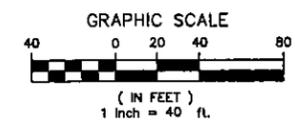
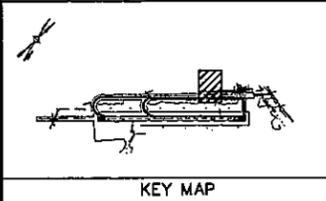
LIGHTING FIXTURE SCHEDULE

TYPE	MANUF.	CATALOG NO.	DESCRIPTION	LAMP		MOUNTING	REMARKS
				NO.	VOLTAGE		
A	STAXMAX OR EQUAL	ELLF270UM50-HBMB BRACKET	LED POLE MOUNTED FLOOD TYPE FIXTURE ON 20' FIBERGLASS POLE	-	SEE NOTE #4	POLE 20'-0"	POLE TO BE ROUND TAPERED FIBERGLASS/COMPOSITE 20'-0" EQUAL TO SHAKESPEARE CAT# AH2003N5CB, RATED 120MPH WIND, DARK BRONZE. (SEE NOTE #1)
B	GARDCO OR EQUAL	GL1313851LACW UNIVBRPLFPC	LED POLE MOUNTED SINGLE HEAD FIXTURE ON 20' POLE FIBERGLASS/COMPOSITE	-	SEE NOTE #4	POLE 10'-0"	POLE TO BE ROUND TAPERED FIBERGLASS/COMPOSITE 10'-0" EQUAL TO SHAKESPEARE CAT# AH1003N5CB, RATED 120MPH WIND, DARK BRONZE. (SEE NOTE #2)
B1	GARDCO OR EQUAL	GL1323851LACW UNIVBRPLFPC	LED POLE MOUNTED DOUBLE HEAD FIXTURE ON 20' POLE FIBERGLASS/COMPOSITE	-	SEE NOTE #4	POLE 20'-0"	POLE TO BE ROUND TAPERED FIBERGLASS/COMPOSITE 20'-0" EQUAL TO SHAKESPEARE CAT# AH2003N5CB, RATED 120MPH WIND, DARK BRONZE. (SEE NOTE #1)
B2	GARDCO OR EQUAL	GL1333851LACW UNIVBRPLFPC	LED POLE MOUNTED TRIPLE HEAD FIXTURE ON 20' POLE FIBERGLASS/COMPOSITE	-	SEE NOTE #4	POLE 20'-0"	POLE TO BE ROUND TAPERED FIBERGLASS/COMPOSITE 20'-0" EQUAL TO SHAKESPEARE CAT# AH2003N5CB, RATED 120MPH WIND, DARK BRONZE. (SEE NOTE #1)
B3	GARDCO OR EQUAL	GL1323851LACW UNIVBRPLFPC	LED POLE MOUNTED DOUBLE HEAD FIXTURE ON 13' POLE FIBERGLASS/COMPOSITE	-	SEE NOTE #4	POLE 13'-0"	POLE TO BE ROUND TAPERED FIBERGLASS/COMPOSITE 13'-0" EQUAL TO SHAKESPEARE CAT# AH1303N5CB, RATED 120MPH WIND, DARK BRONZE. (SEE NOTE #3)
C	GARDCO OR EQUAL	107L435LACW UNIVBRPPCBWS	WALL MOUNTED LED SCONCE TYPE LIGHTING FIXTURE	-	SEE NOTE #4	WALL	EXACT MOUNTING HEIGHT TO BE FIELD VERIFIED, WITH ENGINEER PRIOR TO MOUNTING WALL SCONCE TO BE SURFACE MOUNTED ON EXISTING SRE BUILDING

- SCHEDULE NOTES:**
- OVERALL HEIGHT OF THE POLE INCLUDING CONCRETE BASE TO TOP OF LUMINARIES MAY NOT EXCEED 24'-0" ABOVE FINISHED GRADE.
 - OVERALL HEIGHT OF THE POLE INCLUDING CONCRETE BASE TO TOP OF LUMINARIES MAY NOT EXCEED 13'-0" ABOVE FINISHED GRADE.
 - OVERALL HEIGHT OF THE POLE INCLUDING CONCRETE BASE TO TOP OF LUMINARIES MAY NOT EXCEED 16'-0" ABOVE FINISHED GRADE.
 - CONTRACTOR TO FIELD VERIFY EXISTING VOLTAGE OF FIXTURES BEING INSTALLED WITH PRESENT CONDITIONS AND WIRE NEW FIXTURES ACCORDINGLY

NOTES:

- EXISTING FLOODLIGHTING FIXTURES, POLE, CONCRETE BASE AND DUPLEX RECEPTACLE PRESENTLY INSTALLED ON APRON TO BE REMOVED. REPLACE WITH A NEW CONCRETE POLE BASE, FIBERGLASS POLE, 2- LED TYPE FLOODLIGHTING FIXTURES, AND GFCI DUPLEX RECEPTACLE AT THE LOCATION SHOWN. REFER TO ELECTRICAL DETAIL SHEET 8 FOR ADDITIONAL INFORMATION AND REQUIREMENTS. REFER TO LIGHTING FIXTURE SCHEDULE FOR POLE AND FIXTURE INFORMATION. EXISTING OBSOLETE POLES TO BE TURNED OVER TO THE AIRPORT. ALL OTHER EQUIPMENT THAT IS REMOVED SHALL BE LEGALLY DISPOSED OF BY THE CONTRACTOR OFF AIRPORT PROPERTY.
- EXISTING POWER HANDHOLE TO REMAIN IN PRESENT LOCATION AND BE UTILIZED TO SERVICE NEW APRON FLOODLIGHTING POLE. PROVIDE A NEW 1" SCHEDULE 80 PVC CONDUIT BETWEEN HANDHOLE AND NEW POLE BASE FOR WIRING INDICATED ON PLAN. CONNECT NEW #12 CONDUCTORS TO EXISTING SERVICE CONDUCTORS PRESENTLY SERVICING EXISTING POLE BEING REMOVED. PROVIDE 5AMP IN-LINE TYPE FUSES BETWEEN EXISTING AND NEW CONDUCTORS WITHIN HANDHOLE FOR LIGHTING FIXTURES.
- EXISTING COMMUNICATION HANDHOLE TO REMAIN IN PRESENT LOCATION AND BE UTILIZED FOR SERVICE TO NEW POLE. PROVIDE A NEW 1" SCHEDULE 80 PVC CONDUIT BETWEEN HANDHOLE AND NEW POLE BASE FOR CABLING INDICATED ON PLAN.



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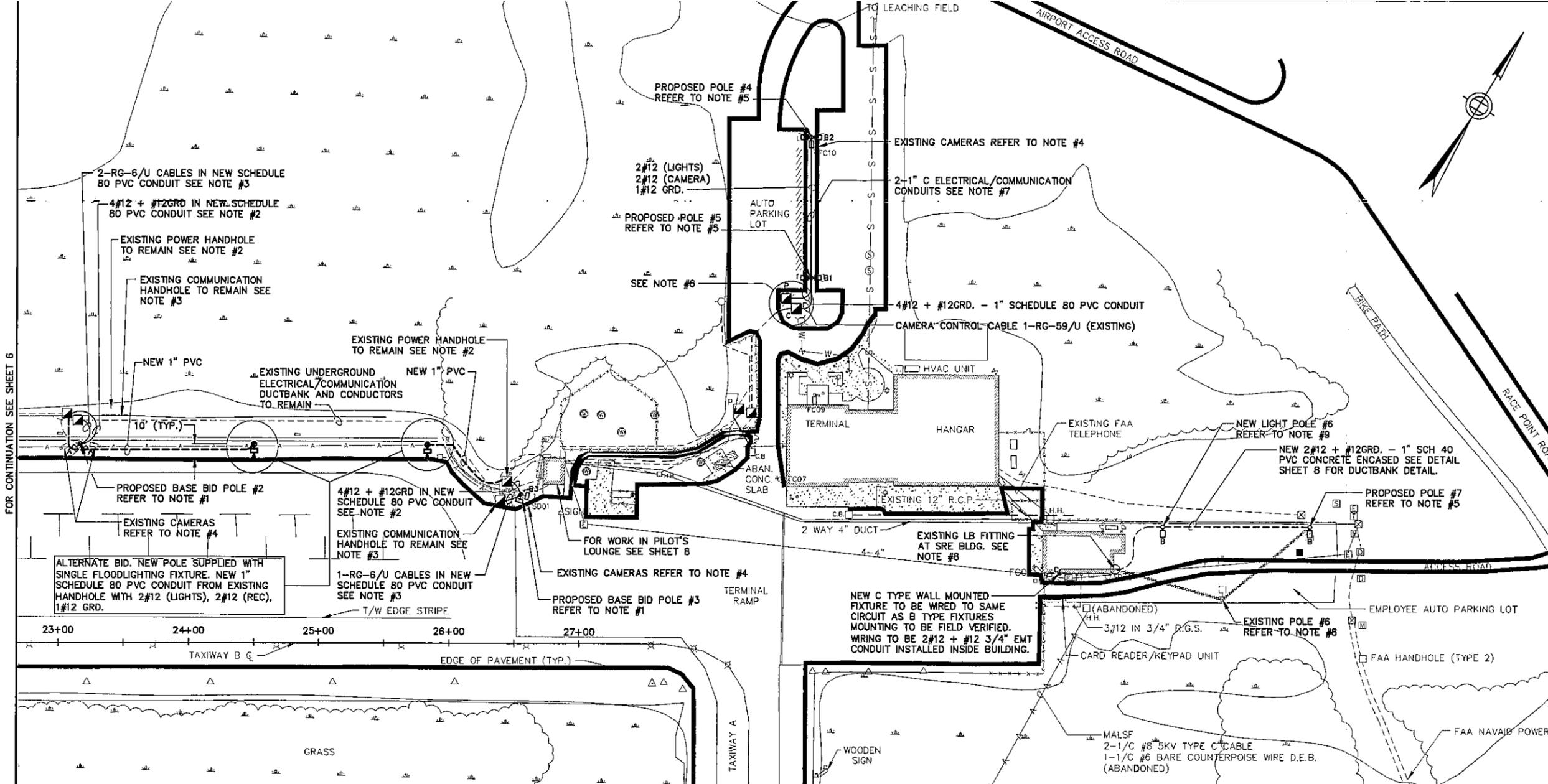
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AIP NO. 3-25-0043-37-2014

PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

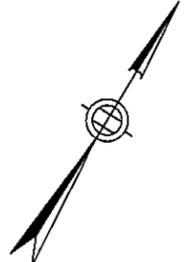
ELECTRICAL PLAN 1

JACOBS

DESIGNED JH DATE 07/14 SCALE: AS SHOWN
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CHECKED SJF DATE 07/14 SHEET NO. 6 OF 8

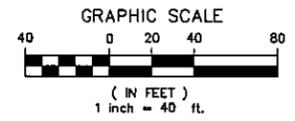
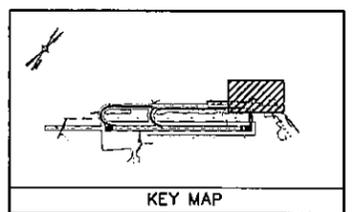


FOR CONTINUATION SEE SHEET 6



NOTES:

1. EXISTING FLOODLIGHTING FIXTURES, POLE, CONCRETE BASE AND DUPLEX RECEPTACLE PRESENTLY INSTALLED ON APRON TO BE REMOVED. REPLACE WITH A NEW CONCRETE POLE BASE, 20' FIBERGLASS POLE, 2- LED TYPE FLOODLIGHTING FIXTURES, AND GFCI DUPLEX RECEPTACLE AT THE LOCATION SHOWN. REFER TO ELECTRICAL DETAIL SHEET 8 FOR ADDITIONAL INFORMATION AND REQUIREMENTS. REFER TO LIGHTING FIXTURE SCHEDULE FOR POLE AND FIXTURE INFORMATION. EXISTING OBSOLETE POLES SHALL BE TURNED OVER TO THE AIRPORT. ALL OTHER REMOVED EQUIPMENT SHALL BE LEGALLY DISPOSED OF OFFSITE BY THE CONTRACTOR.
2. EXISTING POWER HANDHOLE TO REMAIN IN PRESENT LOCATION AND BE UTILIZED TO SERVICE NEW APRON FLOODLIGHTING POLE. PROVIDE A NEW 1" SCHEDULE 80 PVC CONDUIT BETWEEN HANDHOLE AND NEW POLE BASE FOR WIRING INDICATED ON PLAN. CONNECT NEW #12 CONDUCTORS TO EXISTING SERVICE CONDUCTORS PRESENTLY SERVICING EXISTING POLE BEING REMOVED. PROVIDE 5AMP IN-LINE TYPE FUSES BETWEEN EXISTING AND NEW CONDUCTORS WITHIN HANDHOLE FOR LIGHTING FIXTURES.
3. EXISTING COMMUNICATION HANDHOLE TO REMAIN IN PRESENT LOCATION AND BE UTILIZED FOR SERVICE TO NEW POLE. PROVIDE A NEW 1" SCHEDULE 80 PVC CONDUIT BETWEEN HANDHOLE AND NEW POLE BASE FOR CABLING INDICATED ON PLAN.
4. EXISTING CAMERAS INDICATED ON PLAN ARE TO BE REMOVED FROM EXISTING POLE AND RE-INSTALLED ON NEW LIGHTING POLE UTILIZING SAME METHOD OF MOUNTING. EXISTING CABLING ASSOCIATED WITH CAMERAS TO BE RE-USED AND EXTENDED ACCORDINGLY TO NEW LOCATIONS. COORDINATE HEIGHT OF RELOCATED CAMERA IN FIELD WITH RESIDENT ENGINEER.
5. EXISTING PARKING LOT FIXTURES, POLE, CONCRETE BASE PRESENTLY INSTALLED WITHIN PARKING AREA TO BE REMOVED. IN THE SAME LOCATION A NEW CONCRETE POLE BASE, FIBERGLASS POLE, LED TYPE LIGHTING FIXTURES (NUMBER AS INDICATED ON PLAN), TO BE INSTALLED. REFER TO ELECTRICAL DETAIL SHEET 8 FOR ADDITIONAL INFORMATION AND REQUIREMENTS. REFER TO LIGHTING FIXTURE SCHEDULE FOR POLE AND FIXTURE INFORMATION.
6. PROVIDE TWO (2) NEW 18" x 18" x 12" COMPOSITE TYPE HANDHOLE AS INDICATED ON PLAN, ONE HANDHOLE ASSOCIATED WITH EXISTING POWER WIRING, AND THE SECOND FOR EXISTING COMMUNICATION/CAMERA CABLES. CONTRACTOR TO INTERCEPT EXISTING UNDERGROUND CONDUIT AND WIRING AND RE-ROUTE THROUGH THE NEW HANDHOLE ACCORDINGLY.
7. EXISTING DUCTBANK PRESENTLY INSTALLED IN ISLAND TO BE REMOVED AND REPLACED WITH TWO (2) NEW 1" SCHEDULE 80 PVC CONDUIT TO SERVICE NEW LIGHT POLES POWER AND CAMERA REQUIREMENTS. EXISTING RG-59/U CABLE ASSOCIATED WITH EXISTING CAMERA TO BE RE-USED TO RE-SERVICE RELOCATED CAMERA. CABLE TO BE PULLED BACK TO NEW COMMUNICATION HANDHOLE AND RE-INSTALLED IN NEW 1" RACEWAY SYSTEM TO INDICATED RELOCATED CAMERA LOCATION.
8. EXISTING LIGHT POLE AND ASSOCIATED WIRING TO BE REMOVED BACK TO EXISTING LB FITTING ON SRE BUILDING.
9. NEW LIGHT POLE AND FIXTURE WIRED AS INDICATED, REFER TO DETAIL SHEET 8 FOR ADDITIONAL INFORMATION AND INSTALLATION DETAILS.
10. SEE SHEET 6 FOR LIGHTING FIXTURE SCHEDULE



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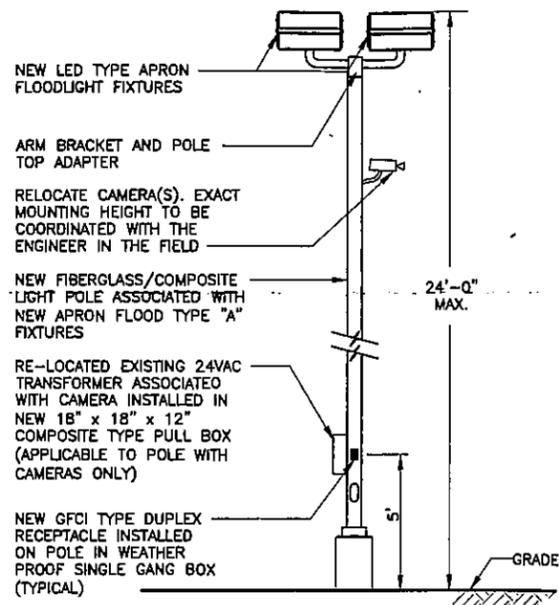
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PROVINCETOWN, MASSACHUSETTS

ELECTRICAL PLAN 2

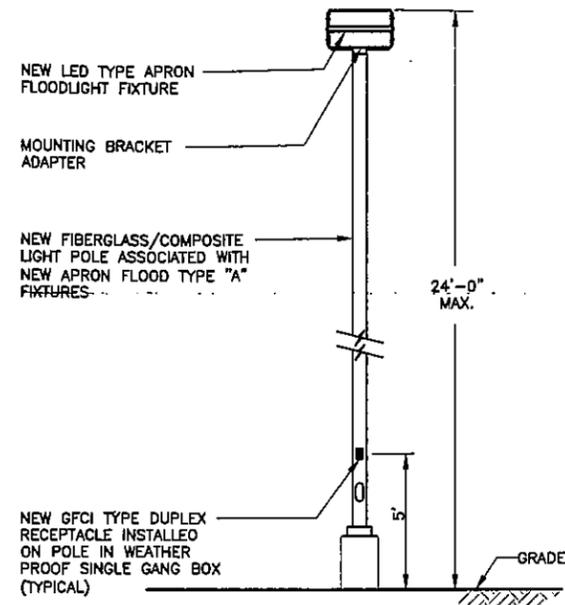
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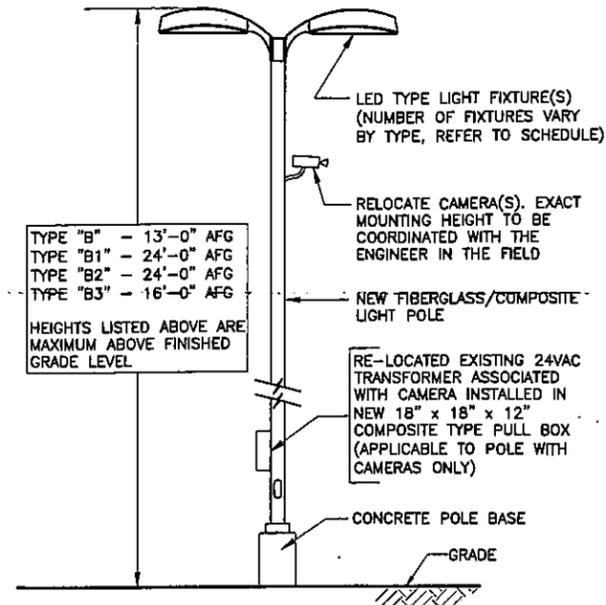
NO.	REVISIONS	BY	APP.	DATE



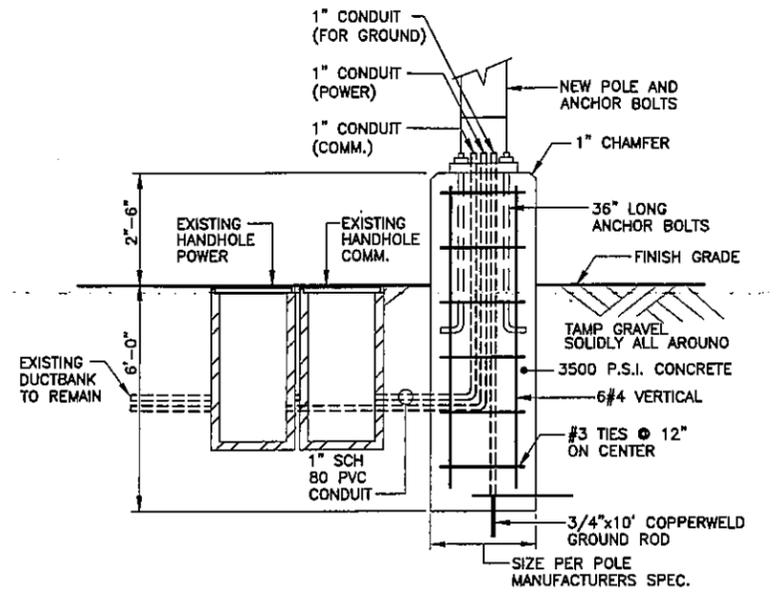
APRON LIGHTING POLE DETAIL (BASE BID)
NOT TO SCALE



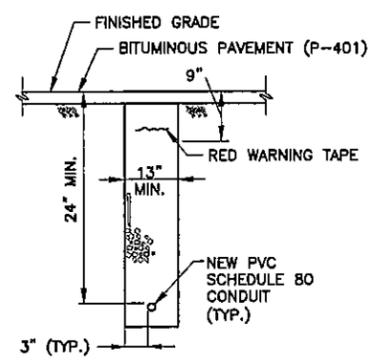
APRON LIGHTING POLE DETAIL (BID ALTERNATIVE)
NOT TO SCALE



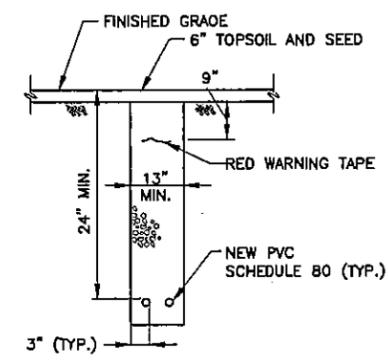
PARKING LOT POLE DETAIL
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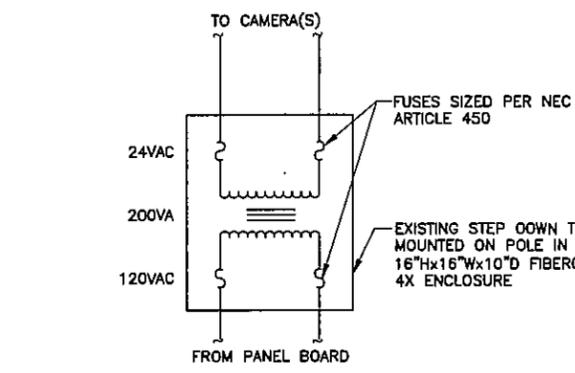
APRON LIGHTING POLE BASE DETAIL
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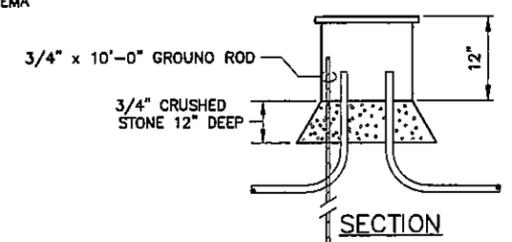
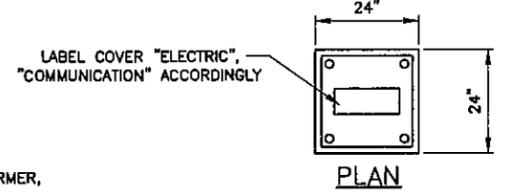
SINGLE CONDUIT IN PAVEMENT
NOT TO SCALE



2 WAY DUCTBANK
NOT TO SCALE

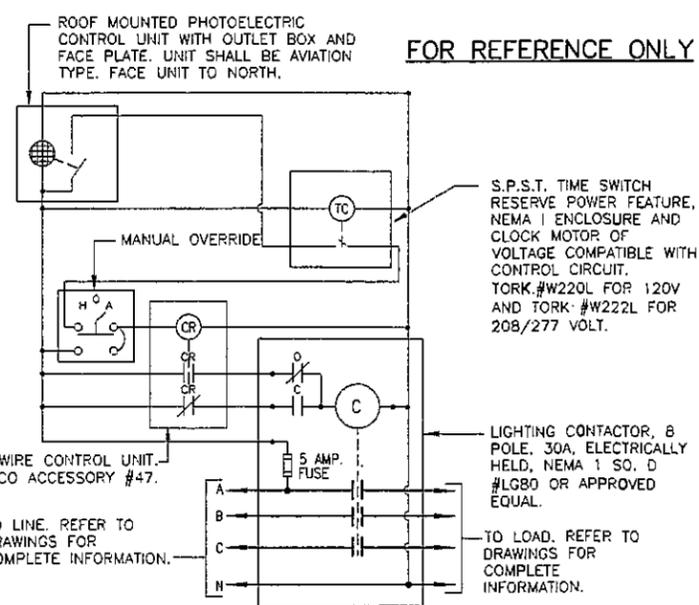


EXISTING CAMERA POWER WIRING DIAGRAM
NOT TO SCALE

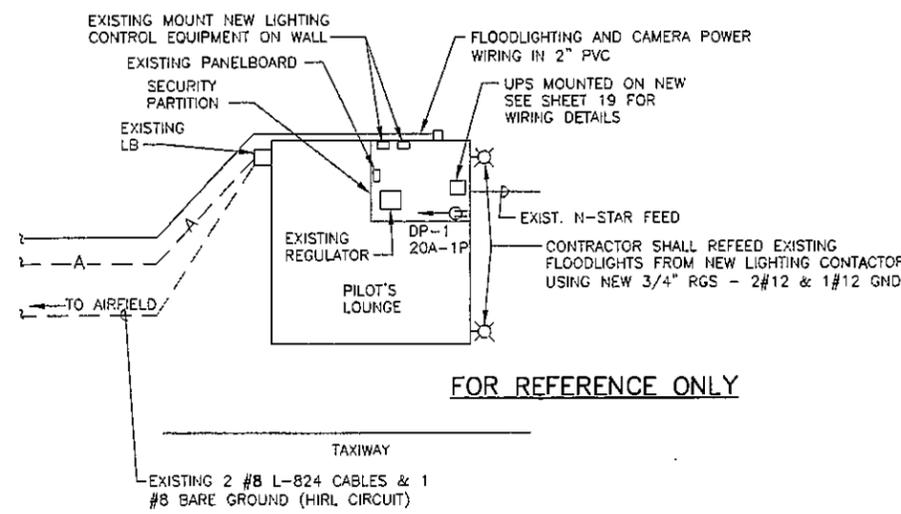


NOTE:
HANDHOLE AND FRAME TO BE NEW BASIS PG SERIES OR EQUAL PRE-CAST POLYMER CONCRETE. HANDHOLE SHALL BE RATED FOR H20, TIER 22 LOADING

ELECTRIC/CONTROL/COMMUNICATION HANDHOLE
NOT TO SCALE



DETAIL SHOWING EXISTING LIGHTING CONTROL MEANS
NOT TO SCALE



EXISTING POWER LAYOUT WITHIN PILOT'S LOUNGE PLAN
NOT TO SCALE

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AIP NO. 3-25-0043-37-2014

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ELECTRICAL DETAILS

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MOUNDING CALCULATION
Permeable Pavement Area

This spreadsheet will calculate the height of a groundwater mound beneath a stormwater infiltration basin. More information can be found in the U.S. Geological Survey Scientific Investigations Report 2010-5102 "Simulation of groundwater mounding beneath hypothetical stormwater infiltration basins".

The user must specify infiltration rate (R), specific yield (Sy), horizontal hydraulic conductivity (Kh), basin dimensions (x, y), duration of infiltration period (t), and the initial thickness of the saturated zone (hi(0), height of the water table if the bottom of the aquifer is the datum). For a square basin the half width equals the half length (x = y). For a rectangular basin, if the user wants the water-table changes perpendicular to the long side, specify x as the short dimension and y as the long dimension. Conversely, if the user wants the values perpendicular to the short side, specify y as the short dimension, x as the long dimension. All distances are from the center of the basin. Users can change the distances from the center of the basin at which water-table aquifer thickness are calculated.

Cells highlighted in yellow are values that can be changed by the user. Cells highlighted in red are output values based on user-specified inputs. **The user MUST click the blue "Re-Calculate Now" button each time ANY of the user-specified inputs are changed** otherwise necessary iterations to converge on the correct solution will not be done and values shown will be incorrect. Use consistent units for all input values (for example, feet and days)

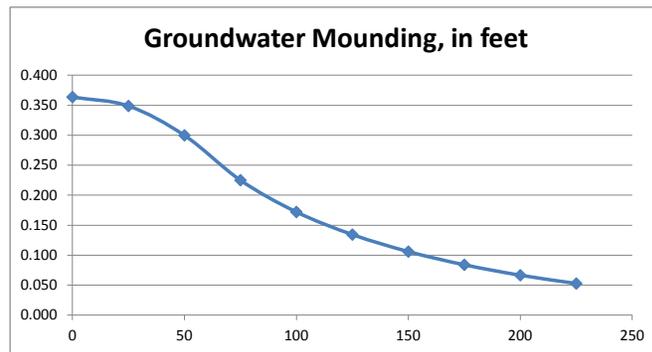
Input Values		use consistent units (e.g. feet & days or inches & hours)	Conversion Table		
			inch/hour	feet/day	
0.4000	R	Recharge (infiltration) rate (feet/day)	0.67	1.33	
0.100	Sy	Specific yield, Sy (dimensionless, between 0 and 1)			
50.00	K	Horizontal hydraulic conductivity, Kh (feet/day)*	2.00	4.00	In the report accompanying this spreadsheet (USGS SIR 2010-5102), vertical soil permeability (ft/d) is assumed to be one-tenth horizontal hydraulic conductivity (ft/d).
58.230	x	1/2 length of basin (x direction, in feet)			
30.000	y	1/2 width of basin (y direction, in feet)	hours	days	
1.000	t	duration of infiltration period (days)	36	1.50	
50.000	hi(0)	initial thickness of saturated zone (feet)			

50.364	h(max)	maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
0.364	Δh(max)	maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
0.364	0
0.349	25
0.300	50
0.225	75
0.172	100
0.134	125
0.106	150
0.084	175
0.066	200
0.053	225



Re-Calculate Now



Disclaimer

This spreadsheet solving the Hantush (1967) equation for ground-water mounding beneath an infiltration basin is made available to the general public as a convenience for those wishing to replicate values documented in the USGS Scientific Investigations Report 2010-5102 "Groundwater mounding beneath hypothetical stormwater infiltration basins" or to calculate values based on user-specified site conditions. Any changes made to the spreadsheet (other than values identified as user-specified) after transmission from the USGS could have unintended, undesirable consequences. These consequences could include, but may not be limited to: erroneous output, numerical instabilities, and violations of underlying assumptions that are inherent in results presented in the accompanying USGS published report. The USGS assumes no responsibility for the consequences of any changes made to the spreadsheet. If changes are made to the spreadsheet, the user is responsible for documenting the changes and justifying the results and conclusions.



Distant view (facing east) of existing bikepath crossing approaching Airport Road. The car to the right is entering Airport Road. Existing signage and markings will be maintained.



Closer view (facing east) of existing bikepath crossing on Airport Road.



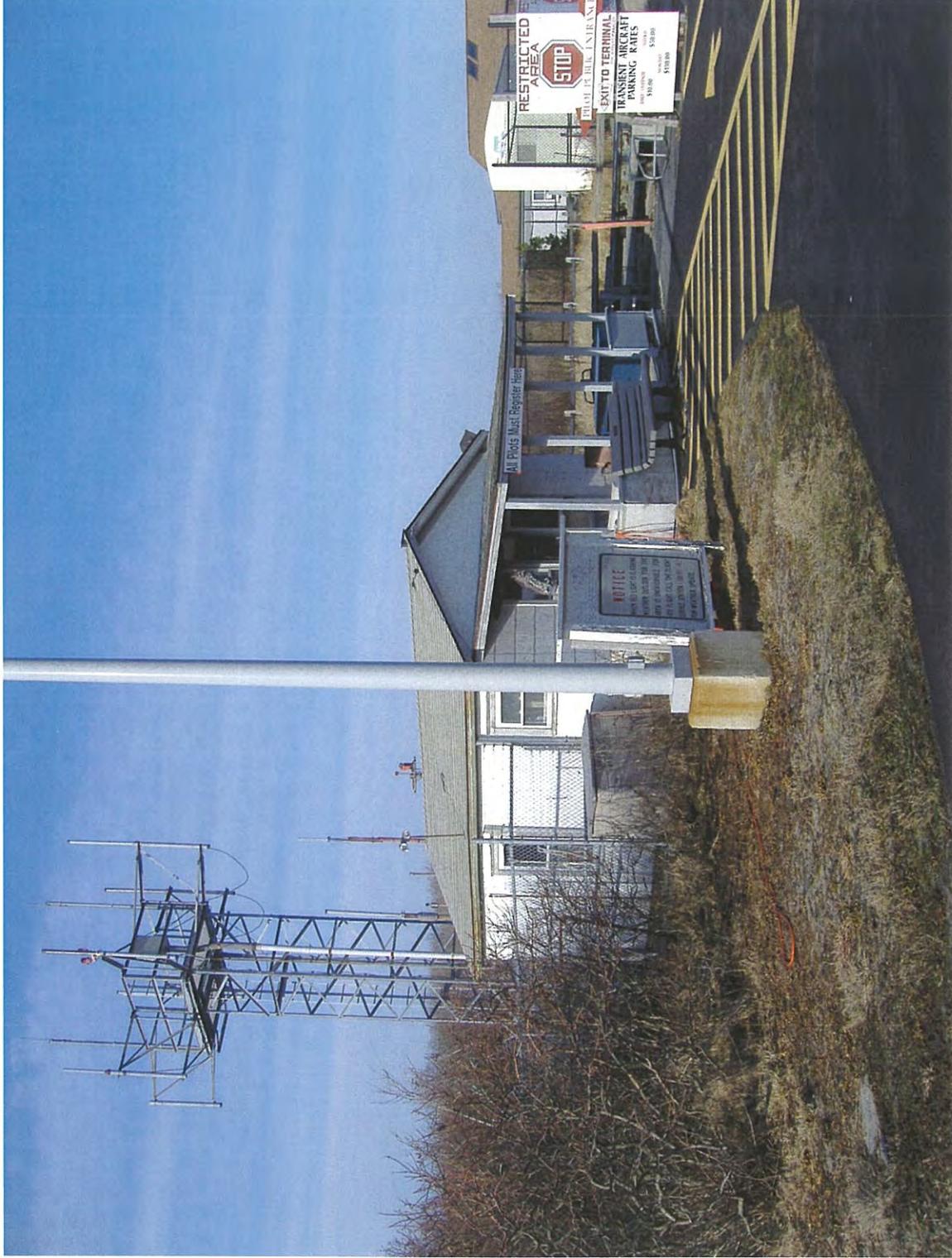
View (facing east) of existing bikepath crossing of Airport Road. The intent is to maintain (or replace if necessary), existing signage and pavement markings to ensure the safety of bikepath users and Airport users.



View (facing west) of existing bikepath crossing of Airport Road.



View of front of Sightseeing Shack



View of front and west side of Sightseeing Shack



View of front and east side of Sightseeing Shack