Final Written Reevaluation

for the

Environmental Impact Statement

AIP 03-09-0002-26

Igor I. Sikorsky Airport
Stratford, Connecticut

June 27, 2011

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ACRONYMS

ACHP	Advisory Council on Historic Preservation
ALP	Airport Layout Plan
APE	Area of Potential Effect
ARC	Airport Reference Code
BDR	Igor I. Sikorsky Airport
BRAC	Base Closure and Realignment Commission
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COE	US Army Corp of Engineers
CT DEP	Connecticut Department of Environmental Protection
CT DOT	Connecticut Department of Transportation
CWA	Clean Water Act
CZMA	Coastal Zone Management Agency
CZMP	Coastal Zone Management Program
DEP	Department of Environmental Protection
DOI	US Department of Interior
DOT	US Department of Transportation
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EMAS	Engineered Materials Arresting System
EPA	US Environmental Protection Agency
FAA	Federal Aviation Administration
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FWS	US Fish and Wildlife Service
HSWA	Hazardous and Solid Waste Amendments of 1984
MALSF	Medium Intensity Approach Light System with Sequenced Flashing Lights
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
O_3	Ozone
OLISP	Office of Long Island Sound Programs
$PM_{2.5}$	Fine Particulate Matter
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
RSA	Runway Safety Area
SAEP	Stratford Army Engine Plant
SIP	State Implementation Plan
SWDA	Solid Waste Disposal Act
USC	United States Code
USDA	US Department of Agriculture
VASI	Visual Approach Slope Indicator

SECTION 1
PURPOSE AND NEED

1.0 INTRODUCTION

In 1999 the Federal Aviation Administration (FAA) approved various projects to improve runways and runway safety areas (RSAs) at Igor I. Sikorsky Memorial Airport (BDR) in Stratford Connecticut (see **Exhibit 1.0-1** and **Exhibit 1.0-2**). These proposed improvements followed the completion of an airport master plan and a fatal crash in 1994. For various reasons explained below, those projects were never completed. This document provides an environmental analysis of an additional RSA alternative and a reevaluation of the existing alternatives included in the 1999 environmental documents. A runway extension for Runway 6-24 is not proposed in this reevaluation.

According to FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, "if major steps toward implementation of the proposed action (such as the start of construction, substantial acquisition, or relocation activities) have not commenced within three years from the date of approval of the FEIS, a written reevaluation of the adequacy, accuracy, and validity of the FEIS will be prepared by the responsible FAA official." FAA Order 1050.1E further states that "this evaluation, signed by the responsible FAA official, will either conclude that the contents of the previously prepared environmental documents remain valid or that significant changes require the preparation of a supplement or new EIS."

Thus, this Written Reevaluation of the Final EIS has been prepared to assist the FAA in evaluating the potential environmental effects resulting from the newly proposed design for the RSA upgrades to Runway 6-24 at BDR and will document the additional data that has arisen since publication of the Final EIS. The proposed projects to be re-evaluated in this Written Reevaluation include the following:

● Construction of a RSA that is 500 feet in width (250 feet on either side of the runway centerline) by 300 feet in length beyond the Runway 24 threshold with the installation of an Engineered Materials Arresting System (EMAS) (120 feet in width by 300 feet in length); and

● Rehabilitation of pavement on Runway 6-24.

It should be noted that an extension to Runway 6-24 and an approach lighting system are not proposed; thus, this Written Reevaluation will not include an evaluation of a runway extension or the installation of an approach lighting system.

This report will be divided into the following sections:

Section 1 (Purpose and Need) will discuss the purpose and need of the proposed projects to be addressed in this written reevaluation;

Section 2 (Alternatives) will discuss the new design alternative to meet the stated purpose and need;

Section 3 (Affected Environment) will provide a description of the existing condition of the physical, natural, and human environment both on and within the immediate vicinity of the Airport that has changed since preparation of the Final EIS; and

Section 4 (Environmental Consequences) will present an assessment of the potential environmental impacts associated with the proposed project alternative included in **Section 2**.

This document has been prepared in accordance with the National Environmental Policy Act of 1969 [(NEPA); 42 United States Code (USC) 4321 et seq.]; the Council on Environmental Quality (CEQ) implementing regulations; [40 Code of Federal Regulations (CFR) 1500-1508]; FAA Order 1050.1E, Change 1: *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B: *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* as supplemented by FAA's *Environmental Desk Reference for Airport Actions* (October 2007).

This Written Reevaluation was made available for public comment. A total of twelve comment letters were received from the public. In addition, a Public Workshop/Hearing was held on September 22, 2010. A total of twenty-nine speakers commented at the public hearing. All substantive comments received from the public during the public comment period as well as during the Public Hearing were carefully reviewed; comments and responses are included in **Appendix F**. In accordance with Federal regulations, the FAA will not decide whether to implement the proposed projects or take an alternative action until the review process is completed and a ROD is issued.

1.1 PROJECT BACKGROUND

On April 27, 1994, a twin-engine charter aircraft overshot Runway 6-24 at BDR in instrument conditions and struck the blast fence at the northeast end of Runway 6-24 (see **Appendix G**). Eight passengers were killed. In a report by the National Transportation Safety Board (NTSB), the following was recommended: "In coordination with the State of Connecticut and the Town of Stratford, following the relocation of State Highway 113, Sikorsky Memorial Airport should immediately establish a runway safety area at the approach end of Runway 24 in accordance with Federal Aviation Administration Advisory Circular 150/5300-13 and remove the nonfrangible blast fence." Class II, Priority Action) (A-94-216).

In 1995, the City of Bridgeport and BDR completed a Master Plan Study and Airport Layout Plan (ALP) Update, which identified deficiencies that affected the ability of the Airport to fulfill its role as a regional corporate and general aviation airport for the New England region. Deficiencies noted were as follows: deteriorated pavement on Runway 6-24; non-standard RSAs on Runway 6-24; absence of a standard runway approach lighting system for the Runway 6-24 instrument approach; and insufficient runway length on Runway 6-24.

As a result of the deficiencies noted in the Master Plan, an EIS was initiated in 1996 to address the potential environmental impacts associated with various proposed projects that were intended to improve the runway pavement structure on Runway 6-24; to provide, to the extent practicable, RSAs on Runway

6-24 which met (then) current FAA minimum safety standards; to enhance the visual guidance for the Runway 6-24 instrument approach; and to provide sufficient runway length on Runway 6-24 to accommodate existing and projected air transportation demand.

The *Final Environmental Impact Statement for the Proposed Improvements to Runway 6-24* at BDR was prepared in May 1999 and a ROD was issued by the FAA on October 5, 1999. The proposed improvements were included on the (then) current ALP, dated 1995. The proposed improvements contained in the ROD included a shift of Runway 6-24 700 feet to the northeast; construction of a 1,000-foot RSA for Runway 24; construction of an 800-foot RSA for Runway 6; relocation of Main Street (Route 113); installation of a MALSF; and rehabilitation of pavement of Runway 6-24.

On October 1, 1999, the FAA issued FAA Order 5200.8, *Runway Safety Area Program*, which stated that all federally obligated airports and all RSAs at airports certificated under 14 CFR part 139 shall conform to the standards contained in FAA Advisory Circular 150/5300-13, *Airport Design*, to the extent practicable.

In December 1999, the Town of Stratford, Connecticut objected to the issuance of the FAA's ROD for the *Approval of the 1995 Airport Layout Plan, Installation of Landing Aid, and Funding of Airport Development*, (October 1999) and sued the FAA. Ultimately the US Court of Appeals found in favor of the FAA ROD.

In accordance with FAA Order 5200.8, a RSA Determination was issued by the FAA on September 9, 2000 that stated that the RSA for Runway 6-24 can be improved by shifting the runway 700 feet northerly, resulting in 900 feet on the Runway 6 centerline and 1,000 feet on the Runway 24 end.

On March 9, 2001, a single engine aircraft overran the runway while landing and struck the non-frangible blast fence (see **Appendix G**). On April 23, 2004, the NTSB reached out to the Town of Stratford by writing that it" strongly urges the Town of Stratford to agree to the approved airport layout plan. The Board believes that failure to do so imposes an unnecessary and avoidable safety risk…"

Opposition still continued and in order to compromise with the Town of Stratford and the City of Bridgeport to advance critical RSA improvements, the FAA suggested that one of the EIS alternatives be re-evaluated for consideration. Alternative 1G, as explained in **Section 2**, was selected for re-evaluation and on May 30, 2003. The Town of Stratford and the FAA agreed that the safety improvements for Runway 6-24 should be revised to allow Runway 6-24 to remain in its current location, the RSA for Runway 6 to include existing wetlands, and the RSA for Runway 24 to be limited to 300 feet beyond the threshold of Runway 24. This agreement received support from the Connecticut Department of Transportation (CT DOT) on August 3, 2006.

Subsequent to that support and upon a submission by the Town of Stratford's state representative, the State Legislature imposed to a two year (one year then it was extended) Moratorium in April 2007 on any State involvement on the moving of Main Street in Stratford, which prevented the possibility of the RSA project progressing as the State needed to be a part of the movement of the State roadway.

Given the advancement in EMAS technology, a revised RSA Determination was issued on February 5, 2009 by the FAA in accordance with FAA Order 5200.8. The FAA recognized that EMAS technology has now improved and would be warranted for study at BDR as it would enhance the safety for aircraft in approach categories C and D. The FAA also recognized that Alternative 1G of the Final EIS did not include the removal of the non-frangible blast fence. Based on FAA Advisory Circular 150/5300-13, *Airport Design*, the blast velocity of the business jet using BDR would not warrant the existence of the fence and thus, it could be removed. The revised RSA Determination recommended the construction of a 300-foot safety area on the Runway 24 end with EMAS and the removal of the blast fence.

The ALP was updated to reflect these changes; the ALP was conditionally approved on March 20, 2009 (see **Exhibit 1.1-1**).

On June 12, 2009, a single-engine aircraft struck the non-frangible blast fence at the northeast end of the runway (see **Appendix G**). Subsequent efforts by the US Army, FAA, and the City of Bridgeport to ensure a small piece of federal surplus property be dedicated toward the EMAS project was met with another lawsuit. In March 2010, the Town of Stratford sued the City of Bridgeport seeking a preliminary injunction to prevent that dedication of land or further efforts towards the EMAS project. The preliminary injunction was denied by the US District Court.

As of 2011, none of the proposed improvements addressed in the Final EIS/ROD have occurred at BDR.

1.2 PROJECT LOCATION AND ROLE OF THE AIRPORT

BDR occupies a 600-acre site in the Town of Stratford in Fairfield County, Connecticut. The Airport is approximately four miles southeasterly of the City of Bridgeport and approximately 20 miles southwest of New Haven, Connecticut. The Airport has a listed elevation of 10 feet above mean sea level and is located on a peninsula bounded by Main Street (Connecticut Route 113) on the east and Lordship Township, Prospect Drive, and Stratford Road on the south and west, and a portion of the Great Meadows on the north. The Airport is owned and operated by the City of Bridgeport.

1.2.1 FORECAST OF AIRCRAFT OPERATIONS

Several forecasting efforts have been completed for the Airport. In support of the Master Plan effort is 1995, a forecasting effort was completed for the Airport for the years 1998, 2003, and 2018 with 1993 as the base year. This effort was developed based on the data in the FAA's Terminal Area Forecast (TAF), the 1986 Connecticut State Airport System Plan, and the 1982 Master Plan in addition to historical trends at the Airport. In 2006, the Connecticut Statewide Airport System Plan provided a review of the existing state aviation system. These forecasts were developed using the 1995 effort.

Since air traffic at BDR had fallen significantly since the 1995 Airport Master Plan, a forecasting effort was conducted in support of the ALP Update in 2009 to determine the critical or design aircraft and to review the role of the Airport.

1.2.1.1 Classification of the Airport

The classification of an airport in reference to its conformance with design standards is accomplished by a system called the airport reference code, or ARC. The ARC is comprised of a two-part code, which represents the approach speed and wingspan of the critical design aircraft. The critical design aircraft is defined as the largest aircraft with 500 or more operations that operates or is anticipated to operate at the airport in the foreseeable future. The components of this ARC code are defined in **Table 1.2-1**.

TABLE 1.2-1: ARC COMPONENT DEFINITIONS

APPROACH SPEED CATEGORY	APPROACH SPEED CRITERIA	DESIGN GROUP	WINGSPAN CRITERIA
A	Speed < 91 Knots	I	Wingspan < 49 feet
B	Speed > 91 but < 121 knots	II	Wingspan > 49 but < 79 feet
C	Speed >121 but < 141 knots	III	Wingspan > 79 but < 118 feet
D	Speed >141 but < 166 knots	IV	Wingspan> 118 but < 171 feet
E	Speed > 166 knots	V	Wingspan > 171 but < 214 feet
		VI	Wingspan > 214 but < 262 feet

Source: FAA Advisory Circular 150/5300-13.

According to the Master Plan that was prepared for BDR in 1995, the critical aircraft was the Gulfstream III; thus, BDR was identified as being in Approach Category C, Design Group II (C-II) for Runway 6-24. In April 2009, an ALP Update was prepared. This Update noted that despite the fall off in overall aircraft traffic at the Airport, jet traffic has increased (see **Table 1.2-2**). As shown in the table, the aircraft using the airfield in approach categories C and D are jets and since there are more than 500 operations by the Gulfstream IV, this aircraft has been selected critical aircraft for design. Thus, the ARC for future development at the Airport is D-II, which includes aircraft with approach speeds of 141 knots or more but less than 166 knots, wing spans between 49 feet and 79 feet, and tail heights between 20 feet but not including 30 feet.

TABLE 1.2-2: ANNUAL JET AIRCRAFT FLEET MIX (OPERATIONS)

AIRCRAFT	ARC	Takeoff Wt. (lbs.)	1993[1]	2002[2]	Three Year Average, 2005-2007[4]	2007[3]
Challenger	C-II	41,250	60	328	-	580
Cessna Citation (all Models)	B-II	22,000	300	1,552	1,418	839
Gulfstream II/III/IV/V	C-II/D-II	68,700	10	1,028	1,057	3,175
Gulfstream II	D-II	65,300	-	-	78	-
Gulfstream III	C-II	68,700	-	-	246	365
Gulfstream IV	D-II	74,000	-	-	641	708
Gulfstream V	C-III	89,000	-	-	92	412
Learjet 24/35/54/60	D-1	18,300	370	534	613	658
Dassault Falcon 50/900	B-II	37,500	10	56	352	1,032
Rockwell Sabreliner	C-II	24,500	240	-	-	-
IAI Westwind/IAI Astra	C-I	23,500	240	290	225	-
Boeing 737	C-III	110,000	-	6	-	-
BAC 111	C-III	79,000	120	-	-	-
Global Express	C-III	-	-	-	12	90

Source: reprinted from *Airport Layout Plan Update*, URS Corporation (2009).
[1] 1993 Master Plan
[2] Jet Ops by Type (IFR, 7/02 to 6/03) from Sikorsky Airport Operations
[3] Jet Ops by Type, Calendar Year 2007, from Sikorsky Airport Operations, includes VFR ops
[4] ETMSC Report, 01/2005 to 12/2007, from filed flight plans

1.3 EXISTING AIRPORT FACILITIES IN NEED OF IMPROVEMENT

Since none of the proposed improvements addressed in the Final EIS/ROD have occurred at BDR, the deficiencies noted in the Master Plan and Final EIS remain. It should be noted that during the EIS process between 1996 and 1999, alternatives to provide sufficient runway length on Runway 6-24 to accommodate existing air carrier and corporate and projected air transportation demand were eliminated from further study. In addition, during the numerous meetings and discussions over the last 10 years with the FAA, City of Bridgeport, and the Town of Stratford, the City, Airport, and FAA decided that an approach lighting system would not be considered.

The most recent, FAA-approved ALP for BDR is shown on **Exhibit 1.1-1**. **Note**: This ALP will be submitted with minor corrections to the FAA. Per guidance received by the FAA, the *Non-Conforming Condition* table is being renamed to *Modification of Standards* and the RSA for Runway 6 will be identified as being 100 feet beyond the threshold and not 200 feet.

1.3.1 RUNWAY SAFETY AREA

As defined by FAA Advisory Circular 150/5300-13, *Airport Design*, a RSA is "a defined surface surrounding the runway prepared or suitable for reducing the risk or damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway." The required RSA at an airport is based on the ARC. At the time of the Master Plan and Final EIS, FAA guidelines detailed in Advisory Circular 150/5300-13, stipulated that a D-II runway requires a RSA that is 500 feet in width centered on the runway centerline and 1,000 feet in length beyond the runway threshold. However, since that time, FAA standards relating to RSAs have changed. According to the ALP Update (2009), most of the air traffic using BDR are aircraft in approach categories A and B and that the visibility minimums to Runway 6 are 1 mile. According to Change 14 of Advisory Circular 150/5300-13, a RSA that is 300 feet in length prior to the landing threshold or beyond the runway end would satisfy the RSA needs for the majority of aircraft using Runway 6.

There is only 100 feet of RSA beyond the Runway 6 threshold and no RSA at the end of Runway 24 (see **Exhibit 1.3-1**). A blast fence is located 15 to 25 feet northeast of the end of the pavement at the Runway 24 end immediately adjacent to Main Street (US Route 11). This structure is 200 feet in length, 8 feet in height, and constructed to withstand jet blasts in excess of 120 miles per hour. The fence is a rigid, non-frangible structure.

1.3.2 PAVEMENT CONDITION

Subsequent to the completion of the Master Plan Update in 1995, engineering investigations were conducted in June 1996. Results indicated that the pavement on both runways were "fair" with both runways exhibiting indications of accelerating deterioration due to normal exposure to weather and climate. A visual inspection indicated that Runway 6-24 exhibited a higher degree of pavement raveling. As a result of this Pavement Condition Index study, the FAA recommended that the pavements of both runways be reconstructed to restore a 20-year design life. It should be noted that limited funding precludes the ability to reconstruct Runway 11-29 at this time.

1.4 PURPOSE AND NEED FOR THE PROPOSED IMPROVEMENTS

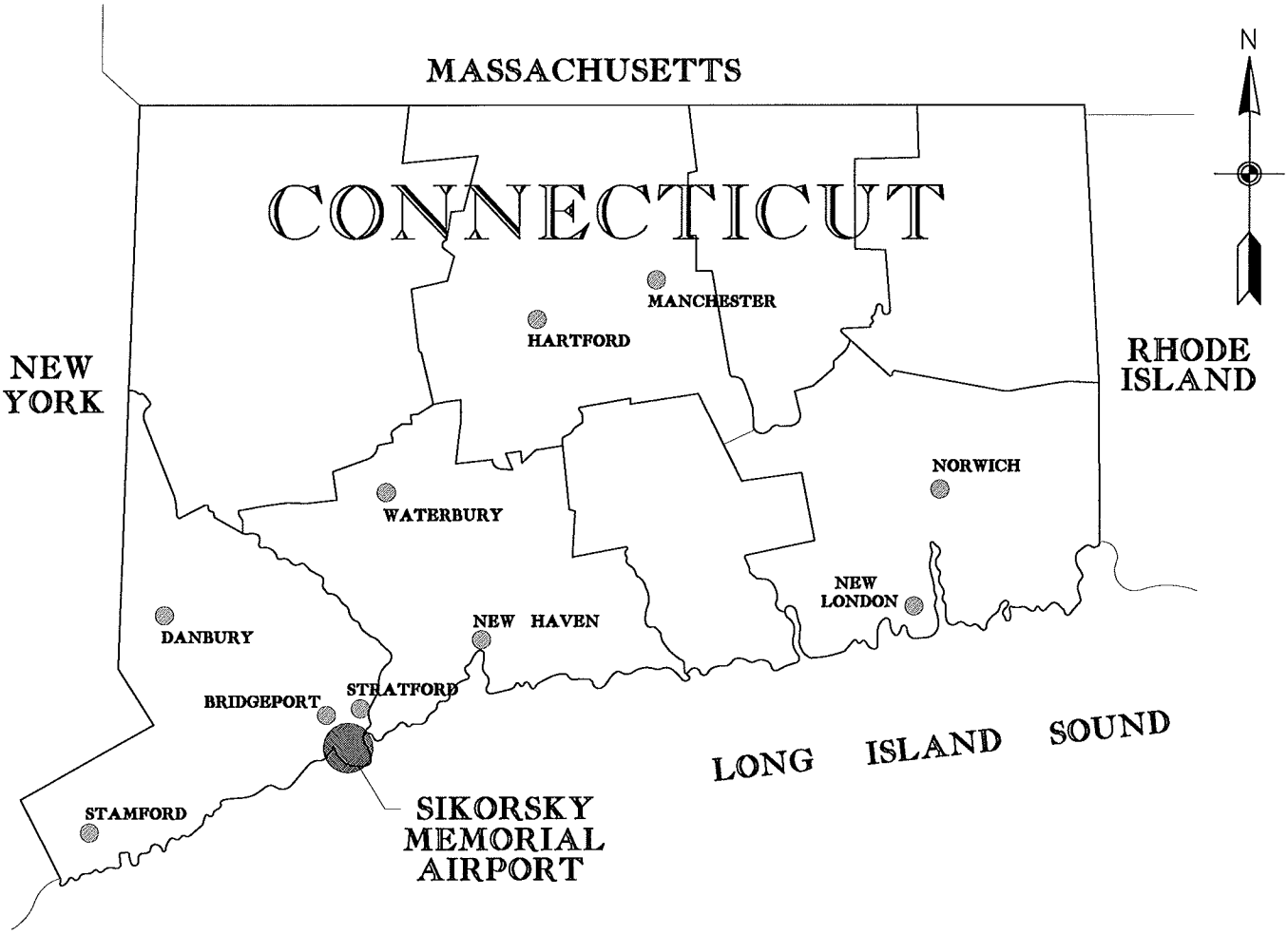
The purpose and need of the proposed projects contained in this Written Reevaluation are the following:

● **Provide, to the extent practicable, RSAs on Runway 6-24 which meet current FAA minimum safety standards**: The National Transportation Safety Board stated that 'the fatalities were caused by the presence of the nonfrangible blast fence and the absence of a safety area at the end of the runway.' FAA Order 5200.8 states that the RSAs at Federally obligated airports and all RSAs at airports certificated under 14 CFR Part 139 shall conform to the standards contained in FAA Advisory Circular 150/5300-13 to the maximum extent practicable.

● **Improve the runway pavement structure on Runway 6-24 in order to restore a 20-year pavement design life to accommodate existing and projected aircraft types and levels of operations**:. The Airport does participate in a regular crack seal maintenance program and in 2007, the runway received a thermoplastic seal coat; however, no reconstruction or rehabilitation of the pavement of Runway 6-24 has taken place. Thus, the pavement is continuing to deteriorate as identified in the engineering investigations in 1996.

The purpose and need has been changed from that was included in the 1999 Final EIS/ROD. Principally, there is no proposal to extend Runway 6-24. The need to improve the RSA and Runway 6-24 pavement remains. Section 2 identifies the proposed action and alternatives developed to meet the purpose and need.

In addition to evaluating alternatives, this Written Reevaluation will also determine whether the contents of the previously prepared 1999 environmental documents remain valid or whether significant changes require the preparation of a supplement or new EIS. This determination will be based in part on a review of new information obtained since the issuance of the Final EIS/ROD.



IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

LOCATION MAP

EXHIBIT

1.0-1

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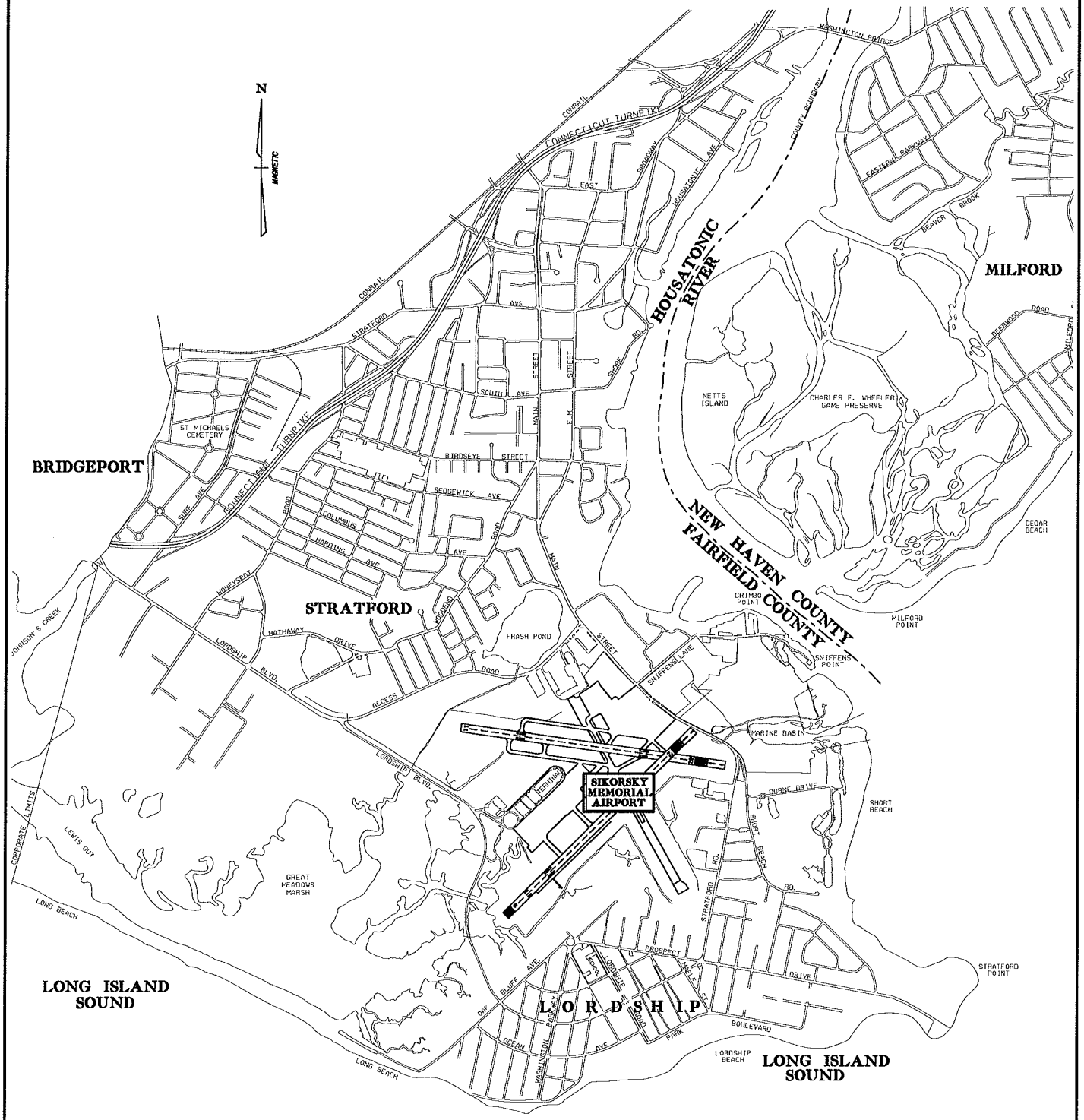

IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

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VICINITY MAP

EXHIBIT

1.0-2

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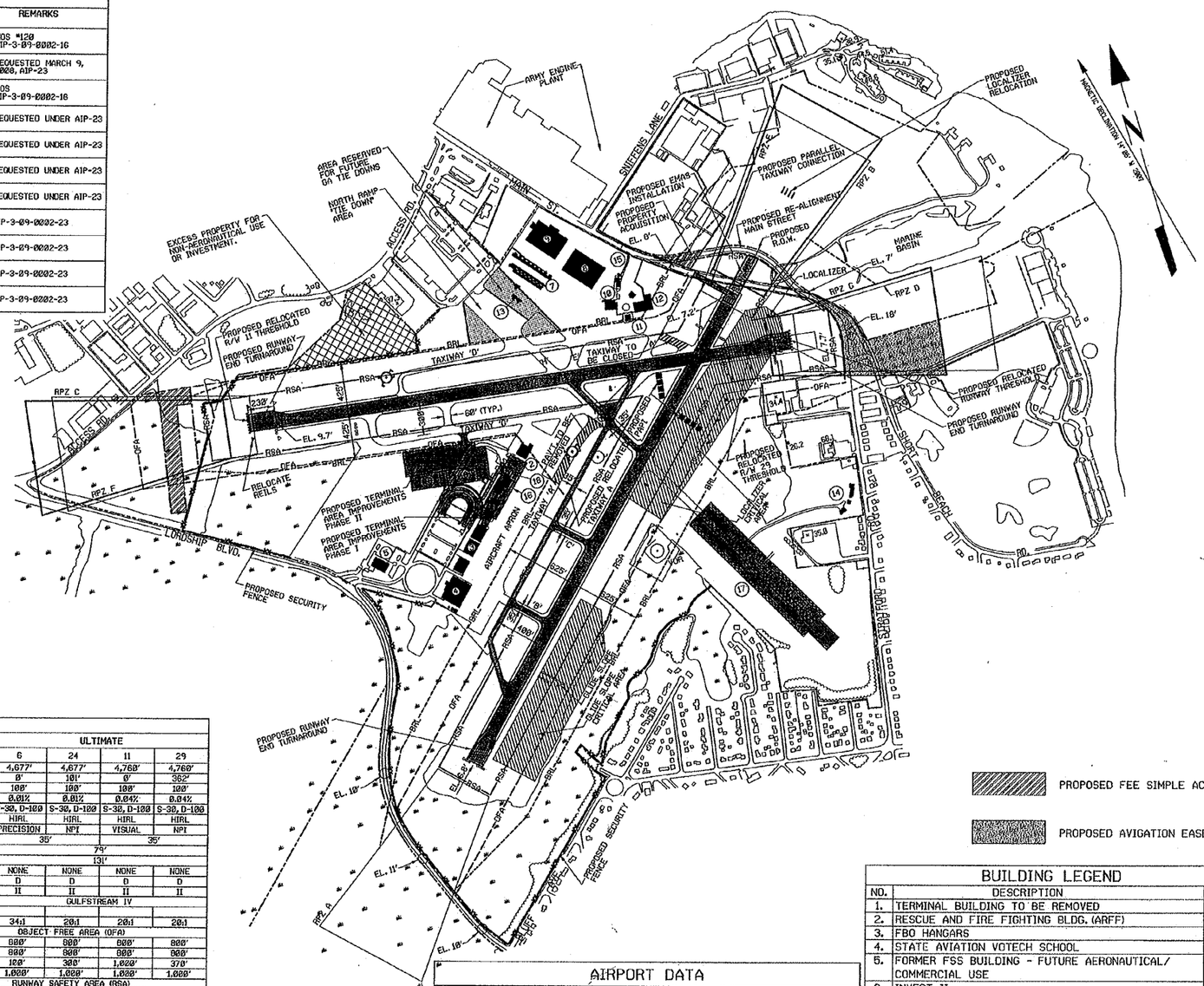
NON CONFORMING CONDITIONS

DESCRIPTION	EXISTING/ PLANNED	STANDARD	DATE APPROVED	REMARKS
TAXIWAY D SEPARATION FROM R/W 11-29	VARIES 261' TO 320'	300'	JUNE 3, 2003	MOS #120 AIP-3-09-0002-16
TAXIWAY SIGN G2 LOCATION	PLACED BEHIND ENTRANCE	PLACED BEFORE ENTRANCE		REQUESTED MARCH 9, 2020, AIP-23
SUPPLEMENTAL WIND CONE LOCATION R/W 11	240' FROM R/W ℄	250' MINIMUM	JAN. 27, 2004	MOS AIP-3-09-0002-16
R/W 29 OFA	620' WIDE x 370' BEYOND R/W THRESHOLD	800' WIDE x 1000' BEYOND R/W THRESHOLD		REQUESTED UNDER AIP-23
R/W 6 OFA	620' WIDE x 920' BEYOND THRESHOLD	800' WIDE x 1000' BEYOND THRESHOLD		REQUESTED UNDER AIP-23
R/W 11 OFA	620' WIDE x 1,000' BEYOND R/W THRESHOLD	800' WIDE x 1,000' BEYOND R/W THRESHOLD		REQUESTED UNDER AIP-23
R/W 24 OFA	620' WIDE x 920' BEYOND THRESHOLD	800' WIDE x 1,000' BEYOND THRESHOLD		REQUESTED UNDER AIP-23
R/W 6 SAFETY AREA	200' BEYOND THRESHOLD	1,000' BEYOND THRESHOLD	2-19-09	AIP-3-09-0002-23
R/W 24 SAFETY AREA	300' BEYOND THRESHOLD	1,000' BEYOND THRESHOLD	2-19-09	AIP-3-09-0002-23
R/W 11 SAFETY AREA	500' WIDE x 370' BEYOND THRESHOLD	500' WIDE x 1,000' BEYOND R/W THRESHOLD	2-19-09	AIP-3-09-0002-23
R/W 29 SAFETY AREA	500' WIDE x 370' BEYOND THRESHOLD	500' WIDE x 1,000' BEYOND THRESHOLD	2-19-09	AIP-3-09-0002-23

LEGEND

DESCRIPTION	EXISTING	ULTIMATE
PROPERTY LINE (FEE SIMPLE)		
OBJECT FREE AREA (OFA)	OFA	OFA
FENCE LINE		
ON AIRPORT BUILDINGS		
OFF AIRPORT BUILDINGS		
OPERATIONAL PAVED SURFACES		
BUILDING RESTRICTION LIMITS (BRL)	BRL	BRL
LIGHTED WIND CONE & SEG. CIRCLE		
NAVAID CRITICAL AREA		
RUNWAY PROTECTION ZONE (RPZ)		
RUNWAY SAFETY AREA		
AIRPORT REFERENCE POINT (ARP)		
RUNWAY THRESHOLD LIGHTS		
REILs		
MALSF		
VASIs/PAPI		
AIRPORT BEACON		SAME



RUNWAY DATA

DESCRIPTION / RUNWAY		EXISTING 6	EXISTING 24	EXISTING 11	EXISTING 29	ULTIMATE 6	ULTIMATE 24	ULTIMATE 11	ULTIMATE 29
LENGTH		4,677'	4,677'	4,761'	4,761'	4,677'	4,677'	4,760'	4,760'
DISPLACED THRESHOLD		0'	320'	0'	364'	0'	101'	0'	362'
WIDTH		150'	150'	150'	150'	100'	100'	100'	100'
RUNWAY GRADIENT		0.01%	0.01%	0.04%	0.04%	0.01%	0.01%	0.04%	0.04%
PAVEMENT STRENGTH		S-30, D-100	S-30, D-100	S-30, D-100	S-30, D-100	S-30, D-100	S-30, D-100	S-30, D-100	S-30, D-100
LIGHTING		HIRL	HIRL	HIRL	HIRL	HIRL	HIRL	HIRL	HIRL
MARKINGS		PRECISION	NPI	VISUAL	NPI	PRECISION	NPI	VISUAL	NPI
TAXIWAY - WIDTH		VARIES 35'-100'				35'		35'	
TAXIWAY SAFETY AREA (WIDTH)		79'				79'			
TAXIWAY OBJECT FREE AREA (WIDTH)		131'				131'			
APPROACH LIGHTING		NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
AIRCRAFT APPROACH CAT.		C	C	C	C	D	D	D	D
AIRCRAFT DESIGN GROUP		II	II	II	II	II	II	II	II
DESIGN AIRCRAFT		GULFSTREAM III				GULFSTREAM IV			
APPROACH SLOPE	EXISTING	2.5:1	29:1	6:1	10.0:1				
	STANDARD	34:1	34:1	20:1	34:1	34:1	20:1	20:1	20:1
		OBJECT FREE AREA (OFA)				OBJECT FREE AREA (OFA)			
WIDTH	EXISTING	800'	800'	800'	640'	800'	800'	800'	800'
	STANDARD	800'	800'	800'	800'	800'	800'	800'	800'
LENGTH BEYOND RUNWAY END	EXISTING	120'	0'	1,020'	120'	120'	300'	1,020'	370'
	STANDARD	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
		RUNWAY SAFETY AREA (RSA)				RUNWAY SAFETY AREA (RSA)			
WIDTH	EXISTING	500'	500'	500'	500'	500'	500'	500'	500'
	STANDARD	500'	500'	500'	500'	500'	500'	500'	500'
LENGTH BEYOND RUNWAY END	EXISTING	120'	0'	1,020'	120'	120'	300'	370'	370'
	STANDARD	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
COORDINATES	NORTH	41°09'25.36'	41°09'55.81'	41°09'58.47'	41°09'52.55'	41°09'25.36'	41°09'55.81'	41°09'58.77'	41°09'52.36'
	WEST	73°07'55.05'	73°07'14.76'	73°08'25.89'	73°07'28.94'	73°07'55.05'	73°07'14.76'	73°08'28.84'	73°07'07.20'

RUNWAY PROTECTION ZONES	A	B	C	D	A	E	F	G
LENGTH	1,700'	1,700'	1,700'	1,700'	1,700'	1,700'	1,700'	1,700'
INNER WIDTH	500'	500'	500'	500'	500'	500'	500'	500'
OUTER WIDTH	1,010'	1,010'	1,010'	1,010'	1,010'	1,010'	1,010'	1,010'
SLOPE	2.5:1	29:1	6:1	10.0:1	34:1	20:1	20:1	20:1

AIRPORT DATA

		EXISTING	ULTIMATE
MEAN MAXIMUM TEMPERATURE		82.6° F	82.6° F
MAGNETIC DECLINATION		W13.88° 1994	W14°05' 2007
AIRPORT REFERENCE POINT (NAD 83)	LAT.	41°09'48.54"N	41°09'48.69"N
	LONG.	73°07'34.24"W	73°07'35.74"W
AIRPORT ELEVATION		10' MSL	10' MSL
AIRPORT & TERMINAL NAVAIDS		REIL PAPI VASI VOR ILS / VOR REIL VASI	REIL PAPI VOR ILS / REIL VOR PAPI
AIRPORT ROLE		GENERAL AVIATION/ CORPORATE	GENERAL AVIATION/ CORPORATE

BUILDING LEGEND

NO.	DESCRIPTION	HEIGHT MSL
1.	TERMINAL BUILDING TO BE REMOVED	49.2'
2.	RESCUE AND FIRE FIGHTING BLDG. (ARFF)	34.1'
3.	FBO HANGARS	41.4'
4.	STATE AVIATION VOTECH SCHOOL	45.1'
5.	FORMER FSS BUILDING - FUTURE AERONAUTICAL/ COMMERCIAL USE	28.3'
6.	INVEST II	36.0'
7.	T - HANGAR COMPLEX (TO BE RELOCATED)	19.5'
8.	HANGAR	67.3'
9.	HANGAR	60.6'
10.	HANGAR	35.3'
11.	FBO OFFICE TO BE RETAINED FOR AERONAUTICAL USE OR REMOVED	35.6'
12.	HANGAR TO BE RETAINED FOR AERONAUTICAL USE OR REMOVED	40.6'
13.	T - HANGARS (TO BE REMOVED)	23.2'
14.	CIVIL AIR PATROL (CAP)	36.3'
15.	FUEL FARM	
16.	PROPOSED CORPORATE HANGARS	
17.	T - HANGAR COMPLEX	
18.	ADMIN. BLDG ATCT, BEACON	49.2'

IGOR I. SIKORSKY MEMORIAL AIRPORT

STRATFORD CONNECTICUT

Sponsors Name:

CITY OF BRIDGEPORT CONNECTICUT

FAA A.I.P. Project Number:

3-09-0002-23

Drawing Name:

AIRPORT LAYOUT PLAN

CERTIFICATION:

THE CITY OF BRIDGEPORT CERTIFIES THAT ALL AIRPORT ELEMENTS SHOWN ON THIS ALP ARE IN ACCORDANCE WITH CRITERIA CONTAINED IN THE CURRENT EDITION OF FAA ADVISORY CIRCULAR 150/5300-13 EXCEPT AS NOTED IN THE TABLE ENTITLED "NON CONFORMING CONDITIONS"

JOHN RICCI, AIRPORT MGR. — DATE 3/24/09

FEDERAL AVIATION ADMINISTRATION
APPROVED: ___ DATE 3/26/09
NEW ENGLAND REGION
Lori A. Ledda

CT DEPARTMENT OF TRANSPORTATION
APPROVED: ___ DATE 3/11/09
AVIATION DIVISION

IGOR SIKORSKY MEMORIAL AIRPORT COMMISSION
APPROVED: ___ DATE 3/6/09
CHAIRMAN

REVISIONS

No.	Description	Date	By

FIGURE 3

Designer: GWD | Checked by:

Technician: MJT | Project Number: 38397090

Autocad Drawing Reference:

Date: FEBRUARY, 2009 | Sheet Number: 3 of 6

Scale: 500 250 0 500 SCALE IN FEET

URS
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT 06067

figure3.dgn

4/21/2010
FILE NAME: J:\38397150 Sikorsky EIS Update 38397142\CADD\exhibit_1.1-1.dgn

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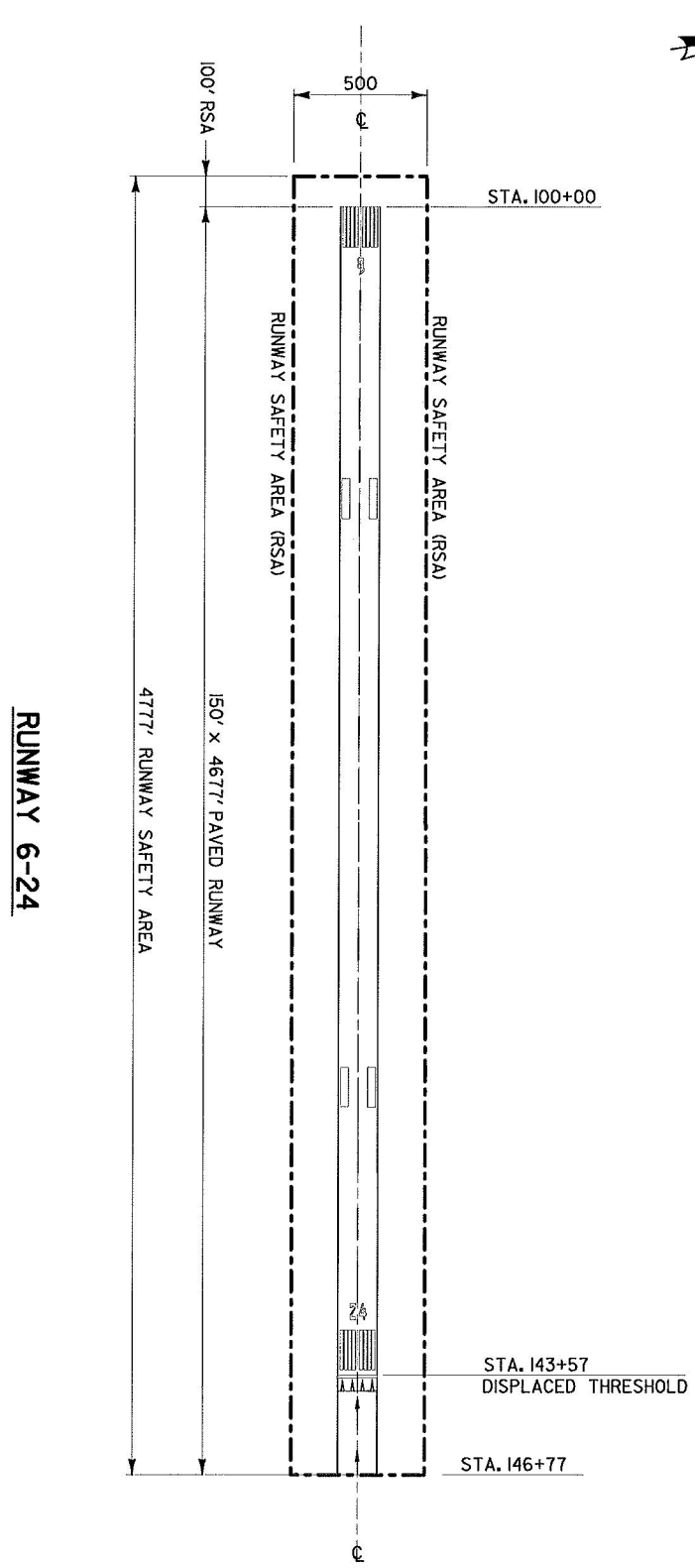
STRATFORD, CONNECTICUT
URS

EXISTING AIRPORT LAYOUT PLAN

EXHIBIT 1.1-1



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STRATFORD, CONNECTICUT

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EXISTING RUNWAY 6-24 SAFETY AREAS

EXHIBIT

1.3-1

4/21/2010
FILE NAME: J:\38397150 Sikorsky EIS Update 38397142\CADD\exhibit_1.1-2.dgn

SECTION 2
ALTERNATIVES

2.0 INTRODUCTION

Section 1 identified the nature and extent of existing conditions at BDR with respect to the non-standard RSA and deteriorating pavement condition. This section provides a description and evaluation of alternatives considered in terms of meeting the identified purpose and need for the proposed improvements at BDR.

The EIS process initially identified 21 preliminary alternatives for the rehabilitation of Runway 6-24, RSA upgrades to Runway 6-24 and associated relocation of Main Street, and the construction of an approach lighting system for Runway 6. All of these alternatives included the reconstruction of all or part of the existing pavement on Runway 6-24 and were developed based on three basic scenarios:

Group 1 Alternatives: Alternatives which utilized only the existing pavement envelope of Runway 6-24;

Group 2 Alternatives: Alternatives which shifted the pavement of Runway 6-24 to accommodate RSAs and the approach light system only to the extent required to provide the 4,677 linear feet of usable takeoff length presently provided by the runway; and

Group 3 Alternatives: Alternatives which shifted and extended the pavement of Runway 6-24 as to provide a 5,000-foot usable takeoff length as well as accommodate RSAs and the approach light system.

2.1 FINAL EIS ALTERNATIVES RETAINED FOR FURTHER STUDY

During the EIS process, the 21 preliminary alternatives were then screened according to two basic assessment criteria: aviation operations and wetland impact. As a result of the initial screening, the following alternatives were retained for further study: Alternatives 1, 1G, 2B, 2D, 3E, 3G, as well as the No Action Alternative. However, after further analysis and coordination, it was determined in the EIS process that the additional runway length in the Group 3 Alternatives may be inconsistent with the Connecticut Coastal Management Act as it relates to the expansion of airports within the coastal boundary. Thus, Alternatives 3E and 3G were dropped from further study and Alternatives 1, 1G, 2B, 2D and No Action were retained for further study. Alternative 2D was selected as the FAA's Preferred Alternative in the Draft EIS; however, due to comments received during the Draft EIS Public Review Process, this alternative was modified to combine various elements of Alternative 2B [Medium Intensity Approach Light System with Sequenced Flashing Lights (MALSF) and 800-foot RSA at the Runway 6 end] and Alternative 2D (MALSF, 1,000-foot RSA at the Runway 24 end, and the relocation of Main Street onto Sniffens Lane). This combination was referred to as Alternative 2D-Modified and then became the FAA's Preferred Alternative in the Final EIS and the Selected Alternative in the ROD.

2.1.1 ALTERNATIVE 1

As noted above, Group 1 Alternatives only utilized the existing pavement envelope of Runway 6-24. Thus, this alternative involved the reconstruction of the Runway 6-24 pavement without any other

improvements; that is, this alternative did not involve the addition of any RSAs or approach light systems and an extension of the usable takeoff length of that runway (see **Exhibit 2.1-1**).

2.1.2 ALTERNATIVE 1G

Based on comments received during the study process, this alternative was developed to provide a minimal amount of RSA at the Runway 24 end without impacting any wetlands. Thus, this alternative is similar to Alternative 1 in that it involved the reconstruction of the Runway 6-24 pavement but provided 250 feet of RSA at the Runway 24 end with a minor relocation of Main Street (see **Exhibit 2.1-2**).

2.1.3 ALTERNATIVE 2B

As mentioned above, Group 2 Alternatives shifted the pavement of Runway 6-24 to accommodate RSAs and the approach light system only to the extent required to provide the 4,677 linear feet of usable takeoff length provided by the runway. Thus, this alternative shifted the runway 575 feet to the northeast with the abandonment of the pavement on the Runway 6 end and the construction of RSAs of 500 feet in width and 600 feet in length for Runway 6-24 (see **Exhibit 2.1-3**). Alternative 2B included a MALSF installed approximately at the new Runway 6 threshold. This alternative required Main Street to be relocated 1,200 feet to the northeast.

2.1.4 ALTERNATIVE 2D

Alternative 2D shifted Runway 6-24 875 feet to the northeast with the abandonment of the pavement of the Runway 6 end and the construction of RSAs of 500 feet in width and 1,000 feet in length for Runway 6-24 (see **Exhibit 2.1-4**). Also, a MALSF was proposed with Alternative 2D. This alternative required Main Street to be relocated approximately 1,800 feet to the northeast.

2.1.5 ALTERNATIVE 2D-MODIFIED

Alternative 2D-Modified shifted the entire existing runway 875 feet to the northeast and establish a 1,000-foot long by 500-foot wide graded RSAs at both ends of the new runway. This configuration required the closure of a portion of existing Main Street and creation of a new connection utilizing a segment of existing Sniffens Lane and new roadway around the end of the new RSA back to Main Street. As a result of the Final EIS/ROD, Alternative 2D-Modified was selected for final design and construction (see **Exhibit 2.1-5**).

2.1.6 NO ACTION ALTERNATIVE

The No Action Alternative was defined as not reconstructing Runway 6-24, not providing standard RSAs, not installing an approach lighting system on Runway 6-24, and not extending Runway 6-24 to a length of 5,000 feet.

Although this alternative would not have met the intended purpose and need stated in the EIS, it was retained and considered throughout the EIS process in order to establish a comparative baseline against which all other Build Alternatives were compared.

2.2 NEW ALTERNATIVES RETAINED FOR FURTHER STUDY

Since completion of the Final EIS and FAA's issuance of a ROD, no improvements have occurred at BDR but new information has been received. In 1999, the FAA issued FAA Order 5200.8 that stated that all federally obligated airports and all RSAs at airports certificated under 14 CFR part 139 shall conform to the standards contained in FAA Advisory Circular 150/5300-13 to the extent practicable. As a result, the FAA issued a Determination that stated that the RSA for Runway 6-24 can be improved by shifting the runway 700 feet northerly, resulting in 900 feet on the Runway 6 centerline and 1,000 feet on the Runway 24 end. Opposition continued and as a result, in 2003, the FAA and the Town of Stratford agreed that one of the EIS alternatives be re-evaluated for consideration. Given the technological advances with EMAS, the FAA reissued their Determination in 2009 to include the use of EMAS with Alternative 1G from the Final EIS. The Determination also called for the removal of the non-frangible blast fence.

2.2.1 ALTERNATIVE 1G-MODIFIED WITH INSTALLATION OF EMAS

This new alternative is similar in scope to the RSA improvements for Runway 24 originally presented as Alternative 1G in the Final EIS, which included a RSA that is 500-foot wide (250 feet on either side of the runway centerline) by 250-foot in length beyond the Runway 24 threshold. However, Alternative 1G-Modified varies in that it provides construction of the RSA for Runway 24 of 300 feet and not 250 feet as with Alternative 1G. Thus, this revised alternative involves the rehabilitation of pavement on Runway 6-24 and construction of a RSA that is 500 feet in width (250 feet on either side of the runway centerline) by 300 feet in length beyond the Runway 24 threshold with the installation of an Engineered Materials Arresting System (EMAS) (120 feet in width by 300 feet in length). **Exhibit 2.2.-1** depicts this new alternative. This alternative is depicted on the current ALP which was conditionally approved by the FAA on March 20, 2009 (refer back to **Exhibit 1.1-1**). Conditional approval indicates the improvements shown on the ALP still require environmental determinations/permits.

The installation of EMAS could be used to enhance the RSA beyond the runway end when it is not practicable to obtain a RSA that meets current standards. FAA Advisory Circular 150/5220-22A, *Engineered Materials Arresting Systems (EMAS) for Aircraft Overruns*, provides guidance on EMAS. EMAS provides a crushable material in the RSA that allows an aircraft, unable to stop on the active runway, to gradually decrease its speed, and allow the aircraft to come to a stop without serious structural damage. EMAS offers runways with geographically constrained areas an opportunity to provide the acceptable level of safety as a conventional RSA would.

According to FAA Advisory Circular 150/5220-22A, the resulting RSA with EMAS "must provide adequate protection for aircraft that touch down prior to the runway threshold (undershoot). Adequate protection is provided by either: (1) providing at least 600 feet (or the length of the standard runway safety area,

whichever is less) between the runway threshold and the far end of the EMAS bed if the approach end of the runway has vertical guidance or (2) providing full length standard runway safety area when no vertical guidance is provided." The FAA concluded in the 2009 RSA Determination that the majority of aircraft that utilize Runway 6 are in categories A and B and thus require a RSA 300 feet in length prior to the landing threshold or beyond the runway end.

Connected actions to this new design alternative include the following (see **Exhibit 2.2-1**):

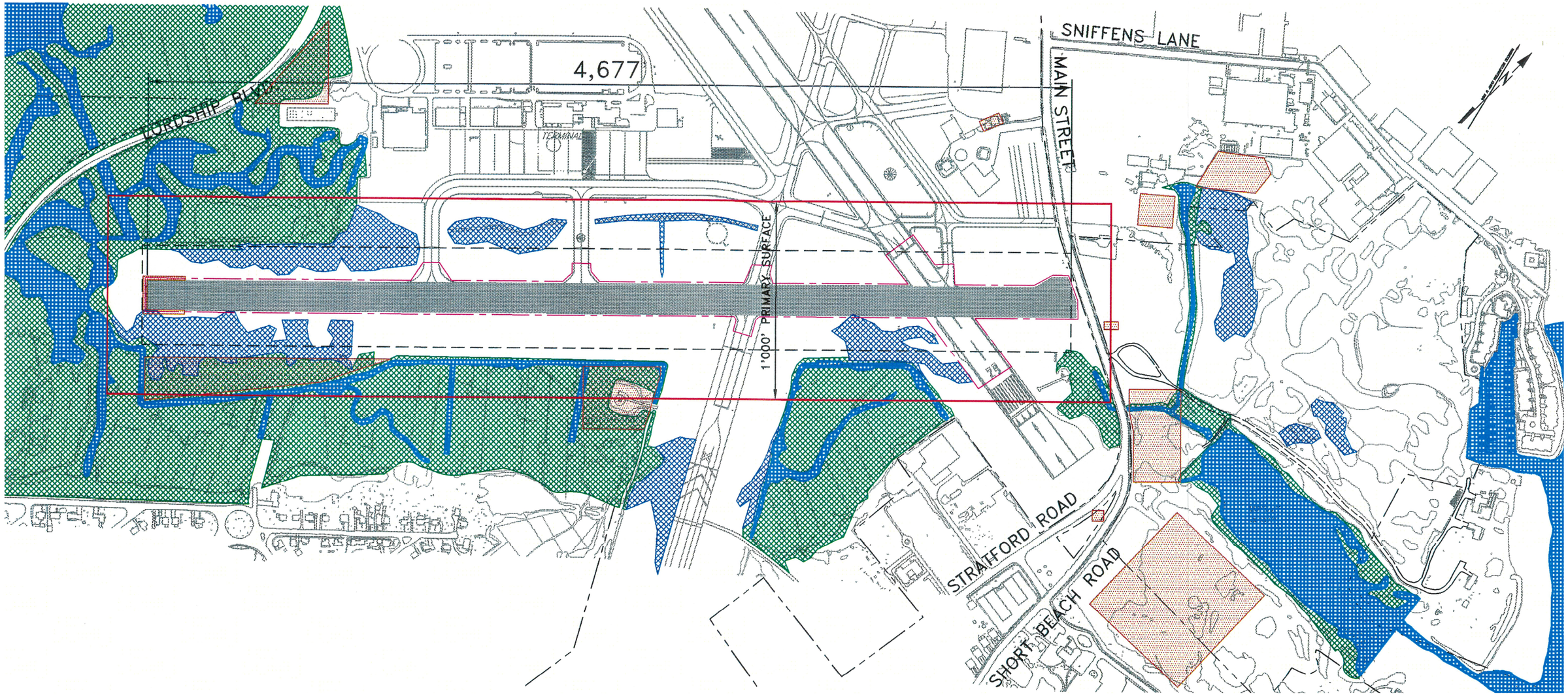
- Relocation of 2,150 feet of Main Street;
- Installation of new runway edge lights on Runway 6-24;
- Relocation of Runway End Identifier Lights;
- Relocation of the existing Visual Approach Slope Indicator (VASI) or replacement of the VASI with a Precision Approach Path Indicator;
- Construction of a new connector taxiway (35 feet in width by 330 feet in length) from Taxiway A to the new Runway 24 threshold and demolition of the existing connector taxiway from Taxiway A to the existing Runway intersection;
- Removal of the existing blast fence located off the Runway 24 threshold;
- Installation of new Airport security fence;
- Removal of an existing berm, tide gate, and culvert; and
- Construction of a turnaround at the Runway 6 threshold.

2.2.2 NO BUILD ALTERNATIVE

The No Build Alternative was assessed consistent with Section 1502.14(d) of CEQ Regulations (40 CFR 1500-1508), which requires that the No Build Alternative be considered in all development projects. The No Build Alternative assumes that no alteration of the existing airfield configuration would occur other than routine maintenance and equipment upgrading. Therefore, with implementation of the No Build Alternative, no reconstruction of Runway 6-24 pavement would occur and no RSAs upgrades to bring, to the extent practicable, BDR into compliance with application FAA design standards would occur.

2.2.3 SUMMARY

An assessment of the potential environmental impacts associated with Alternative 1G-Modified as well as the No Build Alternative is presented in Section 4 – Environmental Consequences.



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

NOTES:
1. RECONSTRUCTION OF EXISTING RUNWAY PAVEMENT
2. NO ADDITIONAL SAFETY AREAS
3. NO APPROACH LIGHT SYSTEM
4. NO EXTENSION OF USABLE TAKEOFF LENGTH OF RUNWAY
5. BLAST FENCE @ RUNWAY END 24 WOULD REMAIN AT ITS CURRENT LOCATION AND CONFIGURATION

500 0 250 500 1000

SITES OF POTENTIAL HAZMAT/ ENVIROMENTAL CONCERN

INLAND WETLAND

TIDAL WETLAND

OPEN WATER

EXISTING RUNWAY SAFETY AREA

EXISTING AIRPORT PROPERTY BOUNDARY

LIMIT OF GRADING/DISTURBANCE

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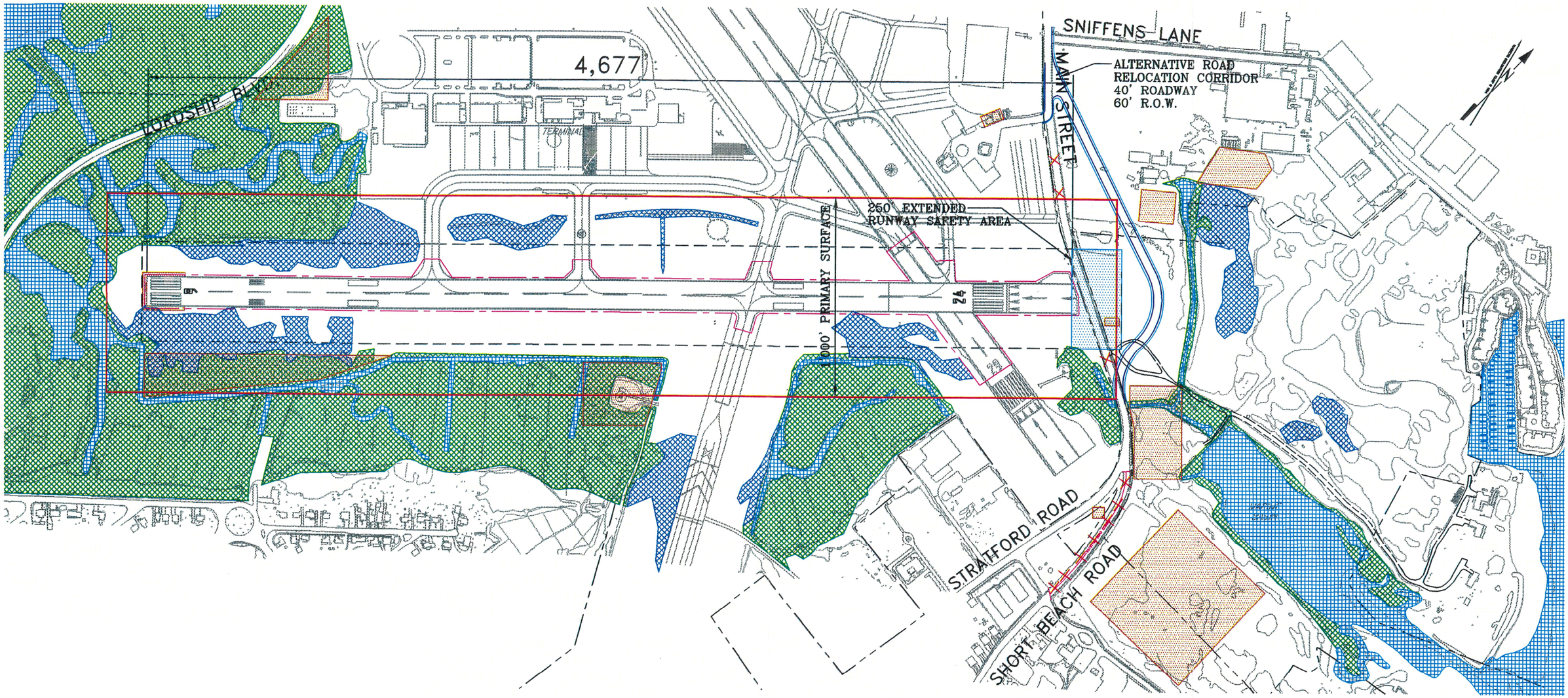
STRATFORD, CONNECTICUT

URS

ALTERNATIVE 1

EXHIBIT

2.1-1



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

NOTES:
1. RECONSTRUCTION OF EXISTING RUNWAY PAVEMENT
2. ADDITIONAL 250' SAFETY AREA @ RUNWAY 24 END
3. NO APPROACH LIGHT SYSTEM
4. NO EXTENSION OF USEABLE TAKEOFF LENGTH OF RUNWAY
5. RELOCATION OF MAIN STREET AVOIDS WETLAND IMPACTS
6. WOULD REQUIRE THE RELOCATION OF BLAST FENCE ALONG RELOCATED MAIN STREET

500 0 250 500 1000

EXTENDED RUNWAY SAFETY AREA (250' X 500')

INLAND WETLAND

TIDAL WETLAND

OPEN WATER

SITES OF POTENTIAL HAZMAT/ ENVIRONMENTAL CONCERN

EXISTING ROADWAY NO LONGER AVAILABLE FOR USE

EXISTING RUNWAY SAFETY AREA

EXISTING AIRPORT PROPERTY BOUNDARY

LIMIT OF GRADING/DISTURBANCE

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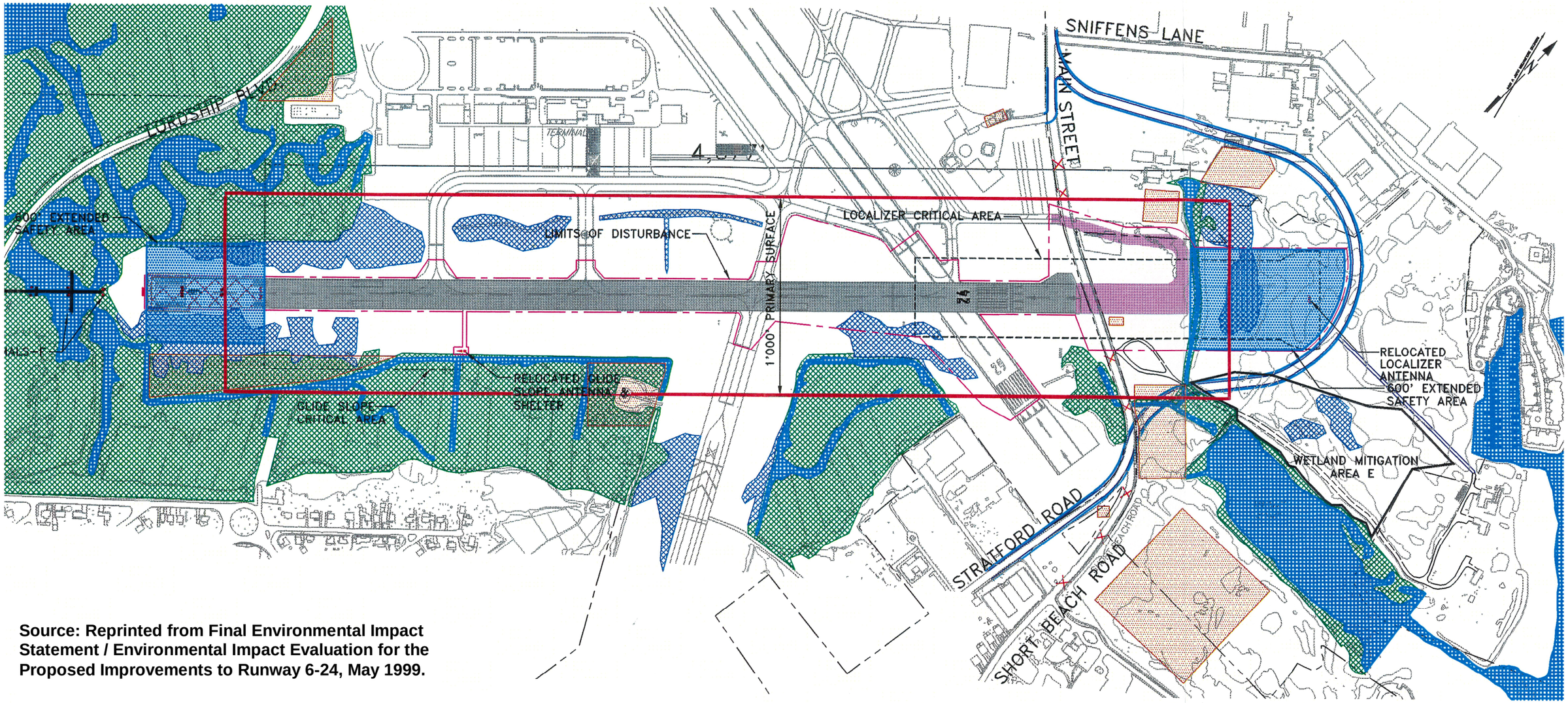
STRATFORD, CONNECTICUT

ALTERNATIVE 1G

EXHIBIT
2.1-2



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

500 0 250 500 1000

NEW PAVEMENT

EXTENDED RUNWAY SAFETY AREA (600' X 500')

EXISTING PAVEMENT NO LONGER AVAILABLE FOR RUNWAY USE

INLAND WETLAND

TIDAL WETLAND

OPEN WATER

SITES OF POTENTIAL HAZMAT/ ENVIRONMENTAL CONCERN

RUNWAY PRIMARY SURFACE BOUNDARY

EXISTING ROADWAY NO LONGER AVAILABLE FOR USE

EXISTING RUNWAY SAFETY AREA

EXISTING AIRPORT PROPERTY BOUNDARY

LIMIT OF GRADING/DISTURBANCE

NOTES:
1. 600-FOOT SAFETY AREA, BOTH ENDS
2. NO DECLARED DISTANCES
3. SHIFT RUNWAY 6-24 575 FEET NORTHEAST
4. INSTALL MALS-F (IN-PAVEMENT NOT REQUIRED)
5. LOCALIZER IN SAFETY AREA

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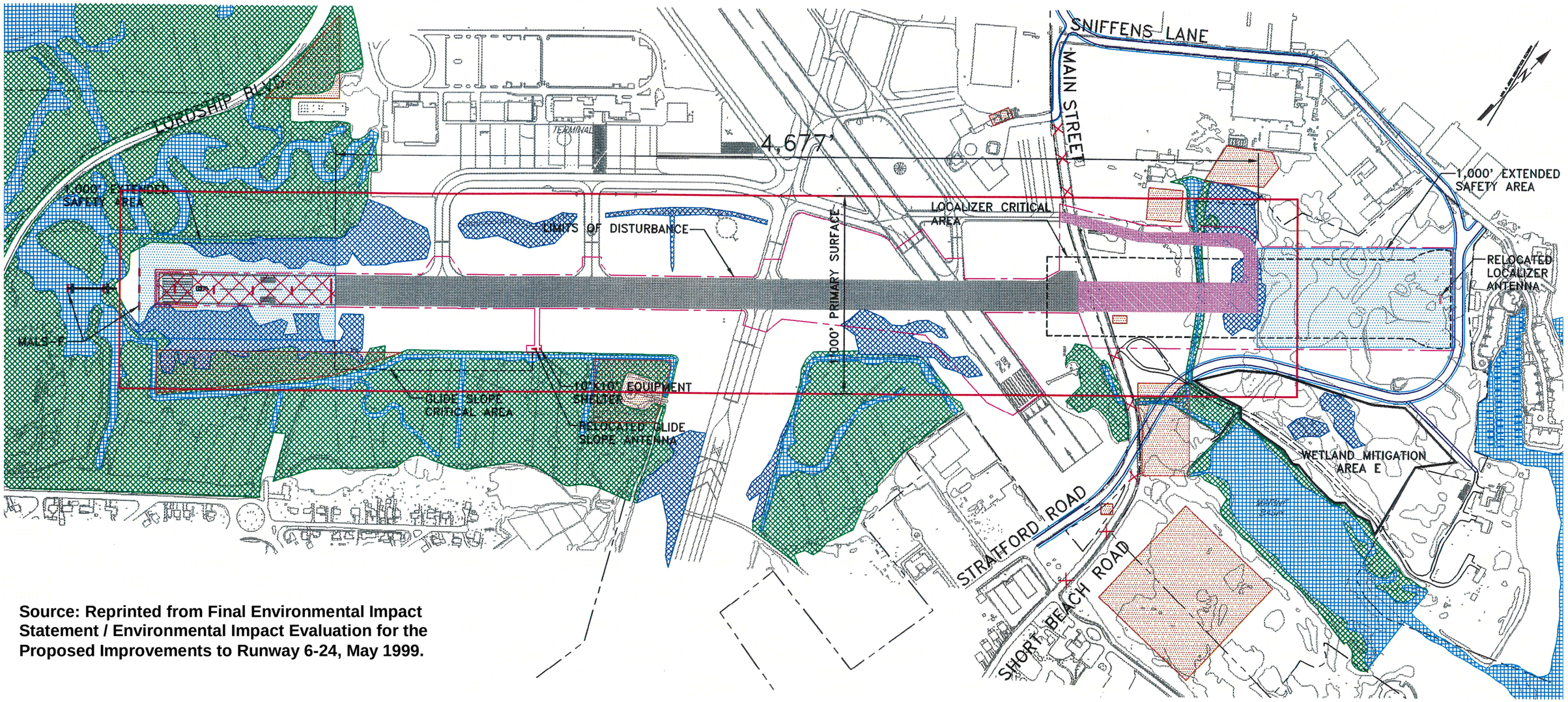
ALTERNATIVE 2B

EXHIBIT
2.1-3



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

500 0 250 500 1000

NEW PAVEMENT

EXTENDED RUNWAY SAFETY AREA 1,000' X 500'

EXISTING PAVEMENT NO LONGER AVAILABLE FOR RUNWAY USE

TIDAL WETLAND

INLAND WETLAND

OPEN WATER

SITES OF POTENTIAL HAZMAT/ ENVIRONMENTAL CONCERN

RUNWAY PRIMARY SURFACE BOUNDARY

EXISTING ROADWAY NO LONGER AVAILABLE FOR USE

RUNWAY PRIMARY SURFACE BOUNDARY

EXISTING AIRPORT PROPERTY BOUNDARY

LIMIT OF GRADING/DISTURBANCE

NOTES:
1. 1,000-FOOT SAFETY AREA, BOTH ENDS
2. NO DECLARED DISTANCES
3. SHIFT RUNWAY 6-24 875 FEET NORTHEAST
4. INSTALL MALS-F (IN-PAVEMENT NOT REQUIRED).
5. LOCALIZER IN SAFETY AREA, OF RUNWAY 24

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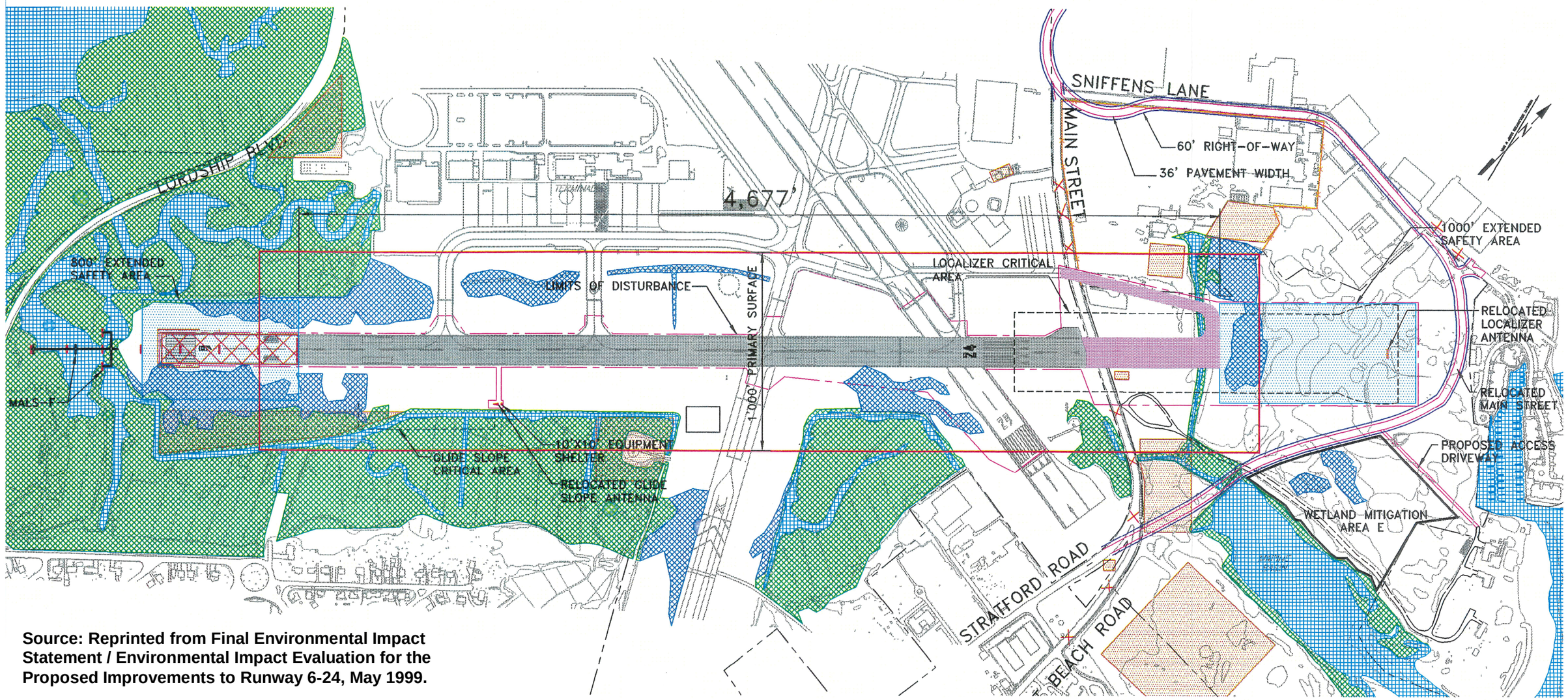
ALTERNATIVE 2D

EXHIBIT
2.1-4



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

NOTES:
1. 800-FOOT SAFETY AREA, R/W 6 END
   1000-FOOT SAFETY AREA, R/W 24 END
2. NO DECLARED DISTANCES
3. SHIFT RUNWAY 6-24 700 FEET NORTHEAST
4. INSTALL MALS-F (IN-PAVEMENT NOT REQUIRED)

500 0 250 500 1000

NEW PAVEMENT
EXTENDED RUNWAY SAFETY AREA
EXISTING PAVEMENT TO BE REMOVED
TIDAL WETLAND
INLAND WETLAND
OPEN WATER
SITES OF POTENTIAL HAZMAT/ ENVIRONMENTAL CONCERN

RUNWAY PRIMARY SURFACE BOUNDARY
FORMER STRATFORD ARMY ENGINE PLANT PROPERTY
EXISTING ROADWAY NO LONGER AVAILABLE FOR USE
EXISTING AIRPORT PROPERTY BOUNDARY
LIMIT OF GRADING/DISTURBANCE

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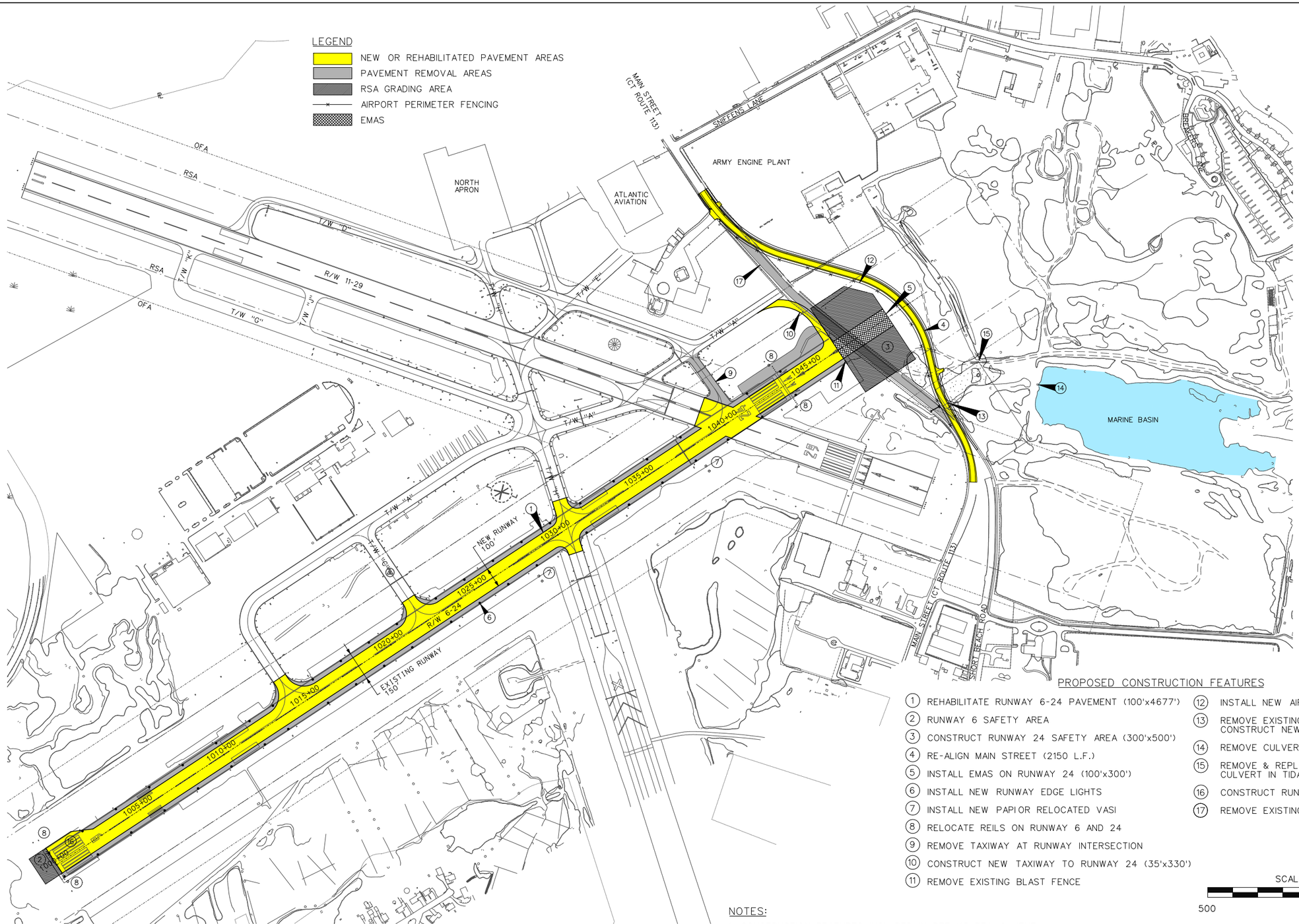
URS

ALTERNATIVE 2D - MODIFIED

EXHIBIT
2.1-5



PROPOSED CONSTRUCTION FEATURES

1. REHABILITATE RUNWAY 6-24 PAVEMENT (100'x4677')
2. RUNWAY 6 SAFETY AREA
3. CONSTRUCT RUNWAY 24 SAFETY AREA (300'x500')
4. RE-ALIGN MAIN STREET (2150 L.F.)
5. INSTALL EMAS ON RUNWAY 24 (100'x300')
6. INSTALL NEW RUNWAY EDGE LIGHTS
7. INSTALL NEW PAPI OR RELOCATED VASI
8. RELOCATE REILS ON RUNWAY 6 AND 24
9. REMOVE TAXIWAY AT RUNWAY INTERSECTION
10. CONSTRUCT NEW TAXIWAY TO RUNWAY 24 (35'x330')
11. REMOVE EXISTING BLAST FENCE
12. INSTALL NEW AIRPORT SECURITY FENCE
13. REMOVE EXISTING RTE 113 CULVERT & CONSTRUCT NEW CULVERT
14. REMOVE CULVERT AND TIDE GATE STRUCTURE
15. REMOVE & REPLACE EXISTING DRIVEWAY CULVERT IN TIDAL DITCH
16. CONSTRUCT RUNWAY END TURNAROUND
17. REMOVE EXISTING MAIN STREET

SCALE IN FEET

500 0 500

NOTES:

1. CONSTRUCTION FEATURES INCLUDED IN RTE 113 REALIGNMENT STATE PROJECT NO.15-336 INCLUDE 4 11 12 13 17 .
2. CONSTRUCTION FEATURE 15 , DRIVEWAY CULVERT REPLACEMENT, TO BE COMPLETED BY THE CITY OF BRIDGEPORT IN A CONSTRUCTION CONTRACT SEPARATE FROM STATE PROJECT NO. 15-336.
3. CONSTRUCTION FEATURE 14 , REMOVE CULVERT AND TIDE GATE STRUCTURE TO BE COMPLETED BY THE CITY OF BRIDGEPORT IN A CONSTRUCTION CONTRACT SEPARATE FROM STATE PROJECT NO.15-336.

IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

ALTERNATIVE 1G MODIFIED WITH INSTALLATION OF EMAS

EXHIBIT

2.2-1

SECTION 3
AFFECTED ENVIRONMENT

3.0 INTRODUCTION

This section provides a description of the existing condition of the physical, natural, and human environment both on and within the immediate vicinity of the Airport that have changed since preparation of the Final EIS. **Section 4** of this document will examine the potential impacts that would result from the revised alternative.

The Final EIS was prepared in accordance with FAA Order 1050.1D, *Policies and Procedures for Assessing Environmental Impacts*, and FAA Order 5050.4A, *Airport Environmental Handbook*, Since that time, FAA Order 1050.1D has been replaced with FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4A has been replaced with FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* as supplemented by FAA's *Environmental Desk Reference for Airport Actions* (October 2007). The categories presented herein reflect the relevant environmental disciplines contained in FAA Order 1050.1E.

3.1 EXISTING LAND USE AND ZONING

Although owned and operated by the City of Bridgeport, BDR is located within the municipal limits of the Town of Stratford. The Airport is located in the southern area of town on the interior portion of a land feature roughly bound by the Long Island Sound to the south and east and the Housatonic River to the northeast.

3.1.1 EXISTING LAND USE

Since preparation of the Final EIS in 1999, the Town of Stratford has adopted a new comprehensive, *Update to Town Plan of Conservation and Development* (December 2003). However, the existing land use patterns for the area surrounding BDR have not changed since preparation of the Final EIS with the exception of the transfer of 1.075 acres of land of the Stratford Army Engine Plant (SAEP) to the FAA.

Existing land uses in the vicinity of BDR are varied and include open space, residential, industrial, and commercial. Within the proposed project area, land use is aviation related or undeveloped on Airport property and industrial and undeveloped on the SAEP property. To the south of the Airport, land use is predominately residential. Open space of the Great Meadows Marsh is located to the west of the Airport while industrial uses and Frash Pond, a tidal pond, are located on the northern perimeter. Immediately east of BDR is a commercial area with additional open space and residential areas located further east along the Housatonic River.

The SAEP, a US Army Tank-Automotive and Armaments Command Installation, is sited on 117 acres. Under the Defense Base Closure and Realignment Act of 1990, the Defense Base Closure and Realignment Commission (BRAC) recommended the closure of the SAEP in July 1995. The installation closed on September 30, 1998. The *Final Environmental Impact Statement on the Disposal and Reuse of*

the Stratford Army Engine Plant was prepared and a ROD was issued in 2001. The ROD concluded that portions of the property would be transferred to a Local Reuse Authority and four acres would be transferred for aviation purposes. In March 2010, 1.075 acres of the SAEP was transferred to the FAA.

3.1.2 EXISTING ZONING

Since preparation of the FINAL EIS, no changes in zoning designations have occurred within the project study area. Thus, the Town of Stratford continues to designate two zoning classifications for the Airport: Runway Zone, which includes the airfield, and Airport Development District, which includes all other areas on the Airport. Zoning surrounding the Airport is comprised of Light Industrial District and Coastal Industrial District to the north, Resource Conservation District to the west and south and Residential to the south and east.

3.2 SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S HEALTH AND SAFETY RISKS

Since preparation of the Final EIS, new US Census data (Year 2000) has been received and FAA Order 1050.1D has been replaced with FAA Order 1050.1E and FAA Order 5050.4A has been replaced with FAA Order 5050.4B. In accordance with the revised Orders, this section also includes an analysis pursuant to US Department of Transportation (DOT) order on Environmental Justice (Order 5610.2) (July 16, 1997) and Executive Order 13045, *Protection of Children From Environmental Health Risks and Safety Risks* (April 21, 1997).

To comply with the goals of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations* and DOT Order 5610.2, the 2000 US Bureau of Census data was reviewed to determine the presence of minority and/or low-income populations. US DOT Order 5610.2 defines a minority population as "any readily identifiable group of minority persons who live in geographic proximity." CEQ regulations state that if the percentage of minority population within a given area within the proposed project area is 50 percent or greater, then these areas would be considered minority. BDR and the proposed project area are located within Census Tract 805 Block Group 1. Of the 1,778 people in Census Tract 805, Block Group 1, 74 are minority (4% minority).

The US Bureau of Census follows the Office of Management and Budget's Statistical Policy Directive 14 and uses a set of money income thresholds that vary by family size and composition to determine both the poverty threshold and also who is poor. If a family's total income is less than that family's threshold, then that family, and every individual in it, is considered poor. The poverty threshold for 2009, as established by the US Bureau of Census, was used to determine the low-income populations within the vicinity of the Airport. The average household size is 2.29 persons per household for Census Tract 805, Block Group 1. For this analysis, the poverty threshold was established using the Bureau of Census information for a 2-person household, with one person being a child under the age of 18. Using this criterion, the average poverty threshold is $14,787. The median household income for Census Tract 805,

Block Group 1 is $63,629. Therefore, the Census Block Group in which the Airport and proposed project area are located is not considered to be low-income areas, based on the 2000 census information.

Pursuant to Executive Order 13045, the FAA recently revised their policies and procedures for compliance with NEPA to include the assessment of environmental health and safety risks resulting from airport development projects that may disproportionately affect children. Currently, operations at the Airport have not been identified by any known source as adversely impacting the health or safety of children in the area.

3.3 NOISE

According to the noise analysis completed for the Final EIS in 1999, noise levels were expected to decrease from 1996 to 2001 (base year and study year, respectively) due to the replacement of older louder aircraft with newer quieter aircraft. Alternative 1G, which is similar to Alternative 1G-Modified, would not have caused more than a 2.2dBA projected increase in DNL from the future No Build condition at any of the ten locations within residential communities surround the Airport. A 2.2 dBA increase is less than the 3dBA increase considered significant for noise sensitive land uses outside the DNL 65 dBA contour.

Since selection of any particular alternative would not result in an increase in the number of aircraft operations, a change in aircraft types, or a change in day/night operational splits, which are factors that could result in a change in noise exposure, no noise analysis was conducted for this Written Reevaluation.

3.4 AIR QUALITY

Fairfield County currently comprises a portion of the New York-New Jersey-Long Island NY-NJ-CT non-attainment area. The area was designated “moderate” non-attainment in 2004 with respect to the 8-hour ozone (O_3) National Ambient Air Quality Standards (NAAQS) promulgated in 1997. The US Environmental Protection Agency (EPA) required that states possessing non-attainment areas submit attainment demonstration State Implementation Plans (SIPs) by 2008. Because EPA also requires that “moderate” O_3 non-attainment areas demonstrate compliance with the NAAQS no later than six years after designation, the Fairfield County area must be in compliance with the 1997 O_3 NAAQS by June 2010.

Additionally, the NY-NJ-CT non-attainment area has been classified as non-attainment for the annual fine particulate matter ($PM_{2.5}$) NAAQS in 2005 and non-attainment for the 24-hour $PM_{2.5}$ NAAQS shortly after its promulgation in 2006. With respect to these designations, non-attainment areas must submit SIPs by April 2008 and attain the standard no later than five years after their designation.

Historically, the Fairfield County area was part of the 1-hour O_3 Greater Connecticut Non-attainment area prior to the repeal of the 1-hour O_3 NAAQS. Moreover, portions of the Fairfield County area were included in both the former New Haven-Meriden-Waterbury and the NY-NJ-CT CO non-attainment areas for the

years 1992 through 1998. These areas were re-designated as “maintenance” of the applicable CO NAAQS in 1998 and 1999, respectively.

To satisfy EPA’s requirements listed above, Connecticut Department of Environmental Protection (CTDEP) prepared an 8-Hour Ozone Attainment Demonstration SIP and submitted it to EPA on February 1, 2008. The document presented national, regional, and local estimates and control programs necessary to attain the NAAQS by EPA’s established deadline. However, EPA proposed to disapprove the Attainment Demonstration SIP in May of 2008, contending that it did not display enough compelling evidence to ensure attainment by June 2010. EPA’s ruling has yet to be finalized, due in part to CT DEP’s recent petition to extend EPA’s attainment deadline.

CTDEP also submitted their Fine Particulate Matter ($PM_{2.5}$) Attainment Demonstration SIP to EPA on November 18, 2008, demonstrating how the area would attain the annual $PM_{2.5}$ NAAQS by April 2010. EPA is still reviewing this submittal and has yet to render an approval. In addition, CTDEP made revisions to its Regional Haze SIP on November 18, 2009, to assure EPA that the effort to increase visibility in the area is harmonized to the attainment strategies contained in the $PM_{2.5}$ SIP.

A complete air quality analysis can be found in **Appendix C**.

3.5 DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(f)

Section 4(f) resources include public parks and recreation areas, and wildlife and waterfowl refuges or management areas of national, state, or local significance. Section 4(f) also applies to historic sites of national, state, or local significance, as determined by the Official that has jurisdiction over these historic resources. Such sites are those that are listed or eligible for listing in the National Register of Historic Places (NRHP), as well as those identified by appropriate state or local agencies as having historical significance.

As concluded in the Final EIS, Short Beach Park is located east of the Airport between Main Street and Long Island Sound, the Great Meadows Marsh is located immediately to the west of the Airport, and Milford Point is located northeast of the Airport at the mouth of the Housatonic River and Long Island Sound (see **Exhibit 3.5-1**). The Great Meadows Marsh and Milford Point are two of the ten units that make up the Stewart B. McKinney National Wildlife Refuge.

3.6 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Consideration of the effects Federal actions to cultural resources is mandated by Section 106 of the National Historic Preservation Act (NHPA), as amended (16 USC 470-470w-6). Section 106 requires Federal agencies to take into consideration the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on such undertakings, as appropriate. The procedures for implementing Section 106 are contained in the ACHP regulations 36 CFR Part 800, *Protection of Historic Properties*.

These regulations define a Federal undertaking as an action that is proposed by a Federal agency (or a project proposed by others that will receive funding, permits, licenses, or authorizations from Federal agencies) that has the potential to affect historic properties. Historic properties are defined as properties that are either listed in or eligible for listing in the NRHP, including buildings, structures, historic districts, objects, sites, or archaeological resources. These regulations implementing the NRHP may be found in 36 CFR 60.4.

According to the Final EIS, no historic architectural properties were located within the Area of Potential Effect (APE) that was developed for the Final EIS analysis. In support of the Final EIS, a geomorphological investigation was conducted to identify areas of buried, intact, non-wetland soils that had the potential to contain archaeological deposits and features. Shovel testing and test unit excavations were conducted within the area of intact soils accessible though hand excavations. A light scatter of prehistoric quartz lithic debitage (chipped stone from tool making by the early Native Americans) was recovered from shovel testing and one of the test units. In addition, a piece of prehistoric ground stone used as a tool for grinding was recovered on the surface, in a disturbed context.

Thus, since the proposed project area currently under study in this Written Reevaluation encompasses the APEs developed for the Final EIS, it is concluded that no historic, architectural, cultural, or archaeological properties are located within the proposed project area. The Connecticut State Historic Preservation Office has been contact for concurrence. A response is pending.

3.7 FARMLANDS

According to the soils data provided by the United States Department of Agriculture (USDA) - Natural Resource Conservation Service (NRCS) Soil Survey database (Version 4, dated March 22, 2007), there are several different soil types located within the Airport and surrounding area (see **Table 3.7-1** and **Exhibit 3.7-1**).

The Farmland Protection Policy Act (FPPA), Public Law 97-98, 7 USC 4201-4209, was enacted as part of the Agriculture and Food Act of 1981 to minimize the extent to which federal programs contribute to unnecessary and irreversible conversion of farmland to nonagricultural uses. Important farmlands include all pasturelands, croplands, and forestlands that are considered to be Prime, Unique, and Statewide or Locally Important lands. As part of the FPPA, the USDA - NRCS has defined Prime Farmland as land that has chemical and physical characteristics, which support food production, feed, and fiber production. Statewide important soils are soils that are among the most productive soils in the State for agriculture and forestry. Unique soils are classified as soils that are unique to the region and are used for specific agriculture or industrial purposes. The FPPA does not apply to land that is already committed to urban development, regardless of whether it has been classified as Prime or Statewide Important Farmland by the NRCS.

TABLE 3.7-1
SOILS TYPES WITHIN THE VICINITY OF THE PROJECT AREA

Map Unit Symbol	Map Unit Name	Rating
13	Walpole sandy loam	Farmland of statewide importance
29A	Agawam fine sandy loam, 0 to 3 percent slopes	All areas are prime farmland
99	Westbrook mucky peat, low salt	Not prime farmland
302	Dump soils	Not prime farmland
306	Udorthent – Urban Land Complex	Not prime farmland
307	Urban Land	Not prime farmland
308	Udorthent, smoothed	Not prime farmland
W	Water	Not prime farmland

Source: USDA-NRCS Web Soil Survey (State of Connecticut, Version 7, December 3, 2009).

3.8 WATER RESOURCES

As detailed in the Final EIS, the project study area is located at the junction of two major water sources: the Housatonic River and the Long Island Sound. The study area is bisected by two drainage basins: Marine Basin and Stratford Great Meadows sub-basin, which is within the Southwest Coast Basin.

Water resources within the project area consist of surface and ground waters. The State of Connecticut has adopted standards to protect water quality. These Water Quality Standards are administered by the Connecticut Department of Environmental Protection (CT DEP) and were established to identify designated uses for surface and ground waters and identify criteria necessary to support those uses.

3.8.1 SURFACE WATER QUALITY

Within the vicinity of the Airport, several different surface waters exist, as depicted on State of Connecticut Surface Water Quality Maps (CTDEP 2006). There are surface waters to the west and southwest of the Airport with a surface water quality of “SC/SB”. Most of these surface waters are located in the Great Meadows marsh complex, to the west of the Airport. The Housatonic River, Marine Basin and associated ditches on the eastern side of the airport are also classified as “SC/SB”. According to the Connecticut Surface Water Quality Standards (CTDEP 2002), this classification indicates that the existing surface water quality is “SC” with a goal of achieving “SB”. Frash Pond to the north of the Airport and other smaller pockets of surface water surrounding the Airport are classified as “A”. Many of these surface water features are hydraulically connected by human-made ditches.

3.8.2 GROUNDWATER QUALITY

Based on State of Connecticut Ground Water Quality Maps (CTDEP 2009), the entire project area is located in a groundwater classification area of GB. The Connecticut Ground Water Quality Standards (CTDEP 1996) describe the GB classification as:

Ground water within a historically highly urbanized area or an area of intense industrial activity and where public water supply service is available. Such ground water may not be suitable for human consumption without treatment due to waste discharges, spills or leaks of chemicals or land use impacts.

Class GB ground waters are designated for use in industrial processes and cooling waters; base flow for hydraulically-connected surface water bodies; presumed not suitable for human consumption without treatment.

3.8.3 DRAINAGE AND STORMWATER CHARACTERISTICS

The existing drainage system along Main Street consists primarily of a roadside swale on the west side of the roadway and a closed drainage system on the east side. The major outlet to the drainage system is a channel (approximately 16 feet wide), located south of Runway 24, which outlets to the Marine Basin and Long Island Sound. Records indicate that there is a 15 inch diameter RCP under the existing road, however, this culvert is submerged, even under low tide conditions, and survey of the exact size and invert has not been obtained. This segment of roadway at the culvert is known to flood during major storm events.

The overall drainage system is influenced by a berm and non-functioning gated drainage structure at the north end of Marine Basin. The gate mechanism, inside a concrete structure, has deteriorated over the years and has been completely removed. No information indicating the original configuration or intended operation of this gate mechanism has been located. Field observations suggest that it was a manually controlled vertical gate, controlling flow through a culvert under the earth berm. Anecdotal evidence and observed debris at the east end of the berm that indicates the Marine Basin overtops the berm, in that location, during higher than normal tide events.

Drainage along the existing runways consists of overland sheet flow directly to open channels.

3.9 COASTAL RESOURCES

BDR is required to comply with the regulations set forth in the Coastal Zone Management Act of 1972 (CZMA), as amended through Public Law (PL) 104-105, the Coastal Zone Protection Act of 1996, and the provisions of the Connecticut Coastal Management Act (CCMA), sections 22a-90 through 22a-112. The CZMA requires that each state with coastal boundaries establish a Coastal Zone Management Program (CZMP), which in Connecticut, is administered by the CTDEP - Office of Long Island Sound Programs (OLISP).

The entire Airport is located within Connecticut's coastal boundary as defined by section 22a-94 of the CGS. Connecticut has a two-tired coastal zone. The first tier "Coastal Boundary" generally extends inland 1,000 feet from the shore. It is bounded by a continuous line delineated by a 1,000-foot linear setback measured from the mean high tide water mark in coastal waters; or a 1,000-foot linear setback measured from the inland boundary of state regulated tidal wetlands; or the continuous interior contour elevation of the one hundred year frequency coastal flood zone; whichever is farthest inland. The second tier "Coastal Area" includes all of the state's thirty six coastal municipalities.

The CZMP identifies all of the project area within the Coastal Boundary as established by the CGS Section 22a-90 through 22a-112 9.

The project area contains multiple coastal resources, including tidal wetlands and coastal flood hazard areas (CFHA). A CFHA is statutorily defined as, "those land areas inundated during coastal storm events or subject to erosion induced by such events…" In general, CFHAs include, "all areas designated as within A-zones and V-zones by the FEMA. A-zones are subject to still-water flooding during 100-year flood events and V-zones are subject to direct action by waves three feet or more in height." Only CFHA A-zones are found within the study area.

Other coastal features in the study area include Marine Basin, a tidal inlet bounded on its western end by a man-made earthen berm with an obsolete tide-gate structure. Two tidal creeks flow inland from Marine Basin. One flows in a northwesterly direction through a constricted culvert under a gravel residential driveway. This creek terminates in a small tidal wetland area located just south of the SAEP located on the corner of Main Street and Sniffens Lane. The second tidal creek flows in a westerly direction through a culvert under Main Street and terminates in a tidal wetland area located just inside (west of) the airport fence. There are no shellfish beds in the immediate vicinity of the study area and shellfishing is actually prohibited within Marine Basin.

3.10 WILD AND SCENIC RIVERS

The US Department of the Interior (DOI) maintains a national inventory of river segments, which appear to qualify for inclusion in the National Wild and Scenic River System. A review of the DOI National Park Service National Rivers Inventory website (last updated November 23, 2004) indicated that there are no federally-designated, nor potentially eligible Wild and Scenic Rivers on or within the vicinity of the Airport. There are no state-level wild and scenic rivers programs in Connecticut.

3.11 FLOODPLAINS

Executive Order 11988, Floodplain Management, defines floodplains as the "lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, the area subject to a one percent or greater chance of flooding in a given year." The State of Connecticut participates in the National Flood Insurance Program and, as such, has adopted ordinances to manage development within floodplains. Floodplains in the area are subject to flooding due to coastal storm activity or extremely high tides.

According to the Federal Emergency Management Agency Flood Insurance Rate Map (FIRM), dated June 18, 2010, the project area is located within a special flood hazard area subject to inundation by the 1% annual chance flood (Flooding Zone AE) (see **Exhibit 3.11-1**).

3.12 WETLANDS

Wetlands are areas found along streams, rivers, springs, ponds, and drainage ditches. Jurisdictional wetlands are defined by the US Army Corps of Engineers (COE) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The majority of jurisdictional wetlands, those wetlands that are protected by the Clean Water Act (CWA), meet three delineation criteria: a prevalence of wetland-associated vegetation, hydric (wetland-type) soils), and wetland hydrology.

3.12.1 WETLAND DELINEATIONS

In support of the Final EIS, a variety of investigations were completed to determine the extent and nature of tidal and inland wetlands at the Airport. The areas that were delineated generally included Airport property east of Lordship Boulevard with specific attention to a linear swath along Runway 6-24 to a distance of approximately 1,000 feet from the edge of pavement on both sides of the runway and the entire property east-northeast of Main Street in the vicinity of, and including, Marine Basin (see **Exhibit 3.12-1**).

In December 2009, the boundaries of the inland and tidal wetlands within the vicinity the Runway 24 end and Main Street were again field-delineated. In June 2010 and October 2010, the wetlands in the vicinity of the Main Street Realignment Project were further evaluated to obtain more detailed information on existing tidal and inland wetland resources. The delineated wetlands are detailed in the Section 3.12.1.1 entitled *Wetland Field Investigation and Delineation for Route 113 Relocation* (see **Exhibit 3.12-2** and **Appendix D**). In November 2010, the wetlands within the limits of the Runway 6-24 Rehabilitation project were further evaluated The delineated wetlands are detailed in Section 3.12.1.2 below entitled *Wetland Field Investigation and Delineation for Runway 6-24 Rehabilitation* (see E**xhibit 3.12-3** and **Appendix D**).

The 2009 and 2010 wetland delineations were conducted according to both the federal and State of Connecticut definitions. Criteria used to support the inland wetland boundary determinations included: NRCS mapping; *Field Indicators of Hydric Soils in the United States – Version 6.0* (NRCS, 2006); *Field Indicators for Identifying Hydric Soils in New England – Version 3* (New England Hydric Soils Technical Committee, 2004); and the *Corps of Engineers Wetland Delineation Manual: North Central and Northeastern Supplement*, Waterways Experiment Station, 2008). Tidal wetland delineations were conducted based on the estimated elevation of the high tide line and extent of tidal wetland vegetation in accordance with COE requirements. The June 2010 and October 2010 wetland delineations extended several of the wetland boundaries in the vicinity of the existing access driveway to the east of Main Street to better represent the wetland boundary in the vicinity of the proposed activity. The November 2010 wetland delineation extends 250 feet from either side of Runway 6-24 and extends a sufficient distance to encompass the Town of Stratford upland review area of 100 feet.

3.12.1.1 Wetland Field Investigation and Delineation for Route 113 Relocation

The wetlands below are depicted on **Exhibit 3.12-2** and in **Appendix D** in a report entitled *Wetland Field Investigation and Delineation for Route 113 Relocation*.

Wetland 1 (Flag Series 101-153/ Inland Wetland) is located to the northwest of the existing residential driveway off Main Street between the last house on the road and the end of Breakers Lane. This large emergent wetland extends well beyond the project limit to the west and south and is hydraulically connected to wetlands 8, 9, and 10. The delineated portion of this wetland covers approximately 2.5 acres. Wetland vegetation is dominated by common reed (*Phragmites australis*), which forms a dense monoculture throughout most of the wetland.

Wetland 2 (Flag Series 201-222 / Inland Wetland) is located to the west of Breakers Lane, just north of wetland 1. This wetland covers approximately 0.5 acres and is dominantly forested in the north and emergent in the south. The forested portion of this wetland is dominated by gray birch (*Betula Populifolia*) and the emergent vegetation is dominated by common reed, which forms a dense monoculture.

Wetland 3 (Flag Series 301-311 / Inland Wetland) is located south of Sniffens Lane, just west of a large parking lot behind the condos on Breakers Lane and north of wetland 2. This emergent wetland covers approximately 0.2 acres. Wetland vegetation is comprised of common reed in the east and south, gray birch in the west and mixed herbaceous grasses (*graminae spp.*), sedge (*Carex spp.*), and rush (*Scirpus spp.*) in the central portions of the wetland.

Wetland 4 (Flag Series 401-434 / Tidal Wetland) is located to the east of Main Street, just south of the existing residential driveway off Route 113. This emergent tidal wetland is hydraulically connected to wetlands 5, 6, and 7 and covers approximately 1.25 acres. The dominant feature of this wetland is the open water tidal ditch that bisects the wetland and forms the connection to the other tidal wetlands. The vegetation is comprised of smooth cordgrass (*Spartina alterniflora*) close to the ditch and saltmeadow cordgrass (*Spartina patens*) and common reed inland from the ditch.

The delineated portion of **Wetland 5** (Flag Series 501-532 / Tidal Wetland) is located just south of the existing residential driveway off Main Street, east of wetland 4. This emergent tidal wetland is hydraulically connected to wetland 4. The dominant feature of this wetland is the open embayment area that opens into Long Island Sound, identified on USGS maps as “Marine Basin”. The delineated portion of this wetland is west and north of this embayment. The vegetation is comprised of smooth cordgrass close to the water and saltmeadow cordgrass and common reed inland from the water.

Wetland 6 (Flag Series 601-622 / Tidal Wetland) is located to the west of Main Street, between the eastern ends of Runways 11-29 and 9-24, within the Airport property perimeter fence. This emergent tidal wetland is hydraulically connected to wetland 4 and covers approximately 2 acres. The open water tidal ditch that flows under Main Street from wetland 4 is the dominant feature of the northeastern portion of this wetland. The vegetation is comprised of smooth cordgrass close to the ditch and saltmeadow

cordgrass and common reed inland from the ditch. Further inland from the ditch is an area that is maintained by the airport and is dominated by mowed salt tolerant grasses (*Graminae spp.*). At the time of delineation this area was flooded.

Wetland 7 (Flag Series 701-722 / Tidal Wetland) is located to the east of Main Street, just north of the existing residential driveway off Main Street. This emergent tidal wetland is hydraulically connected to wetland 4. The dominant feature of this wetland is the open water tidal ditch that forms the eastern border of the wetland. The eastern side of the ditch is vegetated by a very narrow band of tidal wetland vegetation before an upland mound of land parallels the entire length of the ditch. The vegetation of this wetland is comprised of smooth cordgrass close to the ditch and common reed inland from the ditch.

The delineated portion of **Wetland 8** (Flag Series 801-8805 / Tidal Wetland) is located just north of the existing residential driveway off Main Street, east of the open water tidal ditch adjacent to wetland 7. This large emergent wetland extends well beyond the project limit to the east and north and is hydraulically connected to wetlands 1, 9, and 10. Wetland vegetation is dominated by common reed, which forms a dense monoculture throughout most of the wetland.

The delineated portion of **Wetland 9** (Flag Series 901-910 / Inland Wetland) is located just north of the existing residential driveway off Main Street, east wetland 8. There is only a small upland ridge between the delineated portions of wetlands 8 and 9. This large emergent wetland extends well beyond the project limit to the east, west, and north and is hydraulically connected to wetlands 1, 8, and 10. Wetland vegetation is dominated by common reed, which forms a dense monoculture throughout most of the wetland.

The delineated portion of **Wetland 10** (Flag Series 1001-1004 / Inland Wetland) is located just north of the existing residential driveway off Main Street, east wetland 9. There is only a small upland ridge between the delineated portions of wetlands 9 and 10. This large, emergent wetland extends well beyond the project limit, to the west, and north, and is hydraulically connected to wetlands 1, 8, and 9. Wetland vegetation is dominated by common reed, which forms a dense monoculture throughout most of the wetland.

3.12.1.2 Wetland Field Investigation and Delineation for Runway 6-24 Rehabilitation

The wetlands below are depicted on **Exhibit 3.12-3** and in **Appendix D** in a report entitled *Wetland Field Investigation and Delineation for Runway 6-24 Rehabilitation*.

Wetland 1 (Flag Series 101 to 106 / Inland Wetland) is located in the infield area on the northwest side of Runway 6-24, just northeast of the northernmost taxiway, near the Runway 24 end. This small, emergent wetland is hydraulically connected to wetlands 2, 4, and 8 by a series of culverts under the taxiways. Although there is a hydraulic connection to tidal wetlands 4 and 8, the tidal influence does not extend inland past Wetland 4. At the time of delineation there was some standing water in this wetland. This wetland covers approximately 250 square feet. Wetland vegetation is dominated by yellow nutsedge

(*Cyperus esculentus*), green bulrush (*Scirpus atrovirens*), and mowed goldenrod (*Solidago spp.*). Other species include black willow (*Salix nigra*), and redosier dogwood (*Cornus sericea*). The principal function of this wetland is groundwater recharge.

Wetland 2 (Flag Series 201 to 225 / Inland Wetland) is located in the infield area on the northwest side of Runway 6-24, between the northernmost taxiway and the middle taxiway. This long, linear swale is bordered on both sides by an emergent wetland that is hydraulically connected to wetlands 1, 4, and 8 by a series of culverts under the taxiways. Although there is a hydraulic connection to tidal wetlands 4 and 8, the tidal influence does not extend inland past Wetland 4. At the time of delineation there was some standing water in this wetland. This wetland covers approximately 0.2 acres. Wetland vegetation is dominated by yellow nutsedge, green bulrush, saltmarsh bulrush (*Scirpus robustus*) and mowed black willow. Other species include redosier dogwood, and common reed (*Phragmites australis*). The principal function of this wetland is groundwater recharge.

Wetland 3 (Flag Series 301 to 318 / Inland Wetland) is located in the infield area on the northwest side of Runway 6-24. This long, linear swale is an emergent wetland that is aligned perpendicularly to the middle of Wetland 2, but is not hydraulically connected to it. This wetland covers approximately 0.1 acres. Wetland vegetation is dominated by yellow nutsedge, green bulrush, redtop (*Agrostis gigantea*), sedge (*Carex spp.*), and aster (*Symphyotrichum spp.*). The principal function of this wetland is groundwater recharge.

Wetland 4 (Flag Series 401 to 457 / Tidal Wetland) is located in the infield area on the northwest side of Runway 6-24, between the middle taxiway and the southernmost taxiway. This long, linear swale is flanked by an emergent wetland which broadens in width near the middle and narrows on the ends. This wetland is hydraulically connected to wetlands 1, 2, and 8 by a series of culverts under the taxiways. Although there is a hydraulic connection to inland wetlands 1 and 2, the tidal influence does not extend inland past Wetland 4. At the time of delineation there was some standing water in this wetland. There were also small fish (species undefined) observed in the water. This wetland covers approximately 0.75 acres. Wetland vegetation is dominated by smooth cordgrass (*Spartina alterniflora*), saltmeadow cordgrass (*Spartina patens*), yellow nutsedge, common reed, and green bulrush. Other species include saltmarsh bulrush, black grass (*Juncus gerardi*), redtop, and aster.

Wetland 5 (Flag Series 501 to 511 / Inland Wetland) is located on the northwest side of Runway 6-24, just southwest of the southernmost taxiway, near the Runway 6 end (see Figure 3). This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to Wetland 6. There is also a storm drain just north of this wetland. This wetland covers approximately 0.1 acres. Wetland vegetation is dominated by green bulrush, redtop, sedge, and rush (*Juncus spp.*). Other species include black grass and aster. The principal function of this wetland is groundwater recharge.

Wetland 6 (Flag Series 601 to 644 / Inland Wetland) is located on the northwest side of Runway 6-24, southwest of the southern taxiway, near the Runway 6 end. This emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 5 and 7. This wetland covers

approximately 0.35 acres. Wetland vegetation is dominated by redtop, sedge, rush, black grass, and aster. The principal function of this wetland is groundwater recharge.

Wetland 7 (Flag Series 701 to 725 / Inland Wetland) is located on the northwest side of Runway 6-24, southwest of the southern taxiway, near the Runway 6 end. This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 6 and 8. This wetland covers approximately 0.1 acres. Wetland vegetation is dominated by redtop, sedge, rush, black grass, and aster. The principal function of this wetland is groundwater recharge.

Wetland 8 (Flag Series 801 to 888 / Tidal Wetland) is located along the periphery of the airfield, along the southwestern end of Runway 6, on the west and east sides of the runway. This vast wetland extends well beyond the delineated boundary and is hydraulically connected to wetlands 1, 2, and 4 by a series of culverts under the taxiways. Although there is a hydraulic connection to inland wetlands 1 and 2, via tidal Wetland 4, the tidal influence does not extend inland past Wetland 4. This wetland is also connected to Wetland 16, which is part of an open water ditch on the eastern side of the airport. Wetland 8 also empties into the open waters of Long Island Sound, by way of a culvert under Lordship Boulevard. The delineated portion of this wetland, within the study area, covers more than 2 acres. The overall wetland covers more than 100 acres and is known locally as Lordship Marsh. Wetland vegetation is dominated by black grass, common reed, smooth cordgrass, and saltmeadow cordgrass. Other species include seaside goldenrod (*Solidago sempervirens*) and marsh elder (*Iva frutescens*).

Wetland 9 (Flag Series 901 to 916 / Inland Wetland) is located on the northwest side of Runway 6-24, southwest of the southern taxiway, near the Runway 6 end. This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to Wetland 8. This wetland covers approximately 0.1 acres. Wetland vegetation is dominated by redtop, sedge, rush, black grass, and aster. The principal function of this wetland is groundwater recharge.

Wetland 10 (Flag Series 1001 to 1025 / Inland Wetland) is located on the southeast side of Runway 6-24. This emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 8 and 11. This wetland covers approximately 0.25 acres. Wetland vegetation is dominated by redtop, sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

Wetland 11 (Flag Series 1101 to 1109 / Inland Wetland) is located on the southeast side of Runway 6-24 (see Figure 3). This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 10 and 12. This wetland covers approximately 850 square feet. Wetland vegetation is dominated by redtop, sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

Wetland 12 (Flag Series 1201 to 1216 / Tidal Wetland) is located on the southeast side of Runway 6-24. This emergent wetland is hydraulically connected to wetlands 13, 15, and 16 beyond the study area boundary. The delineated portion of this wetland, within the study area, covers approximately 0.1 acres. Wetland vegetation is dominated by redtop, sedge, rush, and aster.

Wetland 13 (Flag Series 1301 to 1215 / Tidal Wetland) is located on the southeast side of Runway 6-24. This emergent wetland is hydraulically connected to wetlands 12, 15, and 16 beyond the study area boundary. The delineated portion of this wetland, within the study area, covers approximately 0.1 acres. Wetland vegetation is dominated by redtop, sedge, rush, and aster.

Wetland 14 (Flag Series 1401 to 1425 / Inland Wetland) is located on the southeast side of Runway 6-24. This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 13 and 15. This wetland covers approximately 0.1 acres. Wetland vegetation is dominated by sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

Wetland 15 (Flag Series 1501 to 1520 / Tidal Wetland) is located on the southeast side of Runway 6-24 (see Figure 3). This emergent wetland is hydraulically connected to wetlands 12, 13, and 16 beyond the study area boundary. At the time of delineation there was an area of shallow, standing water. The delineated portion of this wetland, within the study area, covers approximately 0.15 acres. Wetland vegetation is dominated by redtop, sedge, and rush. Other species include common reed, black grass, and aster.

Wetland 16 (Flag Series 1601 to 1661 / Tidal Wetland) is located along the periphery of the airfield, on the southeastern side of Runway 6-24 (see Figure 3). This long, linear, open water swale and emergent wetland is hydraulically connected to the open water portions of Wetland 8 beyond the study area boundary. Wetland 16 and Wetland 17 appear to be connected by a culvert that passes under the abandoned runway on the eastern side of Runway 6-24. Wetlands 12, 13, and 15 are also connected to this wetland beyond the study area limits. At the time of delineation there was water in the ditch adjacent to this wetland. Within the study area, the delineated portion of this wetland covers more than 2 acres. Wetland vegetation is dominated by common reed, smooth cordgrass, and saltmeadow cordgrass. Other species include black grass, seaside goldenrod, and redtop.

Wetland 17 (Flag Series 1701 to 1760 / Tidal Wetland) is located southeast of Runway 6-24 near its intersection with Runway 11-29 along the periphery of the airfield, on the eastern side of the Runway 24 end. This emergent wetland and open water swale appears to be connected wetland 16 by a culvert that passes under the abandoned runway on the eastern side of Runway 6-24. At the time of delineation there was water in the ditch. The delineated portion of this wetland, within the study area, covers approximately 1.0 acres. Wetland vegetation along the edge of the open water ditch is dominated by black grass, common reed and saltmarsh bulrush. Wetland vegetation in the emergent portion of the wetland closer to the runway is dominated by seaside goldenrod, redtop, sedge, rush, and saltmarsh bulrush.

Wetland 18 (Flag Series 1801 to 1811 / Inland Wetland) is located due south of the point where Runway 6-24 and Runway 11-29 intersect in the infield area on the east side of the Runway 24 end. This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to Wetland 17.

This wetland covers approximately 0.05 acres. Wetland vegetation is dominated by redtop, sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

3.12.2 HIGH TIDE LINE

The CT DEP Office of Long Island Sound Programs (OLISP) regulates all activities conducted in the tidal wetlands in Connecticut. The OLISP permit authority includes everything waterward of the high tide line (HTL). The HTL indicates the maximum height reached during the year by a rising tide. The HTL includes spring high tides and other high tides that occur with periodic frequency (including 1 year frequency storms) but does not include significant storm surges such as may accompany a hurricane.

An evaluation and observation of the peak seasonal high tide was conducted on October 8, 2010. This was the date of the highest tide predicted by NOAA for the year 2010 at Sniffens Point. The observed high tide was surveyed to be at Elevation 5.75 based on the NGVD 1929 datum. **Exhibit 4.5-1** shows the HTL in the vicinity of Route 113. Also, a Technical Memorandum regarding the HTL can be found in **Appendix D**.

3.13 FISH, WILDLIFE, AND PLANTS

As detailed in the Final EIS, within the vicinity of the Airport are several major habitat complexes. This written reevaluation will summarize the complexes that are located within the current project area: Great Meadows Marsh, Lewis Gut, and the Housatonic River.

The Great Meadows Marsh is the large tidal marsh system to the west and southwest of the Airport. Within the overall area known as the Great Meadows Marsh lies the Lewis Gut estuarine embayment. Lewis Gut consists of a large east-west channel leading from the eastern side of Bridgeport Harbor to an open embayment southwest of Lordship Boulevard. Lewis Gut and its networks of creeks are the pathways by which the Great Meadows Marsh system received tidal flushing.

The Housatonic River ecosystem includes bottom habitats and overlying waters of the river's lower mainstem and Marine Basin and the Nells Island/Charles E. Wheeler Game Preserve tidal wetland complex. Tidal wetlands in the study portion of the Housatonic River mainstem consist of areas associated with the Marine Basin. Historically, the area in which the Marine Basin lies consisted of a tidal wetland and creek system that was connected to Great Meadow Marsh and Lewis Gut to the southwest. Artificial fill placed to create the Airport, Lordship, and the industrial complex to the north, have eliminated that connection. Many other factors shaped the present configuration of the Marine Basin and its tributaries including, but not limited to, dredging in the 1920's, disposal of dredge sediments on land to the north, and creation of a landfill between Marine Basin and Dorne Drive.

The shorelines of the Marine Basin and its tributaries consist of debris and rubble fill slopes which limit the extent of the tidal wetland vegetation in most areas. The remainder of the Marine Basin consists

primarily of open water surrounded by marrow cordgrass fringe which gives way to dense monocultures of common reed along the upper borders.

3.13.1 RARE, THREATENED, AND ENDANGERED SPECIES

Under Section 7(c) of the Endangered Species Act of 1973 (16 USC 1531 *et seq.*) and FAA Order 1050.1E, Federal agencies are required to consult with all Federal and state agencies regarding Federally- and State-listed threatened and/or endangered species in the proposed project area.

Previous coordination with the US Fish and Wildlife Service (FWS) in support of the Final EIS identified that the Atlantic coast piping plover (*Charadrius melodus*), a federally threatened species, was present in the vicinity of the Airport. A Biological Assessment was conducted during the previous EIS process to evaluate the potential effects of the (then) proposed projects on the piping plover. The FWS concurred with a preliminary determination of "not likely to adversely affect" the piping plover conditioned on the inclusion of minimization measures in the implementation of the project. These minimization measures included time-of-year restrictions for installation of the MALSF, construction of runway modifications, and the change in approach elevations.

In addition, in support of the previous EIS, the FWS noted that two other federally-listed species that were potentially occurring within the area included the bald eagle (*Haliaeetus leucocephalus*) and the peregrine falcon (*Falco peregrinus*). These species were noted as transient.

Previous coordination with the CTDEP in support of the Final EIS identified the presence of several state-listed species within the vicinity of the Airport. Two species in particular that were noted to be located within the direct study areas of the alternatives included in the previous EIS were panic grass (*Panicum amarum*) and coast violet (*Viola brittoniana*). Surveys, which were conducted in 1996, concluded that the only plant species that was present in the proposed project area was coast violet.

Recent coordination with the FWS in support of this Written Reevaluation indicated that piping plovers consistently nest in the vicinity of the project area (see **Appendix B**). However, since the revised alternative included in this Written Reevaluation would not include a MALSF, the piping plovers would not be impacted by the increased light levels. In order to avoid adversely affecting breeding piping plovers, the FWS recommended that the approach elevation over Milford Point remain at 200 feet above mean sea level or greater. In addition, the FWS reiterated the implementation of minimization measures: runway modifications and change in approach elevations must be in place prior to March 15. At that time, piping plovers return to nearby beaches to breed. No other federally-listed or proposed threatened or endangered species under the jurisdiction of the FWS are known to occur in the vicinity of the project area.

A recent search of the CTDEP Natural Diversity Data Base identified numerous records of populations of species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or special concern within the vicinity of the Airport (see **Appendix B**).

According to recent coordination with the National Marine Fisheries Service (NMFS), Essential Fish Habitat (EFH) has been designated for 17 federally managed species within and adjacent to the Airport (see **Appendix B**). Coordination with the NMFS has indicated that particular attention should be focused on the winter flounder (*Pseudopleuronectes americanus*) habitat. Adult winter flounder utilize shallow near shore areas such as the marine basin for spawning and feeding, while eggs, larvae, and juveniles use the area for early stage life development.

3.14 HAZARDOUS WASTE, POLLUTION PREVENTION, AND SOLID WASTE

Information presented in this section pertains to the generation, disturbance or disposal of environmental contaminants and hazardous materials at the study area. This assessment was focused on the portion of the study area slated for potential acquisition for the re-alignment of a 2,200-foot long portion of Main Street. The assessment presented in this section adheres to the following regulations and recommendations set forth in the following guidance: FAA Order 1050.1E, FAA Order 5050.4B, and the FAA Environmental Desk Reference for Airport Actions.

3.14.1 FEDERAL AND STATE REGULATIONS

3.14.1.1 Hazardous Materials

Federal legislation, enforced by the EPA and summarized in **Table 3.14-1**, regulates the release, handling and remediation of hazardous materials. Several Connecticut State statutes and regulation are also potentially applicable to the study area. These statutes and regulations are listed in **Table 3.14-1.** These regulations pertain to requirements for the investigation and remediation of contaminated parcels.

Note: In accordance with CGS 22a-134(1)(M) and upon review by the City of Bridgeport, the transfer of the FAA land to the City of Bridgeport would be exempt from the Connecticut Property Transfer Law [a/k/a the Property Transfer Act (PTA)] for several reasons: there is no indication that the portion of land has been used for anything other than a parking lot; no hazardous waste has been generated since November 18, 1980; there is no indication that there has been any discharge of hazardous waste on the portion of land; and the contaminants detected are generally associated with asphalt.

TABLE 3.14-1
REGULATIONS PERTAINING TO HAZARDOUS MATERIALS MANAGEMENT - FAIRFIELD COUNTY

Regulation	Description
Federal	
Clean Air Act (CAA) Title I	Addresses the release of hazardous or toxic contaminants into the atmosphere
Clean Water Act (CWA)	Regulates levels of hazardous materials and other contaminants in the drinking water and groundwater
Emergency Planning and Community Right to Know Act (EPCRA)	Informs the public and emergency officials about the presence and dangers of hazardous materials in their surrounding areas
Comprehensive Environmental Response Compensation and Liability Act (CERCLA, or "Superfund")	Allocates government funds and resources to ensure timely remediation of accidental or unintentional release of hazardous material and environmental contaminants
Federal Insecticide Fungicide and Rodenticide Act (FIFRA)	Guides management and regulation of toxics associated with pest and weed control
Hazardous Materials Transportation Act (HMTA)	Manages safe transport of hazardous waste
Pollution Prevention Act of 1990	Requires that pollution shall be prevented or reduced at the source wherever feasible
Resource Conservation and Recovery Act (RCRA)	Sets important standards and practices regarding the generation and management of hazardous materials from "cradle to grave"
Safe Drinking Water Act (SDWA)	Regulates levels of hazardous materials and other contaminants in the drinking water
Toxic Substances Control Act (TSCA)	Guides the process of introducing new toxic contaminants into the environment
State	
§22a – 6u	Reporting of Certain Significant Environmental Hazards Required
§22a -134 – 22a-134e	Connecticut Property Transfer Law
§22a -133k-1 – 22a-133k-3	Remediation Standard Regulations
§22a -133q-1	Environmental Land Use Restrictions
§22a -114 – 22a-134z	Hazardous Waste Regulations

Based upon the review by City of Bridgeport outside legal counsel, the presence of Polychlorinated Biphenyls (PCBs) in site soils does not meet the definition of PCB Remediation Waste found in 40 CFR 761.3 as long as the fill material was deposited prior to April 18, 1978 and PCB concentrations are less than 50 parts per million.

Project site is not subject to the remedial requirements of the PTA or the Toxic Substances Control Act (TSCA). However, due to the presence of contaminated soils the construction documents will contain specifications describing methods of handling controlled materials, including best management practices, storage on site and removal and disposal of materials to a designated waste remediation site/area.

3.14.1.2 Solid Waste

The main Federal regulations by which solid waste is controlled are the Resource Conservation and Recovery Act (RCRA) - Hazardous and Solid Waste Amendments of 1984 (HSWA) and the Solid Waste Disposal Act (SWDA) of 1965. As defined under the SWDA, solid waste includes any garbage, refuse or sludge from a waste treatment plant, water supply treatment plant or air pollution control facility, including that generated from industrial, commercial, agricultural and other land uses. Additionally, the State of Connecticut has several Solid Waste Regulations that govern the disposal, excavation, handling and disruption of solid waste. These regulations define solid waste as unwanted or discarded solid, liquid, semisolid or contained gaseous material, including but not limited to, demolition debris, material burned or otherwise processed at a resource recovery facility or incinerator, material processed at a recycling facility and sludges or other residue from a water pollution abatement facility, water supply treatment plant or air pollution control facility. Connecticut regulations also govern the disruption of solid waste disposal areas. A solid waste disposal area is defined in the Connecticut regulations as any location, including a landfill or other land disposal site, used for the disposal of more than ten cubic yards of solid waste. Approval from the CTDEP is required to disrupt such a solid waste disposal area. Regulations pertaining to solid waste management are summarized in **Table 3.14-2.**

TABLE 3.14-2
REGULATIONS PERTAINING TO SOLID WASTE MANAGEMENT - FAIRFIELD COUNTY

Regulation	Description
Federal	
Resource Conservation and Recovery Act (RCRA)	Sets important standards and practices regarding the generation and management of hazardous materials from “cradle to grave”
Solid Waste Disposal Act (SWDA)	Includes any garbage, refuse or sludge from a waste treatment plant, water supply treatment plant or air pollution control facility, including that generated from industrial, commercial, agricultural and other land uses
State	
§22a-209-1 – 22a-209-16	Connecticut Solid Waste Management Regulations
§22a-207 – 22a-207b	Connecticut Solid Waste Regulations

3.14.2 METHODOLOGY

The impact assessment performed for this Written Reevaluation involved: 1) addressing the potential for existing or future environmental contamination or hazardous materials in the study area and 2) identifying the types and amounts of these contaminants that may occur as a result of the construction and operation of the proposed projects.

The information utilized to address the requirements of the written reevaluation were derived from two Preliminary Site Assessments prepared by URS Corporation which covered the study area and data

derived from the completion of a Subsurface Investigation. The two Preliminary Site Assessment reports were titled, *Task 120 – Preliminary Site Assessment Site 1-City of Bridgeport Property Map 50.04, Block 3, Lots 1 and 2* (dated August 13, 2009) and *Task 120 – Preliminary Site Assessment Site 2 – Stratford Army Engine Plant Property, Map 50.05, Block 4, Lot 2* (dated August 13, 2009).

These Preliminary Site Assessment reports followed the CT DOT general guidance for completion of a Task 120 Preliminary Site Evaluation as presented in the CT DOT Division of Environmental Compliance On-Call Contaminated Soil/Groundwater Scopes document, dated 2003. In March 2010, a Subsurface Investigation was conducted in accordance with CT DOT Task 220 to evaluate soil and groundwater conditions in response to the environmental concerns identified by the Preliminary Site Assessments. These reports can be found in **Appendix E**. The study area is illustrated in **Exhibit 3.14-1**.

3.14.3 PRELIMINARY SITE ASSESSMENT FINDINGS

The Preliminary Site Assessment for Site 1 identified the following environmental concerns for the portion of the study area located on the two parcels currently owned by the City of Bridgeport.

1. Raymark Waste. So called Raymark Waste has been identified in two portions of the Site. Based on the results of soil samples collected at the Site, the Raymark Waste contains concentrations of asbestos, total mass and synthetic Precipitation Leaching Procedure (SPLP) Metals, dioxins, pesticides, Polycyclic Aromatic Hydrocarbons (PAHs), PCBs and Volatile Organic Compounds (VOCs). The areas of the Site which contain the Raymark Waste are considered a portion of the Raymark Superfund site.

2. Contaminated Soil. Assessment activities of the Raymark Waste present at the Site identified the presence of contaminated soil at portions of the Site beyond the limits of the identified Raymark Waste. Soil beyond the limits of the Raymark Waste is contaminated with concentrations of asbestos, copper, lead, pesticides and PCBs.

3. Contaminated Groundwater: Groundwater in vicinity of the SAEP is impacted with minimal concentrations of chlorinated VOCs.

4. Former Truck Stop: A truck stop was formerly located in the southwestern portion of the Site along Main Street (CT Route 113). The former presence of a truck stop could indicate the former presence of gasoline and/or diesel fuel oil tanks associated with vehicle fueling operations and a fuel oil tank associated with the truck stop building. Furthermore, the former use of this portion of the Site by trucks could have resulted in incidental releases of gasoline and or diesel fuel in this location.

5. Former Building Structures: In addition to the truck stop, three other building structures previously existed on portions of the Site. One of these buildings was apparently a restaurant. The use of the other two former buildings is not known. There is the possibility that these former buildings could have had heating oil tanks, could have been used for industrial purposes and/or could have been painted with lead-based paint, all of which could have lead to impacts to soil and/or groundwater.

6. Earth Fill: One portion of the Site has been identified as an area where fill material, so called Airport Earth Fill, has been deposited. Portions of this area beyond the limits of the Raymark Waste are impacted with contaminants such as lead and asbestos.

7. Stratford Solid Waste Landfill: Although some distance from the project area portion of the Site, portions of the Stratford Solid Waste Landfill are located on the Site. Contaminants are known to commonly leach from landfills to soil and/or groundwater. While no specific reference to releases from the Stratford Solid Waste Landfill were identified by this assessment, there is a good possibility that releases have occurred from this landfill and that such releases could have impacted portions of the Site.

8. Solid Waste Disposal Area: The so called Raymark Waste identified in several portions of the Site and the Airport Earth Fill located near the project area may contain Solid Waste at a volume (greater than 10 cubic yards) that could subject the Site to the requirements of the Connecticut Solid Waste Regulations. Further assessment of the content of the identified Raymark Waste and airport earth fill may be required to refine this conclusion.

The Preliminary Site Assessment for Site 2 identified the following environmental concerns for the portion of the Study Area located on the SAEP.

1. Former Soil Stockpile. Petroleum contaminated soil was formerly stockpiled in the southeast portion of the South Parking Lot. This material was later used as fill material in an area east of the South Parking Lot as approved by the CTDEP. The former presence of the petroleum impacted soil and the filling may have resulted in impacts to soil and groundwater in this South Parking Lot.

2. Contaminated Groundwater. Groundwater in the vicinity of the project area portion of this Site has been monitored as part of the RCRA closure of several waste water sludge lagoons (a/ka/ RCRA landfills) located to the east of this area. The monitoring has identified concentrations of VOCs in groundwater in the vicinity of the proposed roadway area.

3. FOSFT. The Army has implemented a FOSFT for the entire SAEP site. The FOSFT includes land use restrictions such as no residential use and no use of groundwater. This deed restriction may convey with the property or may require the application of an Environmental Land Use Restriction.

Other potential environmental concerns exist within the Site parcel (21.53 acres) including former plating and manufacturing areas, the closed RCRA lagoons and the former wastewater treatment plant. However, as these areas are located some distance from the proposed roadway, the portion of the Site slated for potential acquisition, the potential for an environmental concern to the project area is minimal relative to disturbance of soil. Further study conducted during the subsurface investigation (Task 210) noted that only minimal concentrations of arsenic and barium within the project area. No other contaminants were detected in the ground water.

3.14.4 SUBSURFACE INVESTIGATION FINDINGS

A Subsurface Investigation consisting of the drilling of twenty (10) soil borings, collection and analysis of two (2) soil samples from each soil boring, installation of two (2) groundwater monitoring wells and collection and analysis of one (1) groundwater sample from each of the groundwater monitoring wells was conducted during April 2010. The soil borings, soil sample collection and groundwater monitoring well installation activities were completed on April 18 and April 19, 2010. The groundwater monitoring well sampling was conducted on April 26, 2010. The soil borings were advanced via the use of hollow stem auger drilling equipment and soil samples were collected via use of split spoon soil sample equipment. Groundwater samples were collected in general accordance with CT DEP low-flow groundwater sampling procedures. A copy of the Subsurface Investigation report can be found in **Appendix E**.

Subsurface materials at the Site consisted primarily of fine to medium sand and silt with lesser amounts of fine gravel and trace amounts of organic material and concrete. Difficult drilling conditions were encountered in the southern portion of the Site in the general area of soil borings B-8 through B-10. The majority of the material observed appeared to be fill material. At least one soil boring, B-9, encountered peat type material near the completion depth of the soil boring.

3.14.4.1 Soil Sample Results

Each of the twenty (20) soil samples were analyzed for asbestos via Polarized Light Microscopy, (PAHs) by EPA Method 8270 and RCRA 8 metals plus copper, nickel and zinc by EPA Methods 6010 and 7471. Selected soil samples were also analyzed for one or more of the following compounds: VOCs by EPA Method 8260, petroleum hydrocarbons by the Connecticut Extractable Total Petroleum Hydrocarbon (ETPH) Method, Semi-volatile Organic Compounds (SVOCs) by EPA method 8270, RCRA 8 metals, copper, nickel and zinc by EPA Method 6010 and 6020A following extraction by the SPLP process, RCRA 8 metals, copper, nickel and zinc by EPA Method 6010 and 6020A following extraction by the Toxicity Characteristic Leaching Procedure (TCLP) process, Chlorinated Pesticides by EPA Method 8081B, Chlorinated Herbicides by EPA Method 8151A, PCBs by EPA Method 8082, cyanide by EPA Method 9010/9012, Flashpoint by EPA Method 1010, Corrosivity by EPA Method 9045C and Reactivity by SW846 CH.7. One soil sample was also analyzed for Dioxins by EPA Method 8290.

Concentrations of asbestos, PCBs, Metals, VOCs, petroleum hydrocarbons, SVOCs and Dioxins were detected in various soil samples collected at the study area during the conductance of the Subsurface Investigation. Pesticides and herbicides were not detected in soil samples analyzed for these compounds.

Asbestos was detected via a presence/absence test as being in only three of the twenty soil samples. These three soil samples were subsequently analyzed for the percentage of asbestos present. Asbestos was not detected at concentrations greater than the laboratory reporting limit in these three samples. PCBs were detected in eight (8) of the twenty (20) soil samples and ranged in concentration from 0.48 milligrams per kilograms (mg/kg) to 8.3 mg/kg. The majority of the detected concentrations are greater than the CT DEP Remediation Standard Regulations (RSRs) Residential Direct Exposure Criteria (RDEC)

of 1 mg/kg. Various total metals were detected in each of the twenty (20) soil samples. The detected concentrations of barium, copper, chromium, lead, nickel and zinc indicate the presence of releases of these metals in some of the soil boring locations. Several petroleum related VOCs were detected in some of the soil samples at concentrations less than RSRs criteria. Petroleum hydrocarbons were detected in four (4) of seven (7) soil sample analyzed for ETPH. Two (2) of the detected concentrations (780 mg/kg and 3,900 mg/kg) exceeded the RSRs RDEC, the Industrial/Commercial Direct Exposure Criteria (ICDEC) and/or the GB Pollutant Mobility Criteria (GB PMC). SVOCs, mostly PAHs, were detected in five (5) of eight (8) soil samples analyzed for these compounds. Concentrations of several of the SVOCs compounds in several of the soil samples exceeded the RDEC, ICDEC and/or the GB PMC.

Selected soil samples were analyzed for RCRA eight metals plus copper, nickel and zinc following extraction by both the SPLP and TCLP processes. Concentrations of lead in the SPLP extract in three (3) of the five (5) soil samples were greater than the GB PMC. Concentration of lead in three (3) of the five (5) soil samples were greater than the Toxicity Characteristic Regulatory Levels indicating that the soil would be considered hazardous. Elevated concentrations of copper, nickel and zinc were also present in the TC LP extract of the same three soil samples. Several other disposal characterization compounds were also analyzed from selected soil samples to characterize the soil for potential off-site disposal. No issues were identified related to these disposal characterization soil samples.

3.14.4.2 Groundwater Sample Results

The groundwater samples collected from each of the two groundwater monitoring wells at the site were analyzed for VOCs, ETPH, PAHs, PCBs and RCRA eight metal plus copper, nickel and zinc. VOCs, ETPH, PAHs and PCBs were not detected at concentrations greater than the laboratory reporting limit in the groundwater samples collected from groundwater monitoring wells MW-100 and MW-101. Barium was detected at a concentration of 0.14 milligrams per liter (mg/L) in the groundwater sample collected from groundwater monitoring well MW-100. The RSRs do not have an established Surface Water Protection Criteria (SWPC) for barium. The presence of barium in groundwater may be related to the elevated concentrations of barium detected in site soils. This concentration likely represents background conditions. No other metals were detected at concentrations greater than the laboratory reporting limit in this groundwater sample. Arsenic was detected at a concentration of 0.0062 mg/L in the groundwater sample collected from groundwater monitoring well MW-101. This concentration is greater than the SWPC for arsenic of 0.004 mg/L but may, however, represent background conditions as no elevated concentrations of arsenic were detected in site soils No other metals were detected at concentrations greater than the laboratory reporting limit in this groundwater sample.

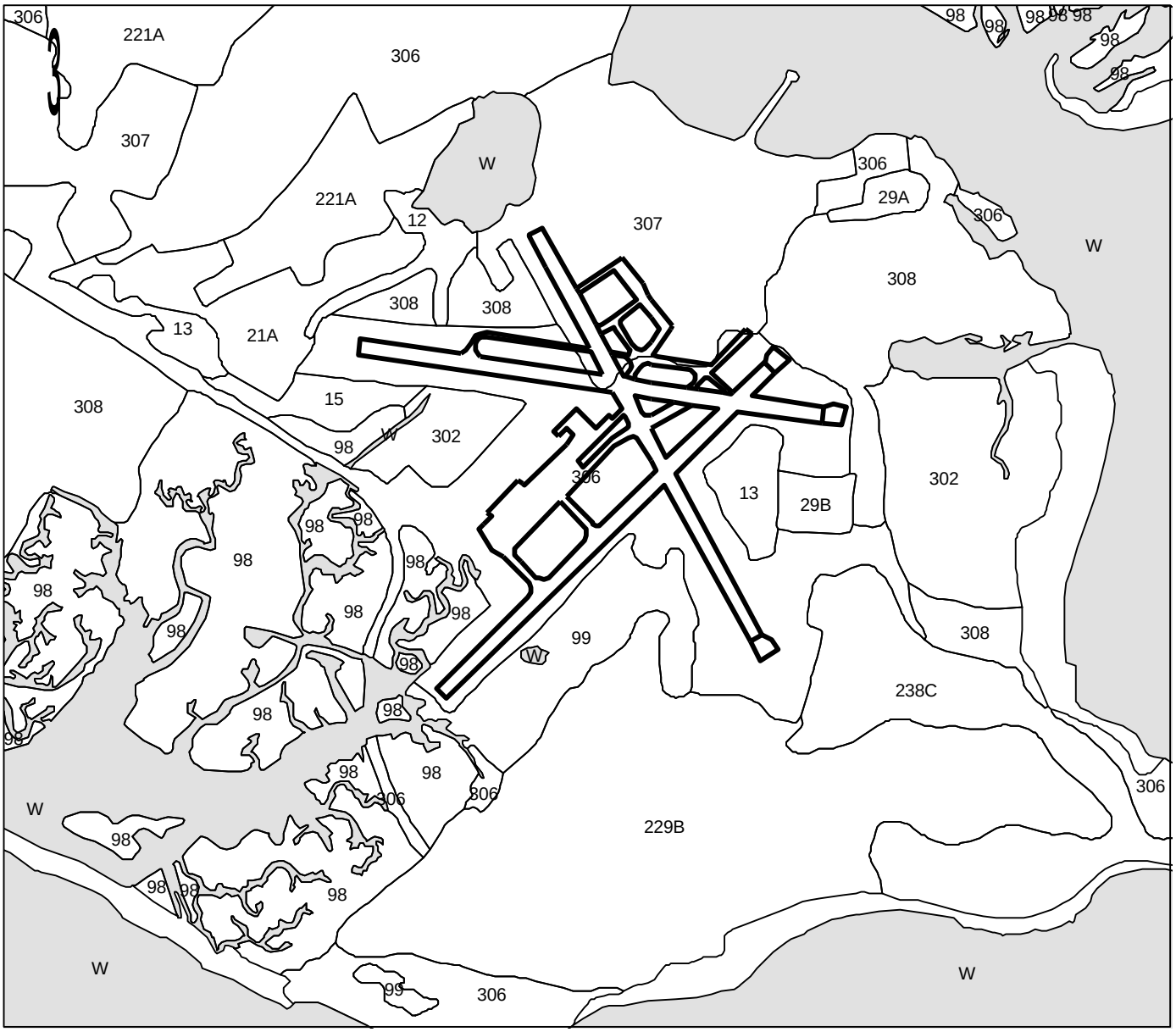
LEGEND

- CURRENT BOUNDARY OF STEWART B. McKINNEY NATIONAL WILDLIFE REFUGE (USDOT SECTION 4 (F) AND 6(f) RESOURCES) (GREAT MEADOW MARSH AND MILFORD POINT UNITS)
- AIRPORT PROPERTY LINE
- SHORT BEACH PARK

3000’ 0 3000’

Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

IGOR I. SIKORSKY MEMORIAL AIRPORT **STRATFORD, CONNECTICUT** **URS**	**SECTION 4(f) RESOURCES**	**EXHIBIT** **3.5-1**



Legend

12 - Raypol Silt Loam
13 - Walpole Sandy Loam
15 - Scarboro Muck
21A - Ninigret and Tisbury Soils, 0 to 5 Percent Slopes
29A - Agawam Fine Sandy Loam, 0 to 3 Percent Slopes
29B - Agawam Fine Sandy Loam, 3 to 8 Percent Slopes
98 - Westbrook Mucky Peat
99 - Westbrook Mucky Peat, Low Salt
221A - Ninigret-Urban Land Complex, 0 to 5 Percent Slopes
229B - Agawam-Urban Land Complex, 0 to 8 Percent Slopes
238C - Hinckley-Urban Land Complex, 3 to 15 Percent Slopes
302 - Dump Soils
306 - Udorthent - Urban Land Complex
307 - Urban Land
308 - Udorthent, Smoothed
W - Water

0 800 1,600 3,200 Feet

Source: Soil Survey Geographic (SSURGO) database for the State of Connecticut, U.S. Department of Agriculture, Natural Resources Conservation Service, March 22, 2007.

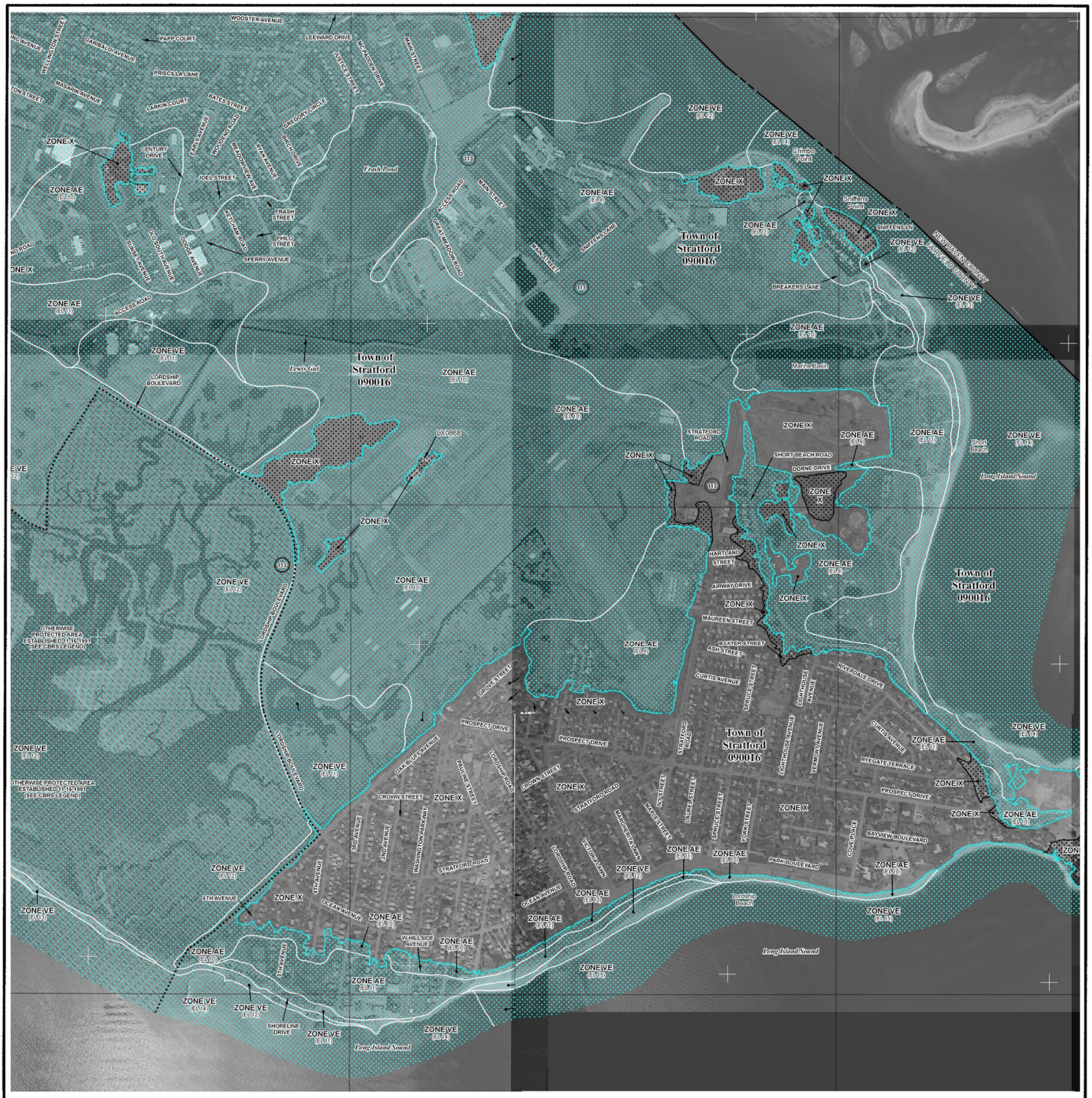
IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

SOILS

EXHIBIT

3.7-1



LEGEND

Source: FEMA Flood Insurance Rate Maps: 09001C0442F, 09001C0444F, 09001C0461F, and 09001C0463F all effective dated June 18, 2010.

	SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
ZONE AE	Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
ZONE X	Areas of 0.2% annual chance flood
ZONE X	Areas determined to be outside the 0.2% annual chance floodplain

250 0 500 1000 FEET

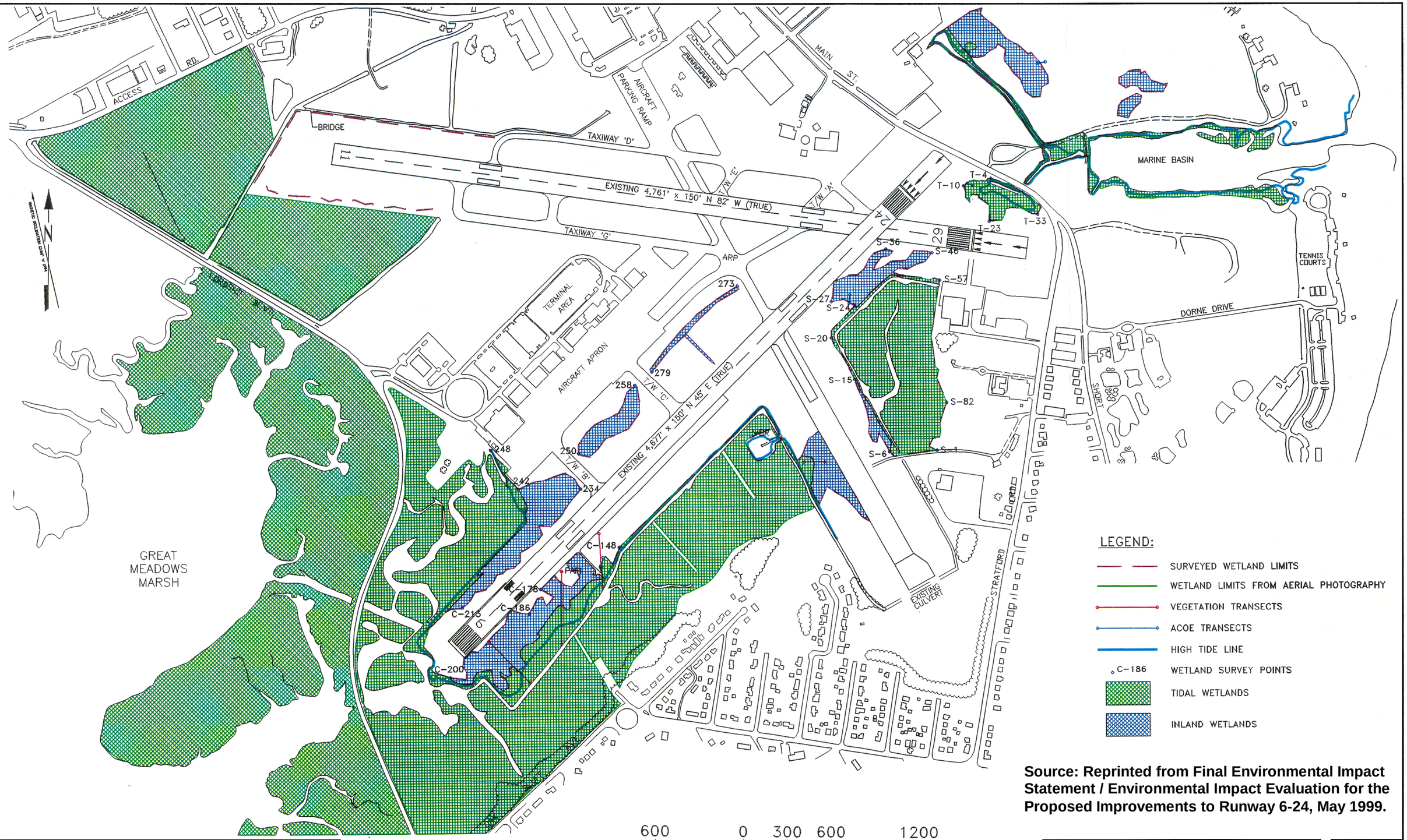
IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

FLOODPLAINS

EXHIBIT

3.11-1



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

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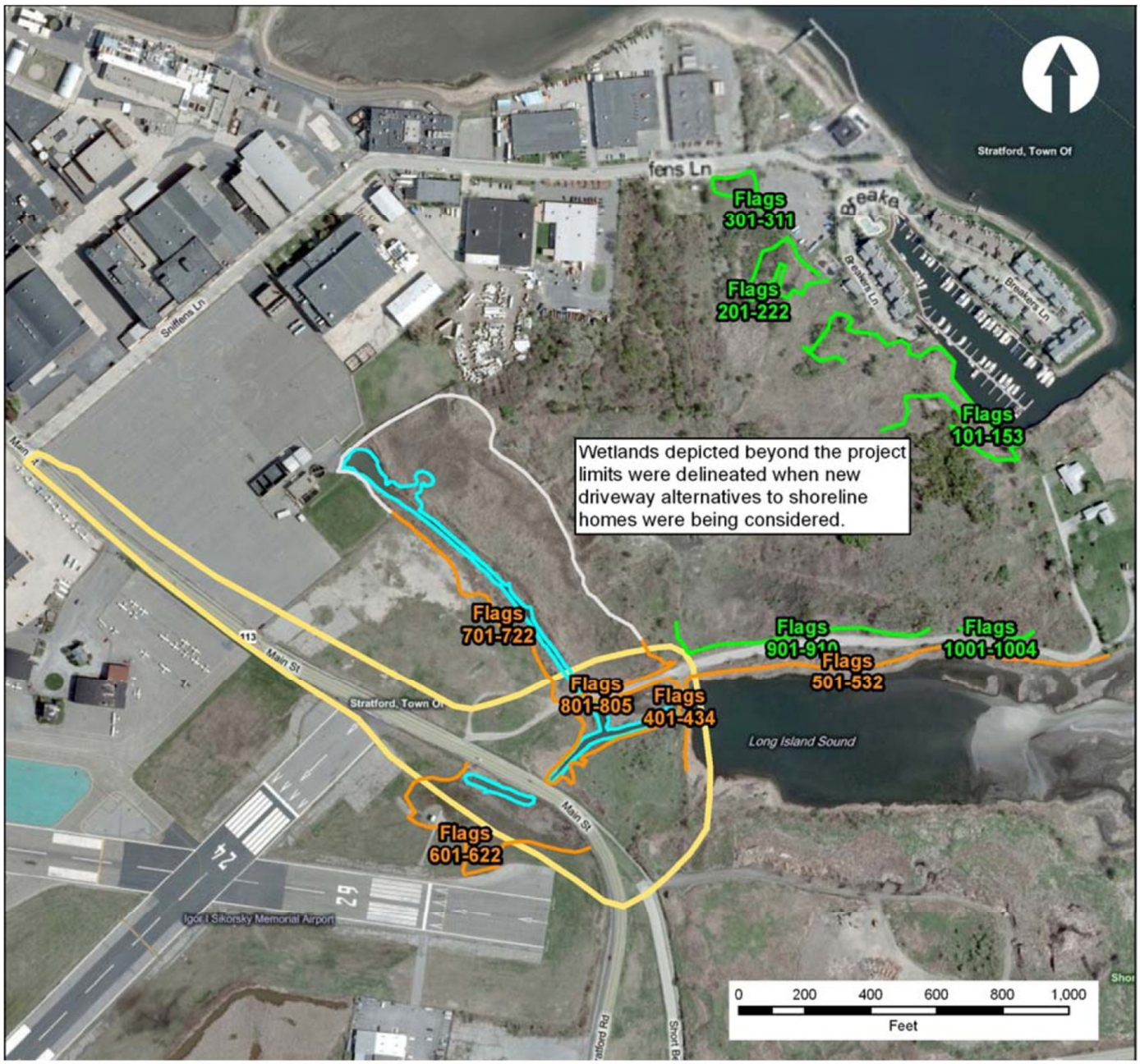
STRATFORD, CONNECTICUT
URS

WETLAND RESOURCES (FEIS 1999)

EXHIBIT 3.12-1



Delineated Wetlands

- Inland
- Tidal
- Approximated Tidal Boundary (06/07/10)
- Open Water
- Approximate Project Area

Source: Wetland Field Investigation and Delineation for Route 113 Relocation, State Project 15-336, Fitzgerald & Halliday, November 2010

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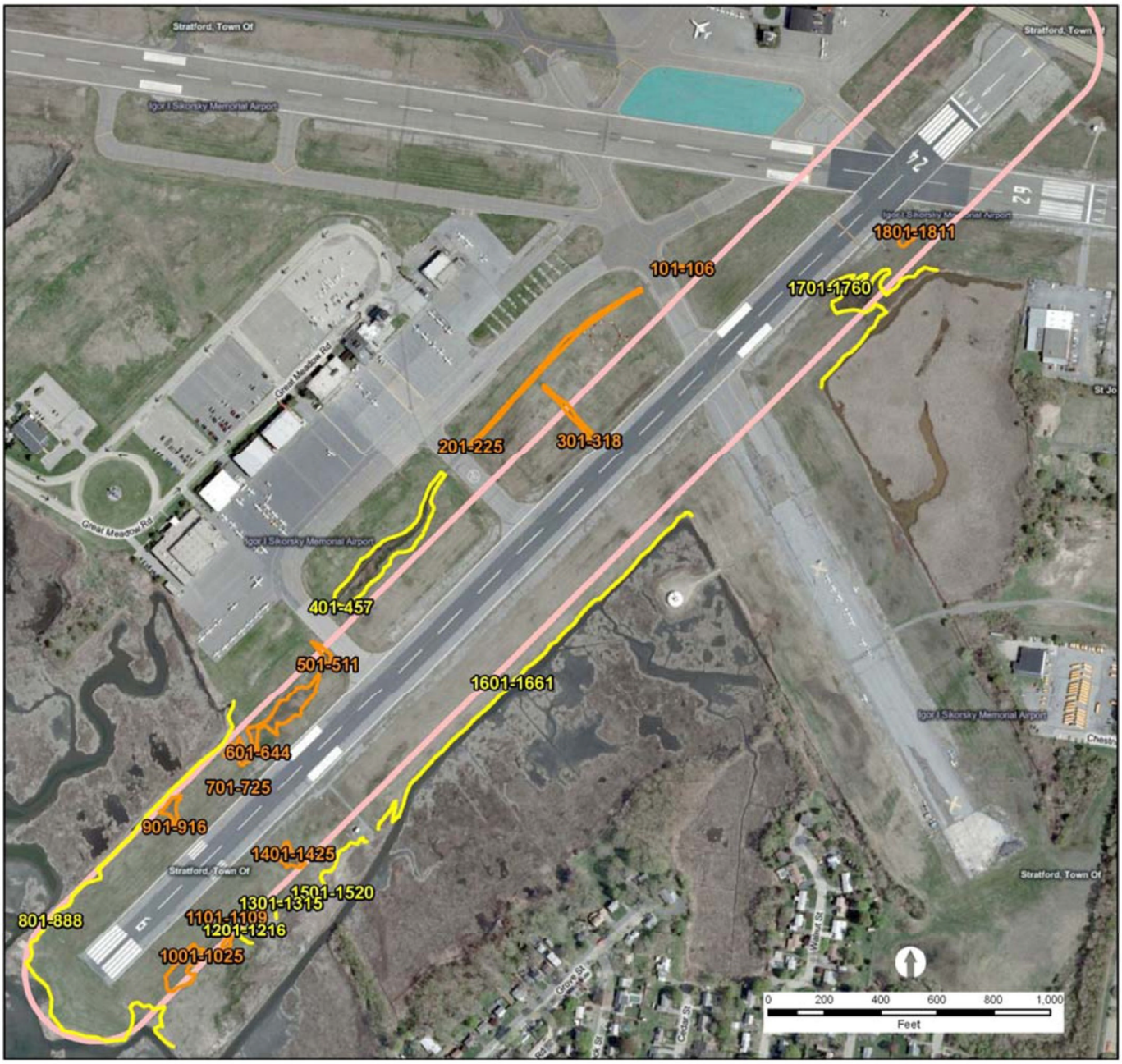
STRATFORD, CONNECTICUT

URS

WETLAND RESOURCES – ROUTE 113 DELINEATION

EXHIBIT

3.12-2



Wetland Sketches Nov

- Inland Wetland Boundaries
- Tidal Wetland Boundaries
- Study Area

Source: Wetland Field Investigation and Delineation for Runway 6-24, State Project 15-336, Fitzgerald & Halliday, November 2010

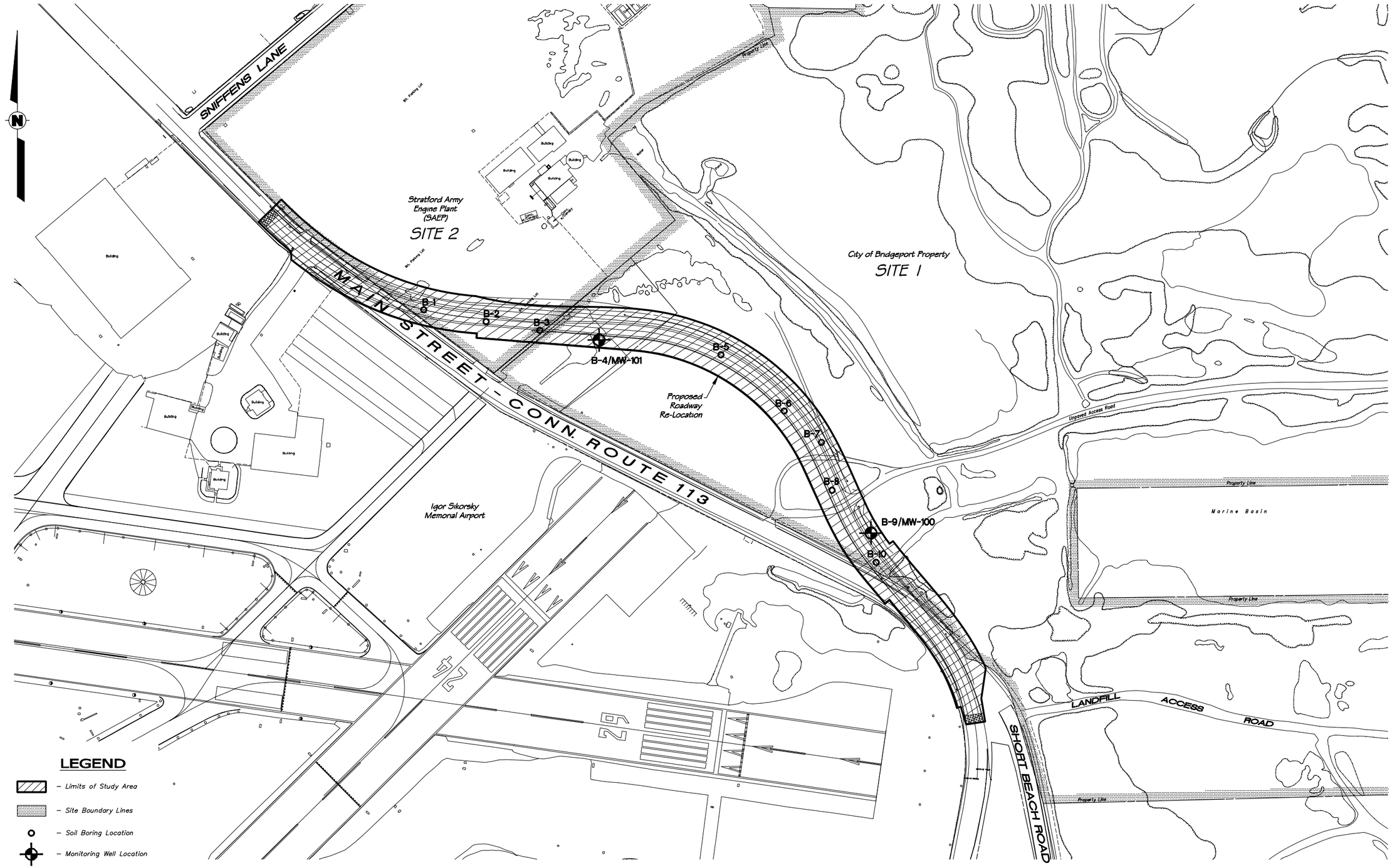
IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

WETLAND RESOURCES – RUNWAY 6-24 DELINEATION

EXHIBIT

3.12-3



IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

HAZARDOUS AREAS - STUDY AREA

EXHIBIT

3.14-1

File: J:\38397150 SIKORSKY EIS UPDATE 38397142\CADD\HAZ_WASTE\FIG 3.14.2-1_R1.DWG Saved: 5/12/2010 9:57:19 AM PLotted: 5/12/2010 10:14:19 AM User: Andy Zowilinski

SECTION 4
ENVIRONMENTAL CONSEQUENCES

4.0 INTRODUCTION

This section presents an assessment of the potential environmental impacts associated with Alternative 1G-Modified as well as the No Build Alternative. In addition, mitigation strategies are described to avoid and minimize the identified impacts, where appropriate. Alternative 1-G Modified involves the rehabilitation of pavement on Runway 6-24; construction of a RSA that is 500 feet in width (250 feet on either side of the runway centerline) by 100 feet in length beyond the Runway 6 threshold; and construction of a RSA that is 500 feet in width (250 feet on either side of the runway centerline) by 300 feet in length beyond the Runway 24 threshold with the installation of an EMAS system (100 feet in width by 300 feet in length).

In accordance with FAA Order 1050.1E, the following environmental resource categories were assessed:

- Noise
- Compatible Land Use
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks
- Secondary (Induced) Impacts
- Air Quality
- Department of Transportation Act: Section 4(f)
- Historic, Architectural, Archaeological, and Cultural Resources
- Farmlands
- Water Quality
- Coastal Resources
- Wild and Scenic Rivers
- Floodplains
- Wetlands
- Fish, Wildlife, and Plants
- Natural Resources and Energy Supply
- Light Emissions and Visual Impacts
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Construction Impacts

4.0.1 RESOURCES NOT AFFECTED

The following resource categories were determined not to be affected by the proposed projects at BDR:

- Noise
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks
- Secondary (Induced) Impacts
- Compatible Land Use
- Historic, Architectural, Archaeological, and Cultural Resources
- Department of Transportation Act: Section 4(f)
- Farmlands
- Fish, Wildlife, and Plants
- Wild and Scenic Rivers
- Light Emissions and Visual Impacts
- Natural Resources and Energy Supply

Therefore, no further impact analyses were conducted for these categories beyond the evaluations that follow in this subsection:

● **NOISE:** The proposed improvements would not result in an increase in the number of aircraft operations, a change in aircraft types, or a change in day/night operational splits, which are factors that could result in a change in noise exposure, no noise analysis was conducted.

● **SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S HEALTH AND SAFETY RISKS:** With implementation of the Build Alternative, 2,150 linear feet of Main Street would be relocated (see **Exhibit 2.2-1**). The relocation would occur on land already owned by the Airport except for 1.075 acres recently transferred to the FAA from the Army, which is expected to also be transferred to the City in the future. There would be no relocation of residences or businesses. Therefore, the proposed projects would not cause relocation of residences without sufficient available replacement housing; extensive relocation of community businesses creating a severe economic hardship for the community; disruption of local traffic patterns that would substantially reduce the Level of Service of roads serving the Airport and its surrounding communities; and a substantial loss in community tax base. Therefore, there would be no adverse socioeconomic impacts. In addition, the Census Block Group in which the Airport and proposed project area are located is not considered to be low-income areas, based on the 2000 census information. Thus, no impacts would result to minority and/or low income populations. Also, no health and safety risks to children would result with implementation of the proposed improvements.

● **SECONDARY IMPACTS:** The analysis of potential secondary (induced) impacts is intended to determine whether the proposed projects would cause shifts in patterns of population movements and growth, public service demands, and changes in business and economic activity to the extent influenced by airport development. The implementation of the proposed improvements would not cause shifts in patterns of population movements and growth, public service demands, and changes in business and economic activity to the extent influenced by Airport development. However, a temporary increase in economic activity in both the construction and building material supply sectors of the local economy is anticipated with the Build Alternative. These jobs generated by construction activities would be of a relatively short duration; however, the proposed projects could potentially stimulate secondary economic impacts through increased aviation related employment opportunities as the Airport continues to improve its facilities.

● **COMPATIBLE LAND USE:** The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise impacts and the potential for disruption of communities, relocation as a result of property acquisition, and induced socioeconomic impacts. As noted above, the proposed improvements would not result in a change in noise exposure and there would be no disruption of communities, relocation as a result of property acquisition, and induced socioeconomic impacts. Coordination with the Town of Stratford planning has indicated that no new development is located within the proposed project area (see **Appendix B**). It can be concluded that the proposed improvements would be compatible with existing and proposed land uses and would be consistent with local plans.

● **DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(f)**: Within the project area, there are no public parks and recreation areas, wildlife and waterfowl refuges and management areas of national, state, or local significance, as well as historic sites of state and local significance that are on or have been determined

to be eligible for listing the NRHP. A shared use path for bicycles and pedestrians is located along the east side of Route 113. This will be maintained during construction.

● **HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES**: There are no historic, architectural, archaeological, or cultural resources within the project area.

● **FARMLANDS:** While prime farmland soils are located within the proposed project area, this land is committed to urban development. Under the FPPA, lands that are committed to urban development are not subject to the provisions of the FPPA.

● **FISH, WILDLIFE, AND PLANTS:** As discussed in **Section 3.13**, the FWS indicated that piping plovers consistently nest in the vicinity of the project area (see **Appendix B**). However, since the revised alternative would not include a MALSF, the piping plovers would not be impacted by the increased light levels. The FWS recommended that the approach elevation over Milford Point remain at 200 feet above mean sea level or greater. In addition, the FWS reiterated the implementation of minimization measures: runway modifications and change in approach elevations must be in place prior to March 15. No other federally-listed or proposed threatened or endangered species under the jurisdiction of the FWS are known to occur in the vicinity of the project area.

According to the DEP Natural Diversity Data Base, numerous records of populations of species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or special concern are within the vicinity of the Airport (see **Appendix B**). However, the proposed improvements are not anticipated to impact any of these species. According to recent coordination, CT DEP will review the Final Written Reevaluation and provide additional comment, if necessary (see **Appendix B**).

In addition, coordination with the NMFS has indicated that particular attention should be focused on the winter flounder habitat. An Essential Fish Habitat (EFH) Assessment was submitted to the NMFS (see **Appendix B**). The EFH Assessment stated that the only impact to the marine basin would occur during the removal of the tide gate at the head of the tidal ditch. The removal of the culvert and tide gate is not associated with either the reconstruction of Runway 6-24 or the re-alignment of Main Street, but rather is being proposed in response to a CTDEP NOV stating that the unauthorized culvert and tide gate structures are in poor condition and have resulted in poor tidal exchange between the tidal lagoon and the upstream creeks. In order to minimize any impact on potential fisheries habitat, BMPs would be implemented during the culvert and tide gate removal, including siltation controls and mitigation including compatible plantings on disturbed areas. This work would occur during times outside normal fish spawning periods and all work would be coordinated with the NMFS. Thus, no fisheries impacts are anticipated.

● **WILD AND SCENIC RIVERS**: There are no listed or potentially-listed Federal or State, nor potentially eligible, Wild and Scenic Rivers in the vicinity of the Airport.

● **LIGHT EMISSIONS AND VISUAL IMPACTS:** Runway edge lights would be constructed under the Build Alternative. These lights would provide visual guidance to pilots by altering them to the location of the pavement edge so as to avoid maneuvering their aircraft off the hardened surface. These lights would only be illuminated during periods of reduced visibility. Runway edge lights are usually white in color, spaced 200 feet apart, and are mounted approximately two feet above the pavement. Adverse light emissions to the natural and social environments are not expected to occur. The light emissions that would be emitted do not significantly scatter light in levels sufficient to cause adverse visual impacts and are not expected to create an adverse additive effect when coupled with the existing light emissions a the Airport. The proposed Build Alternative would create both temporary visual disturbance during construction and long-term impacts to the existing viewscape of the area. Improvements associated with the proposed RSA/EMAS construction would visually impact persons traveling along Main Street. These visual impacts are considered minor in nature, as the changes are small and will be assimilated into the already urbanized viewshed with the passage of time.

● **NATURAL RESOURCES AND ENERGY SUPPLY**: The construction, operation, and maintenance of the proposed projects as well as the No Build Alternative would not exceed available or future (project year) natural resources or energy supply.

4.1 AIR QUALITY

This section includes a description of Airport air emissions sources; a description of the No Build Alternative and proposed project; an overview of the methodology used to estimate the project-related emissions; the results of the emissions inventory; and any required actions that would result as a consequence of General Conformity or Transportation Conformity regulations within the CAA. The full report can be found in **Appendix C**.

Historically, BDR has serviced a significant level of commercial service carriers for an airport its size, although currently most activity at the airport is classified as General Aviation (GA). Further, because the level of annual GA operations currently occurring at BDR is less than 180,000, no quantitative assessment of air quality is required by the NEPA per FAA Order 5050.4B.

4.1.1 AIRPORT EMISSIONS SOURCES

The principal emissions sources currently operating at BDR include aircraft, minimal auxiliary power units (APUs), a small fleet of ground support equipment (GSE), and fuel storage and transfer facilities. Construction of the RSAs at BDR will also involve temporary emissions from construction equipment, asphalt paving, and the generation of fugitive dust during land clearing and pavement demolition. **Appendix C** describes sources of air emissions typically occurring at BDR, including the source type, description of activity, and a listing of the pollutants emitted.

4.1.2 CONSTRUCTION EMISSIONS

The NEPA recommends disclosure of construction related emissions resulting from airport improvements during air quality impact evaluation. Moreover, the General Conformity Rule of the CAA mandates that all indirect emissions associated with an action occurring in a non-attainment area, including construction emissions, be compared against the appropriate de minimis thresholds in the General Conformity applicability test.

Construction emissions represent a temporary source of air emissions, occurring from the operation of fossil-fueled construction equipment, service vehicles, and worker vehicles accessing and leaving the site; pavement of newly constructed areas; and disturbance of unpaved land areas during the construction process. Activities anticipated to occur during the RSA construction include land clearing, earthworks and excavation, concrete and pavement installation, and finishing work.

To estimate air emissions of EPA criteria pollutants from construction equipment exhaust, activity data taken from the proposed RSA construction schedule, including equipment activity factors, expected hours of use or miles travelled, and brake-specific horsepower, were applied to emissions rates generated using EPA's approved emissions rate models NONROAD2008a (for off-road equipment) and MOBILE6.2 (for on-road motor vehicles). Emissions rates for calendar year 2012 were developed using area-specific input parameters consistent with those applied in recent SIP emissions inventories, including area meteorological data, fuel parameters, and equipment population distributions. Emissions model default parameters were applied wherever area specific data was unavailable. VOC emissions from asphalt paving and PM emissions from disturbance of unpaved areas were quantified using the estimated dimensions of the project area as reported in provided plans, and emissions rates taken from EPA guidance and other relevant publications.

4.1.3 IMPACT POTENTIAL

Table 4.1-1 presents the results of the BDR construction emissions inventory by pollutant and by project component, representing the estimated level of emissions expected to occur as a result of the proposed construction in calendar year 2012. For ease of evaluation of these emissions against the General Conformity regulations, the appropriate de minimis thresholds are also included for each applicable pollutant. As shown, the project is expected to generate 0.84 tons of VOC, 4.29 tons of CO, 5.95 tons of NO_x, 0.02 tons of SO_2, 19.53 tons of PM_{10} and 2.32 tons of $PM_{2.5}$.

TABLE 4.1-1
2012 CONSTRUCTION EMISSIONS INVENTORY

	2012 Construction Emissions (tons per year)					
	VOC	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Off-Road Equipment	0.43	2.49	5.89	0.02	0.42	0.41
On-Road Vehicles	0.07	1.80	0.06	<0.01	<0.01	<0.01
Asphalt Paving	0.34	--	--	--	--	--
Fugitive Dust	--	--	--	--	19.11	1.91
TOTAL	0.84	4.29	5.95	0.02	19.53	2.32
"Moderate" O_3 De minimis Level	50		100			
$PM_{2.5}$ De minimis Level			100	100		100

Source: KB Environmental Sciences, 2010.

As shown above, the total project-related emissions of CO are well below the applicable de minimis thresholds for CO maintenance areas. VOC and NO_x emissions are also well below the applicable de minimis thresholds for "moderate" O_3 non-attainment area, signifying that project emissions do not interfere with the air quality goals of the area's O_3 SIP, and that the project is therefore considered a de minims action.

In addition, because the CTDEP evaluates emissions of $PM_{2.5}$ precursors NO_x and SO_2 in addition to directly emitted $PM_{2.5}$ in their $PM_{2.5}$ Attainment Demonstration SIP, the project emissions are also compared against the applicable $PM_{2.5}$ de minimis thresholds for these pollutants. Again, as shown on **Table 4.1-1**, project-related emissions of NO_x, SO_2 and directly emitted $PM_{2.5}$ are well below the applicable de minimis thresholds. Accordingly, the project is considered a de minimis action and conforms to the area's $PM_{2.5}$ SIP.

Notably, in revisions to the General Conformity regulations finalized in April 2010, EPA removed the regional significance test from the applicability requirements of the General Conformity Rule. Hence, no regional significance analysis was conducted on the project-related construction emissions. However, it is not expected that these emissions would constitute greater than ten percent of the regional emissions budget in either applicable SIP, the criteria for regional significance under the previous regulations.

4.1.4 MITIGATION MEASURES

Although the improvements to BDR are considered de minimis actions with respect to the General Conformity Regulations and no emissions mitigation is required to demonstrate conformity with area air quality plans, the following mitigation measures can be implemented to reduce the overall air quality impacts expected to occur:

- Reduce equipment idling times,

- Use cleaner burning or low emissions fuels in equipment,
- Encourage employee carpooling,
- Limit construction activities when atmospheric conditions are conducive to O_3 formation (i.e. "high ozone days"),
- Limit construction activities during high wind events to prevent dust generation,
- Utilize warm-mix asphalt during paving operations,
- Water or apply dust suppressants to unpaved areas regularly,
- Cover materials stockpiles,
- Install pads to deter track-out as vehicles enter and leave the work site, and
- Reduce vehicle speeds on unpaved roads.

4.1.5 TRANSPORTATION CONFORMITY

Installation of the Runway 24 RSA requires the relocation of a portion of Main Street bordering the Airport property. Accordingly, because the action shall occur in a non-attainment area, the relocation could be subject to the CAA's Transportation Conformity Rule.

The Rule states that Transportation Conformity is not applicable to individual projects that are not FHWA or Federal Transit Authority (FTA) projects unless they are considered "regionally significant" for the purpose of regional emissions analysis. Coordination with the GBRPA is pending to determine whether the relocation of Main Street associated with the BDR improvements is considered "regionally significant".

4.2 WATER RESOURCES

4.2.1 IMPACT POTENTIAL - SURFACE WATER QUALITY

Based on the existing surface and ground water quality classifications within the project area, it is not anticipated that the project would have negative impacts to surface water quality. The removal of the tide gate structure and culvert at the head of the marine basin is being proposed by the City of Bridgeport as a separate project in response to a CTDEP NOV. The re-establishment of tidal flow as a result of the removal of the culvert and tide gate structure would likely improve water quality in the wetlands with restricted tidal action due to more regular flushing of those wetlands.

4.2.2 IMPACT POTENTIAL - GROUNDWATER QUALITY

Based on the existing surface and ground water quality classifications within the project area, it is not anticipated that the project will have negative impacts to groundwater quality.

4.2.3 IMPACT POTENTIAL - DRAINAGE AND STORMWATER

The proposed drainage system for this project would be a combination of vegetative swales, closed drainage systems, and overland sheet flow. This runoff ultimately would drain to the Marine Basin. There

are two proposed 12:1 – 2:1 rounded bottom swales on either side of the RSA. Both of these swales flow easterly into the roadside swale that runs along the west side of the roadway.

The realignment of State Route 113 project will incorporate primary (infiltration basins, water quality swales) and secondary stormwater treatment practices (dry detention ponds, grass drainage channels, catch basins).

The proposed roadway profile low point (Elev. 7.3) would be raised approximately 1.5 feet above the existing low point of the roadway profile (Elev. 5.8), which would help to reduce the frequency of roadway flooding in this area.

As a result of the proposed drainage improvements and inclusion of primary and secondary stormwater treatment practices consistent with the 2004 CT Stormwater Quality Manual, it is anticipated that the quality of stormwater would slightly improve. In addition, the separate projects to correct the two CTDEP Notice of Violations (NOVs); 1) culvert replacement under the driveway and 2) removal of the culvert and tide gate structure at the head of the tidal lagoon, would also improve stormwater drainage and flow in the project area.

4.2.4 PERMITTING AND MITIGATION MEASURES

Permits and mitigation measures related to water resources and wetlands are included in **Section 4.5**.

4.3 FLOODPLAINS

Executive Order 11988 directs Federal agencies to take action to reduce the risk of flood loss; minimize the impacts of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values served by floodplains. Agencies are required to make a finding that there is no practicable alternative before taking action that would encroach on a base floodplain based on a 100-year flood. Impacts to the 100-year floodplain can occur in two forms: directly through the changes to volumetric capacity of the floodplain or indirectly through an increase in the total volume of water arriving at and being conveyed by the floodplain.

4.3.1 IMPACT POTENTIAL

Since the majority of the proposed activities occur within floodplain areas, there would be both temporary and permanent impacts below the 100-year floodplain elevation. Impacts would include permanent placement of fill materials to raise the elevation of Main Street within the proposed realignment section and small areas of fill associated with light post foundations for the Runway 24 project. Temporary fill may also be required for the construction of Main Street to facilitate construction vehicle access and for maintenance and protection of traffic.

With implementation of the No Build Alternative, no development would occur; therefore, there would be no impact to floodplains.

4.3.2 PERMITTING AND MITIGATION MEASURES

Work associated with the proposed activities at the Airport would be almost entirely located within the 100-year floodplain limits on the site. Coordination with the appropriate regulatory agencies early on in the design and permitting process will be important to help to identify potential priority issues which may affect acquisition of environmental permits and approvals relating to work within the floodplain.

Since state funding is involved with these projects, a Flood Management Certification (FMC) from the CTDEP would be required for both projects. This program requires approval of a certification for all State actions in or affecting floodplains or natural or man-made storm drainage facilities. Approval is predicated on whether the proposed activity:

- is consistent with state standards and criteria for preventing flood hazards to human life, health or property and with the provisions of the National Flood Insurance Program (NFIP) and municipal floodplain regulations;
- does not adversely affect fish populations or fish passage; and,
- does not promote intensive use and development of flood prone areas.

It is not anticipated that there will be any negative impacts to human health or property, fish populations or passage, or promotion of development in flood prone areas. In fact, correction of the NOVs, as discussed in **Section 4.5**, would likely improve fish populations and passage Therefore, no mitigation is anticipated for floodplain impacts.

4.4 COASTAL RESOURCES

4.4.1 IMPACT POTENTIAL

Coastal Resources in the vicinity of the relocated portion of Main Street and proposed RSA include tidal wetlands as well as CFHA. Tidal wetlands in the project area were formally delineated, surveyed, and mapped in 2009 and 2010 for this project. As the project advances into the permitting stage, more detailed investigations will be conducted to gain a better understanding of the exact tidal wetland vegetation impacts and the need for and type of mitigation required.

Only CFHA A-zones are found within the project study area.

4.4.2 PERMITTING AND MITIGATION MEASURES

The proposed projects are subject to the provisions of the CCMA, sections 22a-90 through 22a-112 and any activities at or waterward of the high tide line and/or in tidal wetlands would require permits from the CT DEP - OLISP in accordance with CGS sections 22a-361 and 22a-32, respectively.

Consistency with the CCMA will be addressed for the project as part of the tidal wetlands permit application. Consistency is derived based on a detailed assessment of the project's impact on the coastal use policies associated with each of the coastal resources located within the project study area.

Once the wetland vegetation impacts are quantified in the permitting process, mitigation measures will be defined.

4.5 WETLANDS

4.5.1 IMPACT POTENTIAL – RUNWAY 6-24 REHABILITATION PROJECT

The rehabilitation of Runway 6-24 project would result in permanent and temporary impacts to inland wetlands resources (see **Exhibit 4.5-1**). Note that the Runway 24 RSA touches the tidal wetland boundary on **Exhibit 4.5-1**; however, the actual proposed construction grading might not extend to the limit of this tidal wetland area. The overall project impact area was estimated to be contained within a 25-foot offset from existing edge of the runway pavement.

4.5.2 IMPACT POTENTIAL – REALIGNMENT OF MAIN STREET (STATE PROJECT NO. 15-336)

The realignment of Main Street (State Project No. 15-336) would result in permanent and temporary tidal wetland impacts (see **Exhibit 4.5-1**). The replacement of a clogged driveway culvert and removing the berm (tide gate) associated two NOVs, are anticipated to be performed under separate Certificates of Permission applications being submitted to OLISP by the City of Bridgeport. The driveway culvert replacement is anticipated to be performed prior to the construction of State Project No. 15-336. The construction scheduled for the tide gate structure and berm removal will be coordinated with the construction of State Project 15-336 to address hydraulic flows in the tidal ditch and roadway cross culvert.

The major outlet of the Main Street drainage system is a channel (approximately 16 feet wide) located south of Runway 24 which outlets to the Marine Basin and Long Island Sound. This culvert is submerged, even under low tide conditions, and survey of the exact size and invert has not been obtained, however one record plan from a utility drawing shows a 15-inch diameter pipe.

The overall drainage system is influenced by a berm and non-functioning gated drainage structure at the north end of Marine Basin. The gate mechanism, inside a concrete structure, has deteriorated over the years and has been completely removed. Field observations suggest that it was a manually controlled

vertical gate, controlling flow through a culvert under the earth berm. Observed debris at the east end of the berm that indicates the Marine Basin overtops the berm, in that location, during higher than normal tide events. A segment of the berm (approximately 80-foot long) and concrete drainage structure will be removed to correct the CTDEP NOV. Proposed slopes and soil materials will allow for reestablishment of tidal ditch vegetation. Preliminary hydraulic analysis shows the water elevation during the Mean Higher High Water (Spring High Tide) condition, will increase approximately 0.5 feet (6 inch) in the tidal channel upstream of the existing berm and the vicinity of the existing unpaved driveway.

The proposed Main Street roadway profile low point (Elevation 7.3) in the vicinity of the cross culvert is approximately 1.5 feet above the existing low point of the roadway profile (Elevation 5.8), which will help to reduce the frequency of roadway flooding. This segment of roadway at the culvert is known to flood during major storm events. A hydraulic analysis report of the drainage system including the culvert, channel, and Marine Basin structure, is being prepared by URS Corporation, and will be submitted to CT DOT for review and approval, and will provide information associated with CTDEP permit applications. It is anticipated that OLISP will require improvement of the existing flow conditions (flushing of tidal waterways and wetlands) since the existing Main Street cross culvert is clogged. Preliminary analysis indicates that a 24 inch diameter RCP will pass the 50 year rainfall event. The construction of this culvert will be staged to allow for roadway traffic to be maintained on Main Street during construction. This will require the existing culvert flows to be maintained during installation of a proposed culvert, which is offset approximately 25 feet north of the existing culvert. Minor re-channelization of approximately 50 feet of the existing ditch, at both the inlet and outlet of the culvert will be required. The area of impact, both permanent and temporary, to various tidal ditch open water and tidal wetland resources in the vicinity of the Main Street culvert construction will be determined after additional review and discussion of the proposed drainage design with CT DOT, and review of tidal resources with OLISP. The design team discussed initial design concepts and conducted a field walk, with OLISP staff on May 18, 2010. The design and review of the stormwater drainage system is ongoing.

An existing shared use path for bicycles and pedestrians located along the east side of Main Street will need to be restructured. A temporary path will be constructed, as needed, to maintain bike and pedestrian traffic, along this segment immediately south of the Main Street culvert crossing. The temporary drainage facilities (culverts, endwalls, swales, etc.) will be needed to maintain vehicle traffic and allow relocation of underground utilities (water, phone, electric, gas, sanitary, TV) at the proposed culvert crossing. These temporary construction features will result in temporary tidal resource impacts.

The proposed Main Street drainage system will be a combination of vegetative swales, overland sheet flow, and closed drainage systems with oversized sumps to facilitate settlement of sediment and treatment. It will be designed in accordance with CT Stormwater Quality Manual and E&S Control Manual.

4.5.3 IMPACT POTENTIAL – SUMMARY

As a result of the proposed activities, there would be both permanent and temporary impact to wetland resources within the project area (see **Exhibit 4.5-1** and **Table 4.5-1**). **Exhibit 4.5-1** lists many different construction features, and all but two features, will be included in either the Rehabilitate Runway 6-24 Project or the Realignment of Main Street State Project 15-336. The removal of the berm and tide gate, and the replacement of the driveway culvert, will be separate projects constructed by the City, and performed in accordance with CT DEP Certificates of Permission that are being applied for in response to NOVs issued by CT DEP. **Exhibit 4.5-1** and **Table 4.5-1** show these two projects separately. The CT DOT requested that the berm and tide gate project be constructed by the City of Bridgeport, separate from State Project 15-336. The City of Bridgeport recommended that the driveway culvert replacement project be constructed separately by the City, separate from State Project 15-336 to allow for a timely response and resolution of NOV issues, and this also received concurrence by CT DOT.

The tidal wetland resource impacts estimated for State Project 15-336 are based on the September 2009 Revised Semi-Final Plans submission. An updated stormwater drainage design submission is being prepared by URS Corporation for submission to CT DOT for review and approval. It is expected that estimated impact areas are likely to change as the final design and permit application process advances.

The wetland resource impacts for the Runway 6-24 project was estimated based on preliminary plans. The wetland resource impacts for the driveway culvert replacement, and the berm and tide gate removal were estimated from plans being prepared in conjunction with Certificates of Permission applications to CT DEP.

The implementation of the No Build alternative would not impact waters or wetland resource and would, therefore, not require mitigation.

TABLE 4.5-1
PROPOSED WETLAND IMPACTS (ACRES)

Proposed Projects	Tidal Wetlands				Inland Wetlands		Inland Wetland Buffer (50')	
	Perm Wetland	Perm Open Water	Temp Wetland	Temp Open Water	Temp	Perm	Temp	Perm
1. Rehabilitate RW 6-24 Project	0.0	0.0	0.0	0.0	0.0	0.13	4.00	1.79
2. Realignment of Main St.	0.12	0.04	0.01	0.01	0.0	0.0	0.0	0.0
3. Berm & Tide Gate	0.0	0.0	0.04	0.01	0.0	0.0	0.0	0.0
4. Driveway Culvert Replacement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**0.12**	**0.04**	**0.05**	**0.02**	**0.0**	**0.13**	**4.0**	**1.79**

Source: URS Corporation (2010).

1. Rehabilitate Runway 6-24
   a. Temporary Impact Areas are based on a 25' offset from the edge of the existing runway.
2. CT DOT State Project No. 15-336 Realignment of Main Street
   a. Impact areas shown are based on Revised Semi-Final Plans submission dated September 2009.
3. Berm & Tide Gate Removal (shown as Feature 14 on Exhibit 4.5-1)
4. Driveway Culvert Replacement (shown as Feature 15 on Exhibit 4.5-1 (temporary and permanent impacts are less than 0.01 acres)

4.5.4 PERMITTING AND MITIGATION MEASURES

Permitting

Work associated with the proposed activities at the Airport would be partially located within regulated resource areas including tidal wetlands and potentially inland wetlands and upland review areas. As a result, it is imperative that coordination be conducted with the appropriate regulatory agencies early on in the design and permitting process. Early coordination with the regulatory agencies will help to identify potential priority issues which may affect acquisition of environmental permits and approvals.

Federal jurisdictional tidal wetlands and inland wetlands are regulated by the COE; however, only state jurisdiction inland wetlands, and activities within the 100 feet of the inland wetland boundary, are regulated by the City of Stratford. Based on the anticipated impacts, Federal, state and local permits and approvals will likely be required, as listed below:

Runway 6-24 Rehabilitation Project

- COE Section 10 and Section 404 Programmatic General Permit
- CTDEP IWRD Section 401 Water Quality Certification
- CTDEP IWRD Flood Management Certification
- CTDEP IWRD General Permit Registration Form for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities
- City of Stratford Inland Wetlands and Watercourses Permit

Realignment of CT Route 113 (State Project No.15-336)

- COE Section 10 and Section 404 Programmatic General Permit
- CTDEP IWRD Section 401 Water Quality Certification
- CTDEP OLISP Structures and Dredging / Tidal Wetlands Permit
- CTDEP IWRD Flood Management Certification
- CTDEP IWRD General Permit Registration Form for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

Note that approval of the OLISP permits listed above will be reviewed by CT DEP in coordination with OLISP Certificates of Permission to correct two CT DEP NOVs that have been issued to the City of Bridgeport (and other property owners). One violation was issued for an unauthorized culvert and tide gate structure located on-site at the head of the tidal lagoon. Removal of the berm would eliminate the problem of poor tidal exchange between the marine basin and the upstream tidal creeks and result in a permanent gain in tidal wetland area. The schedule for construction of the tide gate and berm removal project will be coordinated with the State Project 15-336, Realignment of Route 113 Main Street.

The second violation concerns an existing 24-inch culvert under an unpaved driveway to three residences that has been filled and thereby results in restriction of tidal flushing to an upstream creek area. The replacement of the existing 24-inch CMP culvert with a 24-inch RCP culvert and flared concrete end sections is proposed. Removal of excess roadway material that has entered the adjacent tidal wetland due to driveway maintenance will also be corrected. This improvement will correct the restricted tidal flushing to the upstream tidal creak area, and is currently planned to be constructed by the City in advance of State Project 15-336 Realignment of Route 113 Main Street.

Mitigation

Compensatory mitigation will likely include several methods to achieve full compensation. The mitigation strategy could include wetland creation, restoration, enhancement, preservation, or a combination of these methods. The location, size and type of compensatory mitigation would be based on multiple factors, including, but not limited to:

- Type and quantity of the wetlands impacted
- Quality and functions and values of the wetlands impacted
- Type and quantity of wetland required for compensation
- Available land for compensation

The COE Highway Methodology will be used as a guidance document for development of the mitigation plan. This document sets forth a process by which compensatory mitigation is established based on the characteristics of existing wetlands, the impacts to wetland functions and values, and finally a collaborative effort between the regulatory agencies and the applicant to determine the mitigation efforts required for full compensation of impacts.

Based on preliminary coordination at a site walk with OLISP, potential mitigation opportunities were identified on site south of the existing marine basin to the east of the Airport. It is anticipated that most, if not all, mitigation will be possible on-site. Mitigation plans will be developed in detail upon further review with CTDOT and CTDEP during pre-application meetings, site visits, and throughout the final design review process with CTDOT. Additional mitigation options include improving quality of wetlands along the tidal ditch between the berm and the Main Street cross culvert by removing chunks of reinforced concrete and other debris along the banks of the ditch. Other options include grading and establishing additional wetland vegetation along tidal ditches within the project limits. There are many opportunities for mitigation on the project site, including site/watercourse cleanup and plantings. The Airport will work with the CTDOT and CT DEP/OLISP to implement satisfactory mitigation measures during the permit process.

4.6 HAZARDOUS WASTE, POLLUTION PREVENTION, AND SOLID WASTE

4.6.1 IMPACT POTENTIAL - HAZARDOUS MATERIALS

The proposed project has the potential to encounter, disturb and generate contaminated soil, toxic (or hazardous) soil/waste and possibly contaminated groundwater. This conclusion is based on the results of the Subsurface Investigation conducted on a portion of the study area. A portion of the project area is identified as a portion of the Raymark Waste National Priorities List (NPL) (Superfund) site. Information provided by the US EPA Raymark Superfund Remedial Project Manager indicated that there is no formal approval or permit process necessary for the proposed roadway construction activities within the NPL areas (see **Appendix E**). CTDEP indicated that the study area may be subject to the Connecticut Property Transfer Law a/k/a the Property Transfer Act (PTA) due to the presence of hazardous waste and that the portion of the Raymark Waste site would require remediation in accordance with the CT DEP RSRs (see **Appendix E**). However, since that time, the City of Bridgeport has indicated that in accordance with CGS 22a-134(1)(M), the transfer of the FAA land to the City of Bridgeport would be exempt from the PTA for several reasons: there is no indication that the portion of land has been used for anything other than a parking lot; no hazardous waste has been generated since November 18, 1980; there is no indication that there has been any discharge of hazardous waste on the portion of land; and the contaminants detected are generally associated with asphalt.

Based upon the review by the City of Bridgeport outside legal counsel, the presence of PCBs in the site soils does not meet the definition of PCB Remediation Waste found in 40 CFR 761.3 and would not require investigation or remediation. Excess contaminated soil, hazardous soil/waste and/or contaminated groundwater generated during construction activities will require proper off-site disposal.

4.6.2 IMPACT POTENTIAL - SOLID WASTE

Construction wastes associated with the proposed project are expected to be typical of those normally generated by land clearing, earthwork, roadway construction, and paving projects. These wastes may include, but not be limited to, demolition waste such as concrete; site clearing debris such as vegetation; and wastes generated by construction workers. Based on the known fill material present with portions of the study area, solid waste consisting of demolition debris, concrete asphalt, wood, etc may be generated

during construction activities. Excavated solid waste will require off-site disposal in accordance with Connecticut Solid Waste Regulations.

4.7 CONSTRUCTION IMPACTS

The summary of construction impacts has been provided in accordance with FAA Order 1050.1E. For the Build Alternative, mitigation measures would be implemented to reduce or avoid potentially significant impacts from construction, which would reduce the impacts below their thresholds of significance. However, there would be unavoidable temporary construction impacts on air quality, equipment noise, and water quality. The No Build Alternative includes no construction activities and would, therefore, result in no construction impacts.

AIR QUALITY: Fugitive dust emissions from construction activities and equipment would occur with the implementation of the Build Alternative. However, contractors would exercise required fugitive dust control measures to reduce dust during the construction phases. An air quality emission inventory for the construction period of the proposed actions indicated that the construction-related emissions would be well below the de minimis thresholds during construction.

EQUIPMENT NOISE: Noise from equipment and related activities on the site would be regulated through development of a construction noise specification to minimize exposure outside of the construction area.

WATER QUALITY: All construction-related water quality impacts from implementation of any of the proposed projects would be temporary and indirect, and would result from the removal of vegetation and grading activities and the operation of earth-moving equipment. These temporary and indirect water quality impacts would likely result from soil erosion/sedimentation and the introduction of pollutants from construction machinery. Potential temporary water degradation due to erosion and sedimentation would be mitigated through the utilization of appropriate BMPs and containment devices, such as silt fences. Appropriate erosion and sediment control plans will be prepared prior to construction for review and approval by appropriate regulatory agencies.

SOLID WASTE: Excavated solid waste will require off-site disposal in accordance with Connecticut Solid Waste Regulations.

4.8 CUMULATIVE IMPACTS

Cumulative impacts are defined by the CEQ in 40 CFR 1508.7 as “impacts on the environment which result from the incremental impacts of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” The CEQ regulations also state that the cumulative impacts addressed should not be limited to those from actual proposals, but must be impacts from actions being contemplated or that are reasonably foreseeable. The CEQ regulations further require that NEPA environmental analyses analyze

connected, cumulative, and similar actions in the same document. This requirement prohibits segmentation of the project into smaller components to avoid required environmental analysis.

CEQ suggest analyzing only those resources that are incrementally affected by the proposed action and other actions within the same geographic area and time period. The geographic area of concern for the cumulative impacts analysis is typically defined by the context of the proposed actions and its alternatives. The geographic limits for this cumulative impact analysis have been identified as the Airport and vicinity to the northeast generally bound by Sniffens Lane to the north and Breakers Lane to the northeast.

The cumulative impacts associated with the proposed projects and other improvement projects located within the immediate vicinity of BDR were assessed from 2005 and 2023. Year 2005 was selected as the past year as this was the year that Taxiway D was reconstructed. Year 2023 is the out-year selected for development in the most recent ALP Update.

To identify and describe past, present, and reasonably foreseeable actions, CEQ suggests the use of "best available information." Thus, the recently completed ALP Update (2009) was used as a guide and the planning department of the Town of Stratford was consulted. In addition, the Town of Stratford's comprehensive plan, *Update to Town Plan of Conservation and Development* (December 2003) was reviewed. For purposes of describing the past, present, and reasonably foreseeable actions, the projects will be discussed in terms of Airport-related and non-Airport related projects.

4.8.1 AIRPORT RELATED PROJECTS

Previous planning efforts at BDR identified the need for a range of airside and landside improvements. The most sizable improvement at BDR was the construction of the Taxiway D improvements between 2005 and 2006. An Environmental Assessment was completed in 2004 and a Finding of No Significant Impact was issued on September 20, 2004.

The current approved ALP (2009) proposes a range of needed improvement projects for Near Term (2008-2013), Intermediate Term (2013-2018), and Long Term (2018-2023). Within the near term, with the exception of the projects proposed within this written reevaluation, planned projects include the construction of the remaining T-hangars on the South Apron, redevelopment of the FBO terminal area (Phase II), and the reconstruction of the terminal apron.

4.8.2 NON-AIRPORT RELATED PROJECTS

The Town of Stratford Planning department has been contacted to determine planned non-Airport related actions that are reasonably foreseeable within the geographic area defined for this analysis. No new development has been proposed within the vicinity of the Airport. Therefore, the potential impacts below only address Airport-related impacts.

4.8.3 POTENTIAL IMPACTS

Only Airport-related past projects that are to occur within the reasonably foreseeable future can be quantitatively assessed, as specific impact data for these projects are available. Therefore, the potential cumulative impacts of the proposed projects in conjunction with other past, present, and future planned projects in the analysis study area cannot be fully assessed quantitatively, as specific impact data for all non-Airport related projects is either not available or are not yet developed. In addition, the impacts discussed below are limited to those resource categories under which some degree of effect was identified for the proposed actions proposed within this written reevaluation, since those projects would not contribute cumulatively to the other resource categories.

Development plans for non-Airport actions will need to be reviewed, and all required environmental will need to be issued by appropriate regulatory agencies before they can be constructed. Therefore, the projects are not anticipated to contribute to a cumulatively significant impact to environmental resources identified in **Section 4**, as they will also be required to provide an acceptable level of impact mitigation.

4.8.3.1 Water Quality

As stated in **Section 4.2**, each project component was evaluated for water quality and quantity impacts and mitigation measures were addressed. The potential water quality effects of all projects identified in the cumulative scenario either have been, are, or will be subject to numerous review, approval, and permitting processes mandated under a regulatory framework established by a range of Federal, State, and local resource agencies. Each project must undergo individual review for compliance with this framework to assure that it does not contribute to the overall physical and chemical degradation of area receiving waters. As such, the potential for adverse cumulative effects is minimal since each proposed project is required to provide their own mitigation measures, as required, to assure compliance.

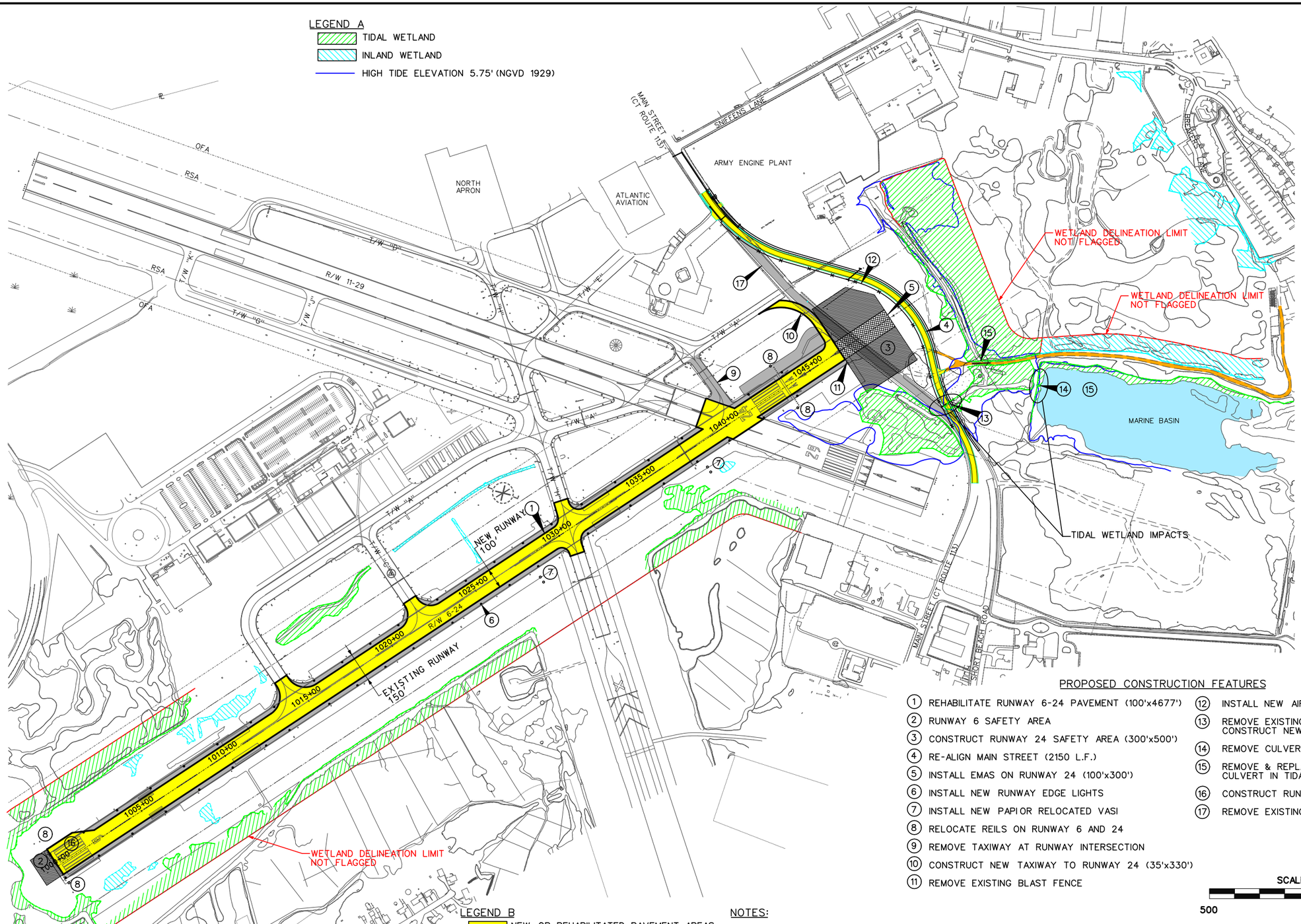
4.8.3.2 Floodplains

All work at the Airport would encroach upon the 100-year floodplain. A FMC from the CTDEP would be required for all proposed projects. This program ensures that the proposed projects are consistent with state standards and criteria for preventing flood hazards to human life, health or property and with the provisions of the NFIP and municipal floodplain regulations; does not adversely affect fish populations or fish passage; and, does not promote intensive use and development of flood prone areas. As a result, cumulative floodplain impacts should not be significant.

4.8.3.3 Wetland Resources

Impacts to wetland resources, associated permits and appropriate mitigation measures are included in **Section 4.5**. Potential wetland impacts associated with non-Airport related projects are dealt with by Federal, State, and local regulatory agencies on a case-by-case basis. Each proposed project would need to present information, which quantifies potential wetland impacts, and proposed mitigation

measures which are subject to agency review and approval to ensure that the overall function and values of the wetlands are maintained consistent with the national “no net loss” policy. As a result, cumulative wetland impacts should not be significant, should any wetlands be impacted by any future planned projects.



PROPOSED CONSTRUCTION FEATURES

1. REHABILITATE RUNWAY 6-24 PAVEMENT (100'x4677')
2. RUNWAY 6 SAFETY AREA
3. CONSTRUCT RUNWAY 24 SAFETY AREA (300'x500')
4. RE-ALIGN MAIN STREET (2150 L.F.)
5. INSTALL EMAS ON RUNWAY 24 (100'x300')
6. INSTALL NEW RUNWAY EDGE LIGHTS
7. INSTALL NEW PAPI OR RELOCATED VASI
8. RELOCATE REILS ON RUNWAY 6 AND 24
9. REMOVE TAXIWAY AT RUNWAY INTERSECTION
10. CONSTRUCT NEW TAXIWAY TO RUNWAY 24 (35'x330')
11. REMOVE EXISTING BLAST FENCE
12. INSTALL NEW AIRPORT SECURITY FENCE
13. REMOVE EXISTING RTE 113 CULVERT & CONSTRUCT NEW CULVERT
14. REMOVE CULVERT AND TIDE GATE STRUCTURE
15. REMOVE & REPLACE EXISTING DRIVEWAY CULVERT IN TIDAL DITCH
16. CONSTRUCT RUNWAY END TURNAROUND
17. REMOVE EXISTING MAIN STREET

SCALE IN FEET

500 0 500

LEGEND B

- NEW OR REHABILITATED PAVEMENT AREAS
- PAVEMENT REMOVAL AREAS
- RSA GRADING AREA
- AIRPORT PERIMETER FENCING
- EMAS
- GRAVEL DRIVEWAY

NOTES:

1. CONSTRUCTION FEATURES INCLUDED IN RTE 113 REALIGNMENT STATE PROJECT NO.15-336 INCLUDE 4 11 12 13 17 .
2. CONSTRUCTION FEATURE 15 , DRIVEWAY CULVERT REPLACEMENT, TO BE COMPLETED BY THE CITY OF BRIDGEPORT IN A CONSTRUCTION CONTRACT SEPARATE FROM STATE PROJECT NO. 15-336.
3. CONSTRUCTION FEATURE 14 , REMOVE CULVERT AND TIDE GATE STRUCTURE TO BE COMPLETED BY THE CITY OF BRIDGEPORT IN A CONSTRUCTION CONTRACT SEPARATE FROM STATE PROJECT NO.15-336.

IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

WETLAND IMPACTS FOR ALTERNATIVE 1G MODIFIED WITH INSTALLATION OF EMAS

EXHIBIT

4.5-1

SECTION 5
LIST OF PREPARERS

The following personnel have had primary responsibilities in the preparation of this document. This list includes people affiliated with the Federal Aviation Administration (FAA), Connecticut Department of Transportation (CT DOT), City of Bridgeport, URS Corporation (URS), KB Environmental Sciences, Inc. (KB), and Fitzgerald & Halliday, Inc. (FHI).

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GENERAL REFERENCES

Title 14 Code of Federal Regulations, Part 77, *Objects Affecting Navigable Airspace.*

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Federal Aviation Administration Order 5050.4A, Paragraph 23.

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● **AGENCY COORDINATION - AGENCIES CONTACTED**

*** NO OUTGOING LETTERS ARE INCLUDED IN APPENDIX, UNLESS INDICATED.**

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(Outgoing letter of 3/25/11 included herein)

● **AGENCY COORDINATION - AGENCY RESPONSES RECEIVED AS OF FEBRUARY 28, 2011**

DATE	COORDINATION
2/5/10	Letter from John Carey, CT DOT – Bureau of Engineering and Construction
2/16/10	Letter from Thomas Chapman, US FWS – New England Field Office
2/19/10	Letter from David Fox, CT DEP – Office of Environmental Review
2/22/10	Letter from Louis Chiarella, US Department of Commerce – National Marine Fisheries Service
4/19/10	Letter from Gary Lorentson, Town of Stratford – Planning and Zoning Department
4/25/11	Electronic mail from Richard Doucette, Federal Aviation Administration
5/23/11	Record of Conversation with David Fox, CT DEP – Department of Environmental Protection

● **ESSENTIAL FISH HABITAT ASSESSMENT, DATED NOVEMBER 2010**

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone:
(860) 594-2710

February 5, 2010

Ms. Jennifer M. Lutz
Project Manager
URS Corporation
4 North Park Drive, Suite 300
Hunt Valley, MD 21030

Dear Ms. Lutz:

Subject: Reference No. 38397150
Igor I. Sikorsky Memorial Airport
Town of Stratford

This is in reply to your January 15, 2010 letter regarding the proposed relocation of Route 113 (Main Street).

This office does not have any traffic engineering comments at this time. It is recommended that the Department of Transportation's Design Development Unit review the proposed horizontal alignment changes to Route 113. By copy of your letter and this reply, the Design Development Unit will review the proposal and respond directly back to you.

If you should have any questions, please contact Mr. Joseph P. Ouellette, investigating traffic engineer, at (860) 594-2721.

Very truly yours,

John F. Carey, P.E.
Manager of Traffic Engineering
Bureau of Engineering and
Construction

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

REF: 38397150

February 16, 2010

Jennifer M. Lutz
URS Corporation
4 North Park Drive, Suite 300
Hunt Valley, MD 21030

Dear Ms. Lutz:

This responds to your letter, dated January 15, 2010, requesting that we review improvements to Runway 6 at Sikorsky Memorial Airport in Bridgeport, Connecticut for information on the presence of federally-listed or proposed endangered or threatened species. Our comments are provided in accordance with the Endangered Species Act (87 Stat. 884, as amended; 15 U.S.C. 1531, *et seq.*).

This office reviewed the May 1999 Environmental Impact Statement (EIS) addressing proposed improvements to Runway 6-24 and commented on potential impacts to the federally-threatened piping plover (*Charadrius melodus*) in a letter dated July 17, 1998. At that time, we concurred with a preliminary determination of "not likely to adversely affect" the piping plover conditioned on the inclusion of minimization measures in the implementation of the project. The measures included time-of-year restrictions for installation of the MALSF lighting system, construction of runway modifications, and the change in approach elevations.

The revised alternative for Runway 6-24 is similar in scope to the original EIS alternative 1-G; it is slightly longer (50 feet) and includes an Engineered Materials Arresting System (EMAS). Although new runway edge lights and runway end identifier lights will be installed, the previously proposed MALSF lighting system is not part of the project.

Piping plovers consistently nest in the vicinity of the project area, primarily at Long Beach and Milford Sandbar in Milford, and periodically nest on Milford Point (Milford) and Short Beach in Stratford. In our July 17, 1998 letter, we identified the remote possibility that piping plovers might be affected by increased light levels from the proposed MALSF associated with two of the alternatives. However, the revised 1-G alternative eliminates the installation of the MALSF and impacts from increased runway lighting are not anticipated.

The information provided in your letter did not describe approach elevations that will occur for the shortened 1-G runway; therefore, in order to avoid adversely affecting breeding piping plovers in the vicinity of the airport, we recommend that the approach elevation over Milford Point remain at 200 feet above mean sea level or greater. We also reiterate our recommendation provided in our July 17, 1998 letter that runway modifications and change in approach elevations must be in place prior to March 15, before piping plovers return to nearby beaches, in order to avoid disturbing breeding plovers.

Based on information currently available to us, no other federally-listed or proposed threatened or endangered species under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the vicinity of the project area.

Thank you for your cooperation, and please contact Ms. Susi von Oettingen at 603-223-2541, extension 22, if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

February 19, 2010

Jennifer M. Lutz
URS Corporation
4 North Park Drive, Suite 300
Hunt Valley, Maryland 21030

Dear Ms. Lutz:

I am responding to your letter of January 19, 2010 to Robert Kaliszewski requesting comments on a reevaluation of the Final Environmental Impact Statement (FEIS) for various projects at Igor Sikorsky Memorial Airport in Stratford, including rehabilitation of Runway 6-24, Runway Safety Area (RSA) improvements at both runway ends and relocation of Main Street. I have circulated your request to various offices in the Department and this is a coordinated reply. Our comments outline some issues that can be considered during the reevaluation process as well as others that will require additional detail during subsequent permitting for the projects.

Overall, the development of a new preferred alternative, largely based on Alternative 1-G in the DEIS, avoids many of the most adverse impacts to coastal resources associated with the preferred alternative detailed in the FEIS. Our comments include some factors to consider in an effort to further minimize these impacts.

The length of the RSA for Runway 6 has been reduced to 100' but its width remains at 500'. Will grading the extreme ends of each side of the RSA, that encroach into tidal wetlands, provide an additional measure of safety? It seems that, if the intervening areas along the sides of the runway end are to remain unimproved, any plane excursion from the runway would have to traverse these areas to reach the outer side edge of the RSA. Similarly, one corner of the RSA for Runway 24 appears to encroach into tidal wetlands. Could this corner remain undisturbed without compromising safety, particularly since it is at the beginning of the RSA, nearest the runway end? In both of these cases, it appears that minor adjustments in the size of the RSA can be made and encroachment into tidal wetlands virtually eliminated.

Any activities that are proposed waterward of the high tide line or in tidal wetlands will require authorization from the Office of Long Island Sound Programs (OLISP) in accordance with the statutes governing structures, dredging and filling in tidal, coastal, and navigable waters [sections 22a-359 through 22a-363f of the Connecticut General Statutes (CGS)] and the Tidal Wetlands Act [sections 22a-28 through 22a-35 of the CGS], respectively. For further information, contact the office at 860-424-3034. Fact sheets regarding OLISP permit programs and permit application forms can be downloaded at:
http://www.ct.gov/dep/cwp/view.asp?a=2709&q=324222&depNav_GID=1643#LongIslandSound.

It is strongly recommended that URS Corp. and the applicant(s) conduct a pre-application meeting with OLISP (and other DEP staff) as the project progresses. A pre-application site visit would also be useful in that the site could be walked and URS could guide all involved through the proposal. In general, it would be helpful if OLISP was provided with plans that show the overall construction limits along and at each runway end, or several plans which relate to each aspect of the work regulated by OLISP that shows the construction limits associated with each. OLISP would then be able to provide detailed guidance or recommendations. An assessment of impacts should also be provided, with specific amounts of temporary vs. permanent impacts to tidal wetlands to determine the amount/extent of mitigation to be required, which would likely be on-site

For the relocation of Main Street, it appears that a section of tidal wetlands will be impacted and that a new culvert/tide gate will be placed or the existing culvert modified. Specifically, several existing conditions plans and sections as well as a proposed conditions plans and sections should be provided. All sheets should clearly show all existing coastal resources, tidal elevations, etc. It would also be helpful if site photographs were provided.

The jurisdiction over inland wetlands depends on the nature of the applicant. For State departments, agencies or instrumentalities, any work or construction activity within the inland wetland areas or watercourses on-site will require a permit from the Inland Water Resources Division pursuant to section 22a-39(h) of the CGS. Therefore, if ConnDOT or other State entity is the applicant, a DEP permit will be required. Otherwise, inland wetlands are regulated by the Stratford Inland Wetlands & Watercourses Commission, pursuant to section 22a-42 of the CGS. The role of ConnDOT in the projects should be clarified.

In addition, State funding for projects within the 100-year flood zone must be certified by the sponsoring agency as being in compliance with flood and stormwater management standards specified in section 25-68d of the CGS and section 25-68h-1 through 25-68h-3 of the Regulations of Connecticut State Agencies (RCSA) and receive approval from the Department. Fact sheets regarding IWRD permit programs and permit application forms can be downloaded at:
http://www.ct.gov/dep/cwp/view.asp?a=2709&q=324222&depNav_GID=1643#InlandWaterResources.

The Natural Diversity Data Base, maintained by DEP, contains numerous records of populations of species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or special concern in vicinity of the project area. Given the amount of time that has elapsed since this project was last reviewed, a new search of the data base was performed. The attached species list enumerates these species (multiple listings of the same species indicates multiple records within the project vicinity) as well as significant natural communities within the project area vicinity. The potential to impact these species should be evaluated. The selection of a preferred alternative that minimizes encroachment into wetland areas, as noted above, tends to limit potential impacts to many of these species. However, it should be noted that some of these species do occur in upland areas of the airport.

This information is not the result of comprehensive or site-specific field investigations. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern as well as enhance existing data. Such new information is incorporated into the Data Base as it becomes available. Also be advised that this is a preliminary review and not a final determination. A more detailed review will be conducted as part of subsequent environmental permit applications submitted to DEP for the proposed site.

The revised proposal encroaches on less Stratford Army Engine Plant (SAEP) land than earlier proposals; however, there are still environmental issues to address. Although no specific release location has been documented on that part of the SAEP site that is proposed for Main Street relocation, the SAEP has documented, through limited sampling, that the soils in the proposed relocation footprint are polluted above DEP remediation criteria. This is not unexpected for the site, which has numerous areas where the soils are contaminated without being related to a specific identifiable release, or are affected by asphaltic materials. The road construction project should include further characterization of the polluted soils to ensure that any disturbed soil is properly handled during construction.

In addition, the SAEP is currently subject to a RCRA Stewardship Permit (Permit Number: DEP/HWM/CS-134-00) issued by DEP, to perform closure, post-closure care and corrective action measures at the former hazardous waste storage, treatment and disposal facility. The permit requires that all areas of the site be brought into conformance with DEP's Remediation Standard Regulations (RSR) [sections 22a-133k-1 through 22a-133k-3 of the RCSA]. To the extent that additional characterization identifies soil areas that exceed criteria, actions to remove, treat, or render inaccessible the identified soils must be taken to achieve RSR compliance. Environmental Land Use Restrictions could be a part of such remedy. Any remedial actions must be within the framework of the Stewardship permit. Issues surrounding responsibility for achieving RSR compliance as it relates to transfer of the SAEP land for the relocation of the road will have to be resolved.

The new alignment for Main Street will also include work within or adjacent to a suspected Raymark waste disposal footprint. The drawing identifying proposed project elements does locate the area where EPA found disposed Raymark waste in the vicinity of proposed project item # 16 . The actual area containing Raymark waste could be larger or smaller than the area represented in the drawing by irregular black-lined lobes on either side of the relocated Main Street, just southeast of the improved RSA.

Given the potential for pollution in soils on both the SAEP and abutting properties, it is recommended that the construction project include provision for field oversight and screening by an environmental professional to ensure that any incompletely characterized polluted soils are recognized and appropriately handled should they be encountered during construction. The construction plan should also include contingencies for developing a contaminated soil management plan should such soil be encountered.

In addition, the SAEP has also identified that there is pollution above ecological screening levels in the sediment in the tidal ditch leading from their outfall location to the marine basin. If the tidal and culvert removal will modify this ditch flow, such that this sediment might be

mobilized prior to implementation of any necessary remedy by SAEP, this could increase ecological impact of the project.

Thank you for the opportunity to become involved with the FEIS reevaluation. In order to expedite Departmental review, please forward four copies of the document to this office when it has been prepared and I will circulate it to the relevant offices. If you have any questions concerning these comments, please contact me at 860-424-4111 or david.fox@ct.gov.

Sincerely,

David J. Fox

David J. Fox
Senior Environmental Analyst
Office of Environmental Review

cc: Kristen Bellantuono, DEP/OLISP
Ron Curran, DEP/RD
Jenny Dickson, DEP/WD
Ken Feathers, DEP/RD
Robert Hannon, DEP/OPPD
Lauren Kostiuk, DEP/WEED
Mark Johnson, DEP/IFD
Dawn McKay, DEP/WD
Carol Szymanski, DEP/OLISP
Steve Tessitore, DEP/IWRD

Species List for Request Number R17473

2/16/2010

Scientific Name	Common Name	State Protection Status
Animals		
Ammodramus caudacutus	Saltmarsh Sharp-tailed Sparrow	SC
Ammodramus maritimus	Seaside Sparrow	SC
Asio flammeus	Short-eared Owl	T
Bartramia longicauda	Upland Sandpiper	E
Botaurus lentiginosus	American Bittern	E
Charadrius melodus	Piping Plover	T
Circus cyaneus	Northern Harrier	E
Eremophila alpestris	Horned Lark	E
Eremophila alpestris	Horned Lark	E
Gallinula chloropus	Common Moorhen	E
Ixobrychus exilis	Least Bittern	T
Passerculus sandwichensis	Savannah Sparrow	SC
Passerculus sandwichensis princeps	Ipswich Sparrow	SC
Passerculus sandwichensis princeps	Ipswich Sparrow	SC
Podilymbus podiceps	Pied-billed Grebe	E
Rallus elegans	King Rail	E
Sterna antillarum	Least Tern	T
Sterna antillarum	Least Tern	T
Toxostoma rufum	Brown Thrasher	SC
Tyto alba	Barn Owl	E
Natural Communities		
Brackish intertidal marsh		
Coastal sand dunes		
Salt marsh		
Saltwater intertidal beaches and shores		
Saltwater intertidal flat		
Plants		
Aristida tuberculosa	Beach Needlegrass	E
Aristida tuberculosa	Beach Needlegrass	E
Atriplex glabriuscula	Orache	SC
Diplachne maritima	Saltpond Grass	E
Honckenya peploides	Sea-beach Sandwort	SC
Panicum amarum	Panic Grass	T
Platanthera ciliaris	Yellow-fringe Orchid	T
Scirpus cylindricus	Salt-marsh Bulrush	SC
Viola brittoniana	Coast Violet	E
Viola brittoniana	Coast Violet	E
Viola brittoniana	Coast Violet	E

E = Endangered, T = Threatened, SC = Special Concern, SC* = Special Concern, Presumed Extirpated

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

FEB 22 2010

Jennifer M. Lutz
URS Corporation
4 North Park Drive, Suite 300
Hunt Valley, MD 21030

Re: URS Project 38397150: Reevaluation of the Environmental Impact Statement for Igor I. Sikorsky Memorial Airport, Stratford, CT

Dear Ms. Lutz:

The National Marine Fisheries Service (NMFS) has reviewed the January 15, 2009 request for information regarding fisheries resources for the reevaluation of the Environmental Impact Statement (EIS) regarding the revised Runway Safety Area (RSA) improvements at the Igor I. Sikorsky Memorial Airport in Stratford, Connecticut. The proposed RSA improvements include the construction of two RSA's, the rehabilitation of the existing runway, removal and relocation of the taxiway, the removal and relocation of Main Street, and removal and relocation of a private driveway. The work also includes the removal of a berm, tide gate and culvert adjacent to a marine basin and tidal wetlands associated with Long Island Sound.

NMFS has been involved with this project during the previous EIS process. In a letter dated July 16, 1998, NMFS provided comments on the Draft EIS for the Proposed Improvements to Runway 6-24. The following comments focus on the newly proposed alternative to the runway improvements and are intended to identify and address potential adverse impacts to essential fish habitat (EFH) for public trust resources.

Essential Fish Habitat

EFH has been designated for 17 federally managed species within and adjacent to the proposed work area. A complete list of species and life stages that have been designated for the proposed project location can be found on the NMFS Habitat Conservation Division website at http://www.nero.noaa.gov/ro/doc/webintro.html.

Among those species listed, particular attention should be focused on winter flounder (*Pseudopleuronectes americanus*) habitat that may be adversely affected by this project. Adult winter founder utilize shallow near shore areas such as the marine basin for spawning and feeding, while eggs, larvae, and juveniles use the area for early life stage development. Recent stock assessments for winter flounder indicate that recruitment continues at record low levels and spawning stock biomass is less than sustainable levels despite commercial harvest controls (Northeast Fisheries Science Center 2008). This resource status of an ecologically and commercially important species accentuates the critical need to protect winter flounder habitat for spawning and egg life stages.

Inland and tidal wetlands are located throughout the project site and will be impacted as a result of the proposed construction. Wetlands are designated by the U.S. Environmental Protection Agency as "special aquatic sites" under the Section 404(b)(1) of the Federal Clean Water Act, due to their important role in the marine ecosystem for foraging species, including winter flounder. Impacts to such habitats would result in negative consequences for fisheries resources, as these environments are particularly valuable in exporting nutrients, filtering runoff from upland sources, and providing spawning, nursery, and shelter habitat for most of the species utilizing the area, including those managed under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The filling of wetlands leads to the physical loss of habitat, loss or impairment of wetland functions and changes in hydrologic patterns.

EFH Assessment

The MSA and the Fish and Wildlife Coordination Act require Federal agencies to consult with one another on projects such as this. Insofar as a project involves EFH, as this project does, this process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in this consultation procedure.

The required contents of an EFH assessment includes: 1) a description of the action; 2) an analysis of the potential adverse effects of the action on EFH and the managed species; 3) conclusions regarding the effects of the action on EFH; and 4) proposed mitigation, if applicable. Other information that should be contained in the EFH assessment, if appropriate, includes: 1) the results of on-site inspections to evaluate the habitat and site-specific effects; 2) the views of recognized experts on the habitat or the species that may be affected; 3) a review of pertinent literature and related information; and 4) an analysis of alternatives to the action that could avoid or minimize the adverse effects on EFH. Upon submittal of an EFH assessment, NMFS will provide conservation recommendations for the proposed project.

Protected Resources

NMFS Protected Resources Division has reviewed the project materials. While listed sea turtles are seasonally present in Long Island Sound, due to the habitat characteristics of the project area, no listed species are likely to be present. Should you have any questions regarding listed species, please contact Julie Crocker at (978) 282-8480 or by e-mail at (Julie.Crocker@noaa.gov).

Thank you for your coordination with NMFS regarding this issue. Should you have any questions regarding this letter, please contact Jenna Flynn at (978) 675-2176.

Sincerely,

Louis A. Chiarella
New England Field Office Supervisor
for Habitat Conservation

<glorentson @townofstratford .com>

04/19/2010 11:42 AM

Please respond to <glorentson@townofstratford.com>

To <Jennifer_Lutz@URSCorp.com>

cc

bcc

Subject RE: Request for Land Use and Zoning Data: Sikosky Memorial Airport

History: This message has been replied to.

Hi Jennifer,

This is to confirm that no new land use surveys have been conducted within the vicinity of the airport since 1999 and the same zoning classifications in the vicinity are still vaid with no new changes. There are no new developments going on in the area except that the former Exxon / Mobil industrial building containing 292,000 sq. ft at 495 Lordship Blvd will be converted to a film and digital media studio. The 40 acre property on the south side of Lordship Boulevard across from Access Road, owed by Stratford Development was approved in 1999 and is still valid today for a total of 500,000 sq. ft. of mixed industrial and commercial space. Nothing has been built yet on that property. We have not yet received any plans to utilize or build on the Army Engine Plant property.

I hope this answers your questions.

Sincerely,

Gary Lorentson, Planning & Zoning Administrator
Planning & Zoning Department
Town of Stratford
2725 Main Street
Stratford, CT 06615
Telephone: (203) 385-4017
Facsimile: (203) 381-6928
E-Mail: Glorentson@townofstratford.com
Web: www.townofstratford.com

U.S. Department
of Transportation
**Federal Aviation
Administration**

New England Region
Office of the Regional Administrator

12 New England Executive Park
Burlington, MA 01803

2010

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

The Honorable Rodney Butler
Chairman, Mashantucket Pequot Tribe of Connecticut
2 Matts Path
Mashantucket, CT 06338

Dear Chairman Butler:

**Government-to-Government Consultation Invitation
Airport Project at Sikorsky Airport in Connecticut**

The Federal Aviation Administration (FAA), in cooperation with the airport owner and operator, is proposing a project at Sikorsky Airport in Stratford, Connecticut, as outlined herein.

Purpose of Government-to-Government Consultation

The purpose of Government-to-Government consultation as described in the National Historic Preservation Act, Section 106, Federal Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments," and FAA's Order 1210.20, "American Indian and Alaska Native Tribal Consultation Policy and Procedures," is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA undertakings that uniquely or significantly affect Tribes.

Consultation Initiation

With this letter, the FAA is inviting the Mashantucket Pequot Tribe of Connecticut to consult on concerns that may significantly affect your Tribe related to the proposed airport improvements. Early identification of Tribal concerns will allow the FAA and the airport owner and operator to consider ways to avoid, mitigate, or minimize potential impact to Tribal resources and practices as project alternatives are developed and refined.

Project Information

Two projects are currently under consideration at Sikorsky Airport in Bridgeport. First, the FAA and the City of Bridgeport propose to install runway safety areas. This will require a relocation of a portion of Route 113/Main St. in the northern portion of the airport. Enclosed is a document describing that project. Second, the City of Bridgeport and Volo Aviation propose to build a fuel farm in the central portion of the airport. Enclosed is a short document describing that project.

Confidentiality

We understand that you may have concerns regarding the confidentiality of information on areas or resources of religious, traditional, and cultural importance to the Tribe. We would be happy to discuss these concerns and develop procedures to ensure the confidentiality of such information is maintained.

FAA Contact Information

Your timely response will assist us in incorporating your concerns into project planning. For that reason, we respectfully request that you contact FAA within thirty days of your receipt of this correspondence as to your interest in Government-to-Government Consultation regarding these projects.

You may contact FAA's Regional Tribal Consultation Official, Barbara Travers-Wright, by telephone at 781-238-7025, or by e-mail at Barbara.Travers-Wright@faa.gov. At that time, the consultation request will be provided to the FAA, Airports Division.

Sincerely,

ORIGINAL SIGNED BY
ANN C MOLLICA

for Amy L. Corbett
Regional Administrator

Enclosures

cc: Kathleen K. Knowles, Mashantucket Pequot Indian Tribe, Tribal Historic Preservation Officer (Certified Mail – Return Receipt Requested)

bcc: ANE-1P (with enclosures)

ANE - 610: RDoucette: rd: (781)238-7613: 100722: G:\Correspondence and Coordination\Government-To-Government

NON CONFORMING CONDITIONS

DESCRIPTION	EXISTING/ PLANNED	STANDARD	DATE APPROVED	REMARKS
TAXIWAY D SEPARATION FROM RWY 31-PA	500FT. OUT TO 3000'	3000'	JUNE 5, 2003	NON-NPIS ADP-3-09-0002-16
TAXIWAY SIGN AT LOCATION	PLACED IN MIDD ENTRANCE.	PLACED BEYOND ENTRANCE.		REQUESTED MARCH 4, 2003, AIP-23
SUPPLEMENTAL WIND CONE LOCATION RW 11	2000' FROM RW ℄	2000' MINIMUM	JAN. 27, 2004	NON-NPIS ADP-3-09-0002-16
RW 29 OFA	1000' WIDE x 1200' BEYOND RW THRESHOLD	1000' WIDE x 1000' BEYOND RW THRESHOLD		REQUESTED UNDER AIP-23
RW 6 OFA	1000' WIDE x 1000' BEYOND THRESHOLD	1000' WIDE x 1000' BEYOND THRESHOLD		REQUESTED UNDER AIP-23
RW 11 OFA	1000' WIDE x 1000' BEYOND RW THRESHOLD	1000' WIDE x 1000' BEYOND RW THRESHOLD		REQUESTED UNDER AIP-23
RW 24 OFA	1000' WIDE x 1000' BEYOND THRESHOLD	1000' WIDE x 1000' BEYOND THRESHOLD		REQUESTED UNDER AIP-23
RW 6 SAFETY AREA	200' BEYOND THRESHOLD	1,000' BEYOND THRESHOLD	2-15-04	AIP-3-09-0002-23
RW 24 SAFETY AREA	200' BEYOND THRESHOLD	1,000' BEYOND THRESHOLD	2-15-04	AIP-3-09-0002-23
RW 11 SAFETY AREA	1000' WIDE x 200' BEYOND THRESHOLD	1000' WIDE x 1,000' BEYOND RW THRESHOLD	2-15-04	AIP-3-09-0002-23
RW 29 SAFETY AREA	1000' WIDE x 200' BEYOND THRESHOLD	1000' WIDE x 1,000' BEYOND THRESHOLD	2-15-04	AIP-3-09-0002-23

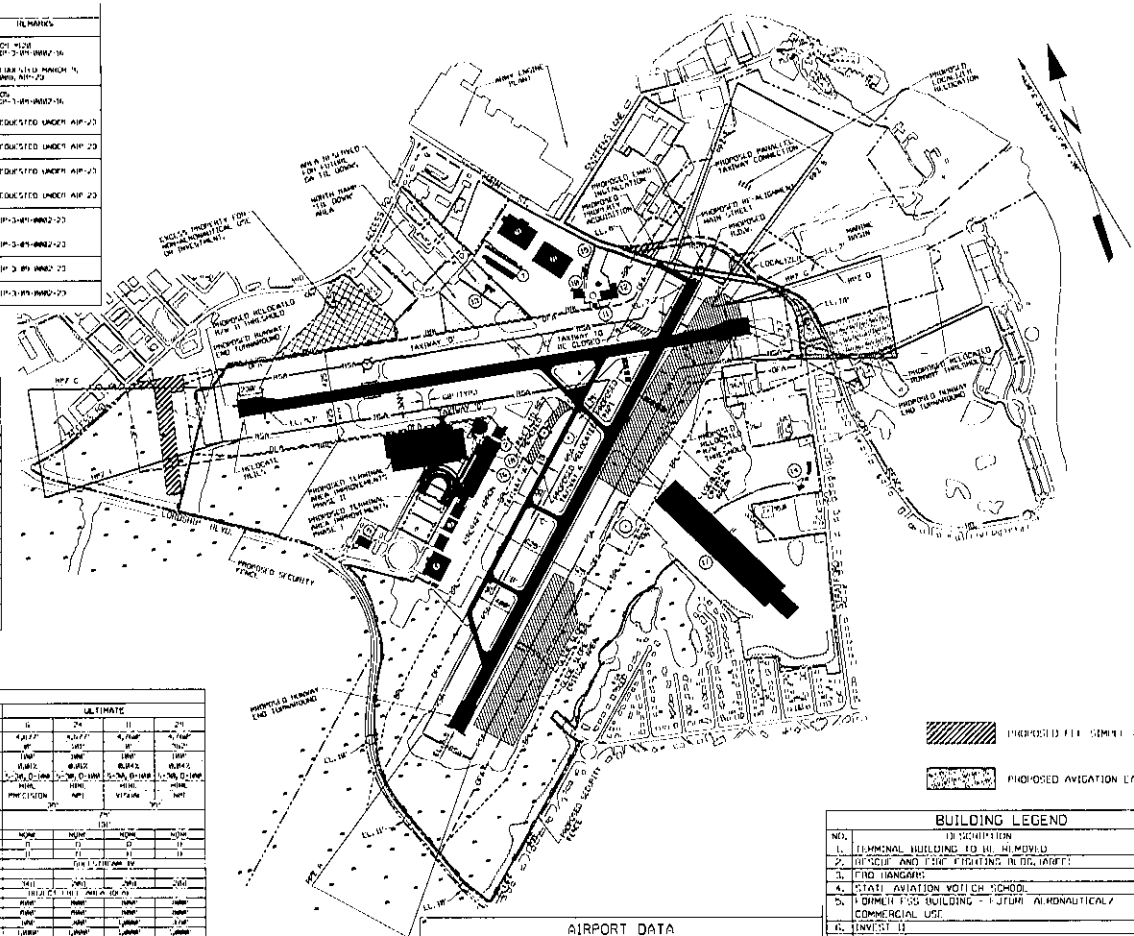
LEGEND

DESCRIPTION	EXISTING	ULTIMATE
PROPERTY LINE (FEE OWNERSHIP)		
PROJECT FEE AREA (OFA)	OFA	OFA
FENCE LINE		
ON AIRPORT BUILDINGS		
OFF AIRPORT BUILDINGS		
OBSTRUCTIONS PAVED SURFACES		
BUILDING RESTRICTION LIMITS (BRL)	BRL	BRL
LIGHTED WIND CONE & SEG. CIRCLE		
NAVAID CRITICAL AREA		
RUNWAY PROTECTION ZONE (RPZ)		
RUNWAY SAFETY AREA		
AIRPORT REFERENCE POINT (ARP)		
RUNWAY THRESHOLD LIGHTS		
REILS		
MALSR		
VASI/PAPI		
AIRPORT BEACON		

RUNWAY DATA

DESCRIPTION / RUNWAY	EXISTING 6	EXISTING 24	EXISTING 11	EXISTING 29	ULTIMATE 6	ULTIMATE 24	ULTIMATE 11	ULTIMATE 29
LENGTH	4,767'	4,767'	4,767'	4,767'	4,767'	4,767'	4,767'	4,767'
DISPLACED THRESHOLD	0'	529'	0'	364'	0'	529'	0'	364'
WIDTH	150'	150'	150'	150'	150'	150'	150'	150'
RUNWAY GRADIENT	0.8%	0.8%	0.4%	0.4%	0.8%	0.8%	0.4%	0.4%
PAVEMENT STRENGTH	S-38, D-60K	S-38, D-60K	S-38, D-60K	S-38, D-60K	S-38, D-60K	S-38, D-60K	S-38, D-60K	S-38, D-60K
LIGHTING	HIRL	HIRL	HIRL	HIRL	HIRL	HIRL	HIRL	HIRL
MARKING	PRECISION	NPI	VISUAL	NPI	PRECISION	NPI	VISUAL	NPI
TAXIWAY WIDTH	VARIES, 35'-100'				35'			35'
TAXIWAY SAFETY AREA WIDTH	79'				79'			
TAXIWAY OBJECT FREE AREA WIDTH	131'				131'			
APPROACH LIGHTING	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
AIRCRAFT APPROACH CAT.	C	C	C	C	D	D	D	D
AIRCRAFT DESIGN GROUP	II	II	II	II	II	II	II	II
DESIGN AIRCRAFT	GULFSTREAM III				GULFSTREAM IV			
APPROACH SLOPE EXISTING	20:1	20:1	34:1	10:1	34:1	20:1	34:1	20:1
APPROACH SLOPE STANDARD	34:1	34:1	34:1	34:1	34:1	34:1	34:1	34:1
	PROJECT FEE AREA (OFA)				PROJECT FEE AREA (OFA)			
WIDTH EXISTING	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
WIDTH STANDARD	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
LENGTH BEYOND RUNWAY END EXISTING	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
LENGTH BEYOND RUNWAY END STANDARD	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
RUNWAY END COORDINATES	NORTH 41°09'29.00"	41°09'29.00"	41°09'29.00"	41°09'29.00"	41°09'29.00"	41°09'29.00"	41°09'29.00"	41°09'29.00"
	WEST 73°07'35.00"	73°07'35.00"	73°07'35.00"	73°07'35.00"	73°07'35.00"	73°07'35.00"	73°07'35.00"	73°07'35.00"
	RUNWAY SAFETY AREA (RSA)				RUNWAY SAFETY AREA (RSA)			
WIDTH EXISTING	500'	500'	500'	500'	500'	500'	500'	500'
WIDTH STANDARD	500'	500'	500'	500'	500'	500'	500'	500'
LENGTH BEYOND RUNWAY END EXISTING	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
LENGTH BEYOND RUNWAY END STANDARD	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'

RUNWAY PROTECTION ZONES	A	B	C	D	A	C	F	G
LENGTH	1,000'	1,700'	1,700'	1,000'	1,000'	1,700'	1,700'	1,000'
INNER WIDTH	500'	500'	500'	500'	500'	500'	500'	500'
OUTER WIDTH	1,000'	1,010'	1,010'	1,000'	1,000'	1,010'	1,010'	1,000'
ACRES	29.0	29.0	70	30.0	29.0	29.0	70	30.0



AIRPORT DATA

	EXISTING	ULTIMATE
MEAN MAXIMUM TEMPERATURE	82.8° F	82.8° F
MAGNETIC DECLINATION	W13°30' 1994	W14°00' 2007
AIRPORT REFERENCE POINT (ARP) LAT.	41°09'29.04"N	41°09'29.04"N
AIRPORT REFERENCE POINT (ARP) LONG.	73°07'34.74"W	73°07'35.74"W
AIRPORT ELEVATION	10' MSL	10' MSL
AIRPORT & TERMINAL NAVAIDS	HIRL / PAPI / VASI / VOR / ILS / REIL / VASI	HIRL / PAPI / VOR / HIRL / ILS / VOR / PAPI
AIRPORT ROLE	GENERAL AVIATION/ CORPORATE	GENERAL AVIATION/ CORPORATE

BUILDING LEGEND

NO.	DESCRIPTION	HEIGHT MSL
1.	TERMINAL BUILDING TO BE REMOVED	41.0'
2.	RESCUE AND FIRE FIGHTING BLDG. (ARFF)	34.1'
3.	FBO HANGARS	41.4'
4.	STATE AVIATION VOTECH SCHOOL	45.1'
5.	FORMER FBO BUILDING - FUTURE AERONAUTICAL/ COMMERCIAL USE	28.3'
6.	INVEST U	36.8'
7.	T - HANGAR COMPLEX (TO BE RELOCATED)	31.0'
8.	HANGAR	37.0'
9.	HANGAR	40.6'
10.	HANGAR	35.3'
11.	FBO OFFICE TO BE RETAINED FOR AERONAUTICAL USE OR REMOVED	35.6'
12.	HANGAR TO BE RETAINED FOR AERONAUTICAL USE OR REMOVED	40.6'
13.	T - HANGARS (TO BE REMOVED)	20.2'
14.	CIVIL AIR PATROL CAP	36.3'
15.	FUEL FARM	
16.	PROPOSED CORPORATE HANGARS	
17.	T - HANGAR COMPLEX	
18.	ADMIN. BLDG ATCT, BEACON	41.2'
19.	FUEL FARM	

IGOR I. SIKORSKY MEMORIAL AIRPORT

STRATFORD CONNECTICUT

Sponsor Name:

CITY OF BRIDGEPORT CONNECTICUT

FAA AIP Project Number:

3-09-0002-23

Drawing Name:

AIRPORT LAYOUT PLAN

CERTIFICATION

THE CITY OF BRIDGEPORT CERTIFIES THAT ALL AIRPORT ELEMENTS SHOWN ON THIS ALP ARE IN ACCORDANCE WITH CRITICAL CRITERIA IN THE CURRENT EDITION OF FAA ADVISORY CIRCULAR 150/5300-13 EXCEPT AS NOTED ON THE PAGE ENTITLED NON CONFORMING CONDITIONS

JOHN HILL, AIRPORT MGR. DATE

FEDERAL AVIATION ADMINISTRATION

APPROVED: _____ DATE: _____
FAA NEW ENGLAND REGION

CT. DEPARTMENT OF TRANSPORTATION

APPROVED: _____ DATE: _____
AVIATION DIVISION

IGOR SIKORSKY MEMORIAL AIRPORT COMMISSION

APPROVED: _____ DATE: _____
Chairman

REVISIONS

No.	Description	Date	By
1	PUBLIC FILE (ARP IN)	07/11/08	GWD

FIGURE 3

Designed by: GWD

Checked by:

Technician: MJB

Project Number: 30397018

Related Drawing References:

Date: FEBRUARY, 2009

Sheet Number: 3 of 6

Scale: 1" = 200'

URS

500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT 06067

U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
New England Region

12 New England Executive Park
Burlington, MA 01803

March 25, 2011

Daniel Forrest
CT State Historic Preservation Office
One Constitution Plaza, 2nd Floor
Hartford CT 06103

Dear Mr. Forrest:

For several years, The FAA and the City of Bridgeport have been attempting to make important safety improvements at Sikorsky Memorial Airport. To date, no improvements have been implemented.

Attached is a plan showing the project now under consideration. The project includes reconstruction (in place) of the existing runway, and relocation of a portion of Route 113 adjacent to the airport to construct a runway safety area. Based on current information, there appear to be no historic properties affected. If you have any questions or concerns regarding this project, please do not hesitate to contact me at your earliest convenience.

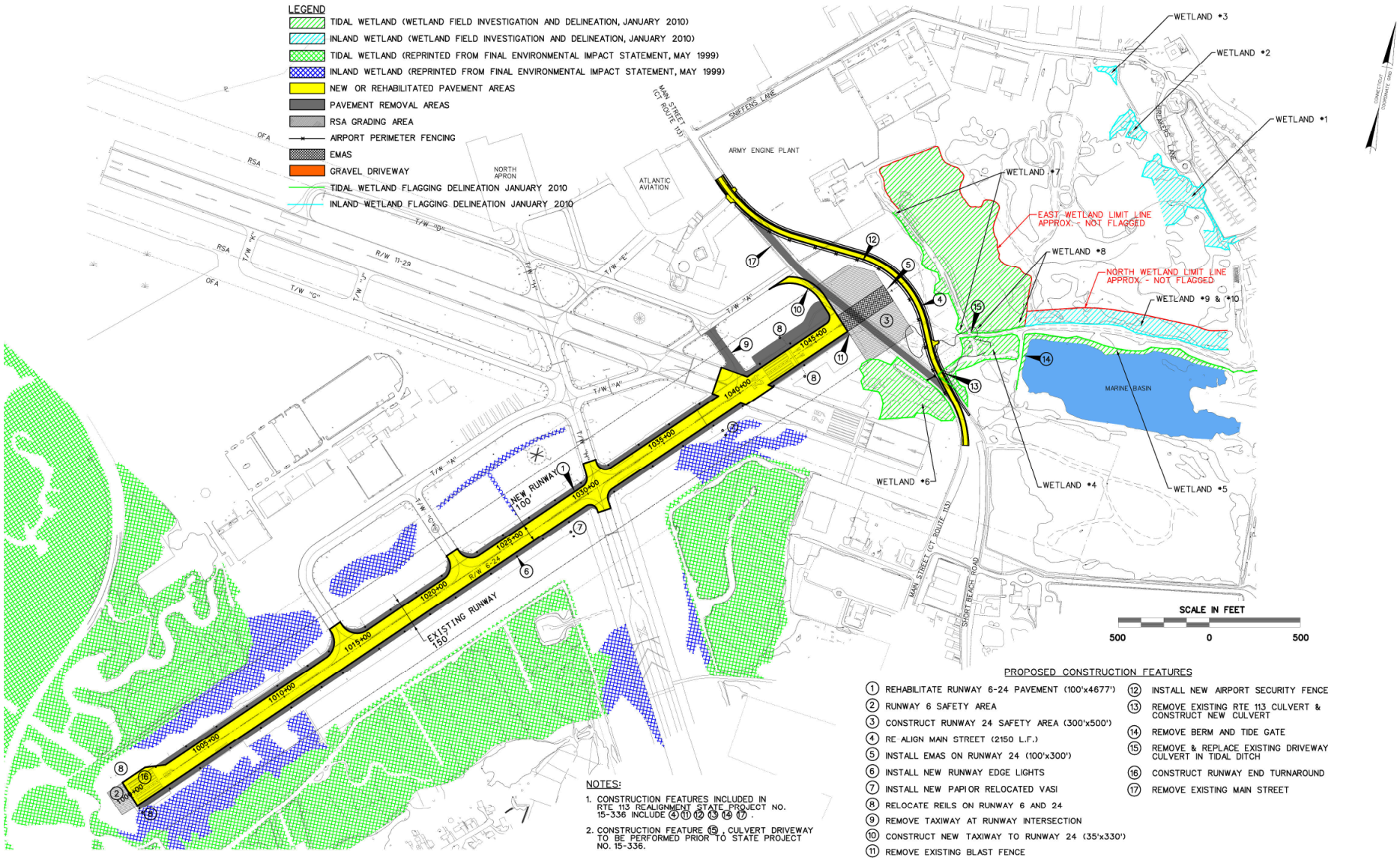
This letter is submitted in order to assist the FAA in fulfillment of our responsibilities under the National Historic Preservation Act, Section 106.

Sincerely,

R. Doucette

Richard P. Doucette, Manager of Environmental Programs
Airports Division, FAA New England Region

ALTERNATIVE 1-G MODIFIED WITH INSTALLATION OF EMAS



NOTES:

1. CONSTRUCTION FEATURES INCLUDED IN RTE 113 REALIGNMENT STATE PROJECT NO. 15-336 INCLUDE ④ ⑪ ⑫ ⑬ ⑭ ⑰ .
2. CONSTRUCTION FEATURE ⑮ , CULVERT DRIVEWAY TO BE PERFORMED PRIOR TO STATE PROJECT NO. 15-336.

PROPOSED CONSTRUCTION FEATURES

① REHABILITATE RUNWAY 6-24 PAVEMENT (100'x4677')
② RUNWAY 6 SAFETY AREA
③ CONSTRUCT RUNWAY 24 SAFETY AREA (300'x500')
④ RE-ALIGN MAIN STREET (2150 L.F.)
⑤ INSTALL EMAS ON RUNWAY 24 (100'x300')
⑥ INSTALL NEW RUNWAY EDGE LIGHTS
⑦ INSTALL NEW PAPI OR RELOCATED VASI
⑧ RELOCATE REILS ON RUNWAY 6 AND 24
⑨ REMOVE TAXIWAY AT RUNWAY INTERSECTION
⑩ CONSTRUCT NEW TAXIWAY TO RUNWAY 24 (35'x330')
⑪ REMOVE EXISTING BLAST FENCE
⑫ INSTALL NEW AIRPORT SECURITY FENCE
⑬ REMOVE EXISTING RTE 113 CULVERT & CONSTRUCT NEW CULVERT
⑭ REMOVE BERM AND TIDE GATE
⑮ REMOVE & REPLACE EXISTING DRIVEWAY CULVERT IN TIDAL DITCH
⑯ CONSTRUCT RUNWAY END TURNAROUND
⑰ REMOVE EXISTING MAIN STREET

From: Richard Doucette/ANE/FAA
ANE-610, Planning & Program
To: Daniel.Forrest@ct.gov
Date: 04/25/2011 03:16 PM
Subject: Sikorsky Airport

Thirty days has passed since the FAA submitted its finding of "no historic properties affected" by the Sikorsky Memorial Airport runway safety project. No response was received from the SHPO, and therefore our responsibilities under Section 106 of the NHPA are fulfilled.

Ltr to CT SHPO re Sikorsky RSAs.doc

Richard Doucette
Environmental Program Manager
FAA New England Region, Airports Division
(781) 238-7613

URS	URS CORPORATION RECORD OF CONVERSATION	HUNT VALLEY, MD

Spoke With

Name:	Phone Number:	Recorded By:
David Fox	(860) 424-4111	Gerry D'Amico
Company:		Date: / Time:
CT DEP Office of Environmental Review		5/23/2011 / 3:45 pm
Client:		Phone Number: / Extension:

Project Information & Routing

❑ Incoming ❑ Outgoing

Project Name: BDR - Written Reevaluation

Billable to Project: ……

Route To:	For Information:	For Action:

Items Discussed

After introductions, I explained that we had received his letter dated February 19, 2010, and was informing him that we would be publishing the Written Reevaluation about the first of June, and publishing for final comments. We expect that the ROD would be published in July 2011.

I noted that we had reviewed the comments in his letter and would attempt to mitigate the concerns of the CTDEP during the design phase, in particular the recommendation to minimize or re-design the safety area dimensions to avoid the wetland impacts, particularly on the outer edges of the safety area beyond the runway thresholds. I noted that as the design progressed we would have a second look at the need to impact these areas.

I noted that there would be very little impact to wildlife habitat along the runway, since we would be narrowing the runway by removing pavement and then restoring the area with grass. I also noted that this work was to occur on an active airport and airports are not wildlife refuges, although we would make effort to minimize the overall environmental impacts.

Mr. Fox indicated that he was not the wildlife biologist or botanist that had commented on the report, but he would be interested in reviewing the final report and passing it on to his associates in the Department.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

FEB 22 2010

Jennifer M. Lutz
URS Corporation
4 North Park Drive, Suite 300
Hunt Valley, MD 21030

Re: URS Project 38397150: Reevaluation of the Environmental Impact Statement for Igor I. Sikorsky Memorial Airport, Stratford, CT

Dear Ms. Lutz:

The National Marine Fisheries Service (NMFS) has reviewed the January 15, 2009 request for information regarding fisheries resources for the reevaluation of the Environmental Impact Statement (EIS) regarding the revised Runway Safety Area (RSA) improvements at the Igor I. Sikorsky Memorial Airport in Stratford, Connecticut. The proposed RSA improvements include the construction of two RSA's, the rehabilitation of the existing runway, removal and relocation of the taxiway, the removal and relocation of Main Street, and removal and relocation of a private driveway. The work also includes the removal of a berm, tide gate and culvert adjacent to a marine basin and tidal wetlands associated with Long Island Sound.

NMFS has been involved with this project during the previous EIS process. In a letter dated July 16, 1998, NMFS provided comments on the Draft EIS for the Proposed Improvements to Runway 6-24. The following comments focus on the newly proposed alternative to the runway improvements and are intended to identify and address potential adverse impacts to essential fish habitat (EFH) for public trust resources.

Essential Fish Habitat

EFH has been designated for 17 federally managed species within and adjacent to the proposed work area. A complete list of species and life stages that have been designated for the proposed project location can be found on the NMFS Habitat Conservation Division website at http://www.nero.noaa.gov/ro/doc/webintro.html.

Among those species listed, particular attention should be focused on winter flounder (*Pseudopleuronectes americanus*) habitat that may be adversely affected by this project. Adult winter founder utilize shallow near shore areas such as the marine basin for spawning and feeding, while eggs, larvae, and juveniles use the area for early life stage development. Recent stock assessments for winter flounder indicate that recruitment continues at record low levels and spawning stock biomass is less than sustainable levels despite commercial harvest controls (Northeast Fisheries Science Center 2008). This resource status of an ecologically and commercially important species accentuates the critical need to protect winter flounder habitat for spawning and egg life stages.

Inland and tidal wetlands are located throughout the project site and will be impacted as a result of the proposed construction. Wetlands are designated by the U.S. Environmental Protection Agency as "special aquatic sites" under the Section 404(b)(1) of the Federal Clean Water Act, due to their important role in the marine ecosystem for foraging species, including winter flounder. Impacts to such habitats would result in negative consequences for fisheries resources, as these environments are particularly valuable in exporting nutrients, filtering runoff from upland sources, and providing spawning, nursery, and shelter habitat for most of the species utilizing the area, including those managed under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The filling of wetlands leads to the physical loss of habitat, loss or impairment of wetland functions and changes in hydrologic patterns.

EFH Assessment

The MSA and the Fish and Wildlife Coordination Act require Federal agencies to consult with one another on projects such as this. Insofar as a project involves EFH, as this project does, this process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in this consultation procedure.

The required contents of an EFH assessment includes: 1) a description of the action; 2) an analysis of the potential adverse effects of the action on EFH and the managed species; 3) conclusions regarding the effects of the action on EFH; and 4) proposed mitigation, if applicable. Other information that should be contained in the EFH assessment, if appropriate, includes: 1) the results of on-site inspections to evaluate the habitat and site-specific effects; 2) the views of recognized experts on the habitat or the species that may be affected; 3) a review of pertinent literature and related information; and 4) an analysis of alternatives to the action that could avoid or minimize the adverse effects on EFH. Upon submittal of an EFH assessment, NMFS will provide conservation recommendations for the proposed project.

Protected Resources

NMFS Protected Resources Division has reviewed the project materials. While listed sea turtles are seasonally present in Long Island Sound, due to the habitat characteristics of the project area, no listed species are likely to be present. Should you have any questions regarding listed species, please contact Julie Crocker at (978) 282-8480 or by e-mail at (Julie.Crocker@noaa.gov).

Thank you for your coordination with NMFS regarding this issue. Should you have any questions regarding this letter, please contact Jenna Flynn at (978) 675-2176.

Sincerely,

Louis A. Chiarella
New England Field Office Supervisor
for Habitat Conservation

URS	URS CORPORATION RECORD OF CONVERSATION	HUNT VALLEY, MD

Spoke With

Name:	Phone Number:	Recorded By:
Susan Tuxbury		Gerry D'Amico
Company:		Date: / Time:
NOAA - NMFS		11/17/10
Client:		Phone Number: / Extension:
		(978) 281-9178

Project Information & Routing

❑ Incoming ❑ Outgoing

Project Name: **Sikorsky**

Billable to Project: ……

	For Information:	For Action:
Route To:	…….	…….
	…….	…….
	…….	…….
	…….	…….

Items Discussed

Gerry D'Amico spoke with Susan (Sue) Tuxbury, U.S. Department of Commerce - National Oceanic and Atmospheric Administration, National Marine Fisheries Service on Wednesday, November 17, 2010 regarding the draft Essential Fish Habitat (EFH) Assessment prepared by URS in August 2010. S. Tuxbury offered three (3) comments on this EFH:

1. Since the tide gate impedes access to the tidal ditch, there is no fish access to this ditch;

2. Include the total tidal wetland impacts caused by removing the berm and tide gate to the EFH;

3. If sediment controls are in place during construction, there is no requirement to limit construction outside the winter flounder spawning season.

S. Tuxbury asked that we revise the EFH and re-submit; the final EFH can be included in the EIS update as an appendix.

ESSENTIAL FISH HABITAT ASSESSMENT

INTRODUCTION

This Essential Fish Habitat Assessment is being prepared in support of the Written Reevaluation of the Environmental Impact Statement that is currently being prepared for the proposed Runway Safety Area (RSA) improvements for Runway 6-24 at Igor I. Sikorsky Memorial Airport (Airport) in Stratford, Connecticut (see **Exhibit 1.0-1** and **Exhibit 1.0-2**). The Airport occupies a 600-acre site in the Town of Stratford in Fairfield County, Connecticut. The Airport is approximately four miles southeasterly of the City of Bridgeport and approximately 20 miles southwest of New Haven, Connecticut. The Airport has a listed elevation of 10 feet above mean sea level and is located on a peninsula bounded by Main Street (Connecticut Route 113) on the east and Lordship Township, Prospect Drive, and Stratford Road on the south and west, and a portion of the Great Meadows on the north. The Airport is owned and operated by the City of Bridgeport

The improvements proposed in the Written Reevaluation include the following (see **Exhibit 2.2-1**):

1. Rehabilitate Runway 06-24
2. Construct Runway 6 Safety Area
3. Construct Runway 24 Safety Area
4. Re-Align Main Street
5. Install Engineered Materials Arresting System (EMAS) on Runway 24
6. Install New Runway Edge Lights
7. Install New Precision Approach Path Indicators (PAPI) for Runway 24
8. Relocate Runway End Identifier Lights (REILS) on Runways 6 and 24
9. Remove Taxiway at Runway Intersection
10. Construct New Taxiway to Runway 24
11. Remove Existing Blast Fence
12. Install New Airport Security Fence
13. Remove Existing Route 113 Culvert and Construct New Culvert
14. Remove Berm and Tide Gate
15. Remove and Replace Existing Driveway Culvert
16. Construct Runway End Turnaround
17. Remove Existing Main Street

ESSENTIAL FISH HABITAT DESIGNATIONS

Based on data supplied by the NOAA/Fisheries, the area on the Hoosatonic River adjacent to the Airport has been identified as containing Essential Fish Habitat (EFH). These species and life stages are identified in the following table:

SPECIES	EGGS	LARVAE	JUVENILES	ADULTS
Atlantic Salmon			X	X
Pollock			X	X
Whiting				X
Red Hake	X	X	X	X
Winter Flounder	X	X	X	X
Windowpane Flounder	X	X	X	X
Atlantic Sea Herring			X	X
Bluefish			X	X
Atlantic Mackerel	X	X	X	X
Summer Flounder			X	
Scup	X	X	X	X
Black Sea Bass			X	
King Mackerel	X	X	X	X
Spanish Mackerel	X	X	X	X
Cobia	X	X	X	X
Sand Tiger Shark		X		

Particular concern has been expressed for the Winter Flounder (*Pseudopleuronectes americanus*), which utilize the shallow near shore areas as such in the marine basin for spawning and feeding, while eggs, larvae, and juveniles use the area for early life stage development.

PROJECT IMPACTS AND MITIGATION MEASURES

Project 14 (Remove Berm and Tide Gate) is the only project listed that would have a direct impact on the marine basin. Project 13 (Remove Existing Route 113 Culvert and Construct New Culvert) and Project 15 (Remove and Replace Existing Driveway Culvert) would have minor impacts on the tidal ditch that flows into the marine basin. These are discussed in more detail below:

Project 13: The existing driveway culvert was installed prior to Airport ownership in 1973 and is non-functioning. The culvert has been filled with debris and silt. The project would remove and replace this culvert. The new culvert would include flared end sections to limit silt and gravel runoff from the roadway surface into the culvert and placement of a trash rack at the head of the culvert to minimize free floating vegetation from flowing into the culvert during tidal flow. The excavation and replacement of this culvert is expected to be completed with one working day. Mitigation measures include completing this work prior to removing the Tide Gate to minimize siltation; placement of siltation controls, and using best management practices during construction.

Project 14: A tide gate was constructed prior to 1950 at the head of the marine basin by the US Army Corps of Engineers. This tide gate was to be operated manually during high tide/flood conditions to

minimize flooding of Main Street and the US Army Engine Plant parking area on Sniffens Lane. This tide gate has not been used since ownership of the property was transferred to the Airport/City of Bridgeport in 1973. The tide gate is currently not functional since the gate valve has been removed and the connecting culvert has filled with silt and debris. The project would remove the tide gate and a portion of the adjacent berm (see **Exhibit 1.0-4**). The total resource impacts due to this work will be:

Tidal Open Water	500 square feet
Tidal Wetland;	1700 square feet

The excavation work required to remove the tide gate and berm is expected to be completed in one day. The exposed area will be replanted with compatible vegetation. Mitigation measures would include limiting construction to installing siltation controls including installation of a turbidity control curtain and using best management practices during the construction.

Project 15: The existing culvert under CT Route 113 was installed prior to 1970 and is no longer functioning due to silt and debris in the culvert. CT Route 113 is owned and maintained by the CT Department of Transportation (CTDOT). CT Route 113 is to be re-aligned to allow for the construction of the Runway 24 Safety Area. The realignment would necessitate removing the existing culvert and placing a new culvert on a slightly different alignment under the new roadway. Removing and replacing this culvert is expected to be completed within one week. Mitigation measures include completing the work prior to removing the tide gate and berm to minimize any siltation into the marine basin, placing siltation controls during the construction, replacing compatible vegetation in any exposed areas, and using best management practices during the construction.

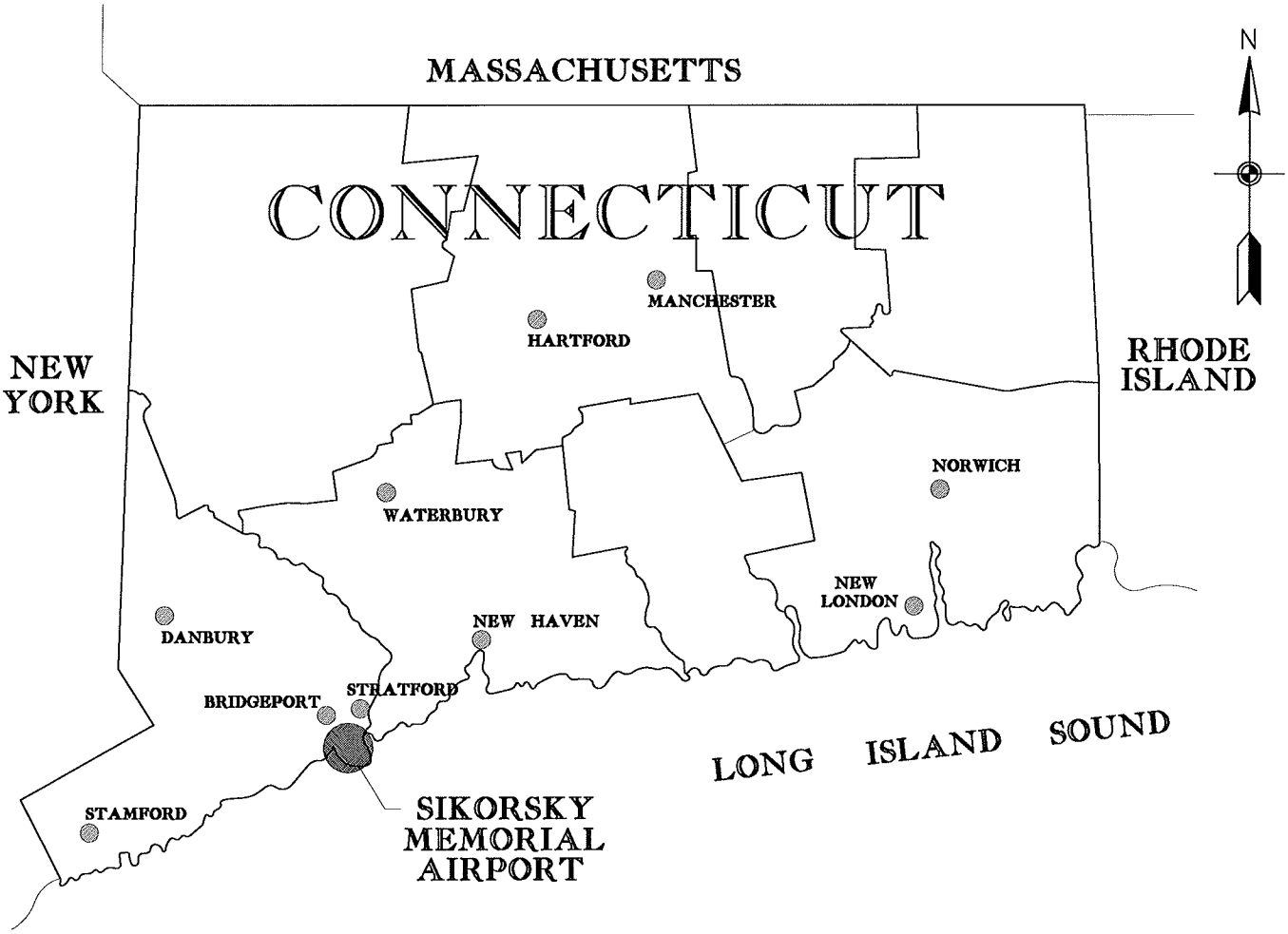
ASSESSMENT

The listed species are not estuarine residents but may visit the Hoosatonic River and the marine basin on a casual or seasonal basis, primarily during the summer months. The one exception would be the winter flounder, which may spawn in the area from February through June.

In order to minimize any disturbance, including siltation of the marine basin during the excavation/removal of the tide gate, work on this removal/excavation would be undertaken during the fall/early winter months (September thru January). In water work at this time of year will minimize any impact to the marine basin and have no impact on the Hoosatonic River. The construction impact is a one time disturbance and full restoration of the site would occur within weeks of the work. No long term adverse impacts are expected.

CONCLUSION

No long term adverse impacts are anticipated to the marine basin or Hoosatonic River. Removal of the tide gate will improve tidal flow throughout the estuary and could ultimately improve tidal vegetation and marine life.



IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

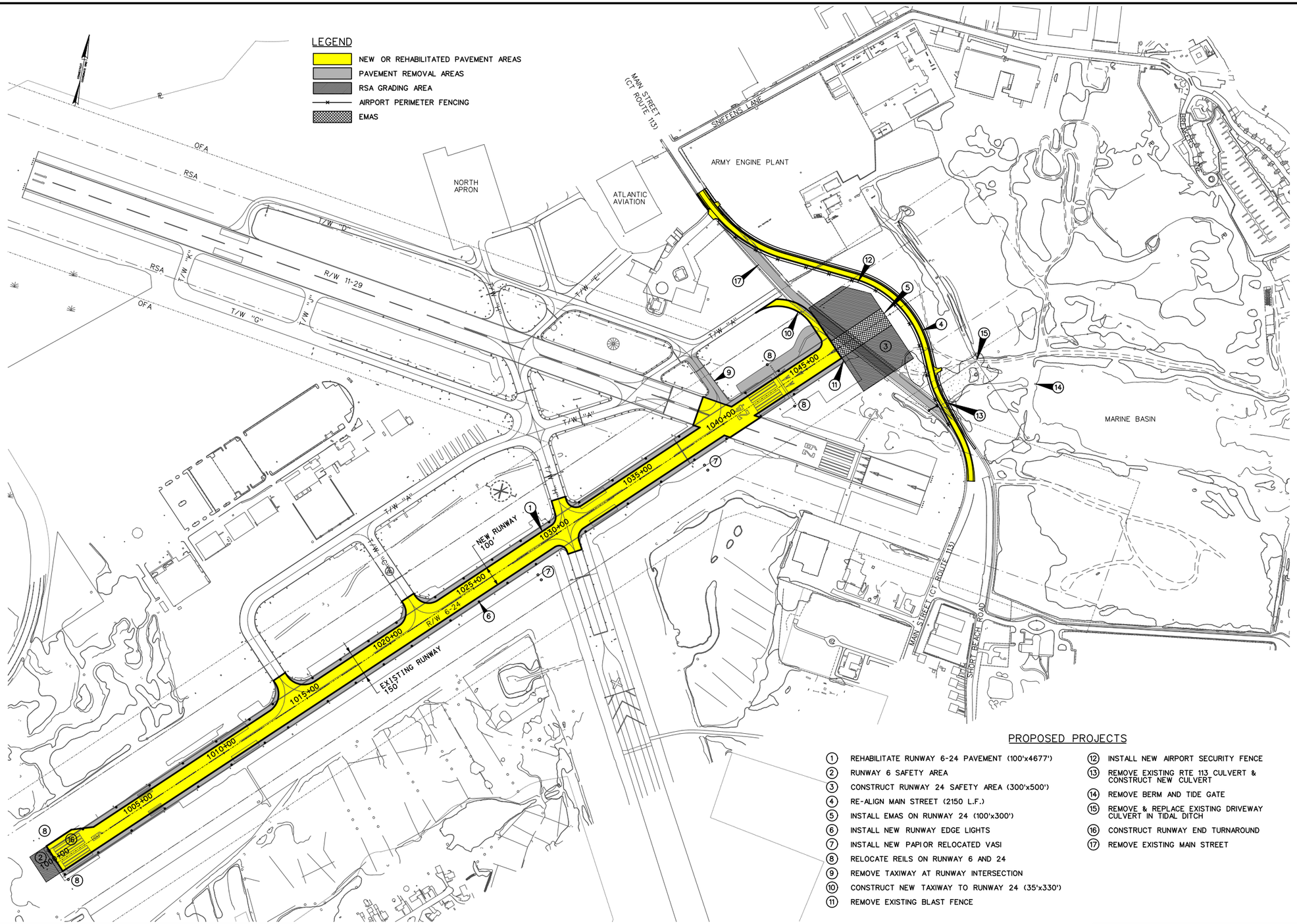
URS

LOCATION MAP

EXHIBIT

1.0-1

4/21/2010
FILE NAME: J:\38397150 Sikorsky EIS Update 38397142\CADD\exhibit_LO-1.dgn



PROPOSED PROJECTS

1. REHABILITATE RUNWAY 6-24 PAVEMENT (100'x4677')
2. RUNWAY 6 SAFETY AREA
3. CONSTRUCT RUNWAY 24 SAFETY AREA (300'x500')
4. RE-ALIGN MAIN STREET (2150 L.F.)
5. INSTALL EMAS ON RUNWAY 24 (100'x300')
6. INSTALL NEW RUNWAY EDGE LIGHTS
7. INSTALL NEW PAPI OR RELOCATED VASI
8. RELOCATE REILS ON RUNWAY 6 AND 24
9. REMOVE TAXIWAY AT RUNWAY INTERSECTION
10. CONSTRUCT NEW TAXIWAY TO RUNWAY 24 (35'x330')
11. REMOVE EXISTING BLAST FENCE
12. INSTALL NEW AIRPORT SECURITY FENCE
13. REMOVE EXISTING RTE 113 CULVERT & CONSTRUCT NEW CULVERT
14. REMOVE BERM AND TIDE GATE
15. REMOVE & REPLACE EXISTING DRIVEWAY CULVERT IN TIDAL DITCH
16. CONSTRUCT RUNWAY END TURNAROUND
17. REMOVE EXISTING MAIN STREET

IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

ALTERNATIVE 1G MODIFIED WITH INSTALLATION OF EMAS

EXHIBIT
1.0-3

NOTES:

1. TIDAL WETLAND FLAGGING DELINEATION PERFORMED 12-11-09.

2. THIS WORK WILL BE PERFORMED UNDER STATE PROJECT 15-336.

CONNECTICUT COORDINATE GRID

TIDAL RESOURCE IMPACTS

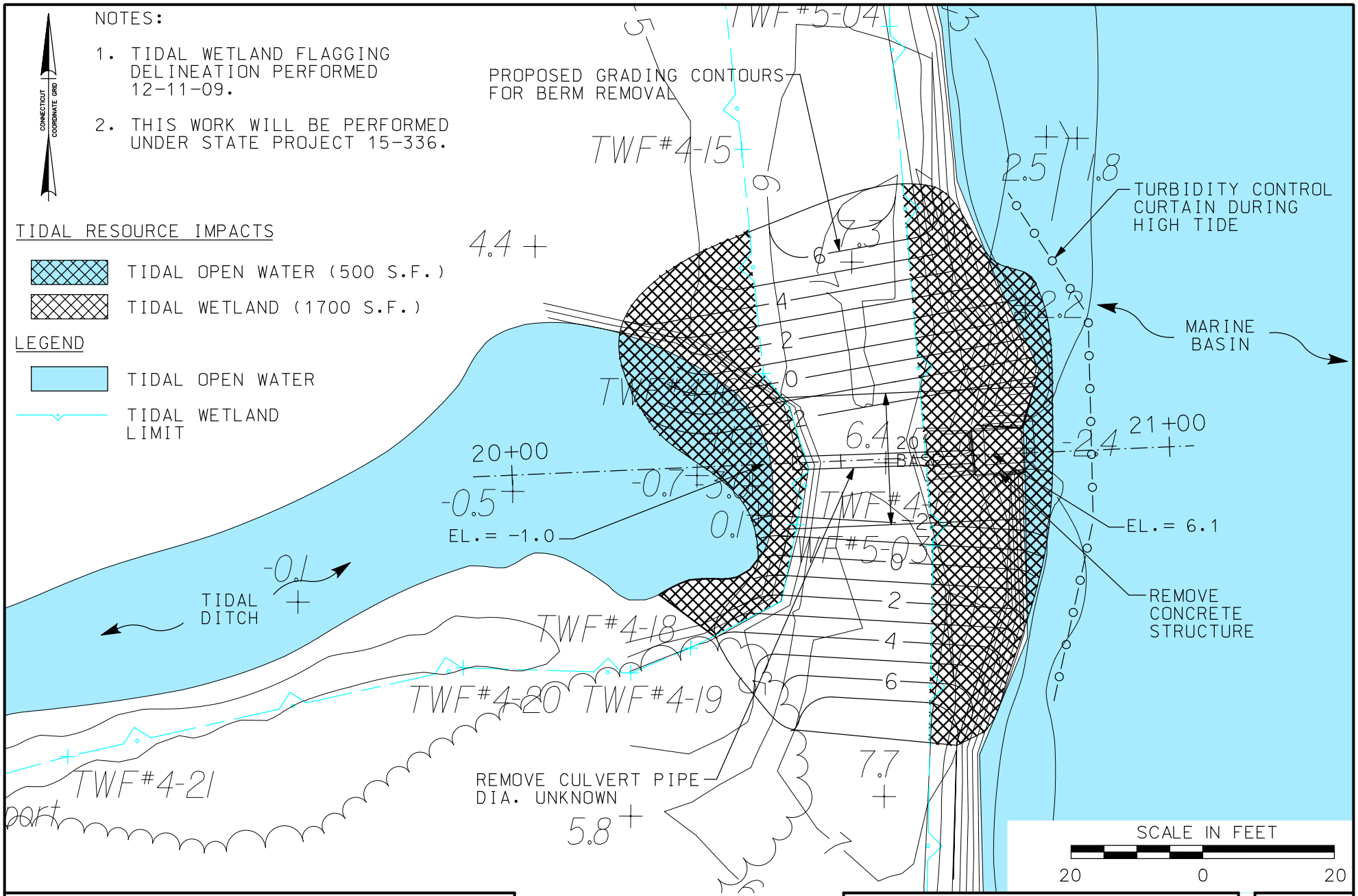
TIDAL OPEN WATER (500 S.F.)

TIDAL WETLAND (1700 S.F.)

LEGEND

TIDAL OPEN WATER

TIDAL WETLAND LIMIT



IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

BERM AND TIDE GATE AT MARINE BASIN
PROPOSED PLAN

EXHIBIT

1.0-4

3.1. AIR QUALITY

This section describes existing air quality conditions in the area surrounding Sikorsky Memorial Airport (BDR) in Fairfield County, Connecticut, including: applicable air quality regulations, agencies responsible for regulating area air quality, existing air monitoring data, and details about the area's compliance with existing air quality regulations.

3.2. FEDERAL AND STATE AIR QUALITY REGULATIONS

Title I of the federal Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to regulate levels of pollutants in the ambient (i.e. "outdoor") air that endanger public health or environmental welfare. To fulfill this requirement, EPA has identified pollutants that fit the endangerment criteria (known as "criteria" pollutants) and established National Ambient Air Quality Standards (NAAQS) to control them. On the state-level, regulatory agencies are then charged with monitoring the local air quality with respect to NAAQS-regulated pollutants and implementing controls if violations of the NAAQS are found to occur. State air quality agencies may also strengthen or supplement the NAAQS if regional air quality conditions merit such action. Additionally, the General Conformity Rule requires actions affecting air quality in EPA-identified NAAQS violation areas (called "non-attainment areas") to demonstrate that they do not cause or contribute to continued NAAQS violations, by conforming to the state-level air quality plan developed to address the air quality problem.[1] Notably, transportation improvement actions are subject to separate requirements under the Transportation Conformity Rule.[2] This section describes the NAAQS and related state requirements as well as the General and Transportation Conformity processes.

3.2.1. NATIONAL AMBIENT AIR QUALITY STANDARDS

As described, the NAAQS represent levels of EPA's "criteria" pollutants in the ambient air over which additional damage to local or regional air quality would be incurred. Primary NAAQS are those intended to safeguard human health; secondary NAAQS are designed to prevent environmental degradation.

Areas possessing levels of these pollutants in the ambient air that are below the applicable NAAQS are said to be in "attainment" of the NAAQS; areas with measured levels exceeding the NAAQS are designated "non-attainment". Non-attainment designations can vary based on the severity of the NAAQS violations (i.e. "severe", "moderate"), dictating how stringently air quality must be controlled in the area, and over what timeframe. State agencies in non-attainment areas are then required to develop and submit State Implementation Plans (SIPs) to EPA, outlining measures and control strategies that demonstrate how the infractions will be remedied by EPA's established deadlines.

Table 3.2.1-1 below describes pollutants for which NAAQS have been established: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter measuring less than 10 micrometers in diameter (PM_{10}), particulate matter measuring less than 2.5 micrometers in diameter ($PM_{2.5}$), and sulfur dioxide (SO_2). **Table 3.2.1-2** summarizes the current NAAQS established by EPA and supplemented by the State of Connecticut, and includes Fairfield County area attainment designations. As shown, the Fairfield County area is currently designated "moderate" non-attainment of the 8-hour O_3 standard promulgated in 1997. Further, the area is currently designated non-attainment of both the annual and 24-hour standards for $PM_{2.5}$.The area's level of compliance with the NAAQS is further addressed in **Sections 3.4 and 3.5**.

[1] 40 CFR Part 93, Subpart B
[2] 40 CFR Part 93, Subpart A

TABLE 3.2.1-1 EPA CRITERIA AIR POLLUTANTS

Pollutant	Characteristic	
Carbon Monoxide (CO)	CO is a colorless, odorless, tasteless gas and is largely the product of incomplete combustion of fossil fuels from mobile sources (e.g., motor vehicles). Other sources include industrial processes and coal, kerosene, and wood-burning stoves in homes.	
Lead (Pb)	Lead is a naturally occurring heavy metal and can be toxic if inhaled or ingested. The lead content of motor vehicle emissions, historically the largest source, has significantly declined with the widespread use of unleaded fuel. Currently, smelters and battery plants are the major sources of lead emissions.	
Nitrogen Dioxide (NO_2)	NO_2 is one component of a larger group of nitrogen-containing compounds called Nitrogen Oxides (NO_x), which are further described below in relation to Ozone (O_3). EPA has established separate NAAQS for NO_2 due to its documented short and long term health effects, causing it to be monitored and evaluated separately from other NO_x components.	
Ozone (O_3)	O_3 is formed when precursor pollutants NO_x and volatile organic compounds (VOC), described below, react in the presence of sunlight. Ozone is subject to long-range transport and is considered a "regional" pollutant.	
	Nitrogen Oxides (NO_x)	NO_x includes nitric oxide (NO), nitrogen dioxide (NO_2), and the nitrate radical (NO_3), and is produced during both fossil-fuel combustion and the mixing of fuel and air at high temperatures and pressures.
	Volatile Organic Compounds (VOCs)	VOCs include all compounds containing both carbon and hydrogen. These compounds exist primarily in the gaseous form and are generated as either exhaust or evaporative by-products from the use of fossil fuels.
Particulate Matter (PM)	PM comprises very small particles of dirt, dust, soot, or liquid droplets called aerosols. Precursors may include sulfur compounds, VOC, NO_x and ammonia (NH_3). PM is segregated by sizes (i.e., < 10 and < 2.5 microns as PM_{10} and $PM_{2.5}$, respectively), and originates from the exhaust of internal combustion engines or from the breakdown and dispersion of other solid materials (e.g., fugitive dust).	
Sulfur Dioxide (SO_2)	Sulfur is a contaminant of fossil fuels. Emitted as a gas (sulfur dioxide, SO_2) or a solid (sulfates, SO_4), SO_x is an exhaust product of internal combustion engines. Coal-fired power plants are typically the largest sources of sulfur dioxide.	

Source: KB Environmental Sciences, 2010.

TABLE 3.2.1-1 NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Primary Standards		Secondary Standards		Attainment Status
	Level	Averaging Time	Level	Averaging Time	
Carbon Monoxide (CO)	9 ppm (10 mg/m^3)	8-hour (1)	None		Attainment
	35 ppm (40 mg/m^3)	1-hour (1)	None		Attainment
Dioxin	1.0 pg/m^3	Annual Mean (10)	None		N/A
Lead (Pb)	0.15 µg/m^3 (2)	Rolling 3-Month Average	Same as Primary		Attainment
Nitrogen Dioxide (NO_2)	0.053 ppm (100 µg/m^3)	Annual (Arithmetic Mean)	Same as Primary		Attainment
	0.100 ppm	1-hour (3)	None		Pending
Ozone (O_3)	0.075 ppm (2008 std)	8-hour (7)	Same as Primary		Pending
	0.08 ppm (1997 std)	8-hour (8)	Same as Primary		Moderate
	0.12 ppm	1-hour (9)	Same as Primary		N/A
Particulate Matter (PM_{10})	150 µg/m^3	24-hour (4)	Same as Primary		Attainment
Particulate Matter ($PM_{2.5}$)	15.0 µg/m^3	Annual (Arithmetic Mean) (5)	Same as Primary		Non-attainment
	35 µg/m^3	24-hour (6)	Same as Primary		Non-attainment
Sulfur Dioxide (SO_2)	0.03 ppm	Annual (Arithmetic Mean)	0.5 ppm (1300 µg/m3)	3-hour (1)	Attainment
	0.14 ppm	24-hour (1)			

Source: U.S. EPA and Connecticut Department of Environmental Protection, 2010.

(1) Not to be exceeded more than once per year.

(2) Final rule signed October 15, 2008.

(3) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

(4) Not to be exceeded more than once per year on average over 3 years.

(5) To attain this standard, the 3-year average of the weighted annual mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m^3.

(6) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m^3 (effective December 17, 2006).

(7) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective May 27, 2008)

(8) (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(c) EPA is in the process of reconsidering these standards (set in March 2008).

(9) (a) EPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").

(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is < 1.

(10) State-level standard regulating emissions of dioxin and 2,3,7,8-TCDD equivalents, mainly from stationary sources. Not to be exceeded. This standard is assessed against individual stationary sources in the area.

3.2.2. GENERAL CONFORMITY

Originally promulgated in 1993, the General Conformity Rule of the CAA ensures that actions occurring in EPA-designated non-attainment areas do not impede the progress the improvement of air quality as outlined in an area's SIP. In addition, actions that are initiated, overseen or funded by federal agencies in non-attainment areas must be shown to conform to the applicable SIP, else be precluded by further funding or federal assistance.

The General Conformity process requires air quality impacts associated with actions occurring in non-attainment areas to be quantified in an emissions inventory, representing the total gross emissions caused by the action per year. An emissions inventory typically quantifies all direct and indirect emissions from sources associated with the action and compares them to the emissions that would normally occur had the action not taken place (i.e. the "No-action Alternative"). Direct emissions are defined as those that occur directly as a result of the action (i.e. increased aircraft emissions at an airport due to installation of a new runway); indirect emissions refer to those emissions that occur as a consequence of the action (i.e. emissions from construction equipment installing the runway, or emissions from delayed aircraft due to the airfield construction).

An applicability test is then conducted on the emissions inventory results, comparing them to de minimis thresholds established in the General Conformity Rule, which can vary based upon pollutant and the severity of the area's air quality problem.[3] As mentioned in **Section 3.2.1**, the Fairfield County area is currently designated non-attainment for O_3 and $PM_{2.5}$. The de minimis thresholds applicable to Fairfield County are presented on **Table 3.2.2-1** below. Annual emissions from an action that are below the de minimis thresholds are considered de minimis emissions, meaning that they are in conformance with the area's SIP to improve air quality. Emissions that exceed the de minimis thresholds are considered to hamper the SIP's effective progress, and hence would need to be fully offset before a favorable General Conformity Determination could be issued on the project.

TABLE 3.2.1-1 GENERAL CONFORMITY DE MINIMIS THRESHOLDS

Pollutant		De minimis Threshold (tons per year)
O_3 ("Moderate" non-attainment areas)	NO_x	100
	VOC	50
$PM_{2.5}$ (all non-attainment areas) (1)	NO_x	100
	$PM_{2.5}$ (direct)	100
	SO_2	100

Source: 40 CFR Part 93, Subpart B, effective January 31, 1994, as amended April 6, 2010.
(1) EPA requires that SO2 be evaluated as a precursor to PM2.5 in all instances. NOx is a precursor unless state and federal agencies agree it is not for that area. VOC and ammonia are not considered precursors unless EPA and state agencies determine otherwise. Notably, Connecticut considers all $PM_{2.5}$ precursors significant in their current SIP.

[3] Notably, prior to General Conformity Rule revisions promulgated by EPA in April 2010, emissions from an action would also have to be compared to a regional emissions budget, and were required to constitute less than ten percent of that budget in order to be considered de minimis. However, the recent revisions have removed the regional applicability requirement from the General Conformity Rule.

Full offset of emissions can be demonstrated in one of the following four methods, after which a favorable General Conformity Determination can be issued:

1) The state air quality regulatory agency can make a determination that the emissions are already accounted in the applicable State Implementation Plan emission budgets,

2) The state agency can agree to revise the SIP emissions budgets to include the emissions,

3) The sponsor of the action causing the emissions can purchase offsets or emissions reduction credits (ERC) in the same non-attainment area, or

4) The sponsor must mitigate the emissions to the required level by implementing emissions reduction measures.

3.2.3. TRANSPORTATION CONFORMITY

The Transportation Conformity Rule establishes separate conformity requirements for government funded roadway improvements, and other actions on regionally significant roadways identified in the area's Transportation Improvement Plan (TIP), such that these actions are in accordance with the area SIP to control air quality. To this end, state agencies in non-attainment areas must demonstrate that regional transportation air quality analyses fit within applicable SIP emissions budgets approved by the EPA. Typically, Transportation Conformity determinations are the responsibility of the local Metropolitan Planning Organization (MPO) or the State Department of Transportation (DOT).

3.3. AIR QUALITY REGULATORY AGENCIES

Management of air quality in the Fairfield County area is the joint responsibility of federal, state and local agencies. **Table 3.3-1** summarizes agency roles and responsibilities pertaining to air quality management in the area surrounding BDR.

TABLE 3.3.1-1 REGULATORY AGENCIES

Agency		Responsibilities
Federal	Environmental Protection Agency (EPA)	Sets air quality standards (NAAQS), controls and requirements. Designates NAAQS non-attainment areas. Delegates pollution control responsibilities and enforcement to state and local agencies.
	Federal Aviation Administration (FAA)	Regulates aviation activity and safety. Funds and oversees improvements to airport infrastructure. Serves as "lead" agency when evaluating environmental impacts of federally funded airport actions.
	Federal Highway Administration (FHWA)	Regulates roadway and motor vehicle activity and safety. Funds and oversees improvements to highway and roadway infrastructure. Serves as "lead" agency when evaluating environmental impacts of federally funded projects on highways and roadways.
State	Connecticut Department of Environmental Protection (CT DEP)	Develops SIPs, control strategies, and permit programs to comply with federal air quality regulations. Strengthens and supplements federal regulations where appropriate. Funds and conducts outdoor air monitoring programs.
	Connecticut Department of Transportation (ConnDOT)	Regulates roadway improvements and manages traffic flow as extension of FHWA. Bureau of Aviation and Ports oversees use of state aviation facilities as extension of FAA.
Local	Greater Bridgeport Regional Planning Agency (GBRPA)	Metropolitan Planning Organization (MPO) for area surrounding BDR. Assists ConnDOT and CT DEP with Bridgeport area transportation and air quality planning.

Source: KB Environmental Sciences, 2010.

3.4. EXISTING AIR QUALITY CONDITIONS

This section presents air monitoring data for the area surrounding BDR, and describes the area's level of compliance with the NAAQS and other air quality regulations.

3.4.1. AIR MONITORING DATA

As required by the EPA, the CT DEP has established and maintains a permanent network of air quality monitors. The monitors record concentrations of EPA- and state-regulated pollutants in the ambient air to gauge compliance with the NAAQS as well as progress with SIP air quality goals. Air quality monitoring data collected at stations near BDR for the years 2006 through 2008 are shown on **Table 3.4.1-1** below. For ease of reference, the applicable NAAQS for each monitored pollutant is included on the table. Bold values on the table represent violations of the applicable NAAQS. As shown, violations of the 24-hour NAAQS for $PM_{2.5}$ occurred in 2006 and 2008. Violations of the 8-hour O_3 standard are also shown at multiple monitors for all three calendar years.

TABLE 3.4.1-1 AMBIENT AIR MONITORING DATA (2006 – 2008)

Site	Site ID	Distance from BDR	Pollutant	Averaging Time	NAAQS	2006	2007	2008
Edison School	90010012	2.49 miles NW	SO_2	Annual	0.03 ppm	0.005	0.004	0.003
				24-hour	0.14 ppm	0.021	0.017	0.016
				3-hour	0.5 ppm	0.033	0.029	0.021
Roosevelt School	90010010	3.58 miles W	CO	1-hour	35 ppm	--	3.8	3.2
				8-hour	9 ppm	--	1.8	2.0
			PM_{10}	24-hour	150 µg/m^3	61	43	49
			$PM_{2.5}$	Annual	15.0 µg/m^3	12.52	12.66	12.83
				24-hour	35 µg/m^3	**36.7**	30.2	**35.5**
Sherwood Island State Park	90019003	11.5 miles SSW	CO	1-hour	35 ppm	--	1.1	1.6
				8-hour	9 ppm	--	0.8	1.1
			NO_2	Annual	0.053 ppm	0.014	0.014	0.012
				1-hour (1)	0.100 ppm	0.086	0.07	0.062
			O_3	8-hour	0.075 ppm	**0.089**	**0.083**	**0.090**
			PM_{10}	24-hour	150 µg/m^3	38	30	55
			$PM_{2.5}$	Annual	15.0 µg/m^3	10.73	10.91	10.66
				24-hour	35 µg/m^3	31.3	29.0	30.9
			SO_2	Annual	0.03 ppm	0.003	0.002	0.002
				24-hour	0.14 ppm	0.017	0.013	0.014
				3-hour	0.5 ppm	0.025	0.025	0.022
Stratford Lighthouse	90013007	1.76 miles SE	O_3	8-hour	0.075 ppm	**0.095**	**0.092**	**0.078**

Source: EPA AirData, accessed April 03, 2010.
Bolded values represent infractions of the NAAQS.
(1) EPA does not yet report the appropriate averaging statistic for the 1-hour NO_2 standard; As a result, the first max concentration is reported here.

3.4.2. ATTAINMENT STATUS

Fairfield County currently comprises a portion of the New York-New Jersey-Long Island NY-NJ-CT non-attainment area. The area was designated "moderate" non-attainment in 2004 with respect to the 8-hour O_3 NAAQS promulgated in 1997. EPA required that states possessing non-attainment areas submit attainment demonstration SIPs by 2008. Because EPA also requires that "moderate" O_3 non-attainment areas demonstrate compliance with the NAAQS no later than six years after designation, the Fairfield County area must be in compliance with the 1997 O_3 NAAQS by June 2010.

Additionally, the NY-NJ-CT non-attainment area has been classified as non-attainment for the annual $PM_{2.5}$ NAAQS in 2005 and non-attainment for the 24-hour PM2.5 NAAQS shortly after its promulgation in 2006. With respect to these designations, non-attainment areas must submit SIPs by April 2008 and attain the standard no later than five years after their designation.

Historically, the Fairfield County area was part of the 1-hour O_3 Greater Connecticut Non-attainment area prior to the repeal of the 1-hour O_3 NAAQS. Moreover, portions of the Fairfield County area were included in both the former New Haven-Meriden-Waterbury and the NY-NJ-CT CO non-attainment areas for the years 1992 through 1998. These areas were re-designated as "maintenance" of the applicable CO NAAQS in 1998 and 1999, respectively.

3.5. STATE IMPLEMENTATION PLANS

To satisfy EPA's requirements listed above, CT DEP prepared an 8-Hour Ozone Attainment Demonstration SIP and submitted it to EPA on February 1, 2008. The document presented national, regional and local estimates and control programs necessary to attain the NAAQS by EPA's established deadline. However, EPA proposed to disapprove the Attainment Demonstration SIP in May of 2008, contending that it did not display enough compelling evidence to ensure attainment by June 2010. EPA's ruling has yet to be finalized, due in part to CT DEP's recent petition to extend EPA's attainment deadline.

CT DEP also submitted their Fine Particulate Matter (PM 2.5) Attainment Demonstration SIP to EPA on November 18, 2008, demonstrating how the area would attain the annual $PM_{2.5}$ NAAQS by April 2010. EPA is still reviewing this submittal and has yet to render an approval. In addition, CT DEP made revisions to its Regional Haze SIP on November 18, 2009, to assure EPA that the effort to increase visibility in the area is harmonized to the attainment strategies contained in the $PM_{2.5}$ SIP.

4.1 AIR QUALITY

This section outlines the air quality impact analysis conducted on the proposed improvements to runway safety areas at BDR, and includes a description of airport air emissions sources; a description of the No-Action alternative and proposed project; an overview of the methodology used to estimate the project-related emissions; the results of the emissions inventory; and any required actions that would result as a consequence of General Conformity or Transportation Conformity regulations within the CAA.

4.2 AIRPORT EMISSIONS SOURCES

The principal emissions sources currently operating at BDR include aircraft, minimal auxiliary power units (APUs), a small fleet of ground support equipment (GSE), and fuel storage and transfer facilities. Construction of the RSAs at BDR will also involve temporary emissions from construction equipment, asphalt paving, and the generation of fugitive dust during land clearing and pavement demolition. **Table 4.2.1-1** below describes sources of air emissions typically occurring at BDR, including the source type, description of activity, and a listing of the pollutants emitted.

TABLE 4.2.1-1 AIRPORT-RELATED SOURCES OF AIR EMISSIONS

Source	Pollutants[1]	Characteristics
Aircraft and Auxiliary Power Units (APU)	CO, Lead, NO_x, PM, SO_2, VOC,	Emitted as the exhaust products of fuel combustion in aircraft engines, and in APU providing on-board back-up power and comfort control. The quantities and types can vary based on engine power setting and duration of operation. Emissions are generally assessed based on a typical landing/take-off cycle (i.e. taxi and delay, take-off, climb-out, approach and landing).
Ground Support Equipment (GSE)	CO, NO_x, PM, SO_2, VOC	Emitted as the exhaust products of fuel combustion from the operation of service trucks and other equipment servicing the aircraft and the airport. Emissions differ by engine type, fuel type and activity level.
Motor Vehicles	CO, NO_x, PM, SO_2, VOC	Emitted as the exhaust products of fuel combustion from the operation of passenger, employee and other on-road vehicles operating on-airport property. Emissions differ by the engine type, fuel type, operating speed, ambient conditions, roadway conditions and distance travelled.
Stationary Source Facilities	CO, NO_x, PM, SO_2, VOC	Results from the combustion of fossil fuels from generators providing emergency power.
Fuel Storage and Transfer	VOC	Emissions are evaporative, resulting from vapor displacement and loss during storage during transfer. The level of emissions depend on the type of storage device, the type and amount of fuel stored, transfer and refueling methods, efficiency of vapor recovery and atmospheric conditions (i.e. temperature and relative humidity).
Construction Activities	CO, NO_x, PM, SO_2, VOC	Emissions in this category are temporary and result from construction equipment exhaust, VOC emissions from asphalt paving operations and PM emissions due to entrainment of dust resulting from construction, demolition and site clearing operations.

Source: KB Environmental Sciences, 2010.

4.3 NO-ACTION ALTERNATIVE

Historically, BDR has serviced a significant level of commercial service carriers for an airport its size, although currently most activity at the airport is classified as General Aviation (GA). Further, because the level of annual GA operations currently occurring at BDR is less than 180,000, no quantitative

assessment of air quality under the No-Action alternative is required by the NEPA per FAA Order 5050.4B.

4.4 PROPOSED PROJECT

The FAA has recently determined that Runway 24 at BDR does not meet the dimension requirements for runway safety areas (RSAs) necessary to ensure passenger safety at FAR Part 139 certified airports.[4] Consequently, pursuant to Order 5200.8, the FAA has mandated that RSA improvements be made to Runway 24 to comply with the safety requirements. These improvements mainly involve expansion of the airport property at the end of Runway 24, and relocation of the section of Connecticut Route 113 bordering this area, such that adequate space is provided at the end of the runway to ensure safe aircraft operation.

4.5 EMISSIONS INVENTORY METHODOLOGY

The assessment of air quality impacts presented in this section has been prepared pursuant to the requirements of the General Conformity Rule (40 CFR 93), and in accordance with the following guidance:

- FAA Order 1050.1E Change 1 – Environmental Impacts: Policies and Procedures
- FAA Order 5050.4B – National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions
- FAA Environmental Desk Reference for Airport Actions

Methodologies and data used to quantify air emissions from operational and construction sources at BDR are discussed in greater detail in the forthcoming sections.

4.5.1.1 OPERATIONAL EMISSIONS

Again, it is not expected that aircraft activity will exceed 180,000 GA operations in the construction project year of 2012, nor is it expected that airport activity will increase in any way due to the proposed improvements to the RSAs. As a result, no quantitative assessment of operational emissions is required under the NEPA as directed by FAA Order 5050.4B.

4.5.1.2 CONSTRUCTION EMISSIONS

The NEPA recommends disclosure of construction related emissions resulting from airport improvements during air quality impact evaluation. Moreover, the General Conformity Rule of the CAA mandates that all indirect emissions associated with an action occurring in a non-attainment area, including construction emissions, be compared against the appropriate de minimis thresholds in the General Conformity applicability test.

Construction emissions represent a temporary source of air emissions, occurring from the operation of fossil-fueled construction equipment, service vehicles, and worker vehicles accessing and leaving the site; pavement of newly constructed areas; and disturbance of unpaved land areas during the construction process. Activities anticipated to occur during the RSA construction include land clearing, earthworks and excavation, concrete and pavement installation, and finishing work.

To estimate air emissions of EPA criteria pollutants from construction equipment exhaust, activity data taken from the proposed RSA construction schedule, including equipment activity factors, expected hours of use or miles travelled, and brake-specific horsepower, were applied to emissions rates generated using EPA's approved emissions rate models NONROAD2008a (for off-road equipment) and MOBILE6.2 (for on-road motor vehicles). Emissions rates for calendar year 2012 were developed using area-specific

[4] FAA Advisory Circular AC 150/5300-13, *Airport Design.*

input parameters consistent with those applied in recent SIP emissions inventories, including area meteorological data, fuel parameters, and equipment population distributions. Emissions model default parameters were applied wherevere area specific data was unavailable. VOC emissions from asphalt paving and PM emissions from disturbance of unpaved areas were quantified using the estimated dimensions of the project area as reported in provided plans, and emissions rates taken from EPA guidance and other relevant publications.[5],[6]

4.6 EMISSIONS INVENTORY RESULTS

Table 4.6-1 presents the results of the BDR construction emissions inventory by pollutant and by project component, representing the estimated level of emissions expected to occur as a result of the RSA construction in calendar year 2012. For ease of evaluation of these emissions against the General Conformity regulations, the appropriate de minimis thresholds are also included for each applicable pollutant. As shown, the project is expected to generate 0.84 tons of VOC, 4.29 tons of CO, 5.95 tons of NO_x, 0.02 tons of SO_2, 19.53 tons of PM_{10} and 2.32 tons of $PM_{2.5}$.

TABLE 4.6-1 2012 CONSTRUCTION EMISSIONS INVENTORY

	2012 Construction Emissions (tons per year)					
	VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$
Off-Road Equipment	0.43	2.49	5.89	0.02	0.42	0.41
On-Road Vehicles	0.07	1.80	0.06	<0.01	<0.01	<0.01
Asphalt Paving	0.34	--	--	--	--	--
Fugitive Dust	--	--	--	--	19.11	1.91
Total	0.84	4.29	5.95	0.02	19.53	2.32
"Moderate" O_3 De minimis Level	50		100			
$PM_{2.5}$ De minimis Level			100	100		100

Source: KB Environmental Sciences, 2010.

4.6.1 GENERAL CONFORMITY APPLICABILITY TEST

As shown on **Table 4.6-1**, the total project-related emissions of CO are well below the applicable de minimis thresholds for CO maintenance areas. VOC and NO_x emissions are also well below the applicable de minimis thresholds for a "moderate" O_3 non-attainment area, signifying that project emissions do not interfere with the air quality goals of the area's O_3 SIP, and that the project is therefore considered a de minims action.

In addition, because the CT DEP evaluates emissions of $PM_{2.5}$ precursors NO_x and SO_2 in addition to directly emitted $PM_{2.5}$ in their $PM_{2.5}$ Attainment Demonstration SIP, the project emissions are also compared against the applicable $PM_{2.5}$ de minimis thresholds for these pollutants. Again, as shown on **Table 4.6-1**, project-related emissions of NO_x, SO_2 and directly emitted $PM_{2.5}$ are well below the applicable de minimis thresholds. Accordingly, the project is considered a de minimis action and conforms to the area's $PM_{2.5}$ SIP.

[5] Asphalt paving emissions factors obtained from data available from the National Association of Clean Air Agencies (NACAA, formerly STAPPA-ALAPCO)
[6] Fugitive dust particulate matter emissions factors obtained from EPA's *Compilation of Air Pollutant Emissions Factors (AP-42)*, Fifth Edition, January 1995.

Notably, in revisions to the General Conformity regulations finalized in April 2010, EPA removed the regional significance test from the applicability requirements of the General Conformity Rule. Hence, no regional significance analysis was conducted on the project-related construction emissions. However, it is not expected that these emissions would constitute greater than ten percent of the regional emissions budget in either applicable SIP, the criteria for regional significance under the previous regulations.

4.6.2 MITIGATION

Although the improvements to BDR are considered de minimis actions with respect to the General Conformity Regulations and no emissions mitigation is required to demonstrate conformity with area air quality plans, the following mitigation measures can be implemented to reduce the overall air quality impacts expected to occur:

- Reduce equipment idling times,
- Use cleaner burning or low emissions fuels in equipment,
- Encourage employee carpooling,
- Limit construction activities when atmospheric conditions are conducive to O_3 formation (i.e. "high ozone days"),
- Limit construction activities during high wind events to prevent dust generation,
- Utilize warm-mix asphalt during paving operations,
- Water or apply dust suppressants to unpaved areas regularly,
- Cover materials stockpiles,
- Install pads to deter track-out as vehicles enter and leave the work site, and
- Reduce vehicle speeds on unpaved roads.

4.6.3 TRANSPORTATION CONFORMITY

Installation of the Runway 24 RSA requires the relocation of a portion of State Route 113 bordering the airport property. Accordingly, because the action shall occur in a non-attainment area, the relocation could be subject to the CAA's Transportation Conformity Rule.

The Rule states that Transportation Conformity is not applicable to individual projects that are not FHWA or Federal Transit Authority (FTA) projects unless they are considered "regionally significant" for the purpose of regional emissions analysis.[7] Coordination with the GBRPA is pending to determine whether the relocation of State Route 113 associated with the BDR improvements is considered "regionally significant".

[7] 23 CFR Part 93

5.1 CONSTRUCTION ACTIVITIES

For this assessment, construction-related emissions are primarily associated the exhaust from heavy equipment (i.e., backhoes, bulldozers, graders, etc.), delivery trucks and construction worker vehicles getting to and from the site; dust from site preparation, land clearing, material handling, equipment movement on unpaved areas, and demolition activities; and, fugitive emissions from the storage/transfer of raw materials. These emissions are temporary in nature and generally confined to the construction site and the access/egress roadways.

Emissions from construction activities were estimated based on the projected construction activity schedule, the number of vehicles/pieces of equipment, the types of equipment/type of fuel used, vehicle/equipment utilization rates, and the year construction occurs. Data regarding the number of pieces and types of construction equipment to be used on the project, the deployment schedule of equipment (monthly and annually), and the approximate daily operating time (including power level or usage factor) were estimated for each individual construction project based on a schedule of construction activity. **Table 5-1** details the proposed RSA construction schedule and a list of construction equipment and assumptions used in the analysis.

TABLE 5-1 2012 CONSTRUCTION SCHEDULE FOR THE PROPOSED PROJECT

Off-road Equipment	Fuel	Size (HP)	Hours per day	Pieces of Off-Road Equipment in Use Each Working Day									
				M	A	M	J	J	A	S	O	N	D
Smooth Drum Roller (Cat 563C)	D	145	8	0	1	1	1	1	0	0	0	0	0
Soil Compactor (CAT 816)	D	170	8	0	1	2	2	0	0	0	0	0	0
Water Truck	D	225	8	1	1	1	1	1	1	1	1	0	0
Bulldozer (Cat D-8)	D	500	8	1	1	1	0	0	0	0	0	0	0
Bulldozer (Cat D-4)	D	84	8	1	1	1	0	0	0	0	0	0	0
Rubber Tired Loader (Cat 950)	D	170	8	2	2	2	1	0	0	1	0	0	0
Asphalt Paving Machine (Cedar Rapids)	D	260	8	0	0	0	1	1	1	0	0	0	0
Asphalt Roller - steel wheel	D	130	8	0	0	0	1	1	1	0	0	0	0
Asphalt Roller - rubber tire	D	130	8	0	0	0	1	1	1	0	0	0	0
Dump Trucks (Mack)	D	325	8	6	6	6	8	8	8	2	1	1	0
Excavator (Cat 325)	D	168	8	1	1	1	1	0	0	0	0	0	0
Excavator (Cat 350)	D	286	8	1	2	2	0	0	0	0	0	0	0
Rubber Tire Backhoe (Cat 416)	D	87	8	1	1	1	1	1	1	2	2	1	0
Power Broom (Ford 2120)	D	42	2	0	0	0	1	1	1	1	1	1	0
Power Grader (Cat 160M)	D	213	8	1	1	1	1	1	1	1	1	1	0
On –Road Vehicles	**Fuel**	**Speed (mph)**	**Trip Miles**	**Number of trips per working day**									
				M	A	M	J	J	A	S	O	N	D
Employees	G	45	30	20	25	30	30	30	30	25	20	5	5
Company Pickups	D	30	15	3	4	4	5	5	4	3	2	2	1

Source: URS Corporation, 2010.

The emission inventories for off-road (non-highway) equipment were calculated using emission factors obtained from the EPA's NONROAD emissions model (Version 2008s), and/or the U.S. EPA Compilation of Air Pollutant Emission Factors (AP-42). Emission factors for on-road (highway) pickups, employee vehicles, and other on-road regulated vehicles were obtained from the MOBILE6.2 motor vehicle emission model for the construction year 2012. Emissions model input parameters were developed to be as consistent with Connecticut SIP and other regional air quality analyses as possible. Emissions model default parameters were assumed where this data were unavailable. To remain conservative, the highest seasonal emission rate (i.e. summer versus winter) was selected and applied to emissions calculations. **Table 5-2** presents the emission factors which were used in the analysis.

TABLE 5-2 2012 CONSTRUCTION EQUIPMENT EMISSIONS FACTORS

Equipment Type	Fuel Type	VOC	CO	NOx	SO2	PM10	PM2.5
On-road Motor Vehicles (g/mi)[1]							
Light Duty Truck (30 mph)	Diesel	0.37	0.61	0.48	0.005	0.06	0.04
Light Duty Vehicle (45 mph)	Gasoline	0.37	11.45	0.44	0.006	0.02	0.01
Off-road Equipment (g/hp-hr)[2]							
Rollers	Diesel	0.29	1.36	3.51	0.010	0.31	0.30
Crushing/Proc. Equipment	Diesel	0.29	0.92	3.71	0.010	0.23	0.22
Off-highway Trucks	Diesel	0.18	1.10	2.66	0.009	0.18	0.17
Crawler Tractor/Dozers (500HP)	Diesel	0.21	1.42	3.56	0.010	0.20	0.20
Crawler Tractor/Dozers (84 HP)	Diesel	0.33	3.48	3.79	0.011	0.46	0.44
Rubber Tire Loaders	Diesel	0.29	1.36	3.51	0.010	0.31	0.30
Paving Equipment (260 HP)	Diesel	0.28	1.17	3.61	0.010	0.23	0.22
Paving Equipment (130 HP)	Diesel	0.32	1.47	3.87	0.010	0.32	0.31
Excavators (168 HP)	Diesel	0.25	1.26	3.00	0.010	0.30	0.29
Excavators (286 HP)	Diesel	0.22	0.94	2.70	0.009	0.19	0.18
Tractors/Loaders/Backhoes	Diesel	1.29	7.02	5.87	0.013	1.06	1.03
Sweepers/Scrubbers	Diesel	0.30	1.67	4.76	0.011	0.28	0.27
Graders	Diesel	0.23	0.97	2.87	0.009	0.19	0.19

[1] Emissions factors for on-road vehicles are reported in grams per mile, and represent an assumed speed of between 30 and 45mph on arterial roadways.
[2] Emissions factors for off-road vehicles are reported in grams per horsepower-hour, and represent operation at full throttle conditions.
Source: EPA MOBILE6.2 ; EPA NONROAD 2008a

Emission factors for each equipment type were applied to the anticipated equipment work output (horsepower-hours of expected equipment use). Operating times for the equipment were based on a five-day workweek and an eight-hour workday during which the equipment may be operating, unless indicated otherwise in the construction schedule.

A usage factor accounting for the percentage of daily operation and a load factor accounting for the average throttle setting relative to capacity were used. That is, a usage factor of 0.75 equates to six hours of operation and a load factor of 0.62 equates to 62 percent of capacity during operation. For the off-road equipment sulfur dioxide and particulate matter emission factors, diesel sulfur content was consistent with the assumptions data used in the Connecticut SIP and other regional air quality analyses.

For on-road vehicles, the anticipated vehicle miles traveled (VMT) were estimated to determine annual emissions. The following equations were used to obtain annual emission rates for off-road equipment and on-road vehicles:

*Emission Rate (tons/year) = Emission Factor (g/hp-hr) * size (hp) * 8 hours per day * Usage Factor * days/year * Load Factor * (453.59/2000 tons/g)*

*Emission Rate (tons/year) = Emission Factor (g/mile) * speed (miles/hour) * hours per day * days/year * (453.59/2000 tons/g)*

To estimate emissions associated with on-road motor vehicles including vehicles utilized for the purposes of security, escorting and project management, and personal employee vehicles, the following assumptions were applied. Security, escorting and project management vehicles were assumed to travel a grand total of 15 miles per work day at a travelling speed of 30 mph. Employee VMT was calculated assuming 30 miles per work day (round trip) at a travelling speed of 45 mph. Where applicable, eight hours per day of work was applied to calculations (as above).

Additionally, the construction emissions inventories for fugitive dust sources were calculated using emission factors within EPA's AP-42 and other publications. Fugitive dust emissions can result from the following activities: grading, moving soil, and digging, loading/unloading of trucks, movement of trucks on unpaved surfaces, and wind erosion of stockpiles. A fugitive dust emission factor of 10 pounds per day per acre disturbed was used. $PM_{2.5}$ was assumed to be 10 percent of PM_{10} based on AP-42. Erosion control measures and water programs are typically taken to minimize these fugitive dust and particulate emissions. A dust control efficiency of 75 percent due to daily watering and other measures was estimated based on AP-42.

Evaporative VOC emissions associated with the application of hot mix asphalt on areas requiring paving were estimated using raw materials quantities listed in the projected construction schedule, as well as an emission factor of 0.053 tons of VOC per acre of asphalt material laid, following methodology outlined by the National Association of Clean Air Agencies (NACAA, formerly STAPPA-ALAPCO). A complete listing of the construction emissions associated with the proposed RSA improvements at BDR is contained in **Table 5-3.**

TABLE 5-3 2012 CONSTRUCTION EMISSIONS

	2012 Construction Emissions (tons per year)					
	VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$
Off-Road Equipment	0.43	2.49	5.89	0.02	0.42	0.41
On-Road Vehicles	0.07	0.97	0.06	<0.01	<0.01	<0.01
Asphalt Paving	0.34	--	--	--	--	--
Fugitive Dust	--	--	--	--	19.11	1.91
Total	0.84	3.46	5.95	0.02	19.53	2.32
"Moderate" O_3 De minimis	50		100			
$PM_{2.5}$ De minimis			100	100		100

Source: KB Environmental Sciences, Inc. 2010.

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Technical Memorandum

Project: Igor I. Sikorsky Memorial Airport Runway 6-24 Safety Improvements and State Route 113 Re-alignment (State Project No. AIP-3-09-00-2-19)

To: Gerry D'Amico, Project Manager, URS Corporation

Date: November 17, 2010 **Report By:** Daniel A. Hageman, PSS

Purpose: Tidal Assessment

Introduction

The City of Bridgeport is currently undertaking runway safety improvements at the Igor I. Sikorsky Memorial Airport in Stratford, Connecticut. Some of the safety improvements will take place at the northeastern end of Runway 6-24. The improvements will require the relocation of the existing State Route 113 (Main Street) to the northeast of its existing location (State Project No. AIP-3-09-00-2-19). The result will be an alignment that impacts tidal wetlands and the existing tidal creek in this area.

There is an existing culvert that connects the tidal creek on the eastern side of Main Street to the wetlands on the western side of Main Street, located on the Airport. The tidal creek is connected to Marine Basin, located further to the east, by a non-functioning tide gate. Marine Basin is directly connected to the Housatonic River. A shared gravel/dirt driveway leads eastward from Main Street to three homes located on the shore of the Housatonic River. The driveway is located on property that is owned by the City of Bridgeport, which is part of the Airport. Approximately 385 feet east of Main Street, the driveway crosses a man-made tidal ditch, which stems from the main tidal creek. The existing culvert at this crossing consists of approximately 25 feet of 24" CMP. Exhibit 2.2-1 shows the project area and approximate locations of the proposed runway improvements and relocation of Main Street.

Purpose

The purpose of this tidal assessment was to determine the elevation of the seasonal high tide, and also determine to what extent, if at all, the existing culverts and tidal gate allow tidal flow to pass.

Methodology

Tidal Elevation

Prior to conducting any fieldwork, it was important to first investigate the date and time of the seasonal high tide. This was determined by reviewing existing National Oceanic and Atmospheric Administration (NOAA) tide charts for Sniffens Point, Stratford Connecticut. Based upon this review, the seasonal high tide was determined to occur at the site on October 8th, 2010 at approximately 12:09 PM (see attached tide charts). The chart predicts a seasonal high tide of 8.4 feet as referenced to mean lower low water (MLLW).

FHI Staff then visited the site on October 7th, 2010 during the regular low tide at approximately 5:44 PM and placed wire flags along the edge of water at low tide throughout the project area (see attached Figure 1). The site was then re-visited the following day during the timeframe of the seasonal high tide and wire flags were placed at key locations along the edge of water. A measurement was also taken from the top of the existing tide gate structure within the Marine Basin (shown in Photo No. 1) to the water elevation during the peak seasonal high tide.

Finally, a survey crew from URS Corporation visited the site and obtained the elevations of the flags placed along the edge of water during the seasonal high tide survey.

Salinity Testing

At the request of the Connecticut Department of Environmental Protection Office of Long Island Sound Programs (OLISP), salinity testing was conducted at key locations within the project area. One measurement was taken at each of the following locations:

Table 1: Locations of Salinity Measurements

Sample No.	Sample Location Description
SAL-1	Within the Marine Basin adjacent to tidal gate structure
SAL-2	Within the tidal creek on opposite side of berm and tidal gate from Marine Basin
SAL-3	Within the tidal creek on south side of driveway culvert crossing
SAL-4	Within the tidal creek on north side of driveway culvert crossing
SAL-5	Within the tidal creek on northeast side of Route 113 culvert crossing
SAL-6	Within the tidal creek on southwest side of Route 113 culvert crossing (Airport side)

Measurements were taken with a YSI Model 63 meter, which measures conductance, temperature and salinity.

Tidal Flow

To determine if tidal exchange/flow occurs between Marine Basin and the tidal creek, as well as through other pipes/culverts within the project area, tidal observations and salinity data were used. First, wire flags were placed along the edge of water throughout the project area (see Figure 1) during low tide on the afternoon of October 7th, 2010. Wire flags were then placed along the edge of water during the seasonal high tide on October 8th, 2010 in key locations. The difference in elevation between the low-tide flags and the high-tide flags was then assessed in the field to determine whether or not tidal exchange was actively occurring through the Marine Basin tide gate and various pipes/culverts on site. Salinity measurements at various locations throughout the project area were also used to determine if tidal exchange/flow was occurring by comparing differences in salinity values.

Results

High Tide Elevation

The water elevation during the peak seasonal high tide was observed on October 8, 2010 and measured 3.9 inches below the concrete top of the tidal structure at the western shore of the marine basin (east side of existing berm). Field survey performed by URS Corporation following the field observation determined that this seasonal high tide is at elevation 5.75 feet based on the NGVD 1929 datum.

Salinity Testing

The results of these salinity measurements are included in Table 2 below:

Table 2: Measured Salinity and Water Temperatures

Sample No.	Salinity (ppt)	Temperature (°C)
SAL-1	12.6	18.6
SAL-2	10.4	17.1
SAL-3	9.8	18.3
SAL-4	0.6	17.4
SAL-5	11.3	18.8
SAL-6	0.4	18.6

Note: ppt = parts per thousand

Tidal Flow

During the field work conducted on October 8th, 2010, no tidal flow was observed through the tide gate between the Marine Basin and the tidal creek to the west. In fact, the water elevation on the western side of the tidal gate within the creek was slightly lower than during the low tide cycle on the afternoon of October 7th, when the low-tide flag was placed. Likewise, no tidal flow was observed through any of the culverts within the project area.

Conclusions

Tidal Elevation

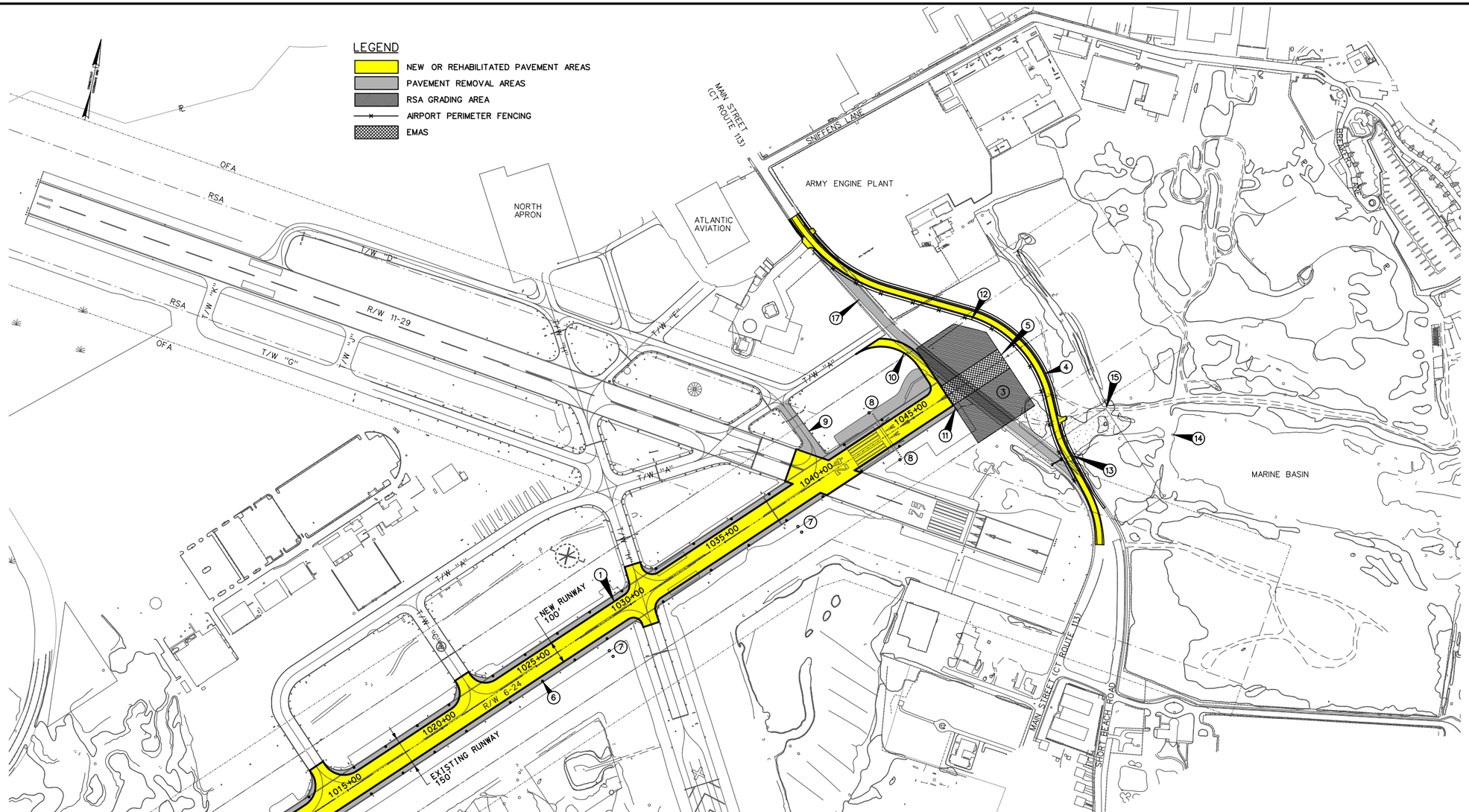
The observed seasonal high tide was consistent with NOAA's predicted seasonal high tide elevation.

Salinity Testing

Salinity measurements revealed that the tidal creek does have a similar salinity, although lower, than Marine Basin, which is connected directly to the Housatonic River. The tidal creek segments on the west side of Main Street and on the north side of the driveway culvert would be classified as fresh water due to very low salinity measurements. It is concluded that there is currently no tidal influence to these portions of the project area under existing site conditions. Since the berm where the tidal gate is located is overtopped during flooding, it is likely that the salinity values measured within this segment of the tidal creek are due to flood overflow, rather than tidal exchange through the tidal gate. It is anticipated that once the proposed improvements have been completed, tidal exchange/flow, which is currently impeded by the dysfunctional tidal gate and culverts, will be restored to all portions of the tidal creek from the Marine Basin.

Tidal Flow

During the field work conducted on October 8th, 2010, no tidal flow was observed through the tide gate between Marine Basin and the tidal creek to the west. In fact, the water elevation on the western side of the tidal gate within the creek was slightly lower than during the low tide cycle on the afternoon of October 7th, when the low-tide flag was placed (See photograph No. 4). Based on this observation, we conclude that there is little to no tidal flow occurring through the tide gate located within the berm between the Marine Basin and the tidal creek to the west.



PROPOSED PROJECTS

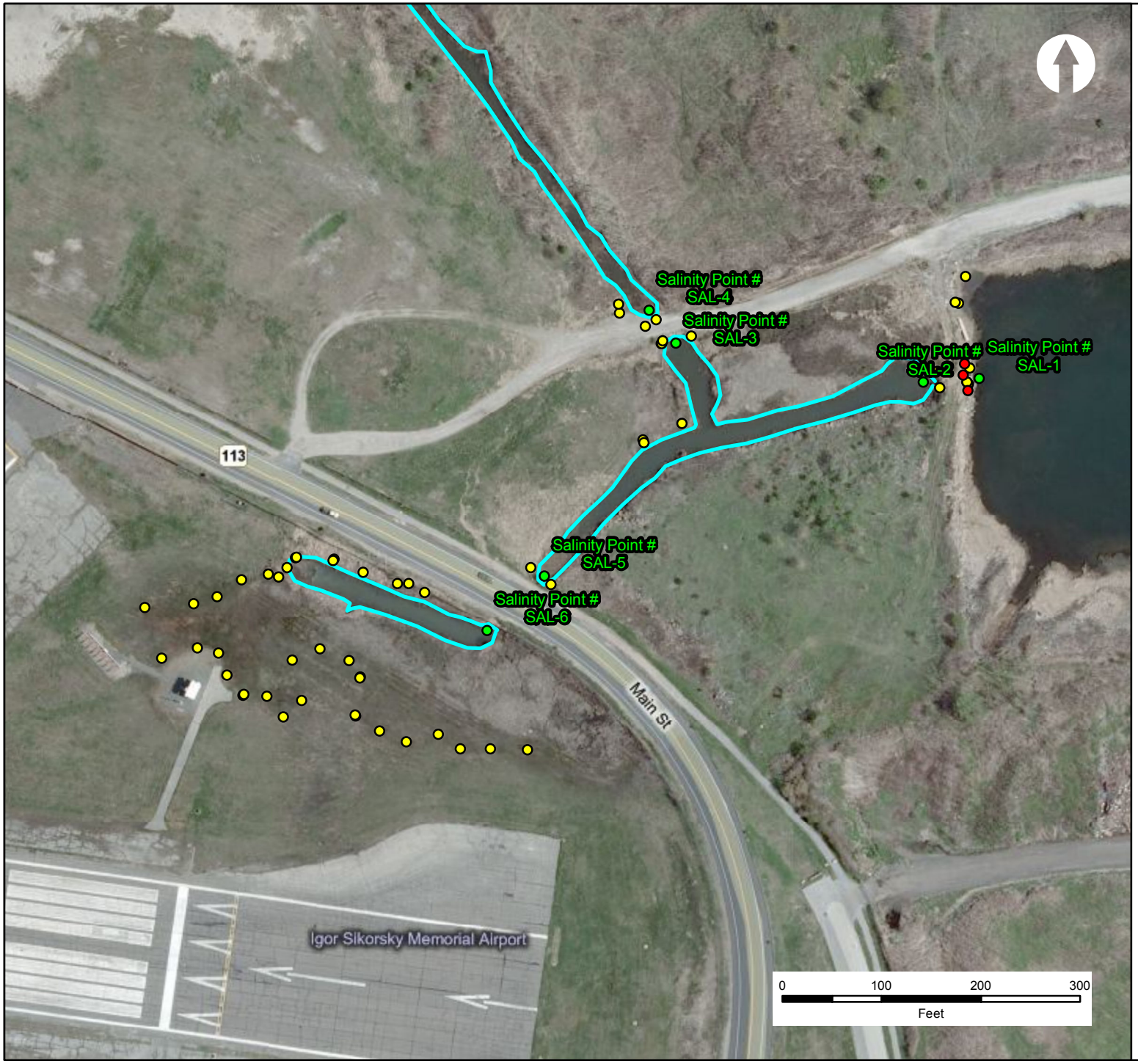
1. REHABILITATE RUNWAY 6-24 PAVEMENT (100'x4677')
2. RUNWAY 6 SAFETY AREA
3. CONSTRUCT RUNWAY 24 SAFETY AREA (300'x500')
4. RE-ALIGN MAIN STREET (2150 L.F.)
5. INSTALL EMAS ON RUNWAY 24 (100'x300')
6. INSTALL NEW RUNWAY EDGE LIGHTS
7. INSTALL NEW PAPI OR RELOCATED VASI
8. RELOCATE REILS ON RUNWAY 6 AND 24
9. REMOVE TAXIWAY AT RUNWAY INTERSECTION
10. CONSTRUCT NEW TAXIWAY TO RUNWAY 24 (35'x330')
11. REMOVE EXISTING BLAST FENCE
12. INSTALL NEW AIRPORT SECURITY FENCE
13. REMOVE EXISTING RTE 113 CULVERT & CONSTRUCT NEW CULVERT
14. REMOVE BERM AND TIDE GATE
15. REMOVE & REPLACE EXISTING DRIVEWAY CULVERT IN TIDAL DITCH
16. CONSTRUCT RUNWAY END TURNAROUND
17. REMOVE EXISTING MAIN STREET

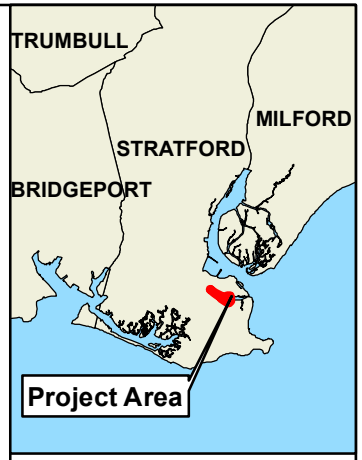
IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

ALTERNATIVE 1G MODIFIED WITH INSTALLATION OF EMAS

EXHIBIT 2.2-1





Salinity (1-6)

High Tide (1-3)

Low Tide (1- 47)

Open Water

Sikorsky Airport

State Project #
AIP-3-09-00-2-19

Figure 1
October 2010
Salinity and Tidal Elevation Points

Click HERE for printable version

2010 NOAA Tide Predictions: Sniffens Point

(Reference station: Bridgeport, Corrections Applied: Times: High +0 hr. 10 min., Low +0 hr. 9 min., Heights: High *0.96, Low *1.00)

January - Sniffens Point

Date	Day	Time	Height	Time	Height	Time	Height	Time	Height	Time	Height
01/01/2010	Fri	05:10AM LST	-0.5 L	11:21AM LST	7.8 H	05:51PM LST	-1.1 L	11:56PM LST	6.9 H		
01/02/2010	Sat	06:03AM LST	-0.7 L	12:13PM LST	7.7 H	06:41PM LST	-1.1 L				
01/03/2010	Sun	12:47AM LST	7.1 H	06:56AM LST	-0.7 L	01:05PM LST	7.6 H	07:31PM LST	-1.1 L		
01/04/2010	Mon	01:38AM LST	7.2 H	07:52AM LST	-0.6 L	01:59PM LST	7.2 H	08:22PM LST	-0.9 L		
01/05/2010	Tue	02:31AM LST	7.2 H	08:49AM LST	-0.5 L	02:54PM LST	6.8 H	09:15PM LST	-0.6 L		
01/06/2010	Wed	03:27AM LST	7.1 H	09:49AM LST	-0.2 L	03:52PM LST	6.4 H	10:10PM LST	-0.3 L		
01/07/2010	Thu	04:24AM LST	6.9 H	10:51AM LST	0.0 L	04:54PM LST	6.0 H	11:08PM LST	0.1 L		
01/08/2010	Fri	05:23AM LST	6.8 H	11:54AM LST	0.1 L	05:56PM LST	5.8 H				
01/09/2010	Sat	12:07AM LST	0.3 L	06:23AM LST	6.6 H	12:57PM LST	0.1 L	06:59PM LST	5.7 H		
01/10/2010	Sun	01:07AM LST	0.5 L	07:21AM LST	6.6 H	01:55PM LST	0.1 L	07:58PM LST	5.7 H		
01/11/2010	Mon	02:03AM LST	0.5 L	08:17AM LST	6.5 H	02:49PM LST	0.0 L	08:52PM LST	5.8 H		
01/12/2010	Tue	02:56AM LST	0.5 L	09:08AM LST	6.6 H	03:37PM LST	0.0 L	09:40PM LST	5.9 H		
01/13/2010	Wed	03:44AM LST	0.4 L	09:54AM LST	6.6 H	04:20PM LST	-0.1 L	10:24PM LST	6.0 H		
01/14/2010	Thu	04:27AM LST	0.3 L	10:37AM LST	6.6 H	05:00PM LST	-0.1 L	11:04PM LST	6.1 H		
01/15/2010	Fri	05:08AM LST	0.3 L	11:17AM LST	6.6 H	05:37PM LST	-0.1 L	11:43PM LST	6.2 H		
01/16/2010	Sat	05:47AM LST	0.2 L	11:55AM LST	6.5 H	06:12PM LST	-0.1 L				
01/17/2010	Sun	12:20AM LST	6.2 H	06:25AM LST	0.2 L	12:33PM LST	6.4 H	06:47PM LST	-0.1 L		
01/18/2010	Mon	12:56AM LST	6.3 H	07:03AM LST	0.3 L	01:10PM LST	6.3 H	07:22PM LST	0.0 L		
01/19/2010	Tue	01:33AM LST	6.3 H	07:43AM LST	0.3 L	01:48PM LST	6.1 H	07:58PM LST	0.1 L		
01/20/2010	Wed	02:10AM LST	6.2 H	08:25AM LST	0.4 L	02:29PM LST	5.9 H	08:37PM LST	0.3 L		
01/21/2010	Thu	02:50AM LST	6.2 H	09:10AM LST	0.5 L	03:14PM LST	5.7 H	09:20PM LST	0.5 L		
01/22/2010	Fri	03:34AM LST	6.2 H	10:00AM LST	0.6 L	04:04PM LST	5.5 H	10:09PM LST	0.7 L		
01/23/2010	Sat	04:23AM LST	6.1 H	10:57AM LST	0.6 L	05:01PM LST	5.4 H	11:04PM LST	0.8 L		
01/24/2010	Sun	05:19AM LST	6.2 H	11:58AM LST	0.5 L	06:02PM LST	5.4 H				
01/25/2010	Mon	12:04AM LST	0.8 L	06:20AM LST	6.3 H	01:00PM LST	0.3 L	07:05PM LST	5.5 H		
01/26/2010	Tue	01:07AM LST	0.6 L	07:22AM LST	6.6 H	02:01PM LST	0.0 L	08:05PM LST	5.8 H		
01/27/2010	Wed	02:08AM LST	0.3 L	08:22AM LST	6.9 H	02:58PM LST	-0.4 L	09:02PM LST	6.1 H		
01/28/2010	Thu	03:06AM LST	-0.1 L	09:20AM LST	7.3 H	03:51PM LST	-0.7 L	09:55PM LST	6.5 H		
01/29/2010	Fri	04:01AM LST	-0.6 L	10:14AM LST	7.6 H	04:42PM LST	-1.1 L	10:46PM LST	7.0 H		
01/30/2010	Sat	04:55AM LST	-0.9 L	11:06AM LST	7.8 H	05:31PM LST	-1.3 L	11:36PM LST	7.3 H		
01/31/2010	Sun	05:48AM LST	-1.1 L	11:57AM LST	7.7 H	06:18PM LST	-1.3 L				

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

February - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height	
02/01/2010	Mon	12:25AM LST	7.5	H	06:40AM LST	-1.1	L	12:47PM LST	7.5	H	07:06PM LST	-1.2	L			
02/02/2010	Tue	01:15AM LST	7.6	H	07:33AM LST	-1.0	L	01:38PM LST	7.2	H	07:55PM LST	-0.9	L			
02/03/2010	Wed	02:05AM LST	7.5	H	08:27AM LST	-0.7	L	02:31PM LST	6.8	H	08:45PM LST	-0.6	L			
02/04/2010	Thu	02:57AM LST	7.2	H	09:23AM LST	-0.4	L	03:27PM LST	6.3	H	09:39PM LST	-0.1	L			
02/05/2010	Fri	03:53AM LST	6.9	H	10:23AM LST	0.0	L	04:25PM LST	6.0	H	10:36PM LST	0.3	L			
02/06/2010	Sat	04:51AM LST	6.5	H	11:25AM LST	0.3	L	05:28PM LST	5.6	H	11:38PM LST	0.6	L			
02/07/2010	Sun	05:53AM LST	6.3	H	12:28PM LST	0.4	L	06:31PM LST	5.5	H						
02/08/2010	Mon	12:40AM LST	0.8	L	06:55AM LST	6.1	H	01:29PM LST	0.5	L	07:33PM LST	5.5	H			
02/09/2010	Tue	01:41AM LST	0.8	L	07:54AM LST	6.1	H	02:24PM LST	0.4	L	08:28PM LST	5.7	H			
02/10/2010	Wed	02:36AM LST	0.7	L	08:48AM LST	6.2	H	03:13PM LST	0.3	L	09:17PM LST	5.9	H			
02/11/2010	Thu	03:24AM LST	0.5	L	09:35AM LST	6.3	H	03:55PM LST	0.1	L	10:01PM LST	6.0	H			
02/12/2010	Fri	04:08AM LST	0.3	L	10:17AM LST	6.4	H	04:34PM LST	0.0	L	10:40PM LST	6.2	H			
02/13/2010	Sat	04:47AM LST	0.2	L	10:56AM LST	6.5	H	05:09PM LST	-0.1	L	11:17PM LST	6.4	H			
02/14/2010	Sun	05:25AM LST	0.1	L	11:33AM LST	6.5	H	05:43PM LST	-0.1	L	11:52PM LST	6.5	H			
02/15/2010	Mon	06:02AM LST	0.0	L	12:08PM LST	6.4	H	06:17PM LST	-0.1	L						
02/16/2010	Tue	12:26AM LST	6.6	H	06:38AM LST	0.0	L	12:44PM LST	6.3	H	06:50PM LST	0.0	L			
02/17/2010	Wed	01:00AM LST	6.6	H	07:15AM LST	0.0	L	01:21PM LST	6.2	H	07:26PM LST	0.1	L			
02/18/2010	Thu	01:35AM LST	6.6	H	07:54AM LST	0.1	L	02:00PM LST	6.0	H	08:03PM LST	0.3	L			
02/19/2010	Fri	02:12AM LST	6.5	H	08:37AM LST	0.2	L	02:43PM LST	5.9	H	08:45PM LST	0.5	L			
02/20/2010	Sat	02:55AM LST	6.4	H	09:26AM LST	0.3	L	03:32PM LST	5.7	H	09:34PM LST	0.7	L			
02/21/2010	Sun	03:45AM LST	6.3	H	10:23AM LST	0.5	L	04:29PM LST	5.5	H	10:31PM LST	0.8	L			
02/22/2010	Mon	04:45AM LST	6.3	H	11:27AM LST	0.5	L	05:32PM LST	5.5	H	11:36PM LST	0.8	L			
02/23/2010	Tue	05:51AM LST	6.3	H	12:33PM LST	0.4	L	06:38PM LST	5.6	H						
02/24/2010	Wed	12:44AM LST	0.6	L	06:59AM LST	6.6	H	01:37PM LST	0.1	L	07:41PM LST	6.0	H			
02/25/2010	Thu	01:49AM LST	0.2	L	08:03AM LST	6.9	H	02:35PM LST	-0.3	L	08:40PM LST	6.3	H			
02/26/2010	Fri	02:50AM LST	-0.2	L	09:02AM LST	7.2	H	03:29PM LST	-0.6	L	09:34PM LST	6.9	H			
02/27/2010	Sat	03:46AM LST	-0.7	L	09:57AM LST	7.5	H	04:19PM LST	-1.0	L	10:25PM LST	7.4	H			
02/28/2010	Sun	04:40AM LST	-1.0	L	10:49AM LST	7.6	H	05:07PM LST	-1.1	L	11:14PM LST	7.8	H			

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

March - Sniffens Point

Date	Day	Time	Height	Time	Height	Time	Height	Time	Height	Time	Height
03/01/2010	Mon	05:31AM LST	-1.3 L	11:39AM LST	7.6 H	05:54PM LST	-1.2 L				
03/02/2010	Tue	12:02AM LST	7.9 H	06:22AM LST	-1.3 L	12:28PM LST	7.4 H	06:40PM LST	-1.0 L		
03/03/2010	Wed	12:49AM LST	7.9 H	07:12AM LST	-1.1 L	01:17PM LST	7.1 H	07:27PM LST	-0.7 L		
03/04/2010	Thu	01:38AM LST	7.7 H	08:03AM LST	-0.8 L	02:07PM LST	6.7 H	08:16PM LST	-0.3 L		
03/05/2010	Fri	02:27AM LST	7.3 H	08:56AM LST	-0.3 L	03:00PM LST	6.3 H	09:08PM LST	0.2 L		
03/06/2010	Sat	03:21AM LST	6.8 H	09:51AM LST	0.1 L	03:56PM LST	6.0 H	10:05PM LST	0.6 L		
03/07/2010	Sun	04:18AM LST	6.4 H	10:51AM LST	0.5 L	04:56PM LST	5.7 H	11:07PM LST	1.0 L		
03/08/2010	Mon	05:20AM LST	6.0 H	11:53AM LST	0.8 L	05:59PM LST	5.5 H				
03/09/2010	Tue	12:11AM LST	1.1 L	06:24AM LST	5.9 H	12:54PM LST	0.8 L	07:01PM LST	5.6 H		
03/10/2010	Wed	01:13AM LST	1.0 L	07:25AM LST	5.9 H	01:50PM LST	0.8 L	07:57PM LST	5.8 H		
03/11/2010	Thu	02:09AM LST	0.9 L	08:20AM LST	6.0 H	02:39PM LST	0.6 L	08:46PM LST	6.0 H		
03/12/2010	Fri	02:58AM LST	0.6 L	09:08AM LST	6.1 H	03:22PM LST	0.4 L	09:30PM LST	6.2 H		
03/13/2010	Sat	03:42AM LST	0.4 L	09:50AM LST	6.3 H	04:00PM LST	0.3 L	10:10PM LST	6.5 H		
03/14/2010	Sun	05:22AM LDT	0.2 L	11:30AM LDT	6.4 H	05:37PM LDT	0.2 L	11:46PM LDT	6.7 H		
03/15/2010	Mon	06:00AM LDT	0.0 L	12:07PM LDT	6.4 H	06:11PM LDT	0.1 L				
03/16/2010	Tue	12:21AM LDT	6.8 H	06:37AM LDT	-0.1 L	12:43PM LDT	6.5 H	06:46PM LDT	0.1 L		
03/17/2010	Wed	12:55AM LDT	6.9 H	07:13AM LDT	-0.1 L	01:19PM LDT	6.4 H	07:21PM LDT	0.2 L		
03/18/2010	Thu	01:28AM LDT	6.9 H	07:50AM LDT	-0.1 L	01:57PM LDT	6.3 H	07:57PM LDT	0.3 L		
03/19/2010	Fri	02:04AM LDT	6.9 H	08:30AM LDT	-0.1 L	02:36PM LDT	6.2 H	08:36PM LDT	0.4 L		
03/20/2010	Sat	02:43AM LDT	6.9 H	09:13AM LDT	0.0 L	03:20PM LDT	6.0 H	09:20PM LDT	0.6 L		
03/21/2010	Sun	03:28AM LDT	6.7 H	10:03AM LDT	0.2 L	04:10PM LDT	5.9 H	10:12PM LDT	0.8 L		
03/22/2010	Mon	04:21AM LDT	6.6 H	11:00AM LDT	0.4 L	05:07PM LDT	5.8 H	11:11PM LDT	0.9 L		
03/23/2010	Tue	05:23AM LDT	6.5 H	12:04PM LDT	0.5 L	06:11PM LDT	5.8 H				
03/24/2010	Wed	12:18AM LDT	0.8 L	06:31AM LDT	6.5 H	01:10PM LDT	0.4 L	07:16PM LDT	6.0 H		
03/25/2010	Thu	01:27AM LDT	0.6 L	07:40AM LDT	6.6 H	02:13PM LDT	0.2 L	08:19PM LDT	6.3 H		
03/26/2010	Fri	02:33AM LDT	0.2 L	08:44AM LDT	6.8 H	03:11PM LDT	-0.1 L	09:18PM LDT	6.8 H		
03/27/2010	Sat	03:34AM LDT	-0.2 L	09:44AM LDT	7.1 H	04:04PM LDT	-0.4 L	10:12PM LDT	7.3 H		
03/28/2010	Sun	04:31AM LDT	-0.7 L	10:39AM LDT	7.3 H	04:54PM LDT	-0.7 L	11:02PM LDT	7.8 H		
03/29/2010	Mon	05:24AM LDT	-1.0 L	11:30AM LDT	7.4 H	05:42PM LDT	-0.8 L	11:51PM LDT	8.1 H		
03/30/2010	Tue	06:14AM LDT	-1.1 L	12:19PM LDT	7.4 H	06:29PM LDT	-0.7 L				
03/31/2010	Wed	12:37AM LDT	8.1 H	07:02AM LDT	-1.1 L	01:07PM LDT	7.2 H	07:15PM LDT	-0.5 L		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

April - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height	
04/01/2010	Thu	01:24AM LDT	8.0	H	07:50AM LDT	-0.9	L	01:55PM LDT	7.0	H	08:01PM LDT	-0.2	L			
04/02/2010	Fri	02:11AM LDT	7.7	H	08:38AM LDT	-0.5	L	02:44PM LDT	6.7	H	08:49PM LDT	0.2	L			
04/03/2010	Sat	02:59AM LDT	7.2	H	09:28AM LDT	-0.1	L	03:34PM LDT	6.3	H	09:40PM LDT	0.6	L			
04/04/2010	Sun	03:50AM LDT	6.8	H	10:20AM LDT	0.3	L	04:27PM LDT	6.0	H	10:34PM LDT	0.9	L			
04/05/2010	Mon	04:45AM LDT	6.3	H	11:15AM LDT	0.7	L	05:23PM LDT	5.8	H	11:33PM LDT	1.2	L			
04/06/2010	Tue	05:44AM LDT	6.0	H	12:13PM LDT	1.0	L	06:22PM LDT	5.7	H						
04/07/2010	Wed	12:35AM LDT	1.3	L	06:46AM LDT	5.9	H	01:10PM LDT	1.1	L	07:21PM LDT	5.8	H			
04/08/2010	Thu	01:36AM LDT	1.3	L	07:46AM LDT	5.8	H	02:05PM LDT	1.0	L	08:17PM LDT	6.0	H			
04/09/2010	Fri	02:33AM LDT	1.1	L	08:42AM LDT	5.9	H	02:54PM LDT	0.9	L	09:07PM LDT	6.2	H			
04/10/2010	Sat	03:24AM LDT	0.8	L	09:31AM LDT	6.0	H	03:39PM LDT	0.8	L	09:52PM LDT	6.5	H			
04/11/2010	Sun	04:10AM LDT	0.5	L	10:16AM LDT	6.1	H	04:20PM LDT	0.6	L	10:33PM LDT	6.7	H			
04/12/2010	Mon	04:52AM LDT	0.3	L	10:58AM LDT	6.2	H	04:59PM LDT	0.5	L	11:11PM LDT	6.9	H			
04/13/2010	Tue	05:31AM LDT	0.1	L	11:38AM LDT	6.4	H	05:37PM LDT	0.4	L	11:47PM LDT	7.1	H			
04/14/2010	Wed	06:10AM LDT	-0.1	L	12:17PM LDT	6.4	H	06:15PM LDT	0.4	L						
04/15/2010	Thu	12:23AM LDT	7.2	H	06:48AM LDT	-0.2	L	12:55PM LDT	6.5	H	06:53PM LDT	0.4	L			
04/16/2010	Fri	01:00AM LDT	7.2	H	07:28AM LDT	-0.2	L	01:35PM LDT	6.4	H	07:33PM LDT	0.5	L			
04/17/2010	Sat	01:39AM LDT	7.2	H	08:11AM LDT	-0.2	L	02:18PM LDT	6.4	H	08:16PM LDT	0.6	L			
04/18/2010	Sun	02:23AM LDT	7.2	H	08:57AM LDT	-0.1	L	03:04PM LDT	6.3	H	09:04PM LDT	0.7	L			
04/19/2010	Mon	03:12AM LDT	7.0	H	09:48AM LDT	0.1	L	03:56PM LDT	6.2	H	09:59PM LDT	0.8	L			
04/20/2010	Tue	04:07AM LDT	6.9	H	10:45AM LDT	0.2	L	04:53PM LDT	6.1	H	11:00PM LDT	0.8	L			
04/21/2010	Wed	05:09AM LDT	6.7	H	11:45AM LDT	0.3	L	05:54PM LDT	6.2	H						
04/22/2010	Thu	12:06AM LDT	0.8	L	06:15AM LDT	6.6	H	12:47PM LDT	0.3	L	06:57PM LDT	6.5	H			
04/23/2010	Fri	01:14AM LDT	0.5	L	07:22AM LDT	6.6	H	01:48PM LDT	0.2	L	07:58PM LDT	6.8	H			
04/24/2010	Sat	02:18AM LDT	0.2	L	08:25AM LDT	6.7	H	02:45PM LDT	0.0	L	08:55PM LDT	7.3	H			
04/25/2010	Sun	03:19AM LDT	-0.2	L	09:25AM LDT	6.8	H	03:38PM LDT	-0.1	L	09:49PM LDT	7.6	H			
04/26/2010	Mon	04:15AM LDT	-0.5	L	10:20AM LDT	7.0	H	04:29PM LDT	-0.2	L	10:39PM LDT	7.9	H			
04/27/2010	Tue	05:07AM LDT	-0.7	L	11:11AM LDT	7.0	H	05:18PM LDT	-0.2	L	11:28PM LDT	8.0	H			
04/28/2010	Wed	05:56AM LDT	-0.8	L	12:00PM LDT	7.0	H	06:05PM LDT	-0.2	L						
04/29/2010	Thu	12:14AM LDT	8.0	H	06:43AM LDT	-0.7	L	12:48PM LDT	6.9	H	06:51PM LDT	0.0	L			
04/30/2010	Fri	01:00AM LDT	7.8	H	07:29AM LDT	-0.5	L	01:34PM LDT	6.8	H	07:37PM LDT	0.3	L			

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

May - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
05/01/2010	Sat	01:46AM LDT	7.5	H	08:15AM LDT	-0.2	L	02:21PM LDT	6.6	H	08:24PM LDT	0.5	L		
05/02/2010	Sun	02:33AM LDT	7.1	H	09:01AM LDT	0.1	L	03:08PM LDT	6.3	H	09:12PM LDT	0.8	L		
05/03/2010	Mon	03:21AM LDT	6.7	H	09:48AM LDT	0.5	L	03:57PM LDT	6.1	H	10:04PM LDT	1.1	L		
05/04/2010	Tue	04:12AM LDT	6.3	H	10:38AM LDT	0.8	L	04:49PM LDT	6.0	H	10:58PM LDT	1.3	L		
05/05/2010	Wed	05:07AM LDT	6.0	H	11:29AM LDT	1.0	L	05:43PM LDT	6.0	H	11:56PM LDT	1.4	L		
05/06/2010	Thu	06:03AM LDT	5.9	H	12:21PM LDT	1.1	L	06:37PM LDT	6.0	H					
05/07/2010	Fri	12:54AM LDT	1.3	L	07:00AM LDT	5.8	H	01:13PM LDT	1.1	L	07:30PM LDT	6.2	H		
05/08/2010	Sat	01:50AM LDT	1.2	L	07:56AM LDT	5.8	H	02:03PM LDT	1.1	L	08:20PM LDT	6.4	H		
05/09/2010	Sun	02:43AM LDT	1.0	L	08:48AM LDT	5.9	H	02:51PM LDT	1.0	L	09:07PM LDT	6.6	H		
05/10/2010	Mon	03:31AM LDT	0.7	L	09:37AM LDT	6.0	H	03:36PM LDT	0.9	L	09:51PM LDT	6.8	H		
05/11/2010	Tue	04:17AM LDT	0.4	L	10:23AM LDT	6.1	H	04:20PM LDT	0.8	L	10:33PM LDT	7.0	H		
05/12/2010	Wed	05:00AM LDT	0.2	L	11:06AM LDT	6.2	H	05:03PM LDT	0.7	L	11:13PM LDT	7.2	H		
05/13/2010	Thu	05:42AM LDT	-0.1	L	11:49AM LDT	6.4	H	05:45PM LDT	0.6	L	11:54PM LDT	7.4	H		
05/14/2010	Fri	06:25AM LDT	-0.2	L	12:32PM LDT	6.5	H	06:28PM LDT	0.5	L					
05/15/2010	Sat	12:36AM LDT	7.5	H	07:09AM LDT	-0.3	L	01:16PM LDT	6.5	H	07:13PM LDT	0.5	L		
05/16/2010	Sun	01:21AM LDT	7.5	H	07:55AM LDT	-0.3	L	02:02PM LDT	6.6	H	08:01PM LDT	0.5	L		
05/17/2010	Mon	02:09AM LDT	7.4	H	08:43AM LDT	-0.2	L	02:50PM LDT	6.6	H	08:53PM LDT	0.5	L		
05/18/2010	Tue	03:00AM LDT	7.3	H	09:35AM LDT	-0.1	L	03:43PM LDT	6.6	H	09:49PM LDT	0.6	L		
05/19/2010	Wed	03:56AM LDT	7.1	H	10:29AM LDT	0.0	L	04:39PM LDT	6.7	H	10:50PM LDT	0.6	L		
05/20/2010	Thu	04:56AM LDT	6.9	H	11:26AM LDT	0.1	L	05:37PM LDT	6.8	H	11:54PM LDT	0.5	L		
05/21/2010	Fri	05:59AM LDT	6.7	H	12:24PM LDT	0.2	L	06:37PM LDT	7.0	H					
05/22/2010	Sat	12:59AM LDT	0.4	L	07:03AM LDT	6.6	H	01:22PM LDT	0.2	L	07:36PM LDT	7.2	H		
05/23/2010	Sun	02:02AM LDT	0.2	L	08:05AM LDT	6.5	H	02:19PM LDT	0.2	L	08:33PM LDT	7.5	H		
05/24/2010	Mon	03:02AM LDT	0.0	L	09:05AM LDT	6.5	H	03:14PM LDT	0.2	L	09:27PM LDT	7.7	H		
05/25/2010	Tue	03:58AM LDT	-0.2	L	10:01AM LDT	6.6	H	04:06PM LDT	0.2	L	10:18PM LDT	7.8	H		
05/26/2010	Wed	04:50AM LDT	-0.4	L	10:53AM LDT	6.6	H	04:56PM LDT	0.3	L	11:07PM LDT	7.8	H		
05/27/2010	Thu	05:38AM LDT	-0.4	L	11:42AM LDT	6.7	H	05:44PM LDT	0.3	L	11:54PM LDT	7.7	H		
05/28/2010	Fri	06:25AM LDT	-0.3	L	12:29PM LDT	6.6	H	06:31PM LDT	0.4	L					
05/29/2010	Sat	12:39AM LDT	7.5	H	07:09AM LDT	-0.2	L	01:14PM LDT	6.6	H	07:16PM LDT	0.6	L		
05/30/2010	Sun	01:24AM LDT	7.3	H	07:52AM LDT	0.0	L	01:58PM LDT	6.5	H	08:01PM LDT	0.7	L		
05/31/2010	Mon	02:09AM LDT	7.0	H	08:34AM LDT	0.2	L	02:42PM LDT	6.4	H	08:46PM LDT	0.9	L		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

June - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height	
06/01/2010	Tue	02:54AM LDT	6.7	H	09:17AM LDT	0.5	L	03:27PM LDT	6.3	H	09:33PM LDT	1.1	L			
06/02/2010	Wed	03:40AM LDT	6.4	H	10:00AM LDT	0.7	L	04:13PM LDT	6.3	H	10:23PM LDT	1.2	L			
06/03/2010	Thu	04:29AM LDT	6.1	H	10:45AM LDT	0.8	L	05:01PM LDT	6.3	H	11:15PM LDT	1.3	L			
06/04/2010	Fri	05:19AM LDT	6.0	H	11:32AM LDT	1.0	L	05:50PM LDT	6.3	H						
06/05/2010	Sat	12:09AM LDT	1.3	L	06:13AM LDT	5.8	H	12:21PM LDT	1.1	L	06:40PM LDT	6.4	H			
06/06/2010	Sun	01:04AM LDT	1.2	L	07:07AM LDT	5.7	H	01:11PM LDT	1.1	L	07:30PM LDT	6.5	H			
06/07/2010	Mon	01:58AM LDT	1.0	L	08:01AM LDT	5.7	H	02:01PM LDT	1.1	L	08:19PM LDT	6.6	H			
06/08/2010	Tue	02:50AM LDT	0.8	L	08:54AM LDT	5.8	H	02:51PM LDT	1.1	L	09:08PM LDT	6.8	H			
06/09/2010	Wed	03:40AM LDT	0.5	L	09:45AM LDT	6.0	H	03:41PM LDT	0.9	L	09:55PM LDT	7.0	H			
06/10/2010	Thu	04:28AM LDT	0.2	L	10:34AM LDT	6.1	H	04:30PM LDT	0.8	L	10:41PM LDT	7.3	H			
06/11/2010	Fri	05:15AM LDT	0.0	L	11:21AM LDT	6.3	H	05:18PM LDT	0.6	L	11:28PM LDT	7.5	H			
06/12/2010	Sat	06:02AM LDT	-0.3	L	12:08PM LDT	6.5	H	06:06PM LDT	0.4	L						
06/13/2010	Sun	12:16AM LDT	7.6	H	06:50AM LDT	-0.4	L	12:56PM LDT	6.7	H	06:56PM LDT	0.3	L			
06/14/2010	Mon	01:05AM LDT	7.7	H	07:38AM LDT	-0.5	L	01:44PM LDT	6.9	H	07:47PM LDT	0.2	L			
06/15/2010	Tue	01:55AM LDT	7.7	H	08:27AM LDT	-0.5	L	02:34PM LDT	7.0	H	08:41PM LDT	0.2	L			
06/16/2010	Wed	02:48AM LDT	7.6	H	09:17AM LDT	-0.4	L	03:26PM LDT	7.1	H	09:38PM LDT	0.2	L			
06/17/2010	Thu	03:43AM LDT	7.3	H	10:09AM LDT	-0.3	L	04:21PM LDT	7.2	H	10:37PM LDT	0.2	L			
06/18/2010	Fri	04:41AM LDT	7.0	H	11:03AM LDT	-0.1	L	05:17PM LDT	7.3	H	11:39PM LDT	0.3	L			
06/19/2010	Sat	05:41AM LDT	6.7	H	11:59AM LDT	0.1	L	06:14PM LDT	7.4	H						
06/20/2010	Sun	12:42AM LDT	0.3	L	06:43AM LDT	6.4	H	12:57PM LDT	0.3	L	07:13PM LDT	7.4	H			
06/21/2010	Mon	01:44AM LDT	0.2	L	07:45AM LDT	6.3	H	01:55PM LDT	0.4	L	08:10PM LDT	7.4	H			
06/22/2010	Tue	02:44AM LDT	0.1	L	08:45AM LDT	6.2	H	02:51PM LDT	0.5	L	09:06PM LDT	7.4	H			
06/23/2010	Wed	03:40AM LDT	0.1	L	09:42AM LDT	6.2	H	03:46PM LDT	0.6	L	09:59PM LDT	7.4	H			
06/24/2010	Thu	04:33AM LDT	0.0	L	10:35AM LDT	6.3	H	04:38PM LDT	0.6	L	10:49PM LDT	7.4	H			
06/25/2010	Fri	05:21AM LDT	0.0	L	11:24AM LDT	6.4	H	05:26PM LDT	0.6	L	11:36PM LDT	7.3	H			
06/26/2010	Sat	06:06AM LDT	0.0	L	12:10PM LDT	6.4	H	06:12PM LDT	0.7	L						
06/27/2010	Sun	12:21AM LDT	7.2	H	06:48AM LDT	0.1	L	12:53PM LDT	6.5	H	06:55PM LDT	0.7	L			
06/28/2010	Mon	01:03AM LDT	7.1	H	07:27AM LDT	0.2	L	01:34PM LDT	6.5	H	07:38PM LDT	0.8	L			
06/29/2010	Tue	01:45AM LDT	6.9	H	08:06AM LDT	0.3	L	02:15PM LDT	6.5	H	08:20PM LDT	0.8	L			
06/30/2010	Wed	02:26AM LDT	6.7	H	08:44AM LDT	0.4	L	02:55PM LDT	6.5	H	09:03PM LDT	0.9	L			

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

July - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height	
07/01/2010	Thu	03:08AM LDT	6.4	H	09:23AM LDT	0.6	L	03:36PM LDT	6.5	H	09:47PM LDT	1.0	L			
07/02/2010	Fri	03:52AM LDT	6.2	H	10:03AM LDT	0.7	L	04:19PM LDT	6.5	H	10:35PM LDT	1.1	L			
07/03/2010	Sat	04:38AM LDT	6.0	H	10:46AM LDT	0.9	L	05:04PM LDT	6.5	H	11:25PM LDT	1.1	L			
07/04/2010	Sun	05:27AM LDT	5.8	H	11:32AM LDT	1.0	L	05:51PM LDT	6.5	H						
07/05/2010	Mon	12:18AM LDT	1.1	L	06:20AM LDT	5.7	H	12:22PM LDT	1.1	L	06:41PM LDT	6.5	H			
07/06/2010	Tue	01:13AM LDT	1.0	L	07:16AM LDT	5.7	H	01:16PM LDT	1.2	L	07:33PM LDT	6.6	H			
07/07/2010	Wed	02:09AM LDT	0.9	L	08:13AM LDT	5.7	H	02:11PM LDT	1.1	L	08:27PM LDT	6.8	H			
07/08/2010	Thu	03:04AM LDT	0.6	L	09:09AM LDT	5.9	H	03:06PM LDT	1.0	L	09:21PM LDT	7.0	H			
07/09/2010	Fri	03:58AM LDT	0.3	L	10:03AM LDT	6.1	H	04:01PM LDT	0.7	L	10:14PM LDT	7.3	H			
07/10/2010	Sat	04:50AM LDT	0.0	L	10:54AM LDT	6.4	H	04:54PM LDT	0.5	L	11:06PM LDT	7.6	H			
07/11/2010	Sun	05:40AM LDT	-0.3	L	11:45AM LDT	6.7	H	05:46PM LDT	0.2	L	11:58PM LDT	7.8	H			
07/12/2010	Mon	06:28AM LDT	-0.6	L	12:34PM LDT	7.0	H	06:39PM LDT	-0.1	L						
07/13/2010	Tue	12:48AM LDT	7.9	H	07:17AM LDT	-0.7	L	01:23PM LDT	7.3	H	07:32PM LDT	-0.2	L			
07/14/2010	Wed	01:40AM LDT	7.9	H	08:05AM LDT	-0.7	L	02:14PM LDT	7.5	H	08:26PM LDT	-0.3	L			
07/15/2010	Thu	02:32AM LDT	7.7	H	08:55AM LDT	-0.6	L	03:05PM LDT	7.7	H	09:22PM LDT	-0.2	L			
07/16/2010	Fri	03:26AM LDT	7.4	H	09:45AM LDT	-0.4	L	03:58PM LDT	7.7	H	10:19PM LDT	0.0	L			
07/17/2010	Sat	04:22AM LDT	7.0	H	10:38AM LDT	-0.1	L	04:53PM LDT	7.6	H	11:19PM LDT	0.1	L			
07/18/2010	Sun	05:20AM LDT	6.6	H	11:34AM LDT	0.2	L	05:50PM LDT	7.4	H						
07/19/2010	Mon	12:21AM LDT	0.3	L	06:22AM LDT	6.3	H	12:33PM LDT	0.5	L	06:49PM LDT	7.3	H			
07/20/2010	Tue	01:24AM LDT	0.4	L	07:25AM LDT	6.1	H	01:33PM LDT	0.7	L	07:49PM LDT	7.1	H			
07/21/2010	Wed	02:25AM LDT	0.4	L	08:26AM LDT	6.0	H	02:33PM LDT	0.8	L	08:48PM LDT	7.1	H			
07/22/2010	Thu	03:22AM LDT	0.4	L	09:24AM LDT	6.1	H	03:29PM LDT	0.8	L	09:43PM LDT	7.0	H			
07/23/2010	Fri	04:14AM LDT	0.3	L	10:17AM LDT	6.2	H	04:21PM LDT	0.8	L	10:33PM LDT	7.0	H			
07/24/2010	Sat	05:01AM LDT	0.3	L	11:05AM LDT	6.3	H	05:09PM LDT	0.7	L	11:19PM LDT	7.0	H			
07/25/2010	Sun	05:44AM LDT	0.3	L	11:48AM LDT	6.4	H	05:53PM LDT	0.7	L						
07/26/2010	Mon	12:01AM LDT	7.0	H	06:23AM LDT	0.2	L	12:28PM LDT	6.6	H	06:34PM LDT	0.7	L			
07/27/2010	Tue	12:41AM LDT	6.9	H	06:59AM LDT	0.3	L	01:07PM LDT	6.6	H	07:13PM LDT	0.7	L			
07/28/2010	Wed	01:20AM LDT	6.8	H	07:35AM LDT	0.3	L	01:44PM LDT	6.7	H	07:52PM LDT	0.7	L			
07/29/2010	Thu	01:58AM LDT	6.7	H	08:10AM LDT	0.4	L	02:21PM LDT	6.7	H	08:32PM LDT	0.7	L			
07/30/2010	Fri	02:37AM LDT	6.5	H	08:45AM LDT	0.5	L	02:58PM LDT	6.7	H	09:13PM LDT	0.8	L			
07/31/2010	Sat	03:17AM LDT	6.3	H	09:23AM LDT	0.7	L	03:37PM LDT	6.7	H	09:56PM LDT	0.9	L			

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

August - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height	
08/01/2010	Sun	04:00AM LDT	6.0	H	10:04AM LDT	0.9	L	04:19PM LDT	6.6	H	10:44PM LDT	1.0	L			
08/02/2010	Mon	04:47AM LDT	5.9	H	10:49AM LDT	1.0	L	05:05PM LDT	6.6	H	11:36PM LDT	1.0	L			
08/03/2010	Tue	05:40AM LDT	5.8	H	11:41AM LDT	1.2	L	05:57PM LDT	6.6	H						
08/04/2010	Wed	12:33AM LDT	1.0	L	06:37AM LDT	5.7	H	12:38PM LDT	1.2	L	06:54PM LDT	6.6	H			
08/05/2010	Thu	01:34AM LDT	0.9	L	07:38AM LDT	5.8	H	01:38PM LDT	1.2	L	07:54PM LDT	6.8	H			
08/06/2010	Fri	02:33AM LDT	0.6	L	08:37AM LDT	6.0	H	02:39PM LDT	0.9	L	08:54PM LDT	7.1	H			
08/07/2010	Sat	03:30AM LDT	0.3	L	09:34AM LDT	6.2	H	03:37PM LDT	0.6	L	09:51PM LDT	7.4	H			
08/08/2010	Sun	04:24AM LDT	-0.1	L	10:28AM LDT	6.6	H	04:33PM LDT	0.2	L	10:46PM LDT	7.7	H			
08/09/2010	Mon	05:15AM LDT	-0.4	L	11:20AM LDT	7.1	H	05:28PM LDT	-0.2	L	11:38PM LDT	7.9	H			
08/10/2010	Tue	06:04AM LDT	-0.7	L	12:10PM LDT	7.5	H	06:21PM LDT	-0.5	L						
08/11/2010	Wed	12:30AM LDT	8.0	H	06:52AM LDT	-0.8	L	12:59PM LDT	7.9	H	07:14PM LDT	-0.6	L			
08/12/2010	Thu	01:21AM LDT	7.9	H	07:40AM LDT	-0.8	L	01:49PM LDT	8.0	H	08:07PM LDT	-0.6	L			
08/13/2010	Fri	02:12AM LDT	7.7	H	08:28AM LDT	-0.6	L	02:39PM LDT	8.1	H	09:01PM LDT	-0.4	L			
08/14/2010	Sat	03:05AM LDT	7.3	H	09:19AM LDT	-0.3	L	03:32PM LDT	7.9	H	09:58PM LDT	-0.2	L			
08/15/2010	Sun	04:00AM LDT	6.9	H	10:12AM LDT	0.0	L	04:26PM LDT	7.6	H	10:56PM LDT	0.1	L			
08/16/2010	Mon	04:58AM LDT	6.5	H	11:09AM LDT	0.4	L	05:25PM LDT	7.3	H	11:58PM LDT	0.4	L			
08/17/2010	Tue	06:00AM LDT	6.2	H	12:10PM LDT	0.8	L	06:26PM LDT	7.0	H						
08/18/2010	Wed	01:01AM LDT	0.6	L	07:03AM LDT	6.0	H	01:12PM LDT	1.0	L	07:28PM LDT	6.8	H			
08/19/2010	Thu	02:02AM LDT	0.7	L	08:05AM LDT	6.0	H	02:14PM LDT	1.0	L	08:28PM LDT	6.7	H			
08/20/2010	Fri	03:00AM LDT	0.7	L	09:03AM LDT	6.1	H	03:11PM LDT	1.0	L	09:24PM LDT	6.7	H			
08/21/2010	Sat	03:51AM LDT	0.6	L	09:55AM LDT	6.2	H	04:03PM LDT	0.9	L	10:13PM LDT	6.8	H			
08/22/2010	Sun	04:36AM LDT	0.5	L	10:40AM LDT	6.4	H	04:48PM LDT	0.7	L	10:58PM LDT	6.8	H			
08/23/2010	Mon	05:16AM LDT	0.4	L	11:22AM LDT	6.6	H	05:30PM LDT	0.6	L	11:38PM LDT	6.9	H			
08/24/2010	Tue	05:53AM LDT	0.4	L	12:00PM LDT	6.8	H	06:09PM LDT	0.5	L						
08/25/2010	Wed	12:16AM LDT	6.8	H	06:27AM LDT	0.4	L	12:36PM LDT	6.9	H	06:47PM LDT	0.5	L			
08/26/2010	Thu	12:53AM LDT	6.8	H	07:01AM LDT	0.4	L	01:11PM LDT	6.9	H	07:24PM LDT	0.5	L			
08/27/2010	Fri	01:30AM LDT	6.6	H	07:35AM LDT	0.5	L	01:46PM LDT	6.9	H	08:01PM LDT	0.5	L			
08/28/2010	Sat	02:07AM LDT	6.5	H	08:10AM LDT	0.6	L	02:21PM LDT	6.9	H	08:40PM LDT	0.6	L			
08/29/2010	Sun	02:45AM LDT	6.3	H	08:47AM LDT	0.8	L	02:58PM LDT	6.8	H	09:22PM LDT	0.7	L			
08/30/2010	Mon	03:27AM LDT	6.1	H	09:28AM LDT	1.0	L	03:39PM LDT	6.7	H	10:09PM LDT	0.8	L			
08/31/2010	Tue	04:14AM LDT	6.0	H	10:15AM LDT	1.1	L	04:27PM LDT	6.6	H	11:02PM LDT	0.9	L			

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

September - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height	
09/01/2010	Wed	05:08AM LDT	5.9	H	11:09AM LDT	1.3	L	05:22PM LDT	6.6	H						
09/02/2010	Thu	12:02AM LDT	1.0	L	06:07AM LDT	5.8	H	12:10PM LDT	1.3	L	06:24PM LDT	6.6	H			
09/03/2010	Fri	01:05AM LDT	0.9	L	07:10AM LDT	5.9	H	01:14PM LDT	1.1	L	07:29PM LDT	6.8	H			
09/04/2010	Sat	02:07AM LDT	0.6	L	08:11AM LDT	6.1	H	02:18PM LDT	0.8	L	08:32PM LDT	7.1	H			
09/05/2010	Sun	03:05AM LDT	0.3	L	09:09AM LDT	6.6	H	03:18PM LDT	0.4	L	09:31PM LDT	7.4	H			
09/06/2010	Mon	03:59AM LDT	-0.1	L	10:04AM LDT	7.1	H	04:15PM LDT	-0.1	L	10:26PM LDT	7.7	H			
09/07/2010	Tue	04:49AM LDT	-0.4	L	10:55AM LDT	7.6	H	05:10PM LDT	-0.5	L	11:19PM LDT	7.9	H			
09/08/2010	Wed	05:38AM LDT	-0.7	L	11:45AM LDT	8.0	H	06:03PM LDT	-0.8	L						
09/09/2010	Thu	12:10AM LDT	7.9	H	06:25AM LDT	-0.7	L	12:34PM LDT	8.3	H	06:54PM LDT	-0.8	L			
09/10/2010	Fri	01:00AM LDT	7.8	H	07:13AM LDT	-0.7	L	01:23PM LDT	8.3	H	07:46PM LDT	-0.8	L			
09/11/2010	Sat	01:50AM LDT	7.5	H	08:01AM LDT	-0.4	L	02:13PM LDT	8.2	H	08:39PM LDT	-0.5	L			
09/12/2010	Sun	02:42AM LDT	7.1	H	08:52AM LDT	-0.1	L	03:04PM LDT	7.9	H	09:33PM LDT	-0.1	L			
09/13/2010	Mon	03:36AM LDT	6.8	H	09:46AM LDT	0.3	L	03:59PM LDT	7.4	H	10:30PM LDT	0.3	L			
09/14/2010	Tue	04:34AM LDT	6.4	H	10:44AM LDT	0.7	L	04:57PM LDT	7.0	H	11:31PM LDT	0.6	L			
09/15/2010	Wed	05:35AM LDT	6.1	H	11:45AM LDT	1.0	L	06:00PM LDT	6.7	H						
09/16/2010	Thu	12:33AM LDT	0.9	L	06:38AM LDT	6.0	H	12:49PM LDT	1.2	L	07:03PM LDT	6.5	H			
09/17/2010	Fri	01:34AM LDT	0.9	L	07:39AM LDT	6.0	H	01:51PM LDT	1.2	L	08:04PM LDT	6.4	H			
09/18/2010	Sat	02:30AM LDT	0.9	L	08:36AM LDT	6.1	H	02:48PM LDT	1.0	L	08:59PM LDT	6.5	H			
09/19/2010	Sun	03:19AM LDT	0.8	L	09:26AM LDT	6.4	H	03:38PM LDT	0.9	L	09:47PM LDT	6.6	H			
09/20/2010	Mon	04:03AM LDT	0.7	L	10:10AM LDT	6.6	H	04:23PM LDT	0.7	L	10:31PM LDT	6.6	H			
09/21/2010	Tue	04:42AM LDT	0.6	L	10:50AM LDT	6.8	H	05:04PM LDT	0.5	L	11:11PM LDT	6.7	H			
09/22/2010	Wed	05:18AM LDT	0.5	L	11:28AM LDT	7.0	H	05:42PM LDT	0.4	L	11:49PM LDT	6.7	H			
09/23/2010	Thu	05:53AM LDT	0.5	L	12:03PM LDT	7.1	H	06:19PM LDT	0.3	L						
09/24/2010	Fri	12:26AM LDT	6.7	H	06:28AM LDT	0.5	L	12:37PM LDT	7.1	H	06:56PM LDT	0.3	L			
09/25/2010	Sat	01:02AM LDT	6.6	H	07:03AM LDT	0.6	L	01:12PM LDT	7.1	H	07:33PM LDT	0.3	L			
09/26/2010	Sun	01:39AM LDT	6.5	H	07:39AM LDT	0.7	L	01:47PM LDT	7.0	H	08:12PM LDT	0.4	L			
09/27/2010	Mon	02:19AM LDT	6.3	H	08:17AM LDT	0.9	L	02:25PM LDT	6.9	H	08:54PM LDT	0.5	L			
09/28/2010	Tue	03:01AM LDT	6.1	H	09:00AM LDT	1.0	L	03:08PM LDT	6.8	H	09:42PM LDT	0.7	L			
09/29/2010	Wed	03:49AM LDT	6.0	H	09:49AM LDT	1.2	L	03:59PM LDT	6.7	H	10:37PM LDT	0.8	L			
09/30/2010	Thu	04:44AM LDT	6.0	H	10:46AM LDT	1.2	L	04:57PM LDT	6.6	H	11:38PM LDT	0.8	L			

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

October - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height	
10/01/2010	Fri	05:44AM LDT	6.0	H	11:50AM LDT	1.2	L	06:02PM LDT	6.7	H						
10/02/2010	Sat	12:41AM LDT	0.7	L	06:47AM LDT	6.1	H	12:57PM LDT	1.0	L	07:08PM LDT	6.8	H			
10/03/2010	Sun	01:42AM LDT	0.5	L	07:49AM LDT	6.4	H	02:01PM LDT	0.6	L	08:12PM LDT	7.0	H			
10/04/2010	Mon	02:39AM LDT	0.2	L	08:46AM LDT	6.9	H	03:02PM LDT	0.1	L	09:11PM LDT	7.3	H			
10/05/2010	Tue	03:32AM LDT	-0.1	L	09:40AM LDT	7.5	H	03:59PM LDT	-0.3	L	10:06PM LDT	7.5	H			
10/06/2010	Wed	04:23AM LDT	-0.4	L	10:31AM LDT	8.0	H	04:53PM LDT	-0.7	L	10:59PM LDT	7.6	H			
10/07/2010	Thu	05:11AM LDT	-0.6	L	11:21AM LDT	8.3	H	05:44PM LDT	-0.9	L	11:49PM LDT	7.6	H			
10/08/2010	Fri	05:59AM LDT	-0.6	L	12:09PM LDT	8.4	H	06:35PM LDT	-0.9	L						
10/09/2010	Sat	12:39AM LDT	7.5	H	06:47AM LDT	-0.4	L	12:57PM LDT	8.3	H	07:25PM LDT	-0.8	L			
10/10/2010	Sun	01:29AM LDT	7.2	H	07:36AM LDT	-0.2	L	01:47PM LDT	8.0	H	08:15PM LDT	-0.4	L			
10/11/2010	Mon	02:20AM LDT	6.9	H	08:26AM LDT	0.2	L	02:37PM LDT	7.6	H	09:08PM LDT	-0.1	L			
10/12/2010	Tue	03:12AM LDT	6.6	H	09:19AM LDT	0.6	L	03:31PM LDT	7.2	H	10:02PM LDT	0.4	L			
10/13/2010	Wed	04:07AM LDT	6.3	H	10:16AM LDT	0.9	L	04:28PM LDT	6.7	H	10:59PM LDT	0.7	L			
10/14/2010	Thu	05:06AM LDT	6.0	H	11:17AM LDT	1.2	L	05:29PM LDT	6.4	H	11:58PM LDT	0.9	L			
10/15/2010	Fri	06:06AM LDT	6.0	H	12:20PM LDT	1.3	L	06:30PM LDT	6.2	H						
10/16/2010	Sat	12:56AM LDT	1.0	L	07:05AM LDT	6.0	H	01:20PM LDT	1.2	L	07:30PM LDT	6.1	H			
10/17/2010	Sun	01:50AM LDT	1.0	L	08:00AM LDT	6.2	H	02:16PM LDT	1.1	L	08:24PM LDT	6.1	H			
10/18/2010	Mon	02:38AM LDT	0.9	L	08:49AM LDT	6.4	H	03:07PM LDT	0.9	L	09:13PM LDT	6.2	H			
10/19/2010	Tue	03:22AM LDT	0.8	L	09:34AM LDT	6.7	H	03:52PM LDT	0.6	L	09:58PM LDT	6.3	H			
10/20/2010	Wed	04:03AM LDT	0.7	L	10:15AM LDT	6.9	H	04:34PM LDT	0.4	L	10:40PM LDT	6.4	H			
10/21/2010	Thu	04:41AM LDT	0.6	L	10:53AM LDT	7.0	H	05:13PM LDT	0.3	L	11:19PM LDT	6.4	H			
10/22/2010	Fri	05:19AM LDT	0.6	L	11:30AM LDT	7.1	H	05:51PM LDT	0.2	L	11:58PM LDT	6.5	H			
10/23/2010	Sat	05:56AM LDT	0.6	L	12:05PM LDT	7.1	H	06:29PM LDT	0.1	L						
10/24/2010	Sun	12:36AM LDT	6.4	H	06:33AM LDT	0.6	L	12:41PM LDT	7.1	H	07:08PM LDT	0.1	L			
10/25/2010	Mon	01:15AM LDT	6.4	H	07:12AM LDT	0.7	L	01:19PM LDT	7.1	H	07:49PM LDT	0.2	L			
10/26/2010	Tue	01:56AM LDT	6.3	H	07:54AM LDT	0.8	L	02:01PM LDT	7.0	H	08:34PM LDT	0.2	L			
10/27/2010	Wed	02:41AM LDT	6.2	H	08:40AM LDT	0.9	L	02:47PM LDT	6.9	H	09:23PM LDT	0.4	L			
10/28/2010	Thu	03:30AM LDT	6.1	H	09:32AM LDT	1.0	L	03:40PM LDT	6.8	H	10:18PM LDT	0.5	L			
10/29/2010	Fri	04:25AM LDT	6.0	H	10:31AM LDT	1.0	L	04:40PM LDT	6.7	H	11:17PM LDT	0.5	L			
10/30/2010	Sat	05:25AM LDT	6.1	H	11:35AM LDT	0.9	L	05:44PM LDT	6.6	H						
10/31/2010	Sun	12:17AM LDT	0.4	L	06:26AM LDT	6.4	H	12:41PM LDT	0.7	L	06:49PM LDT	6.6	H			

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

November - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height	
11/01/2010	Mon	01:16AM LDT	0.3	L	07:26AM LDT	6.8	H	01:46PM LDT	0.3	L	07:52PM LDT	6.7	H			
11/02/2010	Tue	02:13AM LDT	0.1	L	08:23AM LDT	7.2	H	02:46PM LDT	-0.1	L	08:52PM LDT	6.9	H			
11/03/2010	Wed	03:07AM LDT	-0.1	L	09:18AM LDT	7.7	H	03:43PM LDT	-0.5	L	09:48PM LDT	7.0	H			
11/04/2010	Thu	03:58AM LDT	-0.3	L	10:09AM LDT	8.0	H	04:36PM LDT	-0.7	L	10:40PM LDT	7.1	H			
11/05/2010	Fri	04:48AM LDT	-0.4	L	10:59AM LDT	8.2	H	05:27PM LDT	-0.9	L	11:31PM LDT	7.1	H			
11/06/2010	Sat	05:37AM LDT	-0.3	L	11:47AM LDT	8.2	H	06:17PM LDT	-0.8	L						
11/07/2010	Sun	12:20AM LDT	7.0	H	05:25AM LST	-0.2	L	11:36AM LST	8.0	H	06:05PM LST	-0.7	L			
11/08/2010	Mon	12:09AM LST	6.9	H	06:13AM LST	0.0	L	12:24PM LST	7.7	H	06:53PM LST	-0.4	L			
11/09/2010	Tue	12:57AM LST	6.7	H	07:03AM LST	0.3	L	01:13PM LST	7.3	H	07:42PM LST	0.0	L			
11/10/2010	Wed	01:47AM LST	6.4	H	07:54AM LST	0.6	L	02:04PM LST	6.9	H	08:32PM LST	0.3	L			
11/11/2010	Thu	02:39AM LST	6.2	H	08:47AM LST	0.9	L	02:57PM LST	6.5	H	09:23PM LST	0.6	L			
11/12/2010	Fri	03:32AM LST	6.0	H	09:43AM LST	1.1	L	03:52PM LST	6.1	H	10:16PM LST	0.9	L			
11/13/2010	Sat	04:27AM LST	6.0	H	10:42AM LST	1.2	L	04:50PM LST	6.0	H	11:09PM LST	1.0	L			
11/14/2010	Sun	05:22AM LST	6.0	H	11:40AM LST	1.2	L	05:47PM LST	5.8	H						
11/15/2010	Mon	12:01AM LST	1.0	L	06:15AM LST	6.1	H	12:36PM LST	1.0	L	06:42PM LST	5.8	H			
11/16/2010	Tue	12:50AM LST	1.0	L	07:06AM LST	6.3	H	01:28PM LST	0.8	L	07:33PM LST	5.9	H			
11/17/2010	Wed	01:37AM LST	0.9	L	07:52AM LST	6.5	H	02:16PM LST	0.6	L	08:21PM LST	6.0	H			
11/18/2010	Thu	02:21AM LST	0.8	L	08:36AM LST	6.7	H	03:01PM LST	0.4	L	09:06PM LST	6.0	H			
11/19/2010	Fri	03:04AM LST	0.7	L	09:17AM LST	6.9	H	03:43PM LST	0.2	L	09:49PM LST	6.1	H			
11/20/2010	Sat	03:46AM LST	0.6	L	09:57AM LST	7.0	H	04:24PM LST	0.0	L	10:31PM LST	6.2	H			
11/21/2010	Sun	04:27AM LST	0.5	L	10:37AM LST	7.1	H	05:05PM LST	-0.1	L	11:12PM LST	6.3	H			
11/22/2010	Mon	05:08AM LST	0.5	L	11:17AM LST	7.1	H	05:47PM LST	-0.2	L	11:54PM LST	6.3	H			
11/23/2010	Tue	05:51AM LST	0.5	L	11:59AM LST	7.1	H	06:31PM LST	-0.2	L						
11/24/2010	Wed	12:37AM LST	6.3	H	06:36AM LST	0.5	L	12:44PM LST	7.1	H	07:17PM LST	-0.2	L			
11/25/2010	Thu	01:23AM LST	6.3	H	07:25AM LST	0.5	L	01:33PM LST	7.0	H	08:06PM LST	-0.1	L			
11/26/2010	Fri	02:13AM LST	6.3	H	08:19AM LST	0.5	L	02:26PM LST	6.9	H	08:59PM LST	0.0	L			
11/27/2010	Sat	03:07AM LST	6.4	H	09:17AM LST	0.5	L	03:24PM LST	6.7	H	09:54PM LST	0.1	L			
11/28/2010	Sun	04:04AM LST	6.5	H	10:20AM LST	0.5	L	04:26PM LST	6.5	H	10:52PM LST	0.1	L			
11/29/2010	Mon	05:04AM LST	6.7	H	11:25AM LST	0.3	L	05:29PM LST	6.4	H	11:50PM LST	0.1	L			
11/30/2010	Tue	06:03AM LST	7.0	H	12:29PM LST	0.1	L	06:33PM LST	6.3	H						

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

December - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height	
12/01/2010	Wed	12:48AM LST	0.0	L	07:01AM LST	7.2	H	01:30PM LST	-0.2	L	07:33PM LST	6.4	H			
12/02/2010	Thu	01:43AM LST	0.0	L	07:57AM LST	7.5	H	02:28PM LST	-0.5	L	08:31PM LST	6.5	H			
12/03/2010	Fri	02:37AM LST	-0.1	L	08:50AM LST	7.7	H	03:22PM LST	-0.6	L	09:24PM LST	6.5	H			
12/04/2010	Sat	03:29AM LST	-0.2	L	09:41AM LST	7.7	H	04:12PM LST	-0.7	L	10:15PM LST	6.6	H			
12/05/2010	Sun	04:19AM LST	-0.1	L	10:30AM LST	7.7	H	05:00PM LST	-0.7	L	11:04PM LST	6.6	H			
12/06/2010	Mon	05:07AM LST	-0.1	L	11:18AM LST	7.5	H	05:47PM LST	-0.6	L	11:50PM LST	6.5	H			
12/07/2010	Tue	05:55AM LST	0.1	L	12:04PM LST	7.3	H	06:32PM LST	-0.4	L						
12/08/2010	Wed	12:36AM LST	6.4	H	06:41AM LST	0.2	L	12:50PM LST	7.0	H	07:16PM LST	-0.1	L			
12/09/2010	Thu	01:21AM LST	6.3	H	07:28AM LST	0.4	L	01:36PM LST	6.6	H	08:00PM LST	0.1	L			
12/10/2010	Fri	02:07AM LST	6.2	H	08:16AM LST	0.6	L	02:24PM LST	6.3	H	08:44PM LST	0.4	L			
12/11/2010	Sat	02:54AM LST	6.1	H	09:06AM LST	0.8	L	03:13PM LST	6.0	H	09:30PM LST	0.6	L			
12/12/2010	Sun	03:43AM LST	6.0	H	09:58AM LST	1.0	L	04:04PM LST	5.8	H	10:17PM LST	0.8	L			
12/13/2010	Mon	04:33AM LST	6.0	H	10:53AM LST	1.0	L	04:58PM LST	5.5	H	11:06PM LST	0.9	L			
12/14/2010	Tue	05:25AM LST	6.0	H	11:49AM LST	1.0	L	05:53PM LST	5.4	H	11:57PM LST	1.0	L			
12/15/2010	Wed	06:16AM LST	6.1	H	12:43PM LST	0.8	L	06:48PM LST	5.4	H						
12/16/2010	Thu	12:48AM LST	0.9	L	07:06AM LST	6.2	H	01:36PM LST	0.6	L	07:41PM LST	5.5	H			
12/17/2010	Fri	01:39AM LST	0.9	L	07:55AM LST	6.4	H	02:25PM LST	0.4	L	08:31PM LST	5.7	H			
12/18/2010	Sat	02:27AM LST	0.7	L	08:42AM LST	6.5	H	03:12PM LST	0.1	L	09:18PM LST	5.9	H			
12/19/2010	Sun	03:15AM LST	0.6	L	09:27AM LST	6.7	H	03:58PM LST	-0.1	L	10:04PM LST	6.0	H			
12/20/2010	Mon	04:01AM LST	0.4	L	10:12AM LST	7.0	H	04:42PM LST	-0.3	L	10:48PM LST	6.2	H			
12/21/2010	Tue	04:47AM LST	0.2	L	10:56AM LST	7.1	H	05:27PM LST	-0.5	L	11:33PM LST	6.3	H			
12/22/2010	Wed	05:33AM LST	0.0	L	11:42AM LST	7.3	H	06:12PM LST	-0.6	L						
12/23/2010	Thu	12:18AM LST	6.5	H	06:21AM LST	-0.1	L	12:29PM LST	7.3	H	06:59PM LST	-0.7	L			
12/24/2010	Fri	01:05AM LST	6.6	H	07:11AM LST	-0.1	L	01:19PM LST	7.2	H	07:46PM LST	-0.6	L			
12/25/2010	Sat	01:54AM LST	6.7	H	08:05AM LST	-0.1	L	02:11PM LST	7.0	H	08:37PM LST	-0.5	L			
12/26/2010	Sun	02:46AM LST	6.8	H	09:02AM LST	-0.1	L	03:07PM LST	6.7	H	09:29PM LST	-0.3	L			
12/27/2010	Mon	03:41AM LST	6.9	H	10:03AM LST	0.0	L	04:06PM LST	6.4	H	10:25PM LST	-0.2	L			
12/28/2010	Tue	04:39AM LST	6.9	H	11:07AM LST	0.0	L	05:09PM LST	6.1	H	11:24PM LST	0.0	L			
12/29/2010	Wed	05:39AM LST	6.9	H	12:11PM LST	-0.1	L	06:13PM LST	6.0	H						
12/30/2010	Thu	12:24AM LST	0.1	L	06:39AM LST	7.0	H	01:14PM LST	-0.2	L	07:16PM LST	6.0	H			
12/31/2010	Fri	01:24AM LST	0.1	L	07:39AM LST	7.1	H	02:13PM LST	-0.3	L	08:15PM LST	6.0	H			

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

Technical Memorandum

IGOR I. SIKORSKY MEMORIAL AIRPORT
Stratford, Connecticut

Wetland Field Investigation and Delineation For Route 113 Relocation

State Project 15-336

Prepared under contract to:

URS Corporation

For:

THE CITY OF BRIDGEPORT, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION

By:

FITZGERALD & HALLIDAY, INC.
72 Cedar Street
Hartford, CT 06106

November 2010

INTRODUCTION

Fitzgerald & Halliday, Inc. (FHI) was retained by URS Corporation (URS) to identify and delineate inland and tidal wetlands within the limits of the Route 113 Relocation Project study area. Additionally, FHI was asked to identify and delineate inland and tidal wetlands associated with design alternatives to address a Notice of Violation (NOV) associated with an existing driveway and culvert to the east of the Route 113 Realignment Project. The existing driveway, which is on airport property, crosses a tidal ditch. Connecticut Department of Environmental Protection (CTDEP) Office of Long Island Sound Programs (OLISP) has issued an NOV to the airport owner (City of Bridgeport) requesting that the existing tidal wetland impact be rectified. Alternatives consisted of replacement of the existing culvert and a potential new driveway from Sniffens Lane to three homes located along the Housatonic River shoreline. Therefore, the requested wetland investigation was conducted as part of the effort to resolve the NOV as well as to support subsequent permit applications being filed by the City of Bridgeport for the project. The project limit of the preferred alternative is located along the existing Route 113 road and to the east of the driveway impacts identified by OLISP (refer to Figure 1).

On December 11, 2009 FHI field-delineated the boundaries of the inland and tidal wetlands proximate to the proposed areas of construction/earthwork within the project limits. On June 7, 2010 FHI extended the delineations of several wetlands in order to more accurately demonstrate the hydraulic connectivity of the wetland systems beyond the study area. On October 8, 2010 FHI made minor revisions to the delineated boundary of one of the tidal wetland systems, based on review comments from staff at the CTDEP.

The 2009 and 2010 wetland delineations were conducted according to both the federal and State of Connecticut definitions. Documents used to support the inland wetland boundary determinations included: Natural Resources Conservation Service (NRCS) mapping; *Field Indicators of Hydric Soils in the United States – Version 6.0* (NRCS, 2006); *Field Indicators for Identifying Hydric Soils in New England – Version 3* (New England Hydric Soils Technical Committee, 2004); and the *Corps of Engineers Wetland Delineation Manual: North Central and Northeastern Supplement* (U.S. Army Corps of Engineers [ACOE], Waterways Experiment Station, 2008). Tidal wetland delineations were conducted based on the estimated elevation of the high tide line and extent of tidal wetland vegetation in accordance with State of Connecticut (CGS Section 22a-29) and ACOE definitions and requirements.

FHI flagged the boundaries of five (5) inland wetlands and five (5) tidal wetlands, each identified by a separate flag series number. The following flag series numbers were used during the delineation effort: 100; 200; 300; 400; 500; 600; 700; 800; 900; and 1000. In some cases two or more of the wetlands were found to be hydraulically connected, but were flagged with different series numbers because the connection takes place beyond the project's proposed limits of work.

Although the project limit is not located within a heavily urbanized area, there is evidence of disturbance and fill to the native soils and, therefore, the majority of the soils in the project corridor are classified by the NRCS as Udorthents and Urban Land Complexes (refer to Figure 2). The urban soils encountered within the project limits are typical of coastal filled and developed lands in Connecticut. Some of the fill material within the project area is currently under study to determine if any contaminants exist and where those locations may be.

The following section contains more detailed descriptions of the individual delineated wetland areas. Supplemental materials attached to this report include project figures, a flag series graphic, photographs of each wetland system, and an out-of-season delineation release agreement.

WETLAND DESCRIPTIONS BASED ON 2009 & 2010 FIELD-DELINEATIONS

Wetland 1 (Flag Series 101 to 153) – Inland Wetland

Wetland 1 is located to the northwest of the existing residential driveway off Route 113 between the last house on the road and the end of Breakers Lane. This large, emergent wetland extends well beyond the project limit, to the west and south, and is hydraulically connected to wetlands 8, 9, and 10. The delineated portion of this wetland covers approximately 2.5 acres.

Wetland vegetation is dominated by common reed (*Phragmites australis*), which forms a dense monoculture throughout most of the wetland. There are several deer trails cutting through the wetland but very little cover, open water, or food sources. The principal functions of this wetland include groundwater recharge and shoreline stabilization. CTDEP Natural Diversity Database (December 2009) indicates that there is a potential presence of threatened or endangered species or their habitat, further correspondence with CTDEP will be required once project plans are in place.

Wetland 2 (Flag Series 201 to 222) – Inland Wetland

Wetland 2 is located to the west of Breakers Lane, just north of wetland 1. This wetland covers approximately 0.5 acres and is dominantly forested in the north and emergent in the south.

The forested portion of this wetland is dominated by gray birch (*Betula populifolia*) and the emergent vegetation is dominated by common reed, which forms a dense monoculture. There are several deer trails cutting through the wetland. The principal functions of this wetland include groundwater recharge in the emergent portion and wildlife habitat in the forested portion. CTDEP Natural Diversity Database (December 2009) indicates that there is a potential presence of threatened or endangered species or

their habitat, further correspondence with CTDEP will be required once project plans are in place.

Wetland 3 (Flag Series 301 to 311) – Inland Wetland

Wetland 3 is located south of Sniffens Lane, just west of a large parking lot behind the condos on Breakers Lane and north of wetland 2. This emergent wetland covers approximately 0.2 acres.

Wetland vegetation is comprised of common reed in the east and south, gray birch in the west and mixed herbaceous grasses (*graminae spp.*), sedge (*Carex spp.*), and rush (*Scirpus spp.*) in the central portions of the wetland. The principal function of this wetland is groundwater recharge. CTDEP Natural Diversity Database (December 2009) indicates that there is a potential presence of threatened or endangered species or their habitat, further correspondence with CTDEP will be required once project plans are in place.

Wetland 4 (Flag Series 401 to 434) – Tidal Wetland

Wetland 4 is located to the east of Route 113, just south of the existing residential driveway off Route 113. This emergent tidal wetland is hydraulically connected to wetlands 5, 6, and 7 and covers approximately 1.25 acres.

The dominant feature of this wetland is the open water tidal ditch that bisects the wetland and forms the connection to the other tidal wetlands. The vegetation is comprised of smooth cordgrass (*Spartina alterniflora*) close to the ditch and saltmeadow cordgrass (*Spartina patens*) and common reed underlain by black grass (*Juncus gerardiI)* inland from the ditch. There are groundsel trees (*Baccharis halimifolia*) and marsh elder (*Iva frutescens*) growing throughout this wetland.

Wetland 5 (Flag Series 501 to 532) – Tidal Wetland

The delineated portion of wetland 5 is located just south of the existing residential driveway off Route 113, east of wetland 4. This emergent tidal wetland is hydraulically connected to wetland 4 and extends to the south of flag 501 and to the east of flag 532.

The dominant feature of this wetland is the open embayment area that opens into Long Island Sound, identified on USGS maps as “Marine Basin”. The delineated portion of this wetland is west and north of this embayment. The vegetation is comprised of smooth cordgrass close to the water and saltmeadow cordgrass and common reed inland from the water.

Wetland 6 (Flag Series 601 to 622) – Tidal Wetland

Wetland 6 is located to the west of Route 113, between the eastern ends of runways 11-29 and 9-24, within the airport property perimeter fence. This emergent tidal wetland is hydraulically connected to wetland 4 and covers approximately 2 acres.

The open water tidal ditch that flows under Route 113 from wetland 4 is the dominant feature of the northeastern portion of this wetland. The vegetation is comprised of smooth cordgrass close to the ditch and saltmeadow cordgrass and common reed inland from the ditch. Further inland from the ditch is an area that is maintained by the airport and is dominated by mowed salt tolerant grasses (*Graminae spp.*) and rushes. At the time of delineation this area was flooded.

Wetland 7 (Flag Series 701 to 722) – Tidal Wetland

Wetland 7 is located to the east of Route 113, just north of the existing residential driveway off Route 113. This emergent tidal wetland is hydraulically connected to wetland 4 and extends to the northwest of flag 722.

The dominant feature of this wetland is the open water tidal ditch that forms the eastern border of the wetland. The eastern side of the ditch is vegetated by a very narrow band of tidal wetland vegetation before an upland mound of land parallels the entire length of the ditch. The vegetation of this wetland is comprised of smooth cordgrass close to the ditch and common reed inland from the ditch.

Wetland 8 (Flag Series 801 to 805) – Tidal Wetland

The delineated portion of wetland 8 is located just north of the existing residential driveway off Route 113, east of the open water tidal ditch adjacent to wetland 7. This large, emergent wetland extends well beyond the project limit, to the east and north, and is hydraulically connected to wetlands 1, 7, 9, and 10.

Wetland vegetation is dominated by common reed, which forms a dense monoculture throughout most of the wetland. The common reed is underlain by black grass throughout this wetland.

Wetland 9 (Flag Series 901 to 910) – Inland Wetland

The delineated portion of wetland 9 is located just north of the existing residential driveway off Route 113, east wetland 8. There is only a small upland ridge between the delineated portions of wetlands 8 and 9. This large, emergent wetland extends well beyond the project limit, to the east, west, and north, and is hydraulically connected to wetlands 1, 8, and 10.

Wetland vegetation is dominated by common reed, which forms a dense monoculture throughout most of the wetland. The principal function of this wetland is groundwater

recharge. CTDEP Natural Diversity Database (December 2009) indicates that there is a potential presence of threatened or endangered species or their habitat, further correspondence with CTDEP will be required once project plans are in place in order to determine what species may be in this area.

Wetland 10 (Flag Series 1001 to 1004) – Inland Wetland

The delineated portion of wetland 10 is located just north of the existing residential driveway off Route 113, east wetland 9. There is only a small upland ridge between the delineated portions of wetlands 9 and 10. This large, emergent wetland extends well beyond the project limit, to the west, and north, and is hydraulically connected to wetlands 1, 8, and 9.

Wetland vegetation is dominated by common reed, which forms a dense monoculture throughout most of the wetland. The principal function of this wetland is groundwater recharge. CTDEP Natural Diversity Database (December 2009) indicates that there is a potential presence of threatened or endangered species or their habitat, further correspondence with CTDEP will be required once project plans are in place in order to determine what species may be in this area.

Attached to this report are the following supporting materials:

- Figure 1 showing the project area
- Figures 2 showing the NRCS soils mapping in the project area
- A flag series graphic of the delineated wetlands (on aerial photograph base)
- Photographs of each wetland system
- Out-of-season wetland delineation release agreement

Respectfully submitted,

David Laiuppa

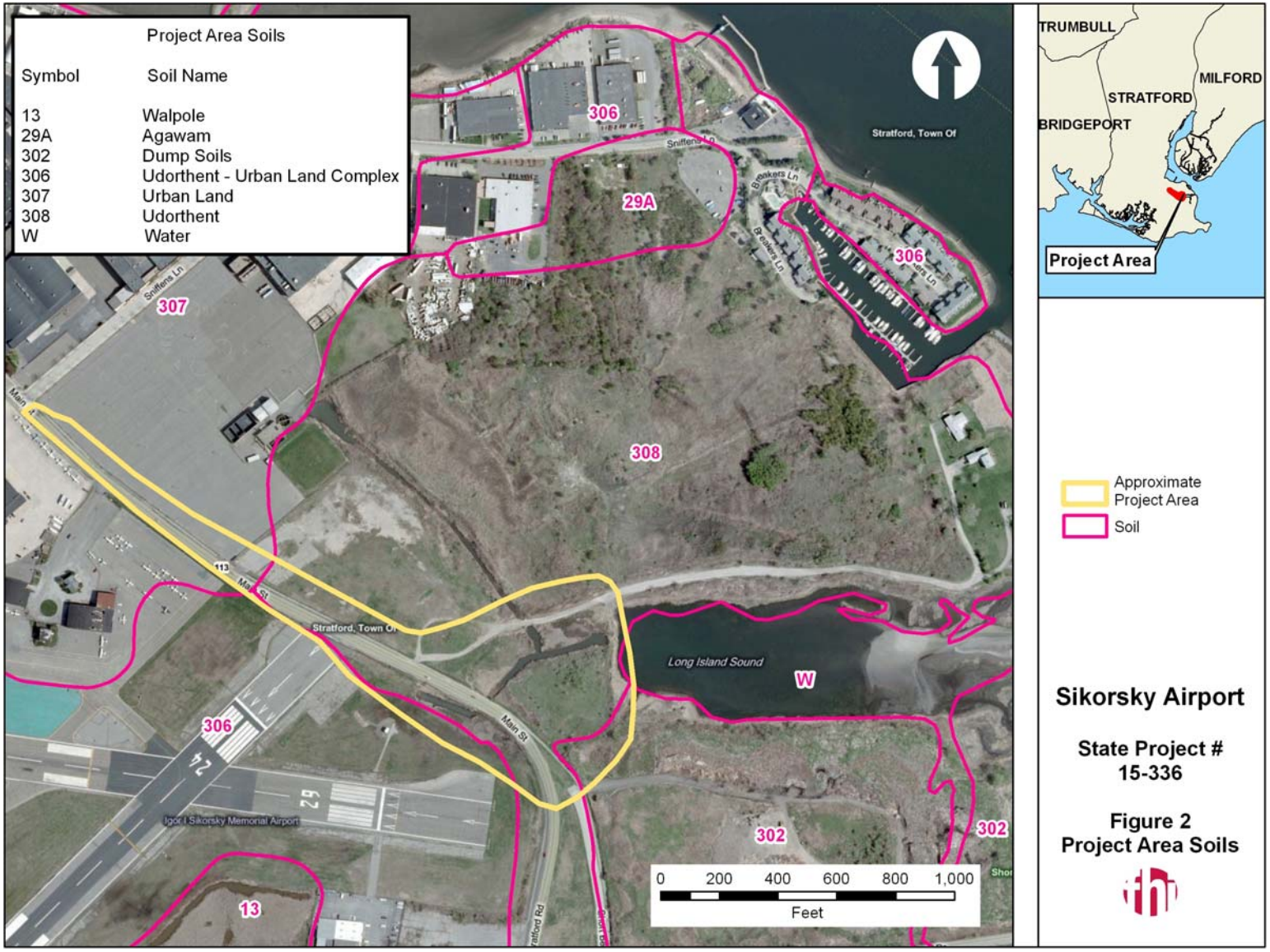
David Laiuppa
Certified Soil Scientist
Fitzgerald & Halliday, Inc

Approximate Project Area

Sikorsky Airport

State Project # 15-336

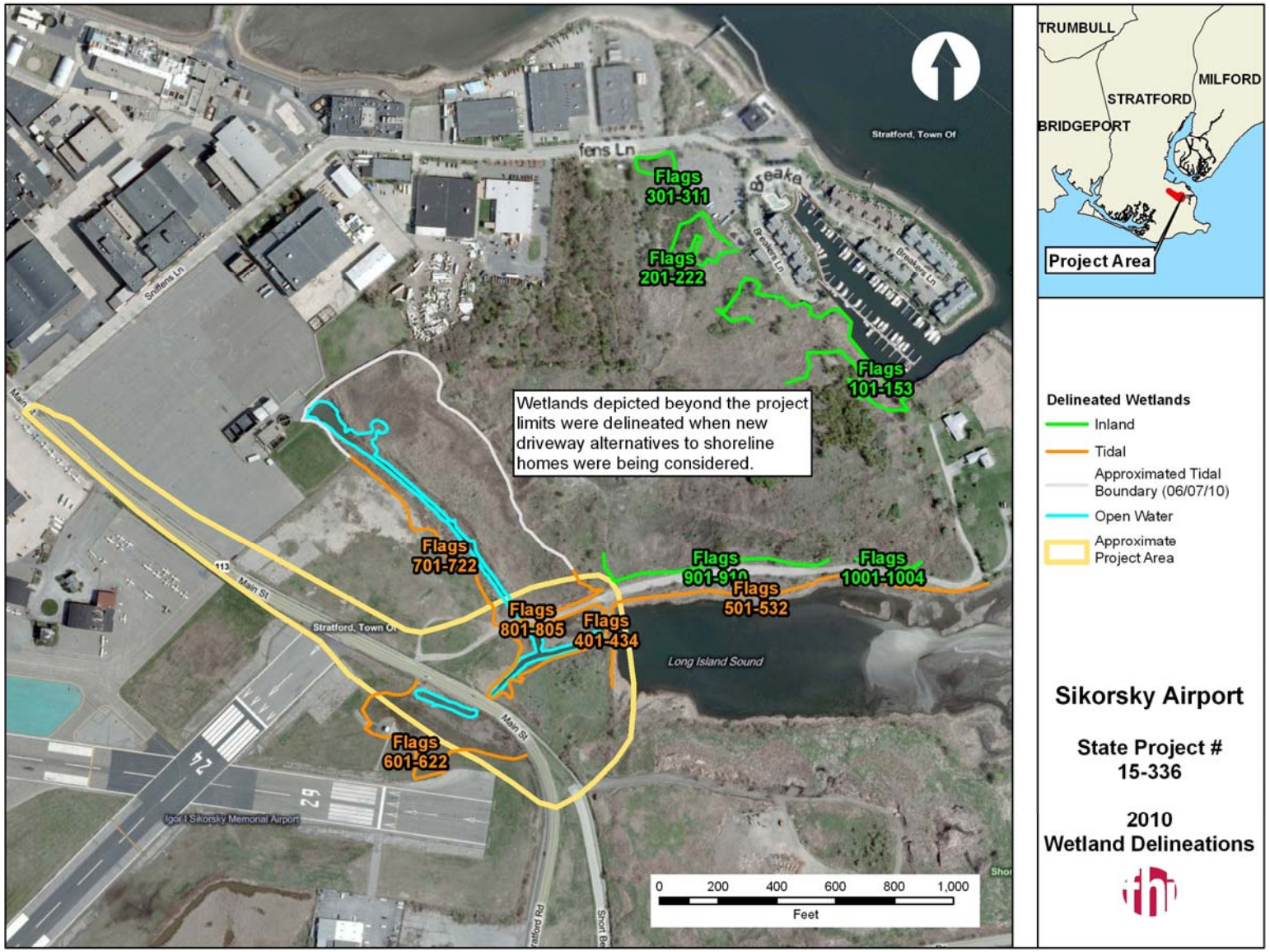
Figure 1
Project Area



Sikorsky Airport

State Project # 15-336

Figure 2
Project Area Soils


Flags 301-311
Flags 201-222
Flags 101-153
Wetlands depicted beyond the project limits were delineated when new driveway alternatives to shoreline homes were being considered.
Flags 701-722
Flags 801-805
Flags 401-434
Flags 901-910
Flags 501-532
Flags 1001-1004
Flags 601-622
Long Island Sound
Stratford, Town Of
Main St
Sniffens Ln
Breakers Ln
Igor I Sikorsky Memorial Airport
0 200 400 600 800 1,000
Feet
TRUMBULL
MILFORD
STRATFORD
BRIDGEPORT
Project Area
Delineated Wetlands
Inland
Tidal
Approximated Tidal Boundary (06/07/10)
Open Water
Approximate Project Area
Sikorsky Airport
State Project # 15-336
2010 Wetland Delineations

Wetland Photographs

Wetland 1

Wetland 2

Wetland 3

Wetland 4

Wetland 5

Wetland 6

Wetland 7

Wetland 8

Wetland 9

Wetland 10

Out-of-season wetland delineation release agreement

URS

In reply, please refer to: **38397152**

8. December, 2009

Paul Stanton, Project Manager
Fitzgerald & Halliday, Inc.
72 Cedar Street
Hartford, Ct, 06106

RE: Final Design & Permitting for Runway 6-24
Notice of Violations & Wetland Delineation
Igor I. Sikorsky Memorial Airport, Stratford, Connecticut

Dear Paul,

As discussed at yesterday's meeting with Kevin Zawoy, CT DEP Environmental Analyst, we will need to obtain/update wetland delineation of the project site for Route 113 and the proposed relocated driveway to ascertain the existing wetland limits in order to expedite the permit applications that will affect both the inland and tidal wetlands for the proposed work. We recognized that this delineation will occur outside the normal growing season; however, the delineation is required in order for the permit applications to proceed. Note that the permit applications are time sensitive.

We concur that the delineation should be revisited this spring (April, 2010) for verification.

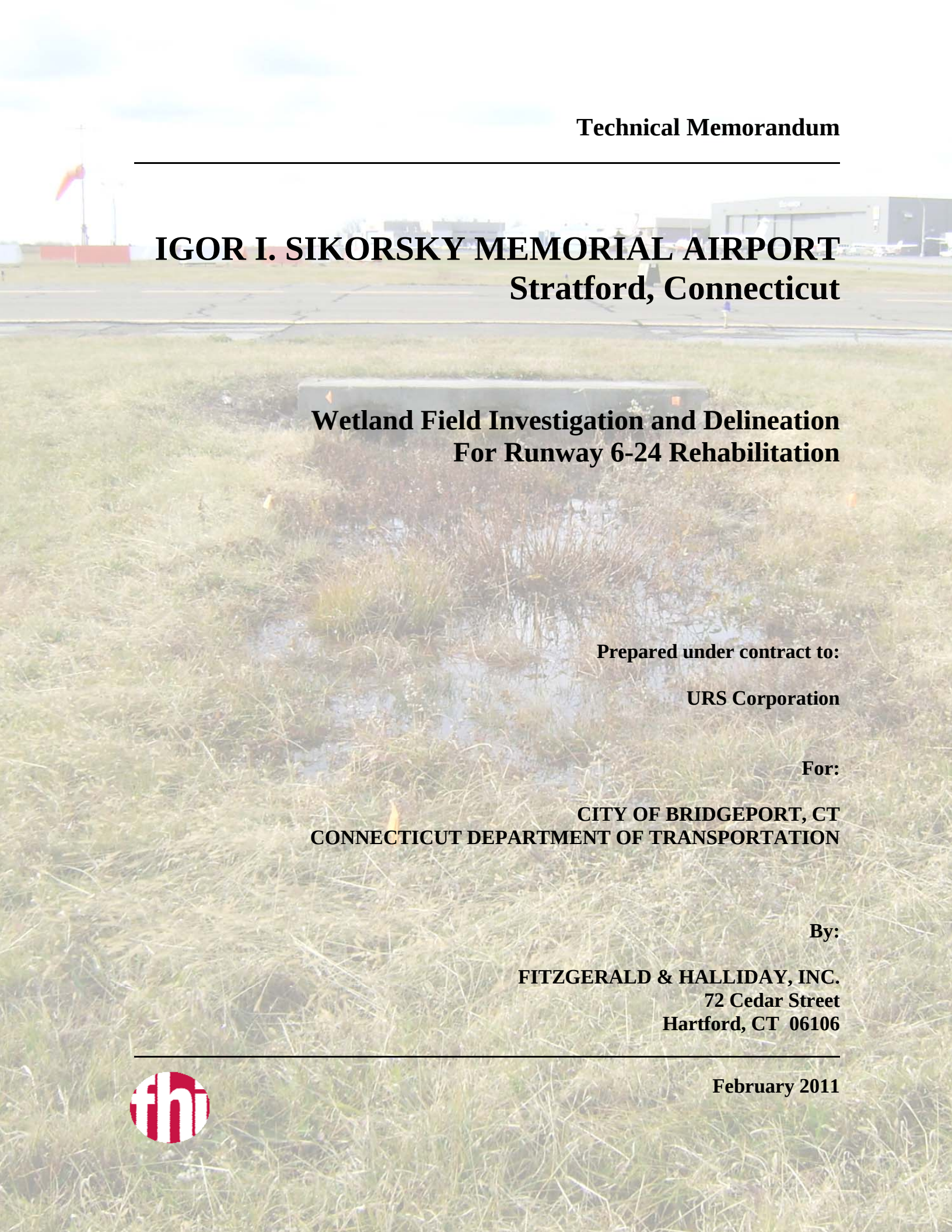
If you need additional information or have any questions on the attached, please contact me.

Sincerely,
URS Corporation

Gerald W. D'Amico, P.E.
Senior Airport Engineer

cc: John Ricci, Igor Sikorsky Memorial Airport
Roger Krahn, URS

[sikorsky/7152/subcontracts/fhi/environmental/120809]



Technical Memorandum

IGOR I. SIKORSKY MEMORIAL AIRPORT
Stratford, Connecticut

Wetland Field Investigation and Delineation For Runway 6-24 Rehabilitation

Prepared under contract to:

URS Corporation

For:

CITY OF BRIDGEPORT, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION

By:

FITZGERALD & HALLIDAY, INC.
72 Cedar Street
Hartford, CT 06106

February 2011

INTRODUCTION

Fitzgerald & Halliday, Inc. (FHI) was retained by URS Corporation (URS) to identify and delineate wetland resources within the limits of the Runway 6-24 Rehabilitation study area. The limits of the study area extend out 250 feet from either side of Runway 6-24. The study area, as defined by URS, is depicted below (see Figure 1). The study area extends a sufficient distance to encompass the town of Stratford upland review area of 100 feet.

FHI delineated the boundaries of wetlands within the study area in accordance with both federal and State of Connecticut definitions and guidelines. This fieldwork occurred on November 19 and 22, 2010. Documents used to support the inland wetland boundary determinations included: Natural Resources Conservation Service (NRCS) soil mapping; *Field Indicators of Hydric Soils in the United States – Version 6.0* (NRCS, 2006); *Field Indicators for Identifying Hydric Soils in New England – Version 3* (New England Hydric Soils Technical Committee, 2004); the U.S. Army Corps of Engineers (ACOE) 1987 *Wetland Delineation Manual*; the ACOE 2009 *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*; and the ACOE *Highway Methodology Workbook Supplement: Wetland Functions and Values A Descriptive Approach*. Tidal wetland delineations were conducted based on the estimated elevation of the high tide line and extent of tidal wetland vegetation in accordance with State of Connecticut (CGS Section 22a-29) and ACOE definitions and requirements.

FHI flagged the boundaries of eighteen (18) wetlands, each identified by a separate flag series number. The following flag series numbers were used during the delineation effort: 100; 200; 300; 400; 500; 600; 700; 800; 900; 1000; 1100; 1200; 1300; 1400; 1500; 1600; 1700; and 1800. In some cases two or more of the wetlands were found to be hydraulically connected, but were flagged with different series numbers because the hydraulic connection takes place beyond the study area. Because the study area is flat with an elevation that is roughly at or above sea level and the ground water level, the wetland boundaries are greatly influenced by microtopographical changes. Additionally, many of the delineated wetlands exhibit transitional characteristics between inland wetlands (located closer to the runway) to tidal wetlands (located further from the runway).

Evidence of fill and disturbance to the native soils was observed during the delineation fieldwork. This confirms and supports the NRCS mapped designation of Udorthents and Urban Land Complex soils in much of the project study area (see Figure 2).

The following section contains a detailed description of each of the delineated wetland areas. Supplemental materials attached to this report include project figures, a flag series graphic, photographs of each wetland system, and regulatory documentation forms.

WETLAND DESCRIPTIONS BASED ON NOVEMBER 2010 FIELD-DELINEATIONS

Wetland 1 (Flag Series 101 to 106) – Inland Wetland

Wetland 1 is located in the infield area on the northwest side of Runway 6-24, just northeast of the northernmost taxiway, near the Runway 24 end (see Figure 3). This small, emergent wetland is hydraulically connected to wetlands 2, 4, and 8 by a series of culverts under the taxiways. Although there is a hydraulic connection to tidal wetlands 4 and 8, the tidal influence does not extend inland past Wetland 4. At the time of delineation there was some standing water in this wetland. This wetland covers approximately 250 square feet.

Wetland vegetation is dominated by yellow nutsedge (*Cyperus esculentus*), green bulrush (*Scirpus atrovirens*), and mowed goldenrod (*Solidago spp.*). Other species include black willow (*Salix nigra*), and redosier dogwood (*Cornus sericea*). The principal function of this wetland is groundwater recharge.

Wetland 2 (Flag Series 201 to 225) - Inland Wetland

Wetland 2 is located in the infield area on the northwest side of Runway 6-24, between the northernmost taxiway and the middle taxiway (see Figure 3). This long, linear swale is bordered on both sides by an emergent wetland that is hydraulically connected to wetlands 1, 4, and 8 by a series of culverts under the taxiways. Although there is a hydraulic connection to tidal wetlands 4 and 8, the tidal influence does not extend inland past Wetland 4. At the time of delineation there was some standing water in this wetland. This wetland covers approximately 0.2 acres.

Wetland vegetation is dominated by yellow nutsedge, green bulrush, saltmarsh bulrush (*Scirpus robustus*) and mowed black willow. Other species include redosier dogwood, and common reed (*Phragmites australis*). The principal function of this wetland is groundwater recharge.

Wetland 3 (Flag Series 301 to 318) - Inland Wetland

Wetland 3 is located in the infield area on the northwest side of Runway 6-24 (see Figure 3). This long, linear swale is an emergent wetland that is aligned perpendicularly to the middle of Wetland 2, but is not hydraulically connected to it. This wetland covers approximately 0.1 acres.

Wetland vegetation is dominated by yellow nutsedge, green bulrush, redtop (*Agrostis gigantea*), sedge (*Carex spp.*), and aster (*Symphyotrichum spp.*). The principal function of this wetland is groundwater recharge.

Wetland 4 (Flag Series 401 to 457) - Tidal Wetland

Wetland 4 is located in the infield area on the northwest side of Runway 6-24, between the middle taxiway and the southernmost taxiway (see Figure 3). This long, linear swale is flanked by an emergent wetland which broadens in width near the middle and narrows on the ends. This wetland is hydraulically connected to wetlands 1, 2, and 8 by a series of culverts under the taxiways. Although there is a hydraulic connection to inland wetlands 1 and 2, the tidal influence does not extend inland past Wetland 4. At the time of delineation there was some standing water in this wetland. There were also small fish (species undefined) observed in the water. This wetland covers approximately 0.75 acres.

Wetland vegetation is dominated by smooth cordgrass (*Spartina alterniflora*), saltmeadow cordgrass (*Spartina patens*), yellow nutsedge, common reed, and green bulrush. Other species include saltmarsh bulrush, black grass (*Juncus gerardi*), redtop, and aster.

Wetland 5 (Flag Series 501 to 511) - Inland Wetland

Wetland 5 is located on the northwest side of Runway 6-24, just southwest of the southernmost taxiway, near the Runway 6 end (see Figure 3). This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to Wetland 6. There is also a storm drain just north of this wetland. This wetland covers approximately 0.1 acres.

Wetland vegetation is dominated by green bulrush, redtop, sedge, and rush (*Juncus spp.*) . Other species include black grass and aster. The principal function of this wetland is groundwater recharge.

Wetland 6 (Flag Series 601 to 644) - Inland Wetland

Wetland 6 is located on the northwest side of Runway 6-24, southwest of the southern taxiway, near the Runway 6 end (see Figure 3). This emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 5 and 7. This wetland covers approximately 0.35 acres.

Wetland vegetation is dominated by redtop, sedge, rush, black grass, and aster. The principal function of this wetland is groundwater recharge.

Wetland 7 (Flag Series 701 to 725) - Inland Wetland

Wetland 7 is located on the northwest side of Runway 6-24, southwest of the southern taxiway, near the Runway 6 end (see Figure 3). This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 6 and 8. This wetland covers approximately 0.1 acres.

Wetland vegetation is dominated by redtop, sedge, rush, black grass, and aster. The principal function of this wetland is groundwater recharge.

Wetland 8 (Flag Series 801 to 888) - Tidal Wetland

Wetland 8 is located along the periphery of the airfield, along the southwestern end of Runway 6, on the west and east sides of the runway (see Figure 3). This vast wetland extends well beyond the delineated boundary and is hydraulically connected to wetlands 1, 2, and 4 by a series of culverts under the taxiways. Although there is a hydraulic connection to inland wetlands 1 and 2, via tidal Wetland 4, the tidal influence does not extend inland past Wetland 4. This wetland is also connected to Wetland 16, which is part of an open water ditch on the eastern side of the airport. Wetland 8 also empties into the open waters of Long Island Sound, by way of a culvert under Lordship Boulevard. The delineated portion of this wetland, within the study area, covers more than 2 acres. The overall wetland covers more than 100 acres and is known locally as Lordship Marsh.

Wetland vegetation is dominated by black grass, common reed, smooth cordgrass, and saltmeadow cordgrass. Other species include seaside goldenrod (*Solidago sempervirens*) and marsh elder (*Iva frutescens*).

Wetland 9 (Flag Series 901 to 916) - Inland Wetland

Wetland 9 is located on the northwest side of Runway 6-24, southwest of the southern taxiway, near the Runway 6 end (see Figure 3). This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to Wetland 8. This wetland covers approximately 0.1 acres.

Wetland vegetation is dominated by redtop, sedge, rush, black grass, and aster. The principal function of this wetland is groundwater recharge.

Wetland 10 (Flag Series 1001 to 1025) - Inland Wetland

Wetland 10 is located on the southeast side of Runway 6-24 (see Figure 3). This emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 8 and 11. This wetland covers approximately 0.25 acres.

Wetland vegetation is dominated by redtop, sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

Wetland 11 (Flag Series 1101 to 1109) - Inland Wetland

Wetland 11 is located on the southeast side of Runway 6-24 (see Figure 3). This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 10 and 12. This wetland covers approximately 850 square feet.

Wetland vegetation is dominated by redtop, sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

Wetland 12 (Flag Series 1201 to 1216) - Tidal Wetland

Wetland 12 is located on the southeast side of Runway 6-24 (see Figure 3). This emergent wetland is hydraulically connected to wetlands 13, 15, and 16 beyond the study area boundary. The delineated portion of this wetland, within the study area, covers approximately 0.1 acres.

Wetland vegetation is dominated by redtop, sedge, rush, and aster.

Wetland 13 (Flag Series 1301 to 1215) - Tidal Wetland

Wetland 13 is located on the southeast side of Runway 6-24 (see Figure 3). This emergent wetland is hydraulically connected to wetlands 12, 15, and 16 beyond the study area boundary. The delineated portion of this wetland, within the study area, covers approximately 0.1 acres.

Wetland vegetation is dominated by redtop, sedge, rush, and aster.

Wetland 14 (Flag Series 1401 to 1425) - Inland Wetland

Wetland 14 is located on the southeast side of Runway 6-24 (see Figure 3). This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 13 and 15. This wetland covers approximately 0.1 acres.

Wetland vegetation is dominated by sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

Wetland 15 (Flag Series 1501 to 1520) - Tidal Wetland

Wetland 15 is located on the southeast side of Runway 6-24 (see Figure 3). This emergent wetland is hydraulically connected to wetlands 12, 13, and 16 beyond the study area boundary. At the time of delineation there was an area of shallow, standing water. The delineated portion of this wetland, within the study area, covers approximately 0.15 acres.

Wetland vegetation is dominated by redtop, sedge, and rush. Other species include common reed, black grass, and aster.

Wetland 16 (Flag Series 1601 to 1661) - Tidal Wetland

Wetland 16 is located along the periphery of the airfield, on the southeastern side of Runway 6-24 (see Figure 3). This long, linear, open water swale and emergent wetland is hydraulically connected to the open water portions of Wetland 8 beyond the study area

boundary. Wetland 16 and Wetland 17 appear to be connected by a culvert that passes under the abandoned runway on the eastern side of Runway 6-24. Wetlands 12, 13, and 15 are also connected to this wetland beyond the study area limits. At the time of delineation there was water in the ditch adjacent to this wetland. Within the study area, the delineated portion of this wetland covers more than 2 acres.

Wetland vegetation is dominated by common reed, smooth cordgrass, and saltmeadow cordgrass. Other species include black grass, seaside goldenrod, and redtop.

Wetland 17 (Flag Series 1701 to 1760) - Tidal Wetland

Wetland 17 is located southeast of Runway 6-24 near its intersection with Runway 11-29 along the periphery of the airfield, on the eastern side of the Runway 24 end (see Figure 3). This emergent wetland and open water swale appears to be connected wetland 16 by a culvert that passes under the abandoned runway on the eastern side of Runway 6-24. At the time of delineation there was water in the ditch. The delineated portion of this wetland, within the study area, covers approximately 1.0 acres.

Wetland vegetation along the edge of the open water ditch is dominated by black grass, common reed and saltmarsh bulrush. Wetland vegetation in the emergent portion of the wetland closer to the runway is dominated by seaside goldenrod, redtop, sedge, rush, and saltmarsh bulrush.

Wetland 18 (Flag Series 1801 to 1811) - Inland Wetland

Wetland 18 is located due south of the point where Runway 6-24 and Runway 11-29 intersect in the infield area on the east side of the Runway 24 end (see Figure 3). This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to Wetland 17. This wetland covers approximately 0.05 acres.

Wetland vegetation is dominated by redtop, sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

Natural Diversity Database

The Connecticut Department of Environmental Protection's (CTDEP) Natural Diversity Database (GIS mapping December 2010) indicates the potential presence of either threatened or endangered species or their habitat within the project limits. Further correspondence with CTDEP will be required during the project permitting phase to determine whether or not the project will have an adverse effect on listed species and/or critical habitats.

NRCS MAPPED SOILS

The Natural Resource Conservation Service (NRCS) has published a series of soil surveys for most of the United States. The soil surveys contain, among other things, taxonomic descriptions of soil series and soil maps, which depict soil map units. Utilization of the NRCS's soil surveys helps to aid in the description and understanding of a particular geographic area.

Soils in the project area are classified by the NRCS and are depicted on Figure 2. The following soils are mapped within the limits of the project area. The NRCS's soil surveys are used to gain an understanding of, and to help describe a particular geographic area.

Walpole Sandy Loam (soil figure map number 13)

The Walpole Series consists of very deep, poorly drained sandy soils formed in outwash and stratified drift. They are nearly level to gently sloping soils in low-lying positions on terraces and plains. Slope ranges from 0 to 8 percent. Permeability is moderately rapid in the surface layer and subsoil, and rapid or very rapid in the substratum. Surface runoff is slow. Walpole soils have a water table at or near the surface much of the year.

Thickness of the solum and depth to sand or loamy sand substratum layers range from 18 to 28 inches. Rock fragments range from 0 to 25 percent by volume in the solum and from 0 to 50 percent in individual layers of the substratum. Typically, 70 percent or more of the rock fragments are rounded gravel.

Westbrook Mucky Peat (soil figure map numbers 98 & 99)

The Westbrook series consists of very deep, very poorly drained soils formed in organic deposits over loamy mineral material. These soils are in tidal marshes subject to inundation by salt water twice daily unless protected. Saturated hydraulic conductivity is moderately high to very high in the organic layers and low to high in the underlying mineral sediments. Runoff is very slow.

Thickness of the organic deposits ranges from 16 to 51 inches. The soil is strongly acid to slightly alkaline and very slightly saline to strongly saline. Total salt content ranges from 1.6 to 62.5 dS/m. Thin lenses of silt and very fine sand are common in the organic horizons. Westbrook soils developed in partially decomposed organic material from salt tolerate herbaceous plants over loamy sediments.

Udorthents Urban Land Complex

Udorthents (soil figure map number 308)

Udorthents consist of earthy materials that have been shaped or otherwise disturbed by man. Slopes range from 0 to 25 percent. Onsite investigations are required for interpretations.

Urban Lands (soil figure map number 306)

Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. Slopes range from 0 to 45 percent. Onsite investigations are required for interpretations.

Attached to this report are the following supporting materials:

- Figure 1 showing the project area
- Figure 2 showing the NRCS soils mapping in the project area
- Figure 3 showing flag series of the delineated wetlands (on aerial photograph base)
- Photographs of each wetland system
- Function and value assessment forms

Respectfully submitted,

David Laiuppa

David Laiuppa
Certified Soil Scientist
Fitzgerald & Halliday, Inc

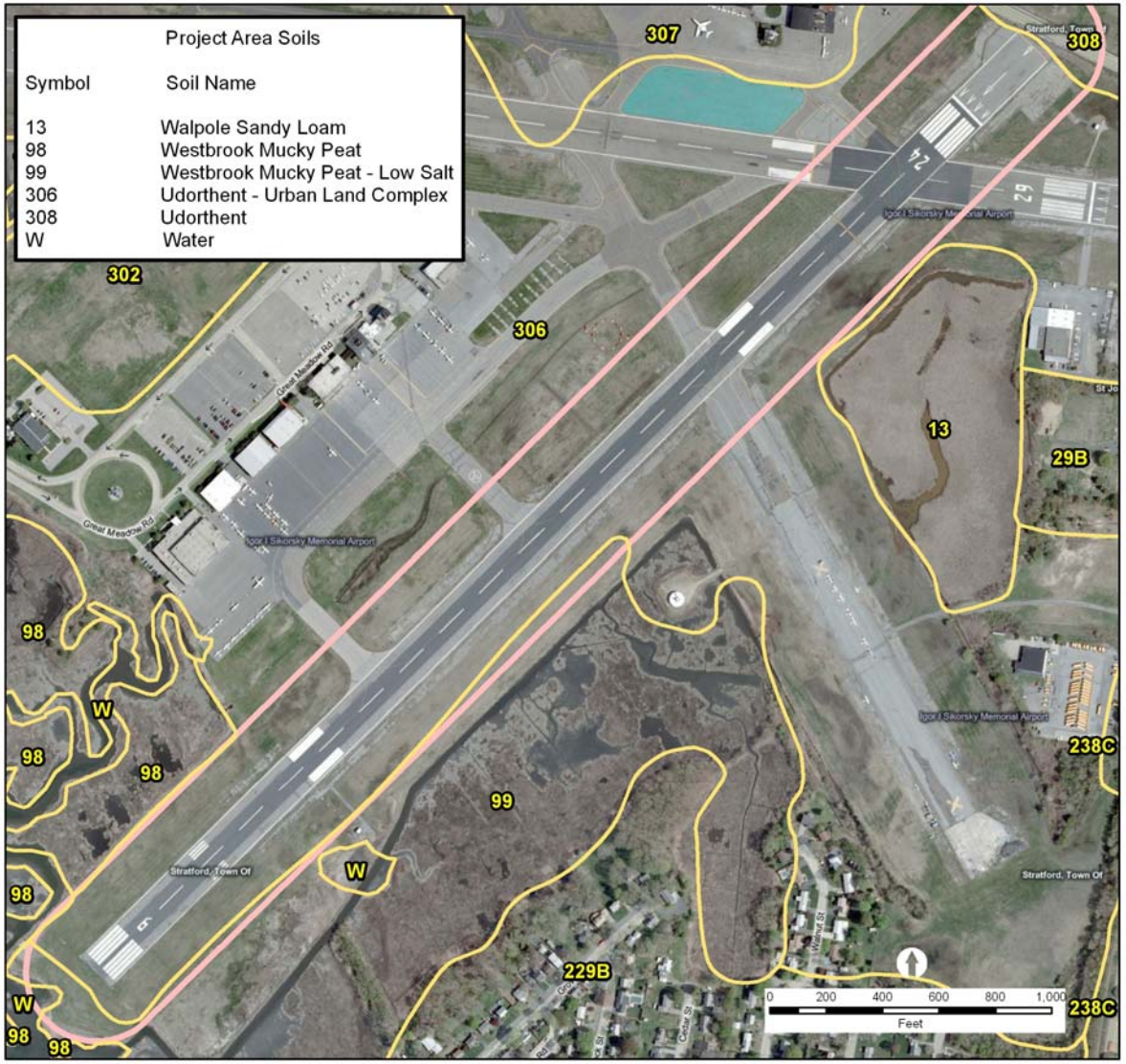
Study Area

Igor I. Sikorsky Memorial Airport

Runway 6-24 Rehabilitation Project

Figure 1
Project Area

February 2011 - Fitzgerald & Halliday, Inc. - Project # 812 - original in color



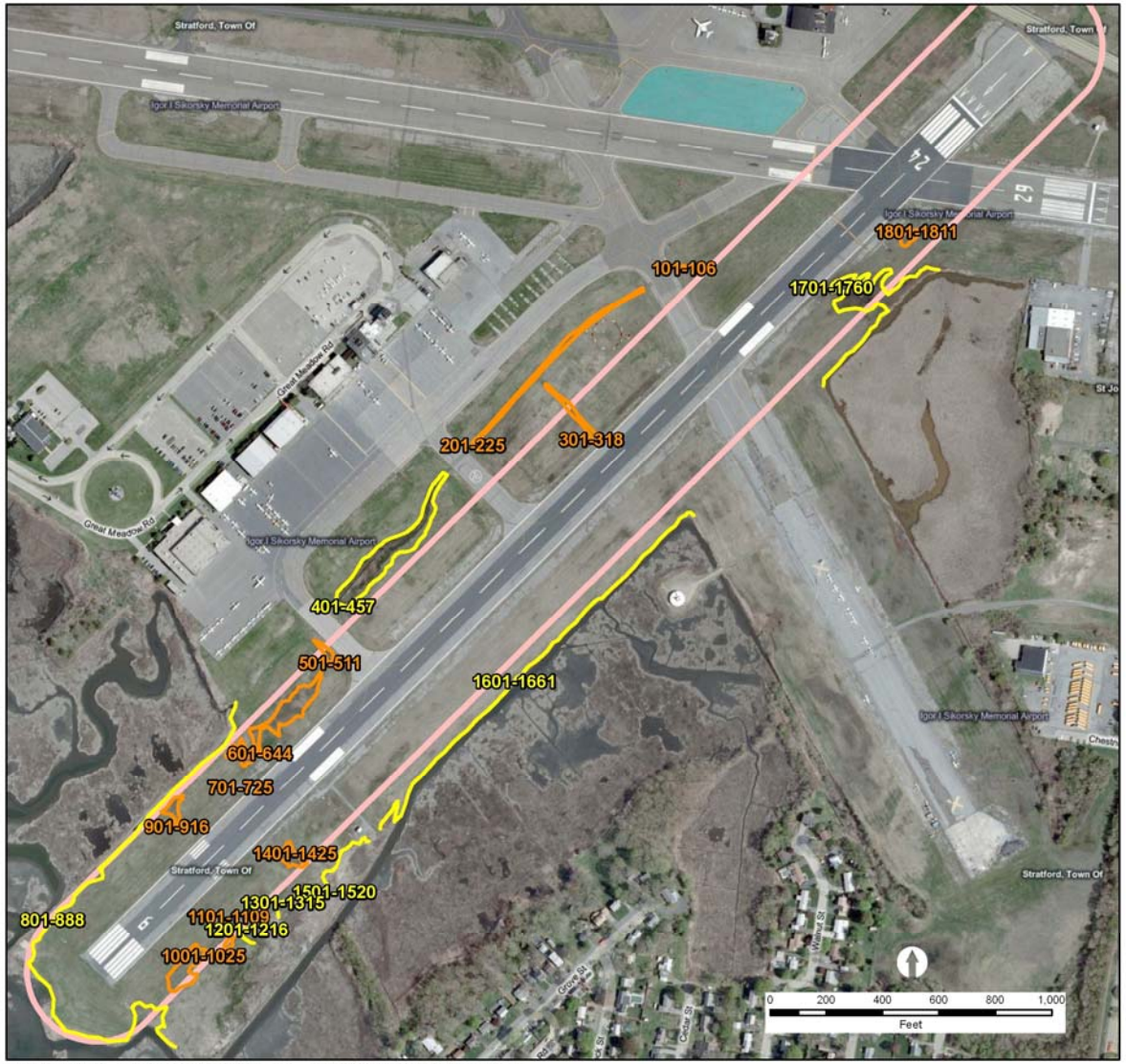
NRCS Soil Boundaries
Study Area

Igor I. Sikorsky Memorial Airport

Runway 6-24 Rehabilitation Project

Figure 2
Project Area
NRCS Soils

February 2011 - Fitzgerald & Halliday, Inc. - Project # 812 - original in color



Wetland Sketches Nov

- Inland Wetland Boundaries
- Tidal Wetland Boundaries
- Study Area

Igor I. Sikorsky Memorial Airport

Runway 6-24 Rehabilitation Project

Figure 3
November 2010
Wetland Delineations

February 2011 - Fitzgerald & Halliday, Inc. - Project # 812 - original in color

Wetland Photographs

Wetland 1

Wetland 2

Wetland 3

Wetland 4

Wetland 5

Wetland 6

Wetland 7

Wetland 8

Wetland 9

Wetland 10

Wetland 11

Wetland 12

Wetland 13

Wetland 14

Wetland 15

Wetland 16

Wetland 17

Wetland 18

Function and Value Assessment Forms

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 100

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 250 sq ft

IS WETLAND PART OF A WILDLIFE CORRIDOR? No

OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport

MAN MADE? No

DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~10 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM

CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? No

IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? Lower

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 1

AQUATIC DIVERSITY/ABUNDANCE No

VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No

ANTICIPATED IMPACTS Unknown

WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,7,8,9,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,7,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 200

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.2 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~10 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? No IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? Middle

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 1 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,7,8,9,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,7,9		Narrow wetland along ditch of intermittent watercourse (wetland too narrow to affect flood storage)	
Sediment/Shoreline Stabilization		X	9,12,15		Narrow wetland bordering intermittent ditch	
Sediment/Toxicant Retention		X	2,4,5,6		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9,14		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No perenially open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 300

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.1 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~20 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 500

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.1 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~20 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 600

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.35 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~20 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 700

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.1 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~20 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 900

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.1 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~20 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 1000

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.25 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~75 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 1100

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 850 sq ft IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~75 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 1400

Prepared by: David Laiuppa DATE: 11/22/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.1 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~75 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 1800

Prepared by: David Laiuppa DATE: 11/22/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.05 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~15 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

This appendix contains the following:

- **Task 120 – Preliminary Site Assessment**
  Site 1 – City of Bridgeport Property
  Map 50.04, Block 3, Lots 1 and 2
  Main Street, Stratford, Connecticut
  August 13, 2009

The Appendices of this Report are not included herein.

- **Task 120 – Preliminary Site Assessment**
  Site 2– Stratford Army Engine Plant Property
  Map 50.05 Block 4 Lot 2
  Main Street, Stratford
  August 13, 2009

The Appendices of this Report are not included herein.

- **Record of Conversation dated April 28, 2010 with Ron Jennings, US EPA**

- **Record of Conversation dated April 28, 2010 with Ron Curren, CT DEP**

DRAFT

TASK 120 - PRELIMINARY SITE ASSESSMENT
SITE 1 - CITY OF BRIDGEPORT PROPERTY
MAP 50.04, BLOCK 3, LOTS 1 and 2
MAIN STREET, STRATFORD, CONNECTICUT

FINAL DESIGN AND PERMITTING
FOR THE RE-ALIGNMENT OF MAIN STREET (CT ROUTE 113)

Prepared for:

CITY OF BRIDGEPORT

URS Project No.: 38397085.00003
August 13, 2009

URS Corporation AES
500 Enterprise Drive, Suite 3B
Rocky Hill, Connecticut 06067

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Appendix B – Aerial Photographs

Appendix C – Final 1999 EIS/1997 Phase I/II EDDA Excerpts

Appendix D – Site Photographs

Appendix E – Excerpt of TetraTech Nus, Inc. Draft Final Remedial Investigation

EXECUTIVE SUMMARY

This report presents the results of URS Corporation AES (URS) Task 120 Preliminary Site Assessment (Task 120) of the portions of parcels (proposed roadway) slated for potential acquisition for the re-alignment of Main Street (CT Route 113) in Stratford, Connecticut. The objective of the Task 120 was to evaluate site-specific environmental concerns and to serve as a basis for Task 210 and/or Task 220 activities in the future. The Task 120 was performed as defined under the on-call contaminated soil/groundwater scope of services, issued by the Connecticut Department of Transportation Division of Environmental Compliance to URS, dated October 1, 2003.

The Site consists of an approximately 79-acre irregularly-shaped property comprised of two parcels currently utilized by the City of Bridgeport as a runway clear-zone. The majority of the Site consists of undeveloped grassy land. The Site also contains smaller areas of wetlands and the Marine Basin, a small embayment of the Housatonic River. An access road for the Stratford Solid Waste Landfill at the north terminus of Short Beach Road is present along the southern border of the property. The northern portion of the landfill and its associated access road are located on the Bridgeport property, although outside of the proposed project area. The portion of the Site most relevant to the proposed realignment (along Main Street) consists of an unimproved paved area, which adjoins the currently vacant Stratford Army Engine Plant (SAEP) south parking lot, and the area along the east side of Main Street.

The Site formerly contained several buildings including a truck stop and a restaurant. Based on street directories, possible former occupants of the Site could have included boat renting, a horticultural business by the name of Farmer Snapper, a hotel and restaurant by the name of Howie's Rest, and the Happy Landing Inn, and the Dairy Store. All former Site structures had been removed by 1990. Fill material consisting of Airport Earthfill, demolition debris and Raymark Waste are present at the Site. Previous environmental investigations have identified the presence of contaminated soil and Raymark Waste at various locations at the Site.

This assessment identified the following environmental concerns for the portion of the Site slated for potential acquisition, the proposed roadway:

1. Raymark Waste. So called Raymark Waste has been identified in two portions of the Site. Based on the results of soil samples collected at the Site, the Raymark Waste contains concentrations of asbestos, total mass and Synthetic Precipitation Leaching Procedure (SPLP) Metals, dioxins, pesticides, Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs) and Volatile Organic Compounds (VOCs). The areas of the Site which contain the Raymark Waste are considered a portion of the Raymark Superfund site.

2. Contaminated Soil. Assessment activities of the Raymark Waste present at the Site identified the presence of contaminated soil at portions of the Site beyond the limits of the identified Raymark Waste. Soil beyond the limits of the Raymark Waste is contaminated with concentrations of asbestos, copper, lead, pesticides and PCBs.

3. Contaminated Groundwater: Groundwater in vicinity of the SAEP is impacted with minimal concentrations of chlorinated VOCs.

4. Former Truck Stop: A truck stop was formerly located in the southwestern portion of the Site along Main Street (CT Route 113). The former presence of a truck stop could indicate the former presence of gasoline and/or diesel fuel oil tanks associated with vehicle fueling operations and a fuel oil tank associated with the truck stop building. Furthermore, the former use of this portion of the Site by trucks could have resulted in incidental releases of gasoline and or diesel fuel in this location.

5. Former Building Structures: In addition to the truck stop, three other building structures previously existed on portions of the Site. One of these buildings was apparently a restaurant. The use of the other two former buildings is not known. There is the possibility that these former

buildings could have had heating oil tanks, could have been used for industrial purposes and/or could have been painted with lead-based paint, all of which could have lead to impacts to soil and/or groundwater.

6. Earth Fill: One portion of the Site has been identified as an area where fill material, so called Airport Earth Fill, has been deposited. Portions of this area beyond the limits of the Raymark Waste are impacted with contaminants such as lead and asbestos.

7. Stratford Solid Waste Landfill: Although some distance from the project area portion of the Site, portions of the Stratford Solid Waste Landfill are located on the Site. Contaminants are known to commonly leach from landfills to soil and/or groundwater. While no specific reference to releases from the Stratford Solid Waste Landfill were identified by this assessment, there is a good possibility that releases have occurred from this landfill and that such releases could have impacted portions of the Site.

8. Solid Waste Disposal Area: The so called Raymark Waste identified in several portions of the Site and the Airport Earth Fill located near the project area may contain Solid Waste at a volume (greater than 10 cubic yards) that could subject the Site to the requirements of the Connecticut Solid Waste Regulations. Further assessment of the content of the identified Raymark Waste and airport earth fill may be required to refine this conclusion.

URS recommends collection and analysis of soil samples from the limits of the project area, planned soil excavation areas and/or areas proposed to be disturbed by the proposed roadway construction activities to more completely evaluate soil conditions and the existence of solid waste. If groundwater is anticipated to be encountered during the proposed roadway construction activities, URS would also recommend evaluation of impacts to groundwater in the project area portion of the Site. URS recommends completing at least seven (7) soil borings for this project-specific investigation.

1.0 INTRODUCTION

This report presents the results of URS Corporation AES'(URS) Task 120 Preliminary Site Assessment (Task 120) of the City of Bridgeport Parcels (the "Site" or "subject property") slated for potential acquisition for the re-alignment of a 2,200 foot long portion of Main Street (CT Route 113) in the vicinity of the Igor Sikorsky Memorial Airport in Stratford, Connecticut. The objective of the Task 120 was to evaluate site-specific environmental concerns and to serve as a basis for Task 210 and/or Task 220 activities in the future. A Site Location Map is included as **Figure 1**. A Site Plan is included as **Figure 2**.

1.1 SCOPE OF WORK

URS' scope of work included an inspection of the subject property to document current conditions, review of available environmental reports, inquiries and review of available files at City of Bridgeport offices, review of aerial photographs and street directories at the Connecticut State Library and conductance of a file review at the Connecticut Department of Environmental Protection (CTDEP) Records Center, and preparation of this Site Specific Report.

1.2 LIMITING CONDITIONS AND DATA GAPS

No conditions which would limit URS' ability to complete the scope of work were encountered during the performance of the Task 120.

1.3 LIMITATIONS OF THE ASSESSMENT

The work conducted by URS is limited to the services agreed to with City of Bridgeport as presented in the Exhibit E: Scope of Work Igor Sikorsky Memorial Airport AIP No. 3-09-0002-24 Final Design and Permitting for the Re-Alignment of Main Street (CT Route 113). No other services beyond those explicitly stated should be inferred or are implied.

URS has performed the scope of work set forth in the Exhibit E: Scope of Work Igor Sikorsky Memorial Airport AIP No. 3-09-0002-24 Final Design and Permitting for the Re-Alignment of Main Street (CT Route 113) (Proposal) between the City of Bridgeport, Connecticut and URS Corporation AES related to this project, in specific reliance on the understandings and agreements reached between URS and City of Bridgeport ("Client") as reflected in the Proposal and the written agreement between them (the "Agreement"). URS' scope of work was limited to that stated in the Agreement.

The report and any other information which URS prepared and submitted to Client in connection with this project (collectively, the "Report") are for the sole use and benefit of Client, the Connecticut Department of Transportation and the Federal Aviation Administration and may not be used or relied upon by any other person or entity without the prior written consent of Client and URS. Any such consent given by URS shall be deemed to be and shall be subject to the terms and conditions of the Proposals and the Agreement, including without limitation, the warranty, liability and indemnity terms thereof, and any person given such consent (the "Grantee") shall be deemed to have agreed to such terms and conditions by its use and reliance on the Report. Such Grantee must also agree not to reveal the contents of the Report to any other person or entity without the proper written consent of both Client and URS.

Client recognizes and agrees that:

- The information in the Report relates only to the properties specifically described in the Proposal and Report and was presented in accordance with and subject to the scope of work described in the Proposal which were specifically agreed to by Client;
- The information and conclusions provided in the Report apply only to the subject property as it existed at the time of URS' site inspection. Should Site use or conditions change or should there be changes in applicable laws, standards or technology, the information and conclusions in the Report may no longer apply;

- URS makes no representations regarding the value or marketability of this subject property or its suitability for any particular use, and none should be inferred based on the Report;
- The Report is intended to be used in its entirety and no excerpts may be taken to be representative of the findings of this investigation;
- URS' services in the development of this Report were conducted, within the limits prescribed by this Agreement, in a manner consistent with that level of care and skill ordinarily exercised by members of the same professions currently practicing in the same locality under similar conditions and no other guaranty, warranty, or representation, either express or implied, is included or intended herein; and,
- Comprehensive assessments of environmental land use issues and constraints of possible relevance (e.g. radon, mold, asbestos-containing materials, wetlands, sensitive habitats) were not included in the scope of services.

2.0 SITE DESCRIPTION

Information concerning the Site was obtained from a site inspection and review of available municipal and state records conducted on February 10 through February 16, 2009. Information from other referenced sources is also presented in the sections below.

2.1 PHYSICAL LOCATION AND DESCRIPTION OF SUBJECT PROPERTY

The Site consists of two contiguous parcels, a 77.64-acre parcel and a 1.41-acre parcel, both located on the east side of Main Street (Route 113), across from Runway 24 of the Igor Sikorsky Memorial Airport. The 77.64-acre parcel is identified in the Town of Stratford's Tax Assessor's records as Lot 1, Block 3 on Map 50.04, and the 1.41-acre parcel is identified as Lot 2, Block 3 on Map 50.04. These two properties comprise a portion of the proposed area to be used for the re-alignment of Main Street (Route 113) that would allow for proposed safety improvements to Runway 24. This assessment report will focuses on the western portion of the properties, the portion of the Site slated for potential acquisition, and the proposed roadway. The Site location is depicted on **Figure 1**. Portions of the Site including the portion slated for potential acquisition are illustrated on **Figure 2**.

The Site is an irregularly-shaped area currently utilized by the City of Bridgeport as a runway clear-zone. The majority of the Site consists of undeveloped grassy land. The Site also contains smaller areas of wetlands that are connected to the Marine Basin, a small embayment of the Housatonic River located to the east of the Site. The Marine Basin receives drainage from the surrounding land as well as a portion of the airport property via drainage channels. An access road to the Stratford Solid Waste Landfill at the north terminus of Short Beach Road is present along the southern border of the Site. The northern portion of the landfill and its associated access road are located on the Bridgeport property, although outside of the proposed project area.

The Site is bordered to the north by the currently vacant Stratford Army Engine Plant (SAEP) and other industrial properties associated with the SAEP further to the east along Sniffens Lane, to the east by residential properties, to the south by the Stratford Solid Waste Landfill and to the west/southwest by Main Street and then portions of the Igor Sikorsky Memorial Airport. Some shoreline residential communities are present to the east and south of the subject property beyond the Stratford Solid Waste Landfill.

The portion of the Site most relevant to the proposed realignment (the portion of the Site proposed for acquisition) consists of an unimproved paved area in the western portion of the Site and the area along the east side of Main Street.

3.0 SITE HISTORY

The historical use of the subject property was determined from a review of aerial photographs, land use maps and information presented in previous environmental site assessment reports. Site conditions documented in historical documents for the subject property, were reviewed and evaluated. Historical Site features are depicted on **Figure 3**.

3.1 PRIOR OWNERSHIP AND LAND USE

The Site is currently owned by the City of Bridgeport and, as presented in sections above, is comprised of two parcels. According to the Town of Stratford Tax Assessor, the parcel comprising the bulk of the subject property, the 77.64 acre parcel, identified as Lot 1, Block 3 of Map 50.04, was transferred to the City of Bridgeport from the Land and Home Development Company, Inc. on April 3, 1973. The second parcel, the 1.41-acres parcel identified as Lot 2, Block 3 of Map 50.04, was transferred from The Dairy Store of Bridgeport, Inc. to the City of Bridgeport on April 2, 1973. Copies of the Town of Stratford Assessor's property cards are included in **Appendix A**.

Based on information provided in the *Final Environmental Impact Statement/Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24* (Final EIS), the larger parcel (Lot-1) comprising the Site was created through the acquisition of several smaller parcels by the City of Bridgeport. This includes a transfer of 1.54-acres in the vicinity of the current dirt access road (discussed in Section 5.1) from Henry De Julio to the City of Bridgeport on October 16, 1973, and a 2.25-acre easement acquired from the Land & Home Development Company, Inc. on June 30, 1974. This easement is reportedly located along the current eastern property boundary of Lot 1. In addition, documents reviewed indicate that there was a previous grant of land from the United States of America to the City of Bridgeport on February 8, 1949 of an estimated 35 acres.

Based on information obtained from the Final EIS and other historical sources discussed below, it is known that Main Street (CT Route 113) and the Marine Basin were present by the 1930s. Although no specific development or improvements were noted to be on the subject property and the airport had not been constructed, the area may have provided a point of access to the shoreline for recreational use. By 1951, the subject property was improved with at least one or two buildings, with clear pathways to both the shoreline and Marine Basin. Activities performed at the Site may have included boat renting, a horticultural business by the name of Farmer Snapper, and was also possibly occupied by a third building, a possible hotel and restaurant by the name of Howie's Rest and the Happy Landing Inn by 1960. A fourth structure was constructed on the Site (in Lot 2) by 1970 and, according to city directory listings, may have operated as the Dairy Store. By 1980, the Dairy Store and the two other buildings (discussed in Section 3.2) formerly present at the Site had been removed, and the areas may have been utilized for storage of trailers at that time. Some landfilling activities were taking place in areas throughout the Site. By 1990, the last remaining structure at the site, located at the access road entrance from Main Street, had been removed, and there is little evidence of any further significant activity at the Site. The City of Bridgeport had acquired much of this property by 1973 and the property has been utilized primarily as a runway clear-zone since.

3.2 AERIAL PHOTOGRAPHS

Historical aerial photography available at the Connecticut State Library for the years 1934, 1951, 1965, 1970, 1980, 1986, 1990 and 1995 were reviewed for this assessment. Historical aerial photographs are included in **Appendix B**. A summary of the information discerned from these aerial photographs is presented below:

- **1934**: The 1934 photograph shows the subject property area to be mostly undeveloped, although one or possibly two dirt paths or roads are observed within the subject property. These paths appear to provide access to the Marine Basin and the shoreline east of the

Site. A road is present in the current location of Main Street (Route 113) and appears to possibly be unpaved. A building is depicted to northwest of the Site on the current SAEP property with the roof clearly labeled with the word "SIKORSKY" (this portion has been cropped from the photo in the attached copy). The surrounding areas appear to be either tidal wetlands, filled material, or shoreline cottage communities. Small vessel traffic is present in the Marine Basin.

- **1951**: The 1951 photograph depicts two buildings present in the eastern portion of the Site. Two dirt roads are present on the Site, one leading east through the Site to the beach area northeast of the Site, and the other leading to the southeast corner of the Marine Basin. Several buildings and a large parking area are present on the property to the north of the Site, the current SAEP property. Airport runways and several buildings are present on the property to the west of the Site. Due to the small scale of the photograph, further details of the subject property are difficult to discern. The surrounding areas appear to be a mix of industrial and undeveloped parcels, with some surrounding coastal residential communities.
- **1965**: The 1965 photograph depicts the subject property with several improvements present. A structure is present in the northwestern corner of the Site, the portion of the Site that currently contains asphalt pavement. Three buildings are present in the western central portion of the Site along Main Street (Route 113). What appear to be vehicles or trucks are also present on the Site adjacent to the observed structures in the western portion of the Site. Automobile parking and an apparent wastewater lagoon are present on the property to the north of the Site. A drainage channel extends from the wastewater lagoon on the SAEP property to the Marine Basin. A structure that appears to be an automotive service station based on the presence of two fuel pumps or islands and several apparent automobiles are present on the property between Main Street (Route 113) and the current Short Beach Road south of the Site.
- **1970**: Due to the poor coverage of the Site area and quality of the 1970 aerial photograph, details of Site are difficult to discern. However, the Site appears to be

developed in a configuration similar to that observed in the 1965 photograph. What appears to be trucks are present in the area of the structures in western portion of the Site. Although the photograph resolution of this area is poor, the automobile service station located to the south of the Site appears to be inactive, and the structures at that site may no longer be present. Other areas depicted in the photograph appear similar to the appearance in the 1965 photograph.

- **1980**: The 1980 aerial photograph indicates significant changes on the Site from the 1970 aerial photograph. Only one of the formerly observed buildings, the south-eastern most of the four, is present in this photograph. What appears to be equipment or a trailer is present. A drainage channel leading from beneath Main Street (Route 113) to the Marine Basin is present. An area that contains many small items that could be debris is present in the interior of the Site, off a dirt roadway east of one of the drainage channels. The portion of the Site south of the drainage channel from Main Street (Route 113) to the Marine Basin also contains these same small items or debris spread about the property in this area. South of the subject property, the Stratford Solid Waste Landfill appears to be in full operation. The suspected former automotive service station located on the property at the intersection of Short Beach Road and Main Street (Route 113) is no longer present. A different building and an asphalt paved parking area are now present on this property.
- **1986**: The Site depicted in the 1986 aerial photograph is relatively similar to that depicted in the 1980 photograph. The equipment or trailer storage observed in the northwest portion of the Site is no longer present. The remaining structure is shown in the center of the circular configuration of the current dirt access road in the southern portion of the Site. In addition, there appears to be additional filling and possible excavation activity at the interior Site location east of the drainage channel. Surrounding areas appear to be relatively unchanged from the 1980 photograph.
- **1990**: The Site depicted in the 1990 photographs is relatively similar to that depicted in the 1986 photograph. No structures are present on the Site. Suspected prior filling

activities on the eastern part of the Site are no longer present, and the Site appears similar to its current configuration and use. The building previously present on the property south of the Site (between Short Beach Road and Main Street) is no longer present. The structures that are believed to be wastewater lagoons (based on other information presented below) on the SAEP are no longer present and the parking area of the SAEP property appears to be partially covered with water.

- **1995**: The 1995 aerial photograph does not indicate any significant changes form the 1990 photograph.

3.3 CITY DIRECTORIES

Historical city directories for the Town of Stratford available at the Connecticut State Library were reviewed at periodic intervals to obtain previous Site use information. City directories for the Town of Stratford prior to 1965 and for the years from 1980 through 1991 were not available for review. According to the Town of Stratford Assessor's office, the Site has no actual address, and is identified only as "Main Street". A business identified in the Final EIS as formerly present at the Site is identified in the city directories with a street address of 18 Main Street. 550 Main Street is the given address for the neighboring SAEP facility. The following information believed to be relevant to the Site is as follows:

- **1960**
  - *– Main Street/Stratford Road*
    - *National Lead Co. Office*
    - *Great Lakes Carbon Corp.*
  - *18 Main Street*
    - *Johnson Motor Lines*
    - *Happy Landing Inn*
    - *Howie's Rest*
    - *Farmer Snapper Garden Implements*
    - *(Off) Boat Renting*

        - *Civil Aeronautics*
        - *Socony Mobil Oil Co. Inc.*
- **1965**
    - *18 Main Street*
        - *Sealand Service Inc. Brokers*
        - *McCollough William Transportation*
        - *Howie's Rest*
        - *Farmer Snapper Garden Implements*
    - *50 Main Street*
        - *Prussians Drive-In Rest*
        - *Lycoming Recreation Field*
- **1971**
    - *18 Main Street*
        - *Sealand Service Inc. Brokers*
        - *McCollough William Transportation*
        - *Howie's Rest*
        - *Farmer Snapper Garden Implements*
    - *50 Main Street*
        - *Prussians Drive-In Rest*
        - *Dairy Stores, Inc.*
        - *Lycoming Recreation Field*
    - *248 Main Street*
        - *Goloz, Victor*
    - *122 Main Street*
        - *Fraust, Warren*
        - *Friedman, Irving*
- **1975**
    - *-- Main Street*
        - *Georgia Pacific Flight Dept.*
        - *Knickerbocker Aviation*
        - *AVCO Lycoming Div. Hangar & Flight Office*

        - *Sikorsky Div. of United Aircraft Corp.*
        - *Barbour Daniels Electronics*
    - *42 Main Street*
        - *Lofan, Stan*
    - *-- Main Street*
        - *Great Lakes Carbon Corp.*
        - *Business Wings, Inc.*
- **1979**
    - *18 Main Street*
        - *Vacant*
    - *5 Main (Off)*
        - *Vacant*
    - *-- Main Street*
        - *Georgia Pacific Flight Dept.*
        - *Knickerbocker Aviation*
        - *Sikorsky Div. of United Aircraft Corp.*
        - *Barbour Daniels Electronics*
    - *42 Main Street*
        - *Loban Aircraft, Inc.*
    - *-- Main Street*
        - *Great Lakes Carbon Corp.*
        - *NL Industries, Inc.*
- **1992**
    - *18 Main Street*
        - *Marceyunias, Edward*
    - *118 Main Street*
        - *Vacant*
    - *134 Main Street*
        - *Kaltisas, Stathis*
    - *200 Main Street*
        - *Peter Pan Pizza*

- *295 Main Street*
  - *Windsock Inn, Inc.*
- *400 Main Street*
  - *Edwards Package Store*
- *510 Main Street*
  - *Grace A*

- **<u>1997</u>**
  - *18 Main Street*
    - *Marceyunias, Edward*
  - *118 Main*
    - *Vacant*
  - *134 Main Street*
    - *Boothe Memorial Park*
  - *295 Main Street*
    - *Windsock Inn, Inc.*
- **<u>2007</u>**
  - *295 Main Street*
    - *Windsock Inn, Inc.*
  - *425 Main Street*
    - *Shoreline Aviation*
  - *342 Main Street*
    - *Mattey, E.*
    - *Moore, Elisa*

4.0 FINAL ENVIRONMENTAL IMPACT STATEMENT, URS GREINER, 1999

The Final EIS was reviewed for information relating to past uses and the environmental conditions of the subject property. As part of the Final EIS, sites related to the project with the potential for hazardous materials and/or environmental contamination were evaluated in accordance with a Phase I/II Environmental Due Diligence Audit (EDDA). The Final EIS included assessment of the current Site and other surrounding areas.

The Final EIS included a figure titled Exhibit III-16 that illustrates EDDA Phase II soil sample locations and sites of potential hazmat/environmental contamination concern. This figure presented the following information relevant to the Site:

1. The former location of a truck stop on the Site and associated sampling locations;
2. The location of earth fill (Airport Earthfill) on the Site and associated sampling locations;
3. The former location of a gasoline station and associated sampling locations on the property to the south of the Site;
4. The location of the Stratford Solid Waste Facility to the south of the Site; and,
5. Two locations of former wastewater lagoons on the SAEP property to the north of the Site.

Based on the preliminary evaluation of these sites as they related to proposed improvements which encompassed a large area within and surrounding the airport, several of these locations were selected for further study. Those areas which were studied as part of the EDDA investigation were described in the Final EIS as follows:

Table 1 – Potential Hazardous Materials Sites Identified in 1999 Final EIS Investigated in Phase II EDDA.

Site ID	Name	Location	Description
B	Former Motor Vehicle Service Station	South End of Main Street/Former intersection of Short Beach Road	Now vacant, contained fuel storage tanks, soil contamination not found, groundwater contamination not known.
D	Former Truck Stop	150' East of Runway 24	Former site of truck loading and unloading.
E-3	Airport Earthfill	400' to 800' East of Runway 24, East of Main Street	Fill material reported to potentially contain material from the former Raymark facility. Soil tests show only trace levels of asbestos.

A preliminary screening and soil sampling investigation was conducted within these areas, as well as several others throughout the airport area. This investigation was conducted 1997. Historical sampling locations are illustrated on **Figure 4**. A summary of the results of this investigation is as follows:

- Site B – Former Motor Vehicle Service Station: Soil samples from two locations, B-1 and B-2, were screened with an organic vapor analyzer[1]. The Final EIS indicates that no readings were observed above detection limits.

- Site D – Former Truck Stop: Soil samples from two locations, D-3 and D-4, were screened with an organic vapor analyzer[1]. The EIS indicates that no readings were observed above detection limits.

- Site E-3 – Airport Earthfill: Soil samples from six locations, E-29 through E-34, were analyzed with an organic vapor analyzer and tested for petroleum hydrocarbons, asbestos, Polychlorinated Biphenyls (PCBs) and lead. Although the text and tables of the Final EIS discussing these results are contradictory, a review of the data provided in the Final EIS

[1] Note: PID readings are a screening tool only and do not definitively rule out soil impact.

indicates that lead was detected at a concentration greater than 400 milligrams per kilograms (mg/kg) in one of these soil samples. Asbestos was not detected in the samples, and moderate to trace concentrations of PCBs, Total Petroleum Hydrocarbons (TPH), and/or lead were detected in all of the samples. The following table presents summary of the analytical results from the EDDA:

Table 2. Summary of Analytical Results of 1997 EDDA

Sample ID	TPH (mg/kg)	Lead (mg/kg)	PCB (Aroclor 1268) (µg/kg)	Asbestos (%)
E-29	125	69	170	ND
E-30	<30	430	51	ND
E-31	150	24	ND	ND
E-32	300	203	ND	ND
E-33	290	397	690	ND
E-34	<30	92	ND	ND

mg/kg = milligrams per kilograms

ug/kg = micrograms per kilograms

ND = Not detected

Detailed information on the sample collection depth or methods involved were not presented in the EDDA or Final EIS. Copies of the relevant portion of the Final EIS and the entire EDDA appendix are included in **Appendix C**.

5.0 SITE INSPECTION

Observations concerning the subject property were obtained from a site inspection conducted on February 10, 2009. The site inspection consisted of a visual inspection of the Site and adjoining properties, which included the portion of the vacant parcel owned by the City of Bridgeport maintained as a runway clear-zone (the Site) and a nearby triangular vacant grassy parcel to the south, bounded by Main Street (Route 113), Dorne Drive (formerly the intersection of Main Street and Short Beach Road), and an access road to the Stratford Solid Waste Landfill. Portions of the Site and relevant features are illustrated on **Figure 2**. Photographs of the subject property and related areas identified above are included in **Appendix D**.

5.1 CURRENT USES OF THE SITE

The Site consists of an approximately 79-acre parcel of land currently utilized as an airport runway clear-zone. The Site consists mostly of grassy undeveloped open land, wetlands, marshes and drainage channels that are connected to the Marine Basin, a small embayment of the Housatonic River located to the east of the Site. The Site also contains a small asphalt paved area located in the western portion of the Site, unpaved dirt access roadways to several shoreline residential units along the mouth of the Housatonic River, and artificial drainage channels.

Although not specifically inspected for this evaluation as this area is some distance from the portion of the Site proposed for the re-alignment of Main Street, the majority of the eastern portion of the property consists of undeveloped grassy areas with some areas of inland wetlands. According to a Final EIS and discussed in greater detail below, a smaller portion of the wetlands present at the Site are tidally-influenced in the vicinity of the drainage channels leading to Marine Basin.

A sidewalk is present along the east side of Main Street (Route 113) throughout the Site. Several aviation-related structures (small beacons/towers) are present along the western edge of the subject property along Main Street (CT Route 113). Based on identified manholes observed during the site visit, sewer and electric lines are present on the Site along the northeast side of Main Street (CT Route 113).

A manhole structure was observed in the central portion of the asphalt paved area in the northwestern corner of the subject property. URS could not determine the use or purpose of this structure.

A variety of scrap metal, concrete, rebar, and general construction and demolition debris was observed throughout the Site. The majority of this debris appears to be concentrated along two drainage channels which traverse the property. One of these channels runs from the former SAEP property south to the Marine Basin. The other drainage ditch emerges from an outfall east of Main Street (Route 113) and travels east where it merges with the other drainage ditch and eventually discharges to the Marine Basin.

A groundwater monitoring well labeled as MW-11 was observed to the east of the asphalt paved portion of the Site.

5.2 ADJOINING LAND USE

The property to the northwest of the Site contains a vacant industrial facility which was formerly occupied by the SAEP. This property currently contains a large asphalt paved parking area and several large buildings and an abandoned wastewater treatment plant. Residential structures, a marina and portions of the Marine Basin are located to the east of the Site. Portions of the Marine Basin and the Stratford Solid Waste Landfill are located to the south of the Site.

5.3 CURRENT SITE CONDITIONS

5.3.1 Hazardous Materials/Hazardous Substances

No hazardous materials or substances were observed at the Site during the site inspection.

5.3.2 Hazardous and Special Waste

No hazardous waste was observed at the Site during the site inspection. Approximately one hundred (100) cubic yards of what appeared to be construction and demolition debris, consisting of concrete, rebar and scrap metal, were observed in the vicinity of drainage channels on the Site. This material is considered Bulky Waste which is considered a type of Special Waste. The approximate location(s) of this debris is identified on **Figure 2**.

5.3.3 Underground Storage Tanks

No underground storage tanks (USTs) or evidence of the presence of USTs were observed on the Site during the site inspection.

5.3.4 Aboveground Storage Tanks

No aboveground storage tanks (ASTs) were observed on the Site during the site inspection.

5.3.5 Drums and Containers

No drums or containers were observed on the Site during the site inspection. The solid waste debris discussed above in Section 5.1 was not observed to contain any drums or containers.

5.3.6 PCB-Containing Equipment

No potentially PCB-containing equipment was observed on the Site during the site inspection.

5.3.7 Solid Waste

Other than the bulky waste discussed in Section 5.3.2 no significant volumes of solid waste were observed at the Site during the site inspection.

5.3.8 Water Supply and Monitoring Wells

No water supply wells were observed on the Site during the site inspection. One apparent groundwater monitoring well was identified in the portion of the Site to the east of the asphalt paved area in the northwest portion of the Site. This groundwater monitoring well is approximately two hundred (200) feet from the adjoining property to the northwest of the Site.

5.3.9 Pits, Ponds and Lagoons

No pits, ponds or lagoons were observed at the Site during the site inspection. Two drainage channels traverse the property before merging and discharging to the western end of Marine Basin. One of these drainage channels flows southeasterly from the former SAEP facility until meeting the other drainage channel just west of the Marine Basin. The other drainage channel emerges from beneath Main Street and travels east to the Marine Basin.

5.3.10 Other Physical Evidence of Contamination

Physical evidence of contamination (i.e., oil or chemical stains, soil discoloration or stressed vegetation) was not observed on the Site during the site inspection.

6.0 REGULATORY AGENCY REVIEWS

6.1 LOCAL REGULATORY AGENCY RECORD REVIEWS

URS completed a review of local municipal records within the Town of Stratford, Connecticut on February 10, 2009. Records on file with the Town of Stratford Tax Assessor's office, Health Department, Building Department and Fire Marshall's office were reviewed. Presented below is relevant information from this inquiry and review of Town files.

Property cards and maps from the Town of Stratford Tax Assessor's office indicate the subject property as a combination of two parcels fronting the east side of Main Street that are owned by the City of Bridgeport. Information regarding the acreage, zoning, general land use characteristics and ownership were also obtained. According to maps reviewed at the Town of Stratford's Assessor's office, the northern portion of the Stratford Solid Waste Landfill and associated access road (Landfill Access Road) are located on the Site. However, this area of the parcel is outside of the proposed project area and is therefore not a focus of this evaluation.

No records were available for review at the Town of Stratford Health Department office that would indicate the presence of potable or public supply water wells at the Site or surrounding area. Officials at the Town of Stratford Health Department stated they were not aware of any complaints or enforcement actions pertinent to the Site.

The Building Department had no records pertinent to the Site.

Numerous records related to properties on Main Street in Stratford were obtained from the Town of Stratford Fire Marshall's office. The majority of these records pertained to UST closures and testing at the Igor Sikorsky Memorial Airport and the Textron Lycoming and AVCO (former occupants of the SAEP) facility. Records in the file indicated that USTs have been or are

currently in use at the Igor Sikorsky Memorial Airport facility and/or the SAEP facility. Documents observed in the file were not specific as to the location of the specific UST's or their current status. No records related to the Site, or the former automotive service station south of the Site were identified.

Copies of information obtained during the conductance of this review are presented in **Appendix A**.

6.2 CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION FILE REVIEW

URS conducted a file review at the CTDEP Records Center on February 17, 2009. URS requested files pertaining to the Site under names of the following facilities that have been referenced in relation to the Site:

- Igor Sikorsky Memorial Airport
- Stratford Army Engine Plant
- Textron
- AVCO
- Allied Signal
- Textron Lycoming
- Great Lakes Carbon Co.
- National Lead Co.
- Raymark
- City of Bridgeport

A summary of the relevant information obtained by the CTDEP file review is presented in the sections below.

Former Raymark Facility

URS was in possession of a map prepared by Tetra Tech NUS, Inc. (Tetra Tech) titled Soil Sample Locations, Raymark-OUG, Stratford, Connecticut. URS acquired this map during previous work related to this Site. This map presented information that wastes generated by Raymark Industries, Inc. were present at the Site. Information obtained from this map is illustrated on **Figure 4**. Based on this information, URS requested information related to "Raymark" within the Town of Stratford. Due to the large volume of files associated with this facility, remediation files were reviewed for information relevant to the Site.

URS reviewed the report titled *Draft Final Remedial Investigation, Raymark – OU6 – Commercial Properties, Stratford, Connecticut*, dated December 2003 (DFRI). This report was prepared by Tetra Tech in order to evaluate the nature and extent of contamination in the soils or sediment at twenty seven (27) properties where Raymark Industries, Inc. facility, located in Stratford, Connecticut disposed of its waste. The Site was identified by this report as being a location with the potential to have fill material meeting the definition of "Raymark Waste" and not having been the subject of a removal action at the time of report, December 2003.

According to the DFRI, twenty-four (24) soil borings (BA2-201 through BA2-223 and BA2-205A) were advanced at the Site to depths of fourteen (14) feet below grade surface (bgs). A total of 101 soil samples were collected from 43 locations (including surface samples) at the Site. The report's summary of findings of the investigation includes:

- Asbestos was detected in 42 of the 100 samples collected. Asbestos at greater than 1% was detected in 12 of the 100 samples, at depths ranging to 6 feet bgs.
- One soil sample (BA2-205A) was analyzed for dioxins, which were detected in the sample with a toxicity equivalent of 0.011 ug/kg.
- Lead exceeding the CTDEP Industrial/Commercial Direct Exposure Criteria (DEC) regulatory standard of 1,000 mg/kg at five locations (BA2-208, BA2-212, BA2-213, BA2-

219, and BA2-222) is generally located in the eastern portion of the subject property. One sample from these five locations was analyzed for metals following extraction by the Synthetic Precipitation Leaching Procedure (SPLP), and results did not exceed GB Pollutant Mobility Criteria (PMC).

- Pesticides were rarely detected at the Site, although several pesticides were detected in samples collected from the western portion of the Site at concentrations exceeding the GB PMC.
- Up to 100 soil samples were collected and analyzed for PCBs. Aroclor 1268 was detected in approximately two dozen samples. Detected concentrations in two locations (BA2-201 and BA2-219) exceeded the DEC.
- Three soil samples were collected and analyzed for Semi-Volatile Organic Compounds (SVOCs). Eleven SVOC constituents were detected in these samples at concentrations exceeding the DEC and/or GB PMC.
- Three soil samples were collected and analyzed for Volatile Organic Compounds (VOCs) from the Site during the May 2003 investigation. Two VOCs were detected at concentrations below the DEC and GB PMC.
- The Tetra Tech report states that pesticides and SVOCs are potentially leaching into groundwater from contaminated soils due to the lack of an impervious surface at these locations.
- A figure provided in this report also presented other sampling locations BA2 A+200, BA2 B+200, BA2 C+200, BA2 D+200, BA2 E+00, BA2 F+00, BA2 A+552, BA2 B+400, BA2 B+518, BA2 C+400, BA2 D+351, BA2 E+280 and BA2 E+200. The report did not discuss these sampling locations. This same figure presented an outline of two areas of Raymark Waste. These soil borings and the areas of the Raymark Waste are illustrated on **Figure 4**. A table of analytical data did present analytical results of these other samples. According to Tables included as Appendix C to the DFRI, samples collected from these locations were also analyzed for some portion of the above referenced constituents.

This report stated that based on a standardized definition of "Raymark Waste" using certain combinations of identifying constituents and concentrations, Raymark Waste areas were identified at the Site after investigation activities at the site in May 2003. Fill material present at the Site (not necessarily Raymark Waste) included potentially asbestos containing material (PACM), asbestos fibers, asphalt, brick, concrete, glass, plastic and possible sludge. A Human Health Risk Assessment was also performed for the Site to evaluate the potential current or future risks to the public from chemicals detected at the site.

This Human Health Risk Assessment concluded that the reasonable maximum exposure (RME) risk estimate for the commercial worker exposed to Raymark Waste soils at the Airport Property does not exceed the United States Environmental Protection Agency (EPA) target cancer risk range or the CTDEP target total risk level of 10^{-5} for multiple contaminants. However, cancer risk estimates for benzo(a)pyrene and dibenzo(a,h)anthracene are greater than the CTDEP target risk level for single contaminants of 10^{-6}.

The report also identifies several other sites for the purpose of potential investigation in order to determine the presence of Raymark Waste. At least two of these potential locations appear (no mapping of the areas was presented) to be within the subject property, but not necessarily within the area of the proposed project. These areas include "Site 12-Airport Clear Zone" and "Area North of Marine Basin, East of Site 12". The report does not present information indicating that these areas were subsequently investigated.

Locations of the Tetra Tech soil borings and sample locations are depicted on **Figure 4**. Copies of relevant report information and the associated data are included in **Appendix E**.

Stratford Army Engine Plant (SAEP)

A large volume of CTDEP files relevant to the SAEP were reviewed for information pertinent to the subject property. Of several dozen remediation files, multiple groundwater monitoring reports were noted along with a variety of correspondence, pictures, and other miscellaneous information. URS reviewed the available data and has summarized the data relevant to the Site below.

The currently vacant SAEP facility (also previously known as Allied Signal Aerospace and Textron Lycoming) abuts the Site to the north. According to the Final EIS, previously discussed, this site previously contained three wastewater lagoons in a location to the north of, yet close to, the Site. Most notably, three wastewater sludge and one larger equalization lagoon were historically operated at the facility as part of their wastewater treatment process.

In 1987, these lagoons were closed, i.e. filled and capped. However, contaminated soil beneath the water table was not removed prior to capping, preventing a "clean" closure under Resource Conservation and Recovery Act (RCRA) guidelines. These former lagoons are adjacent to the northern property line of the Site as illustrated on **Figure 4**.

According to groundwater monitoring reports reviewed, including a *Summary of Detected Compounds and Constituents, 1981-1998*, prepared for Allied Signal Engines by Sound Environmental Solutions, dated May 26, 1998, a network of monitoring wells exists at the SAEP facility to monitor groundwater quality as part of the RCRA closure plan. Four of these monitoring wells, MW-9S, MW-9I, MW-9D and MW-11, are located on the subject property. Monitoring wells MW-9S, MW-9I, MW-9D are located north of the proposed project area beyond the drainage channel and were unknown and not observed at the time of the Site visit. Monitoring well MW-11 is within the property area, near the proposed re-aligned road location, and is believed to be the monitoring well observed during the Site inspection.

Available information, including the *2006 Annual Summary Report, RCRA Groundwater Monitoring Program, Stratford Army Engine Plant, Stratford, Connecticut*, prepared by Sound Environmental Solutions in February 2007, was reviewed to assess the status of this groundwater monitoring well and the area groundwater quality in general. According to the information reviewed, the shallow groundwater flow direction at the groundwater monitoring well MW-11 location and at the subject property is, in general, to the east towards the local drainage channels and the Housatonic River. However, there also appear to be localized radial flows around the former lagoons themselves, tidal interaction between the drainage and groundwater flows, and a more southerly groundwater flow in the deeper aquifers.

Based on information obtained from the reviewed groundwater monitoring reports, groundwater appears to be approximately 3 feet below grade at groundwater monitoring well MW-11. This well appears to have been sampled annually since at least 1995. A cursory review of analytical data for monitoring well MW-11 from the years 1995 through 1998 and April 2004 through November 2006 did not reveal significant impacts to groundwater quality at this location. During the three sampling events in October 2004, September 2005 and November 2006, only trace estimated levels of VOCs (chlorobenzene and chloroform at 0.8 micrograms per liter (µg/L) and 0.8 µg/L, respectively) were detected during the 2006 sampling event. Zinc was the only non-organic constituent detected (17.8 µg/L) during the same time period above estimated or minimum laboratory detection levels, and at concentrations which are below applicable CTDEP regulatory criteria. Similar data was observed for the annual sampling events conducted at monitoring well MW-11 during the 1995 through 1998 time period.

Other Information

Several maps contained within the reviewed groundwater monitoring reports depicted the SAEP groundwater monitoring wells. A diagram contained within a report identified as *Surface Impoundment Closure Certification* prepared by Metcalf & Eddy in August 1992 presented the

location of AVCO groundwater monitoring wells. These groundwater monitoring wells are depicted on **Figure 4**. URS could not confirm that the wells illustrated on the Sound Environmental Solutions plan are the same wells illustrated on the Metcalf & Eddy plan. Copies of these plans and relevant report information are included in **Appendix A**.

6.3 ENVIRONMENTAL PROTECTION AGENCY (EPA) WEBSITE

URS reviewed portions of the *Remedial Investigation Volume I of II Raymark-OU6-Additional Properties Stratford Connecticut*, dated April 2004 available on the EPA Superfund website. This report prepared by Tetra Tech presented the same information as discussed above. Additional documentation located in the file review or from the EPA Superfund website indicates that while preparation of a feasibility study is underway to address this (the subject property) and the other Raymark sites in Stratford, a long-term plan has yet to be developed. Short-term plans for the Site include the installation of fencing and signage, with estimated costs for long-term capping or removal of the waste currently at approximately $1 million. URS contacted the identified EPA listed State Agency Contact, Mr. Ron Curren of the CTDEP, to inquire about the Site. According to Mr. Curren, the portions of the Site which contain the Raymark Waste are considered part of the Raymark superfund site. Mr. Curren confirmed that currently there is no plan to remediate the Raymark Waste present at the Site. URS also contacted the EPA Raymark Site Regional Project Manager, Mr. Ron Jennings, to inquire about the Site. Mr. Jennings confirmed information presented by Mr. Curren and stated that there is nothing preventing disturbance of the superfund site.

Copies of other related EPA or CTDEP documents are included in **Appendix A**.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

The Site consists of an approximately 79-acre irregularly-shaped property comprised of two parcels currently utilized by the City of Bridgeport as a runway clear-zone. The majority of the Site consists of undeveloped grassy land. The Site also contains smaller areas of wetlands and the Marine Basin, a small embayment of the Housatonic River. An access road for the Stratford Solid Waste Landfill at the north terminus of Short Beach Road is present along the southern border of the property. The northern portion of the landfill and its associated access road are located on the Bridgeport property, although outside of the proposed project area. The portion of the Site most relevant to the proposed realignment (along Main Street) consists of an unimproved paved area, which adjoins the former SAEP south parking lot, and the area along the east side of Main Street.

The Site formerly contained several buildings including a truck stop and a restaurant. Based on street directories, possible former occupants of the Site could have included, boat renting, a horticultural business by the name of Farmer Snapper, a hotel and restaurant by the name of Howie's Rest and the Happy Landing Inn, and the Dairy Store. All former Site structures had been removed by 1990. Fill material consisting of Airport Earthfill, demolition debris and Raymark Waste are present at the Site. Previous environmental investigations have identified the presence of contaminated soil and Raymark Waste at various locations at the Site.

This assessment identified the following environmental concerns for the proposed roadway portion of the Site:

1. Raymark Waste. So called Raymark Waste has been identified in two portions of the Site. Based on the results of soil samples collected at the Site, the Raymark Waste contains

concentrations of asbestos, total mass and SPLP Metals, dioxins, pesticides, PAHs, PCBs and VOCs. The areas of the Site which contain the Raymark Waste are considered a portion of the Raymark Superfund site.

2. Contaminated Soil. Assessment activities of the Raymark Waste present at the Site identified the presence of contaminated soil at portions of the Site beyond the limits of the identified Raymark Waste. Soil beyond the limits of the Raymark Waste is contaminated with concentrations of asbestos, copper, lead, pesticides and PCBs.

3. Contaminated Groundwater: Groundwater in vicinity of the SAEP is impacted with minimal concentrations of chlorinated VOCs.

4. Former Truck Stop: A truck stop was formerly located in the southwestern portion of the Site along Main Street (CT Route 113). The former presence of a truck stop could indicate the former presence of gasoline and/or diesel fuel oil tanks associated with vehicle fueling operations and a fuel oil tank associated with the truck stop building. Furthermore, the former use of this portion of the Site by trucks could have resulted in incidental releases of gasoline and or diesel fuel in this location.

5. Former Building Structures: In addition to the truck stop, three other building structures previously existed on portions of the Site. One of these buildings was apparently a restaurant. The use of the other two former buildings is not known. There is the possibility that these former buildings could have had heating oil tanks, could have been used for industrial purposes and/or could have been painted with lead-based paint, all of which could have lead to impacts to soil and/or groundwater.

6. Earth Fill: One portion of the Site has been identified as an area where fill material, so called Airport Earth Fill, has been deposited. Portions of this area beyond the limits of the Raymark Waste are impacted with contaminants such as lead and asbestos.

7. Stratford Solid Waste Landfill: Although some distance from the project area portion of the Site, portions of the Stratford Solid Waste Landfill are located on the Site. Contaminants are known to commonly leach from landfills to soil and/or groundwater. While no specific reference to releases from the Stratford Solid Waste Landfill were identified by this assessment, there is a good possibility that releases have occurred from this landfill and that such releases could have impacted portions of the Site.

8. Solid Waste Disposal Area: The so called Raymark Waste identified in several portions of the Site and the Airport Earth Fill located near the project area may contain Solid Waste at a volume (greater than 10 cubic yards) that could subject the Site to the requirements of the Connecticut Solid Waste Regulations. Further assessment of the content of the identified Raymark Waste and airport earth fill may be required to refine this conclusion.

7.2 RECOMMENDATIONS

URS recommends collection and analysis of soil samples from within the limits of the project area, planned soil excavation areas and/or areas proposed to be disturbed by the proposed roadway construction activities to evaluate soil conditions and the existence of solid waste. If groundwater is anticipated to be encountered during the proposed roadway construction activities, URS recommends evaluation of impacts to groundwater in the project area portion of the Site. URS recommends completing at least seven (7) soil borings for this project-specific investigation. Proposed soil boring locations are identified on **Figure 5**.

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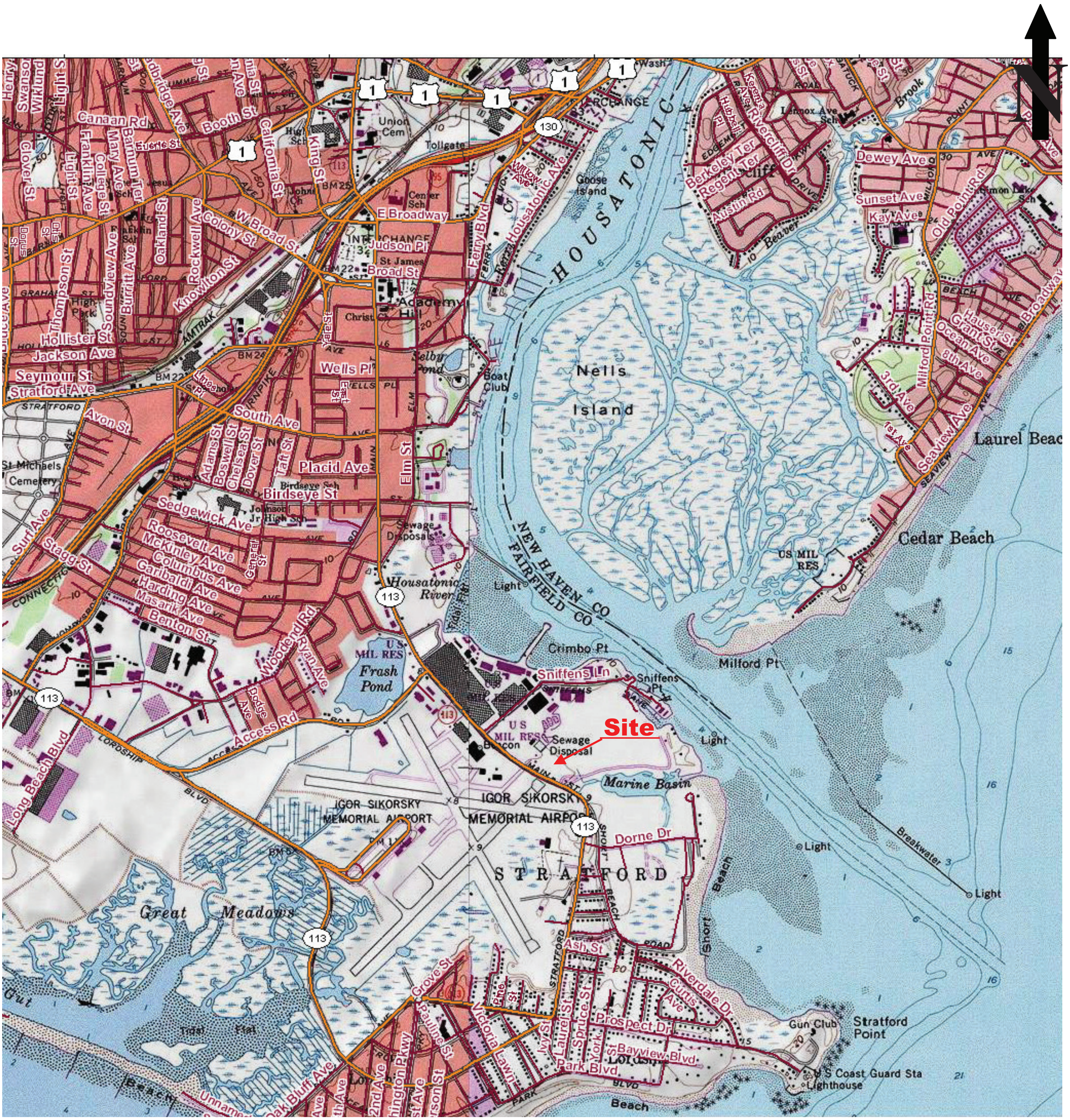
Mr. Ron Jennings, United States Environmental Protection Agency, Personal communication, June 4, 2009.

FIGURES



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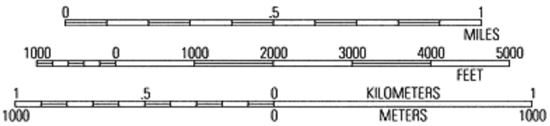

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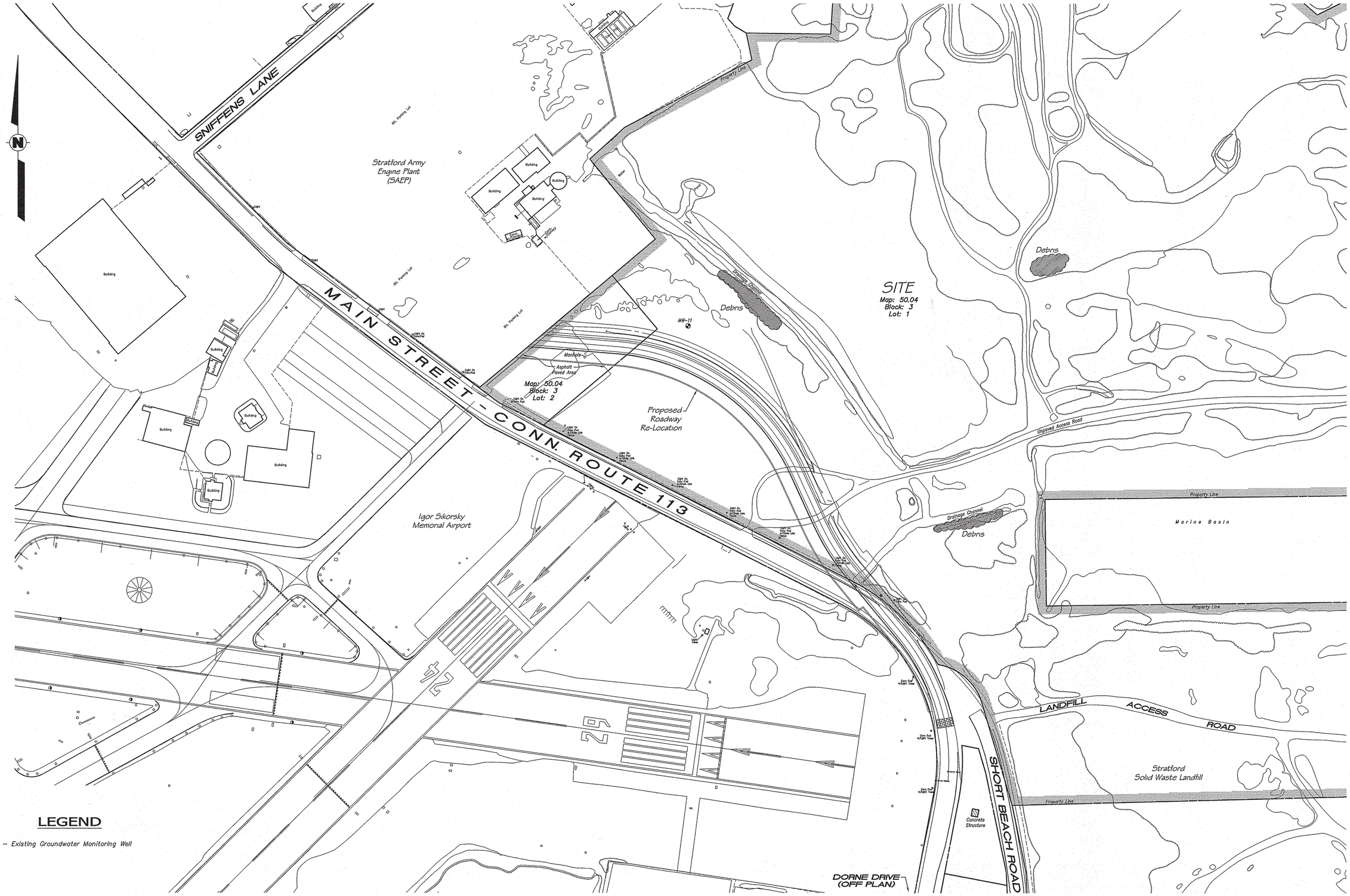
Figure 1
Site Location Map

Igor Sikorsky Memorial Airport
Task 120 Preliminary Site Assessment – Site 1
Stratford, Connecticut

Job No.: 36937085.00003 URS Corporation AES



S:\CT_Towns\Bridgeport\38397085\ENV\CADD\DOT 120 Airport\Fig 2.dwg

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Rocky Hill, CT. 06067-4002
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Fax: 860.529.3991
www.urscorp.com

0 100 150 200
APPROXIMATE SCALE, FEET

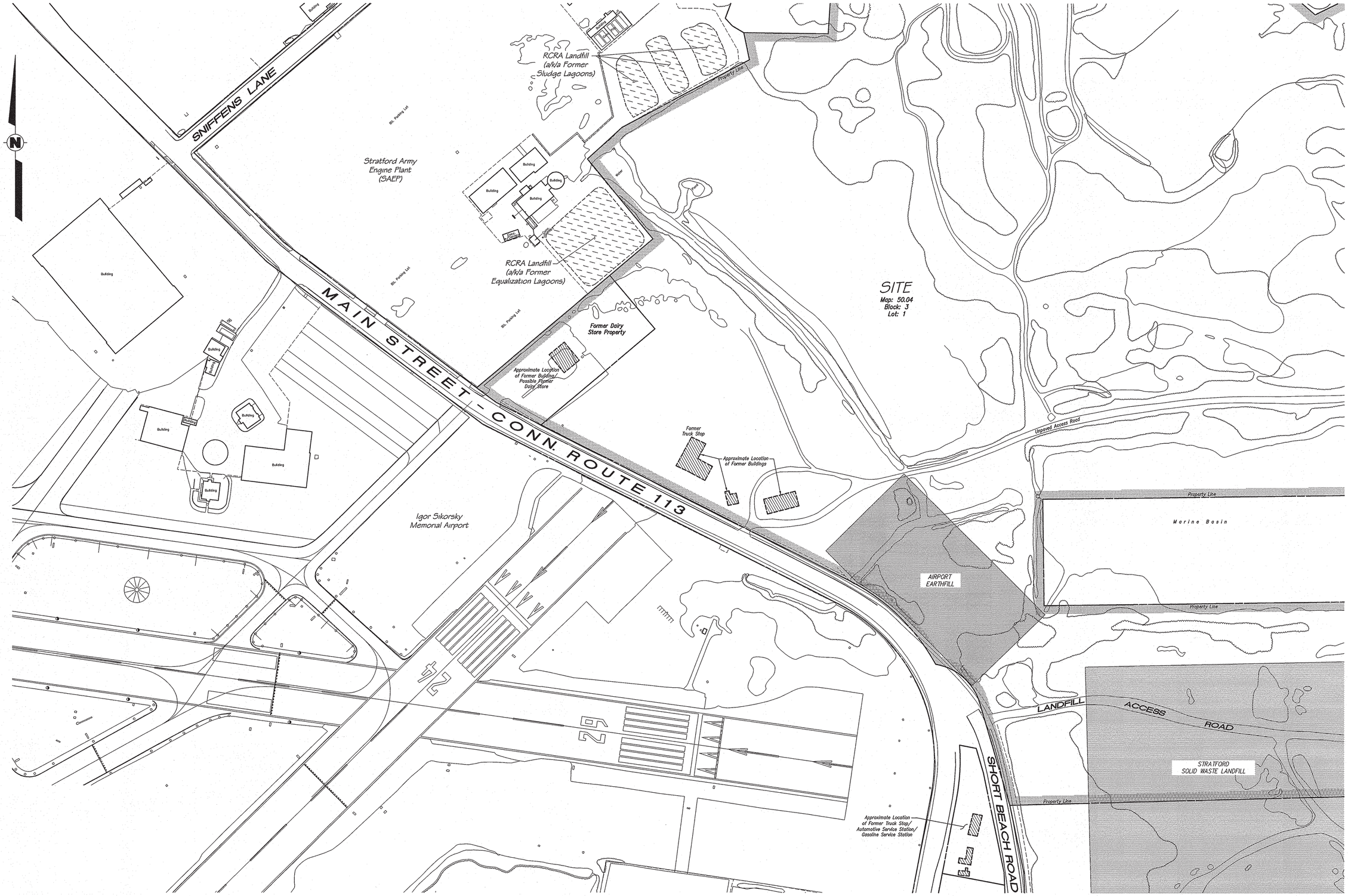
PROJECT NO: 38397085			
DESIGN: KC	SCALE: AS SHOWN		
APPROVED: JB	DATE: MARCH 2009		
DRAWN: KC	FILE NO: FIG.2		

CLIENT: CITY OF BRIDGEPORT

PROJECT:
IGOR SIKORSKY MEMORIAL AIRPORT
MAIN STREET – STRATFORD, CONNECTICUT

TITLE:
SITE PLAN
TASK 120 SITE 1

FIGURE NO: 2



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APPROXIMATE SCALE, FEET

PROJECT NO: 38397085			
DESIGN: KC	SCALE: AS SHOWN		
APPROVED: JB	DATE: MARCH 2009		
DRAWN: KC	FILE NO: FIG.3		

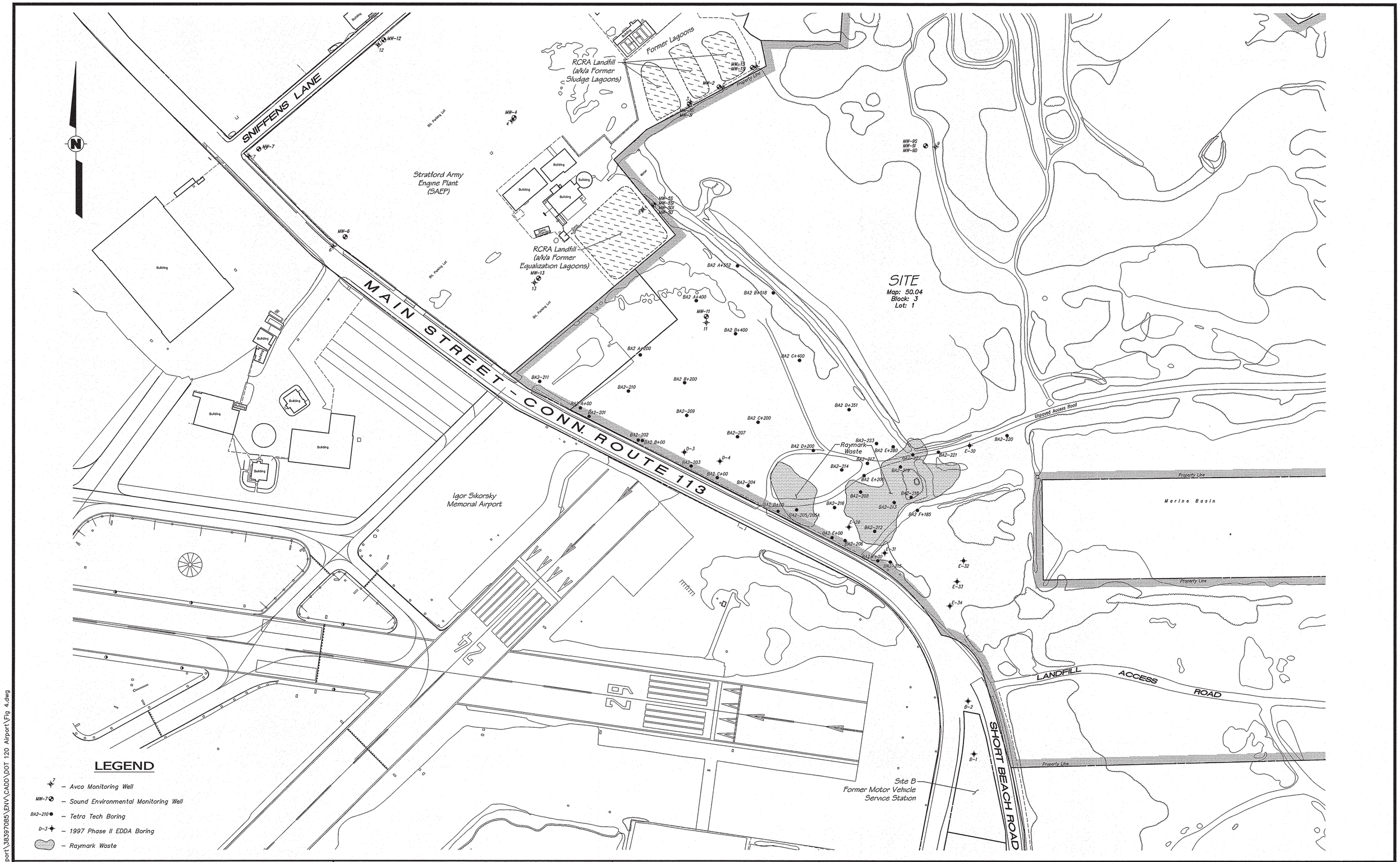
CLIENT: CITY OF BRIDGEPORT

PROJECT: IGOR SIKORSKY MEMORIAL AIRPORT
MAIN STREET – STRATFORD, CONNECTICUT

TITLE: HISTORIC SITE CONDITIONS
TASK 120 SITE 1

FIGURE NO: 3

S:\CT_Towns\Bridgeport\38397085\ENV\CADD\DOT 120 Airport\Fig 3.dwg



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APPROXIMATE SCALE, FEET

PROJECT NO: 38397085			
DESIGN: KC	SCALE: AS SHOWN		
APPROVED: JB	DATE: MARCH 2009		
DRAWN: KC	FILE NO: FIG.4		

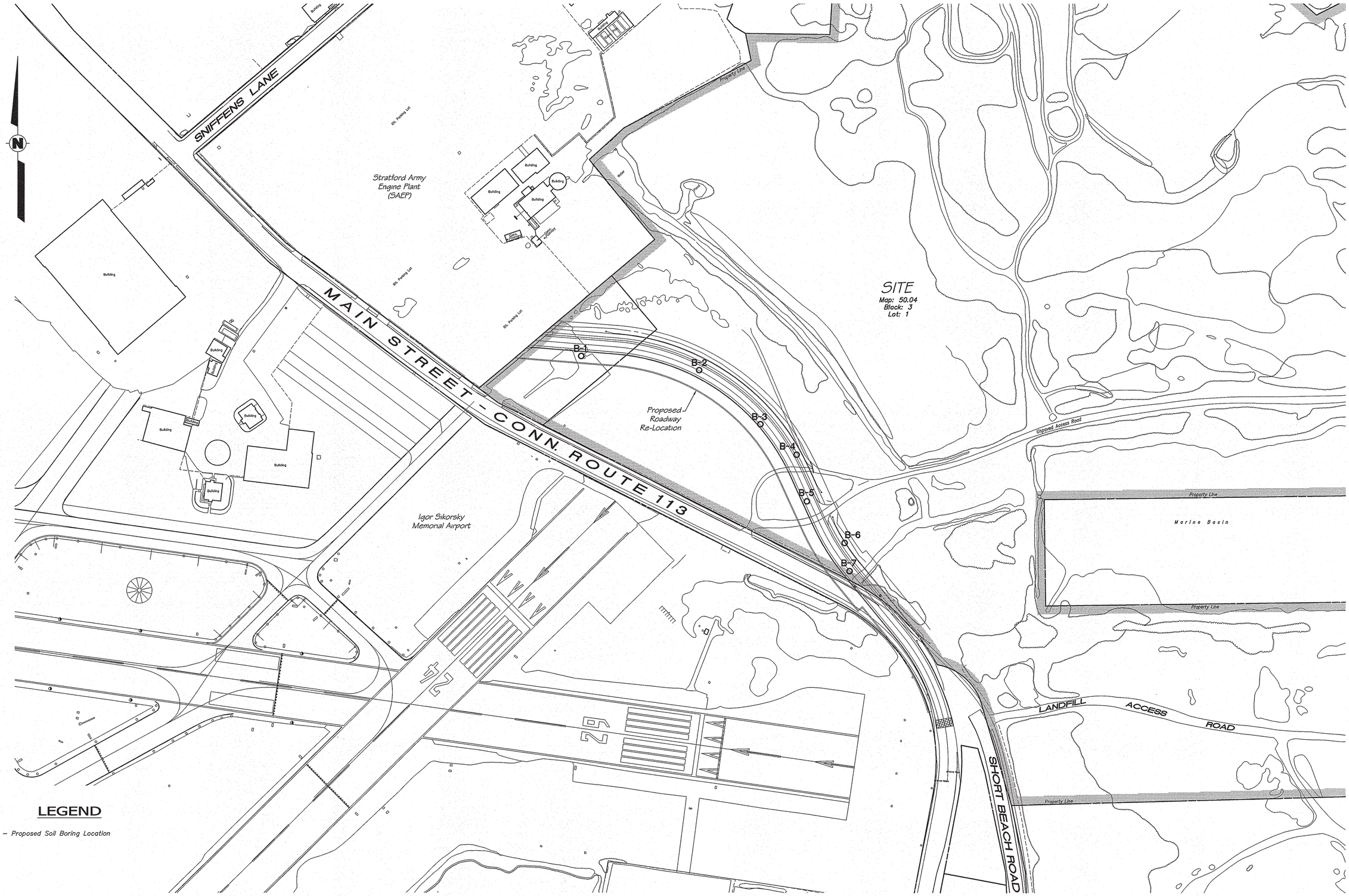
CLIENT: CITY OF BRIDGEPORT

PROJECT: IGOR SIKORSKY MEMORIAL AIRPORT
MAIN STREET – STRATFORD, CONNECTICUT

TITLE: HISTORIC SOIL SAMPLE LOCATIONS
TASK 120 SITE 1

FIGURE NO: 4

S:\CT_Towns\Bridgeport\38397085\ENV\CADD\DOT 120 Airport\Fig 4.dwg



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APPROXIMATE SCALE, FEET

PROJECT NO: 38397085			
DESIGN: KC	SCALE: AS SHOWN		
APPROVED: JB	DATE: MARCH 2009		
DRAWN: KC	FILE NO: FIG.5		

CLIENT: CITY OF BRIDGEPORT

PROJECT: IGOR SIKORSKY MEMORIAL AIRPORT
MAIN STREET – STRATFORD, CONNECTICUT

TITLE: PROPOSED SAMPLING LOCATIONS
TASK 120 SITE 1

FIGURE NO: 5

S:\CT_Towns\Bridgeport\38397085\ENV\CADD\DOT 120 Airport\Fig 5.dwg

DRAFT

TASK 120 - PRELIMINARY SITE ASSESSMENT
SITE 2 – STRATFORD ARMY ENGINE PLANT PROPERTY
MAP 50.05, BLOCK 4, LOT 2
MAIN STREET, STRATFORD

FINAL DESIGN AND PERMITTING
FOR THE RE-ALIGNMENT OF MAIN STREET (CT ROUTE 113)

Prepared for:

CITY OF BRIDGEPORT

URS Project No.: 38397085.00003
August 13, 2009

URS Corporation AES
500 Enterprise Drive, Suite 3B
Rocky Hill, Connecticut 06067

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EXECUTIVE SUMMARY

This report presents the results of URS Corporation AES (URS) Task 120 Preliminary Site Assessment (Task 120) of the portions of parcels (proposed roadway) slated for the re-alignment of Main Street (CT Route 113) in Stratford, Connecticut. The objective of the Task 120 was to evaluate site-specific environmental concerns and to serve as a basis for Task 210 and/or Task 220 activities in the future.

The Site consists of an approximately 21.53-acre parcel containing a paved parking lot (the South Parking Lot) and several buildings and structures, including an unused wastewater clarifier, an unused wastewater equalization tank, and two grassy "landfill" areas [Resource Conservation Recovery Act (RCRA) landfills]. The Site was formerly occupied by the Stratford Army Engine Plant (SAEP) and is currently vacant. Previous investigations have identified the presence of contaminated soil and groundwater at this parcel although not necessarily in the vicinity of the proposed roadway.

This assessment identified the following environmental concerns for the portion of the Site for the proposed roadway:

1. Former Soil Stockpile. Petroleum contaminated soil was formerly stockpiled in the southeast portion of the South Parking Lot. This material was later used as fill material in an area east of the South Parking Lot as approved by the Connecticut Department of Environmental Protection (CTDEP). The former presence of the petroleum impacted soil and the filling may have resulted in impacts to soil and groundwater in this South Parking Lot.

2. Contaminated Groundwater. Groundwater in the vicinity of the project area portion of this Site has been monitored as part of the RCRA closure of several waste water sludge lagoons (a/ka/ RCRA landfills) located to the east of this area. The monitoring has identified concentrations of

Volatile Organic Compounds (VOCs) in groundwater in the vicinity of the proposed roadway area.

3. FOSFT. The Army has implemented a Finding of Suitability for Early Transfer (FOSFT) for the entire SAEP site. The FOSFT includes land use restrictions such as no residential use and no use of groundwater. This deed restriction may convey with the property or may require the application of an Environmental Land Use Restriction.

URS notes that other potential environmental concerns exist within the Site parcel (21.53 acres) including former plating and manufacturing areas, the closed RCRA lagoons and the former wastewater treatment plant. However, as these areas are located some distance from the proposed roadway, the portion of the Site slated for potential acquisition, the potential for an environmental concern to the project area is minimal relative to disturbance of soil. Some of these areas of concern may have the potential to affect groundwater in the project area.

URS recommends collection and analysis of soil samples from the limits of the project area, planned soil excavation areas and/or areas proposed to be disturbed by the proposed roadway construction activities to more completely evaluate soil conditions. If groundwater is anticipated to be encountered during the proposed roadway construction activities, URS would also recommend evaluation of impacts to groundwater in the project area portion of the Site. URS recommends completing at least three (3) soil borings for this project-specific investigation.

1.0 INTRODUCTION

This report presents the results of URS Corporation AES (URS) Task 120 Preliminary Site Assessment (Task 120) of portions of the parcel (proposed roadway) known as 550 Main Street (the "Site" or "subject property") slated for potential acquisition for the re-alignment of a 2,200 foot long portion of Main Street (CT Route 113) in the vicinity of the Igor Sikorsky Memorial Airport in Stratford, Connecticut. The objective of the Task 120 was to evaluate site-specific environmental concerns and to serve as a basis for Task 210 and/or Task 220 activities in the future. A Site Location Map is included as **Figure 1**. A Site Plan is included as **Figure 2**.

1.1 SCOPE OF WORK

URS' scope of work included an inspection of the subject property to document current conditions, review of available environmental reports, inquiries and review of available files at City of Bridgeport offices, review of aerial photographs and street directories at the Connecticut State Library and conductance of a file review at the Connecticut Department of Environmental Protection (CTDEP) Records Center, and preparation of this Site Specific Report.

1.2 LIMITING CONDITIONS AND DATA GAPS

Because the Site was vacant, fenced and no contact person was located at the Site, URS was unable to access the Site and reviewed the current Site conditions from beyond the fence along the Site boundary. No other conditions that would limit URS' ability to complete the scope of work were encountered during the performance of the Task 120.

1.3 LIMITATIONS OF THE ASSESSMENT

The work conducted by URS is limited to the services agreed to with City of Bridgeport as presented in the Exhibit E: Scope of Work Igor Sikorsky Memorial Airport AIP No.3-09-0002-

24 Final Design and Permitting for the Re-Alignment of Main Street (CT Route 113). No other services beyond those explicitly stated should be inferred or are implied.

URS has performed the scope of work set forth in the Exhibit E: Scope of Work Igor Sikorsky Memorial Airport AIP No. 3-09-0002-24 Final Design and Permitting for the Re-Alignment of Main Street (CT Route 113) (Proposal) between the City of Bridgeport, Connecticut and URS Corporation AES related to this project, in specific reliance on the understandings and agreements reached between URS and City of Bridgeport ("Client") as reflected in the Proposal and the written agreement between them (the "Agreement"). URS' scope of work was limited to that stated in the Agreement.

The report and any other information which URS prepared and submitted to Client in connection with this project (collectively, the "Report") are for the sole use and benefit of Client, the Connecticut Department of Transportation and the Federal Aviation Administration and may not be used or relied upon by any other person or entity without the prior written consent of Client and URS. Any such consent given by URS shall be deemed to be and shall be subject to the terms and conditions of the Proposals and the Agreement, including without limitation, the warranty, liability and indemnity terms thereof, and any person given such consent (the "Grantee") shall be deemed to have agreed to such terms and conditions by its use and reliance on the Report. Such Grantee must also agree not to reveal the contents of the Report to any other person or entity without the proper written consent of both Client and URS.

Client recognizes and agrees that:

- The information in the Report relates only to the properties specifically described in the Proposal and Report and was presented in accordance with and subject to the scope of work described in the Proposal which were specifically agreed to by Client;
- The information and conclusions provided in the Report apply only to the subject property as it existed at the time of URS' site inspection. Should Site use or conditions change or

should there be changes in applicable laws, standards or technology, the information and conclusions in the Report may no longer apply;

- URS makes no representations regarding the value or marketability of this subject property or its suitability for any particular use, and none should be inferred based on the Report;
- The Report is intended to be used in its entirety and no excerpts may be taken to be representative of the findings of this investigation;
- URS' services in the development of this Report were conducted, within the limits prescribed by this Agreement, in a manner consistent with that level of care and skill ordinarily exercised by members of the same professions currently practicing in the same locality under similar conditions and no other guaranty, warranty, or representation, either express or implied, is included or intended herein; and,
- Comprehensive assessments of environmental land use issues and constraints of possible relevance (e.g. radon, mold, asbestos-containing materials, wetlands, sensitive habitats) were not included in the scope of services.

2.0 SITE DESCRIPTION

Information concerning the Site was obtained from site inspection and review of available municipal and state records conducted on February 10 through February 16, 2009. Information from other referenced sources is also presented in the sections below.

2.1 PHYSICAL LOCATION AND DESCRIPTION OF SUBJECT PROPERTY

The Site consists of a 21.53-acre parcel located on the east side of Main Street, north of the east end of Runway 24 of the Igor Sikorsky Memorial Airport. The 21.53-acre parcel is identified in the Town of Stratford's Tax Assessor's records as Lot 4, Block 2 on Map 50.05. This parcel was formerly part of the now vacant Stratford Army Engine Plant (SAEP). A portion of the southwestern corner of the property is an area proposed for the re-alignment of Main Street (Route 113) that would allow for proposed safety improvements to Runway 24. As requested under the authorizing scope of work, this assessment report will focus on the southern portion of the property, the portion of the Site slated for potential acquisition, the proposed roadway. The Site location is depicted on **Figure 1**. Portions of the Site including the portion slated for potential acquisition are illustrated on **Figure 2**.

The Site is an irregularly-shaped area currently owned by the United States government. The property is improved with several structures and buildings which were operated as part of the currently vacant SAEP, a wastewater clarifier and an additional structure which housed the facility's wastewater treatment equalization tanks. More than half of the Site is improved with an asphalt-paved parking area, known as the South Parking Lot of the SAEP.

This parcel is bordered to the north by Sniffens Lane and the remainder of the SAEP facility, to the east by portions of the SAEP facility and portions of a vacant lot owned by the City of Bridgeport currently operated as a runway clear-zone, to the south by other portions of the

vacant lot owned by the City of Bridgeport, and to the south and west by portions of the Igor Sikorsky Memorial Airport.

The portion of the Site most relevant to the proposed realignment (the portion of the Site proposed for acquisition) consists of a portion of the South Parking Lot.

3.0 SITE HISTORY

The historical use of the subject property was evaluated from a review of aerial photographs, land use maps and information presented in previous environmental site assessment reports. Site conditions documented in historical documents for the subject property, were reviewed and evaluated. Historical Site features are depicted on **Figure 2**.

3.1 PRIOR OWNERSHIP AND LAND USE

The Site is currently owned by the United States of America. According to the Town of Stratford Tax Assessor, the parcel is identified as Lot 4, Block 2 of Map 50.05 on Stratford Tax Assessor's maps. The parcel was taken by the United States of America from the Land and Home Development Company, Inc. in May of 1957. According to information presented in the Final Environmental Impact Statement/Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24 (Final EIS), discussed elsewhere in this report, the City of Bridgeport was granted a 21.53-acre easement over this parcel on July 24, 1979. Copies of the Town of Stratford Assessor's property cards are included in **Appendix A**.

Based on information provided in the Final EIS, Main Street (CT Route 113) in this area of Stratford was active by the 1930s. The earliest buildings were constructed originally for the manufacture of aircraft for the Sikorsky Aircraft Corporation by 1929. The plant (SAEP) expanded for mass production of aircraft for World War II. During this time, extensive areas of wetlands and shoreline were filled in order to allow for additional space for the expansion. After a three-year period in which the plant was idle from 1948 to 1951, the plant was used to produce reciprocating aircraft engines, nose cones for intercontinental ballistic missile re-entry vehicles, and turbine engines for both commercial and military applications.

While the US Government (US Army) still owns the Site and adjacent properties (a total of approximately 78 acres with over 50 buildings), the SAEP has been a contractor-operated facility operated by the following business entities:

- Sikorsky Aero Engineering Corporation/Sikorsky Aircraft Corporation;
- Vought-Sikorsky Aircraft/Chance Vought Aircraft;
- Avco Corporation/Air Force Plant No. 43/Bridgeport Lycoming Division;
- Stratford Army Engine Plant/Army Engine Plant Stratford/Avco Lycoming/Textron Lycoming Stratford Division;
- Stratford Army Engine Plant/Allied Signal; and,
- Stratford Army Engine Plant.

The manufacturing and testing of aircraft engines required machining, electrochemical machining, electroplating, corrosion prevention, degreasing, painting and engine testing. Chlorinated solvents and plating solutions were the major chemical groups used for the degreasing and plating operations. Support activities included maintenance, storage of raw materials and wastes, storage of petroleum products for heating, emergency power and engine testing, industrial wastewater treatment, and waste recycling/recovery.

3.2 AERIAL PHOTOGRAPHS

Historical aerial photography available at the Connecticut State Library for the years 1934, 1951, 1965, 1970, 1980, 1986, 1990 and 1995 were reviewed. Historical aerial photographs are included in **Appendix B**. A summary of the information discerned from these aerial photographs is presented below:

- **1934**: The 1934 photograph shows the subject property area to be mostly undeveloped. A dirt road partially appears at the current Sniffen Lane location. A road is present in the current location of Main Street (Route 113) and appears to be unpaved. A building is depicted on the Site with the roof clearly labeled with the word "SIKORSKY" (this

portion has been cropped from the photo in the attached copy). This building is part of a cluster of several buildings which appear to be part of what would become the SAEP. However, these buildings appear to be located north of the Site parcel. The surrounding areas appear to be either tidal wetlands or shoreline cottage communities.

- **1951**: The 1951 photograph shows several large industrial buildings and a large parking area present on the Site. Airport runways and several buildings are present on the property to the west of the Site. Due to the small scale of the photograph, further details of the subject property are difficult to discern. The surrounding areas appear to be a mix of industrial and undeveloped parcels, with some surrounding coastal residential communities.
- **1965**: The 1965 photograph shows automobile parking in the SAEP South Parking Lot and what appears to be a wastewater lagoon northeast of the south Parking Lot. Much of the South Parking Lot, between the wastewater lagoon and Main Street, appears to be either discolored or unpaved. A drainage channel extends from the wastewater lagoon through the adjacent property to the Marine Basin, a small embayment of the Housatonic River south of the Site. A least three buildings are present on the neighboring property to the south of the Site.
- **1970**: Only a small portion of the Site is covered by this photograph. The southwest corner of the South Parking Lot with parked vehicles is depicted in the photograph. The conditions and structures present on neighboring property to the south appear similar those depicted in the 1965 photograph.
- **1980**: The 1980 photograph shows the southern portion of the Site similar to what is depicted in the 1970 photograph. The facility appears to be active. The wastewater treatment lagoon is present northeast of the South Parking Lot. Two or three (one appears empty) other apparent lagoons are present further east of the observed wastewater lagoon. The clarifier and Building 18 are visible in this photograph. Structures from the neighboring property to the south have been removed with the exception of one

building. The development of the surrounding areas, including the airport facility to the west, appears similar to previous photographs.

- **1986**: The 1986 photograph shows the entire South Parking Lot vacant. Four lagoons, the wastewater lagoon and three other lagoons further east are present. Some structure that appears to be a soil stockpile and either some construction equipment and/or another soil stockpile are present in the southwest corner of the South Parking Lot. The equalization tanks are visible. Surrounding areas appear to be relatively unchanged from the 1980 photograph.
- **1990**: The 1990 photograph depicts the South Parking Lot filled with vehicles. The previously observed three lagoons are not present in this photograph. The southwestern corner of the South Parking Lot appears covered with a dark substance that appears to be flood water.
- **1995**: No significant changes were observed in the 1995 photograph.

3.3 CITY DIRECTORIES

Historical city directories for the Town of Stratford available at the Connecticut State Library were reviewed at periodic intervals to obtain previous Site use information. City directories for the Town of Stratford prior to 1965 and for the years from 1980 through 1991 were not available for review. Based on other information discussed in this report, 550 Main Street is the given address for the Site. The following tenants were identified at this address:

- **1960**
  - *550 Main Street*
    - *Lycoming Div. AVCO*
- **1965**
  - *550 Main Street*
    - *AVCO Lycoming Div. Hangar & Flight Office*
    - *Great Lakes Carbon Corp.*
    - *National Lead Co.*

        - *Jomar's Rest.*
        - *Bridgeport Flight Service*
        - *Barbour Daniels Electronics*
- **1971**
    - *550 Main Street*
        - *AVCO Lycoming Div. Hangar & Flight Office*
        - *Great Lakes Carbon Corp.*
        - *National Lead Co.*
        - *Windsock Inn Rest.*
        - *Bridgeport Flight Service*
        - *Aero-Pix Service of CT*
        - *Barbour Daniels Electronics*
- **1975**
    - *550 Main Street*
        - *AVCO Lycoming Div. AVCO Corporation*
- **1979**
    - *550 Main Street*
        - *AVCO Lycoming Div. AVCO Corporation*
- **1992**
    - *550 Main Street*
        - *AVCO Credit Union*
        - *Textron Lycoming*
- **1997**
    - *550 Main Street*
        - *Allied Signal Aerospace*
- **2007**
    - *550 Main Street*
        - *CT Air & Space Ctr*
        - *US Defense Contract Management*

4.0 FINAL ENVIRONMENTAL IMPACT STATEMENT, URS GREINER. 1999

As part of this Task 120, URS reviewed the Final EIS for information relating to past uses and environmental conditions of the subject property. As part of the Final EIS, sites related to the project with the potential for hazardous materials and/or environmental contamination were evaluated in accordance with a Phase I/II Environmental Due Diligence Audit. The Final EIS included assessment of the current Site and other surrounding areas. Excerpts from the Final EIS are included in **Appendix C**.

The Final EIS included a figure titled Exhibit III-16. This figure illustrated the locations of two wastewater lagoons on the SAEP property to the north of the Site.

Based on the preliminary evaluation of these sites as they related to proposed improvements which encompassed a large area within and surrounding the airport, several of the locations identified in the Final EIS were selected for further study. The SAEP property (the subject of this Task 120) is referred to as the Department of Defense (DOD) site in the Final EIS. The DOD (SAEP) facility was not included in this additional study.

However, the Final EIS does describe the DOD Closed Landfills (two landfills) as the former site of industrial wastewater equalization and sludge lagoons, which were capped under a Federal/State closure program. Each of the landfills is approximately 2 acres in size, and located along the southern edge of the SAEP property. One of the landfills is the former location of the wastewater lagoon formerly located north of the South Parking Lot. The second landfill is the former location of the three other lagoons located further east of the south Parking Lot. The former lagoons and current landfills are illustrated on **Figure 2**. The equalization and sludge lagoons were closed in 1987 under RCRA. However, the Final EIS states that this was not a "Clean Closure" in that contaminated soils below the water table was not removed nor was groundwater remediation conducted. Therefore, post-closure care includes groundwater

monitoring, cover inspection, maintenance, and restricted access for an uncertain duration which could extend beyond 30 years.

The Final EIS indicates that disturbance of these landfills or immediately surrounding areas would require modification of the closure plan and potential management of contaminated soil and groundwater.

5.0 SITE INSPECTION

Observations concerning the Site were obtained from a site inspection conducted on Tuesday, February 10, 2009. The URS site inspection included a visual inspection of the Site from the property perimeter and from adjacent properties because URS was not provided access to the Site and because the entire proposed roadway area is visible from the Site perimeter. Portions of the Site and relevant features are identified on **Figure 2**. Photographs of the subject property and related areas are included in **Appendix D**.

5.1 CURRENT USES OF THE SITE

The Site consists of a 21.53-acre parcel containing a paved parking lot (the South Parking Lot) and several buildings and structures, including an unused wastewater clarifier, an unused wastewater equalization tank, and two grassy "landfill" areas (RCRA landfills discussed above). The South Parking lot and the landfill areas are enclosed with a chain-link fence which separates the former landfill areas, the South Parking lot, and the adjacent property to the south. Several monitoring wells were observed within the fenced landfill areas. The Site is no longer active, and these structures do not appear to be in use at this time.

Based on information referenced elsewhere in this report, the Site, as part of the overall SAEP facility, is maintained by a small staff and security is conducted by the United States Army Contracting Office. In addition, at least a portion of the now mostly vacant facility is managed by PointStratford as is indicated by a sign at the front door of the main facility to the north of Site.

There is a sidewalk running along the east side of Main Street throughout the Site. There appears to be a utility corridor, including sewer and electric lines, also running along the east side of Main Street.

5.2 ADJOINING/SURROUNDING LAND USE

The property to the south of the Site is an undeveloped property owned by the City of Bridgeport and is currently used as an airport runway clear-zone. Portions of the Igor Memorial Airport are also located to the south of the Site. Main Street (CT Route 113) and then portions of the Igor Sikorsky Memorial Airport are located to the west of the Site. Sniffens Lane, the remainder of the SAEP facility across Sniffens Lane, and the Housatonic River are located to the north of the Site. Other portions of the SAEP and portions of the undeveloped property owned by the City of Bridgeport are located to the east of the Site.

5.3 CURRENT SITE CONDITIONS

Because URS was not provided access to the Site, the observations reported below are therefore only relevant to the southern portion of the Site and not the entire Site. The entire portion of the proposed roadway was visible from the perimeter of the Site.

5.3.1 Hazardous Materials/Hazardous Substances

No hazardous material or substances were observed during the site inspection.

5.3.2 Hazardous and Special Waste

No hazardous and/or special waste was observed during the site inspection.

5.3.3 Underground Storage Tanks

No underground storage tanks (USTs) or evidence of the presence of USTs were observed during the site inspection.

5.3.4 Aboveground Storage Tanks

Although no aboveground storage tanks (ASTs) were observed within the proposed project location, at least one (1) AST was observed next to one of the existing Site buildings (Building 18) and the former equalization lagoon. URS could not discern the contents of this tank. A secondary containment berm is in place surrounding the AST.

5.3.5 Drums and Containers

No drums or containers, other than discussed in other sections of this report, were observed during the site inspection.

5.3.6 PCB-Containing Equipment

No potentially Polychlorinated Biphenyl (PCB)-containing equipment was observed on this portion of the Site during the site inspection.

5.3.7 Solid Waste

No solid waste was observed during the inspection.

5.3.8 Water Supply and Monitoring Wells

URS observed two monitoring wells in the South Parking Lot of the Site, which based on site maps provided, are MW-13 and MW-6. URS observed a well cluster to the northeast of one of the RCRA landfills. The groundwater monitoring well locations are illustrated on **Figure 2**.

5.3.9 Pits, Ponds and Lagoons

A small body of surface water was observed between the former waster equalization and sludge lagoons, which feeds a drainage channel running to the south through the adjacent property.

5.3.10 Other Physical Evidence of Contamination

Physical evidence of contamination (i.e., oil or chemical stains, soil discoloration or stressed vegetation) was not observed on the day of the inspection.

5.4 SITE CONTACT INFORMATION

URS contacted Mr. Pete Szemanski, installation manager for the SAEP, to inquire about the Site history and environmental concerns. Mr. Szemanski directed URS to Mr. Wess Laparl of Anderson Mulholland and Associates, Inc., the environmental consultant for the Site. Mr. Laparl provided the following relevant information:

- Soils in the vicinity of the project area (South Parking Lot) have been evaluated for the presence of contaminants by only one soil sample collected from this area;
- Soil analytical data from a soil boring drilled in the general vicinity of the former soil pile in the South Parking Lot indicated the presence of very minimal concentrations of Volatile Organic Compounds (VOCs) and Polycyclic Aromatic Hydrocarbons (PAHs) in the analyzed soil sample.
- Groundwater in this general area is impacted with minimal concentrations of VOCs;

- Recent groundwater data for groundwater monitoring wells MW-6 and MW-11 indicated the groundwater did not contain VOCs during a November 2007 sampling event;
- The Army has applied a Finding of Suitability for Early Transfer (FOSFT) to the entire SAEP property. This FOSFT consists of land use restrictions such as no residential use and no use of the groundwater; and,
- Such restrictions will convey with the deed to the Site or portions of the Site and may also require the application of an Environmental Land Use Restriction in lieu of the FOSFT if the property or portions of the property are transferred.

A copy of the information provided my Mr. Laparl is included in **Appendix A**.

6.0 REGULATORY AGENCY REVIEWS

6.1 LOCAL REGULATORY AGENCY RECORD REVIEWS

URS completed a review of local municipal records within the Town of Stratford, Connecticut on February 10, 2009. Records on file with the Town of Stratford Tax Assessor's office, Health Department, Building Department and Fire Marshall's office were reviewed. Presented below is the relevant information from this inquiry and review of Town files.

Property cards and maps from the Town of Stratford Tax Assessor's office were reviewed for information regarding the acreage, zoning, general land use characteristics, and ownership. According to maps reviewed at the Town of Stratford's Assessor's office, the Site is 21.53 acres and owned by the United States of America.

No records were available for review at the Town of Stratford Health Department office that would indicate the presence of potable or public water supply wells at the Site or surrounding area. Officials at the Town of Stratford Health Department stated they were not aware of any complaints or enforcement actions pertinent to the Site.

No information relevant to the environmental condition of the Site was identified from records reviewed from the Town of Stratford Building Department.

Numerous records related to properties on Main Street in Stratford were obtained from the Town of Stratford Fire Marshall's office. The majority of these records pertained to UST closures and testing at the Igor Sikorsky Memorial Airport, Textron Lycoming and AVCO Corporation (AVCO) (former occupants of the SAEP) facility. Records in the file indicated that USTs have been or are currently in use at the Igor Sikorsky Memorial Airport facility and/or the SAEP facility. Documents observed in the file were not specific as to the location of the USTs or their

current status. Copies of information obtained during the conductance of this review are presented in **Appendix A**.

6.2 CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION FILE REVIEW

URS conducted a file review at the CTDEP Records Center on February 17, 2009. URS requested files pertaining to the Site under names of the following facilities that have been referenced in relation to the Site:

- Stratford Army Engine Plant
- Textron
- AVCO
- Allied Signal
- Textron Lycoming
- Great Lakes Carbon Co.
- National Lead Co.

A summary of the relevant information obtained by the CTDEP file review is presented in the sections below.

Environmental Condition Assessment Form

An Environmental Condition Assessment Form (ECAF) was filed for the site in 2003. Based on information contained therein, Building B-6, located on the SAEP property south of Sniffens Lane, was utilized for raw material testing. Spent plating bath solution produced a metal hydroxide sludge, which was pumped to one of the sludge lagoons, which are now closed RCRA disposal units. An equalization lagoon was also used to allow untreated liquid wastes from the metals plating processes to mix. The liquids were then pumped to holding tanks located in the chemical waste treatment plant in Building B-18 and were pH adjusted prior to cyanide

destruction. Chromium reduction and coagulation occurred in additional tanks. After processing through the clarifier, supernatant was discharged to the Housatonic River and sludge was discharged to three sludge lagoons located south of Building B-6. The following is a list of hazardous and petroleum substances formerly handled by the SAEP according to the 2003 ECAF:

- Ammonia;
- Aluminum sulfate (alum);
- Calcium chromate (chromic acid);
- Copper cyanide;
- Chromium cyanide;
- Sodium cyanide;
- Tetrachoroethene;
- Trichloroethene;
- 1,1,1-Trichloroethane;
- Leaded Gasoline;
- Unleaded Gasoline;
- Diesel #1;
- Diesel #2;
- Fuel Oil #6;
- Jet Fuel A;
- Jet Fuel-4; and,
- Jet Fuel-5.

Under the Defense Base Closure and Realignment Act of 1990, the Defense Base Closure and Realignment Commission recommended the closure of the SAEP in July 1995. The installation closed on September 30, 1998.

Buildings 34 and 65 Fill Material Placement

A report entitled *Human Health and Environmental Risk Evaluation for Fill Material*, prepared by Wehran Envirotech, dated March 3, 1993 was reviewed for this assessment. This report stated that Textron Lycoming (former occupant of the Site) had excavated approximately 10,000 cubic yards (cy) of soil from construction sites located at Buildings 34 and 65 within the facility. This excavated material also included approximately 200 cy of construction debris created from a construction project at Building 16 of the facility. The report requests approval for onsite reuse of the soil and construction debris to fill depressions and correct several large saddle depressions in the parking lot at the south end of the facility. This material was already being stockpiled in the southwestern corner of the facility's South Parking Lot. The risk evaluation presented information regarding groundwater flow direction and the quality of the soil which indicated that reuse and placement of the fill material in the manner described within would not create a significant risk to human health or the environment.

A letter from Edward Parker of the CTDEP, dated May 31, 1994, to Textron Lycoming responded to the proposal for the reuse of the fill material. The response approves the proposal to reuse the petroleum-impacted soil for the project, utilizing a plan of field screening to ensure that no soils exceeding a 500 parts per million threshold for total petroleum hydrocarbons were used in the project. Additional information discussed in Section 6.3 of this report indicates that this fill material (from Building 65) was also found to be impacted with chromium. In addition, the approval stated that notice would be entered on the property deed to document the reuse of the contaminated soil.

Stewardship Permit

A Final Decision was issued by the Commissioner of the CTDEP on October 2, 2008, issuing the United States Army Stewardship Permit to perform site-wide environmental investigation and cleanup ("closure", "post-closure care" and "corrective action measures") at the former hazardous waste storage, treatment and disposal facility in accordance with applicable state laws and regulations. The permittee (US Army) is to comply with terms and conditions contained in the permit, which included detailed requirements for Standard Facility Conditions, Authorized Activities, and a Compliance Schedule. Copies of these attached requirements and schedules were not attached to the document copy within the file.

RCRA Groundwater Monitoring Reports

A multitude of groundwater monitoring reports for the Site were obtained and summarily reviewed. Included among these documents were the *2005 Annual Summary Report* and the *2006 Annual Summary Report* for the RCRA Groundwater Monitoring Program for the Stratford Army Engine Plant (Site) and the *2006 Annual Summary Report, RCRA Groundwater Monitoring Program, Stratford Army Engine Plant, Stratford, Connecticut*, prepared by Sound Environmental Solutions in February 2007.

According to these reports, a network of monitoring well and monitoring well clusters is located at the Site. A total of twenty (20) monitoring wells at eleven (11) locations are located in the vicinity of the now-closed wastewater equalization and sludge lagoons, both within the Site property and within adjacent properties. At least one of the shallow groundwater monitoring wells, MW-13, will be in close proximity to or within the proposed project area. This well is located in the South Parking Lot. The next nearest monitoring well to the proposed project location is MW-6, located along Main Street, northwest of groundwater monitoring well MW-13.

According to the *2006 Annual Summary Report*, monitoring well MW-13 had been sampled semi-annually in Spring and Fall from 2004 through 2006. The samples from MW-13 were analyzed for several constituents, including halogenated VOCs, aromatic VOCs, total and dissolved metals, and other conventional water quality parameters (e.g. pH, chloride, total organic halogens, etc…). Trace to minimal concentrations of several compounds have been detected at this location within the 2004 through 2006 timeframe, including minimal concentrations of chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, methylene chloride, tetrachloroethene, trichloroethene, and dissolved cadmium, chromium, lead, and zinc. According to the 2006 Annual Report, 1,2-dichloroethene, methylene chloride, vinyl chloride, arsenic and chromium were detected in a sample collected from monitoring well MW-6 in September 2006. This report stated that detected concentration of arsenic at this location exceeded Connecticut regulatory criteria, although numerical data for this sampling event was not obtained for this report.

According to information presented in an analytical data table acquired at the CTDEP Records Center, concentrations of several VOCs [chlorobenzene at 1 microgram per Liter (µg/L)], 1,4-dichlorobenzene (2.1 µg/L), 1,2-dichloroethene (0.3 µg/L), trichloroethene (3 µg/L), tetrachloroethene (3 µg/L), chlorobenzene (1 µg/L), 1,2-dichlorobenzene (2.1 µg/L)] were detected in the groundwater sample collected from groundwater monitoring well MW-13 during the most recent sampling event in November 2006.

According to information presented in the *2006 Annual Summary Report*, shallow groundwater flow at the MW-11 location and at the Site in general, is to the east towards the local drainage ditches and the Housatonic River. However, there is also a localized radial flow around the former lagoons themselves, tidal interaction between the drainage and groundwater flow, and a more southerly groundwater flow in the deeper aquifers. Groundwater appears to be approximately 2.5 to 3 feet below grade at the groundwater monitoring well MW-13 location.

Other Information

Several maps contained within the reviewed groundwater monitoring reports depicted the SAEP groundwater monitoring wells. A diagram contained within a report identified as *Surface Impoundment Closure Certification* prepared by Metcalf & Eddy in August 1992 presented the location of AVCO groundwater monitoring wells. These groundwater monitoring wells are depicted on **Figure 2**. URS could not confirm that the wells illustrated on the Sound Environmental Solutions plan are the same wells illustrated on the Metcalf & Eddy plan. Copies of these plans and relevant report information are included in **Appendix A**.

6.3 ENVIRONMENTAL PROTECTION AGENCY (EPA) WEBSITE

Additional documentation from the EPA website indicates that numerous subsurface environmental investigations have identified the following facility-wide areas of environmental concern:

- Intertidal Flats where runoff and effluent have contaminated sediments with PCBs and metals (not in project area);
- Shoreline Fill Area where subsurface soil and groundwater are contaminated with fuel-related and halogenated VOCs, PAHs, and metals (not in project area);
- Plating and Manufacturing Area, where "greenish-blue" groundwater pumped from the area has been documented to contain metals (including chromium and lead), halogenated VOCs, PAHs, and cyanide (not in project area);
- Building B-2/North Parking Lot/West Parking Lot area, where subsurface soils comprise ash and cinder fill and contain PAHs and groundwater is contaminated with halogenated VOCs (not in project area);
- Building B-65, where chromium- and petroleum-contaminated soils were discovered (not in project area);

- Research and Development Area, where subsurface soil and groundwater contamination is suspected (not in project area);
- South Parking Lot/Chemical Waste Treatment Plant/Closed Lagoons area, where halogenated VOCs and metals have been detected in groundwater (Project Area), and;
- Testing Area, where subsurface soils are contaminated with fuel-related and halogenated VOCs and PAHs, and groundwater is contaminated with halogenated VOCs (not in project area).

According to EPA website, the remedial investigation of the facility is ongoing, with regular reporting to the CTDEP of newly-discovered or confirmed threats to the environment.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

The Site consists of an approximately 21.53-acre parcel containing a paved parking lot (the South Parking Lot) and several buildings and structures, including an unused wastewater clarifier, an unused wastewater equalization tank, and two grassy "landfill" areas (closed RCRA landfills discussed above). The Site was formerly occupied by the SAEP and is currently vacant. Previous investigations have identified the presence of contaminated soil and groundwater at this parcel although not necessarily in the vicinity of the proposed roadway, the portion of the Site slated for potential acquisition.

This assessment identified the following environmental concerns for the proposed roadway portion of the Site:

1. Former Soil Stockpile. Petroleum contaminated soil was formerly stockpiled in the southeast portion of the South Parking Lot. This material was later used as fill material in an area east of the South Parking Lot as approved by the CTDEP. The former presence of the petroleum impacted soil and the filling may have resulted in impacts to soil and groundwater in this South Parking Lot.

2. Contaminated Groundwater. Groundwater in the vicinity of the project area portion of this Site has been monitored as part of the RCRA closure of several waste water sludge lagoons (a/ka/ RCRA landfills) located to the east of this area. The monitoring has identified concentrations of VOCs in groundwater in the vicinity of the proposed roadway area.

3. FOSFT. The Army has implemented a FOSFT for the entire SAEP site. The FOSFT includes land use restrictions such as no residential use and no use of groundwater. This deed restriction

may convey with the property or may require the application of an Environmental Land Use Restriction.

URS notes that other potential environmental concerns exist within the Site parcel (21.53 acres) including former plating and manufacturing areas, the closed RCRA lagoons and the former wastewater treatment plant. However, as these areas are located some distance from the proposed roadway, the portion of the Site slated for potential acquisition, the potential for an environmental concern to the project area is minimal relative to disturbance of soil. Some of these areas of concern may have the potential to affect groundwater in the project area.

7.2 RECOMMENDATIONS

URS recommends collection and analysis of soil samples from within the limits of the project area, planned soil excavation areas and/or areas proposed to be disturbed by the proposed roadway construction activities to more completely evaluate soil conditions. If groundwater is anticipated to be encountered during the proposed roadway construction activities, URS recommends evaluation of impacts to groundwater in the project area portion of the Site. URS recommends completing at least three (3) soil borings for this project-specific investigation. Proposed soil boring locations are identified on **Figure 3**.

8.0 REFERENCES

2005 Annual Summary Report, RCRA Groundwater Monitoring Program. Stratford Army Engine Plant, Stratford, Connecticut. Sound Environmental Solutions, February 2006.

2006 Annual Summary Report, RCRA Groundwater Monitoring Program. Stratford Army Engine Plant, Stratford, Connecticut. Sound Environmental Solutions, February 2007.

Final Environmental Impact Statement/Environmental Impact Evaluation for the Improvements to Runway 6-24, Volume 1; URS Greiner, May 1999.

Human Health and Environmental Risk Evaluation for Fill Material. Wehran Envirotech, March 3, 1993.

Stratford Pathways and Plan, Housatonic River Greenway Project. Greater Bridgeport Regional Planning Agency, revised February 2008.

Summary of Detected Compounds and Constituents, 1981 – 1998, AlliedSignal Engines, Stratford, Connecticut. Sound Environmental Solutions, May 26, 1998.

Town of Stratford Municipal Office Records. Records on file with the Town of Stratford Health Department, Fire Marshall, Engineering Department, and Conservation Commission.

United States Geological Survey (USGS), 7.5 Minute Topographic Map, U.S. Department of Interior, Geological Survey, scale 1:24,000.

Wess Laparl, Anderson Mulholand, Personal communication, May 27, 2009.

FIGURES

Scale:

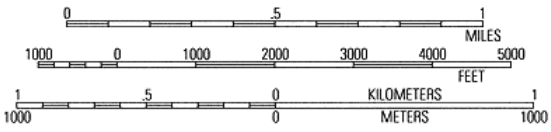

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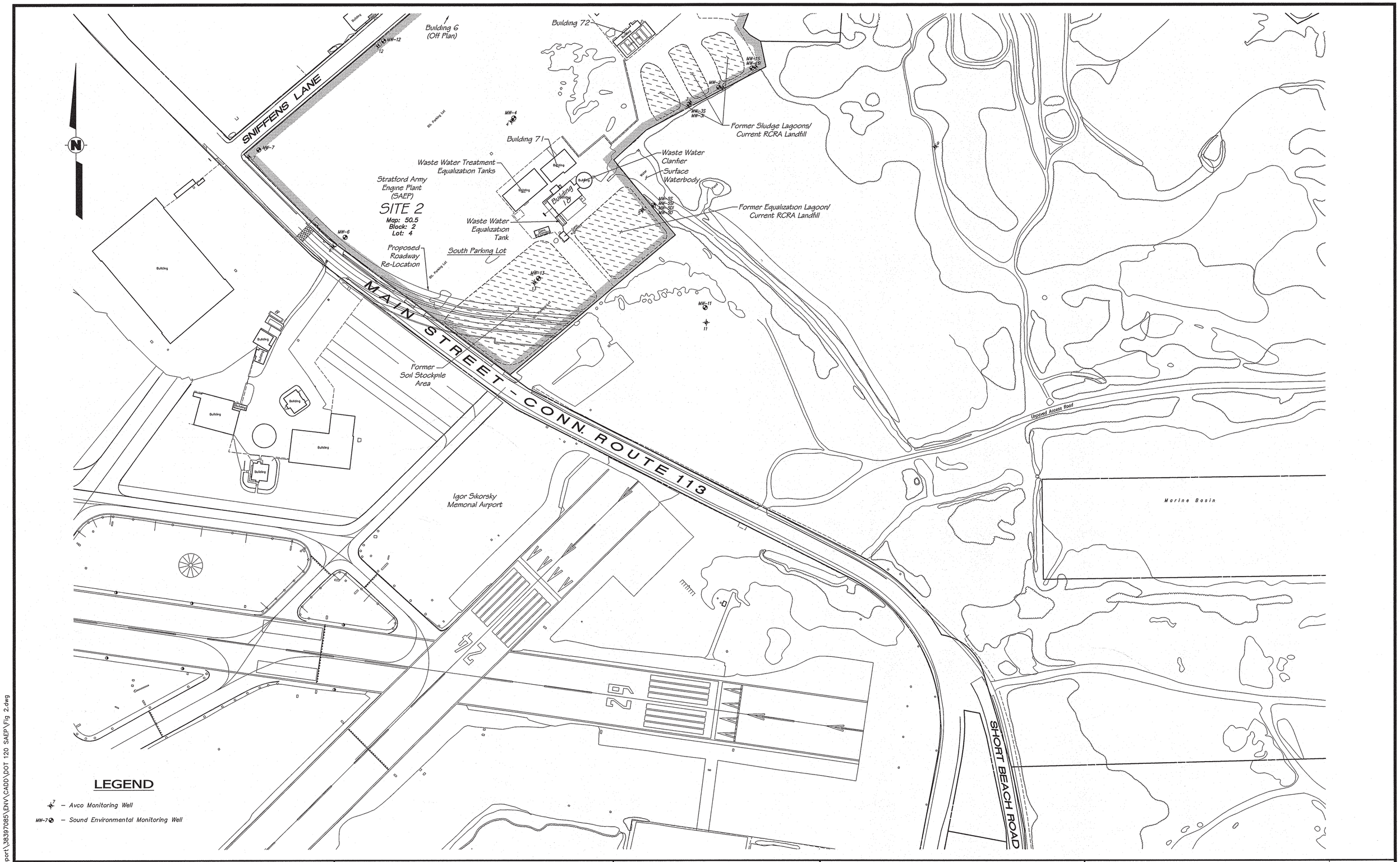
Figure 1
Site Location Map

Igor Sikorsky Memorial Airport
Task 120 Preliminary Site Assessment – Site 2
Stratford, Connecticut

Job No.: 36937085.00003 URS Corporation AES



S:\CT_Towns\Bridgeport\38397085\ENV\CADD\DOT 120 SAEP\Fig 2.dwg

URS

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500 Enterprise Drive, Suite 3B
Rocky Hill, CT. 06067-4002
Tel: 860.529.8882
Fax: 860.529.3991
www.urscorp.com

0 100 150 200
APPROXIMATE SCALE, FEET

PROJECT NO: 38397085			
DESIGN: KC	SCALE: AS SHOWN		
APPROVED: JB	DATE: MARCH 2009		
DRAWN: KC	FILE NO: FIG.2		

CLIENT: CITY OF BRIDGEPORT

PROJECT:
IGOR SIKORSKY MEMORIAL AIRPORT
MAIN STREET – STRATFORD, CONNECTICUT

TITLE:
SITE PLAN
TASK 120 SITE 2

FIGURE NO:
2

S:\CT_Towns\Bridgeport\38397085\ENV\CADD\DOT 120 SAEP\Fig 3.dwg

URS

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Rocky Hill, CT. 06067-4002
Tel: 860.529.8882
Fax: 860.529.3991
www.urscorp.com

0 100 150 200
APPROXIMATE SCALE, FEET

PROJECT NO:	38397085		
DESIGN:	KC	SCALE:	AS SHOWN
APPROVED:	JB	DATE:	MARCH 2009
DRAWN:	KC	FILE NO:	FIG.3

CLIENT: CITY OF BRIDGEPORT

PROJECT: IGOR SIKORSKY MEMORIAL AIRPORT
MAIN STREET – STRATFORD, CONNECTICUT

TITLE: PROPOSED SAMPLING LOCATIONS
TASK 120 SITE 2

FIGURE NO: 3

URS

URS CORPORATION
RECORD OF CONVERSATION

Spoke With

Name: Ron Jennings

Phone Number: (617) 918-1242

Recorded By: John Brogden

Company: US Environmental Protection Agency

Date: 4/28/2010

Time:

Client:

Phone Number:

Extension:

Project Information & Routing

❑ Incoming ❑ Outgoing

Project Name: Igor I Sikorsky Memorial Airport

Billable to Project: 38397150

Route To:	For Information:	For Action:

Items Discussed

Spoke with Ron Jennings about the requirements necessary to conduct roadway construction. R. Jennings stated that there is no requirement for EPA approval to conduct construction activities. R. Jennings stated EPA would want to be kept informed of activities and would want to see plans if activities encroach upon Raymark waste areas. R. Jennings also stated EPA may want a deed restriction.

URS

URS CORPORATION
RECORD OF CONVERSATION

Spoke With

Name: Ron Curren

Phone Number: (860) 424-3764

Recorded By: John Brogden

Company: CT Department of Environmental Protection

Date: 4/28/2010

Time:

Client:

Phone Number:

Extension:

Project Information & Routing

❑ Incoming ❑ Outgoing

Project Name: Igor I Sikorsky Memorial Airport

Billable to Project: 38397150

Route To:	For Information:	For Action:

Items Discussed

Spoke with Ron Current to ask about requirements for construction at the site. R. Curren stated that there are no issues or requirements for construction within the Raymark waste areas. CT DEP would want excavated soils handled in accordance with regulations. R. Curren stated that site would be subject to the Property Transfer Act because of the hazardous waste/soil present at site. R. Curren stated that CT DEP would expect soil/groundwater remediation and application of an environmental land use restriction for the roadway area.

This appendix contains the following:

● Public Notice of Availability of the Draft Written Reevaluation of the Environmental Impact Statement and Public Hearing published on September 12, 2010

● Presentation boards displayed at the Public Hearing held on September 22, 2010

● Speaker Registration Cards for Public Hearing on September 22, 2010

● Transcript from the Public Hearing held on September 22, 2010

● Summary of comments received during the agency and public comment period with applicable responses
Note: Letters from agencies and citizens are not included but are summarized on the table contained herein.

AGENCY DISTRIBUTION LIST:

William Hyatt, Acting Bureau Chief
CT DEP – Bureau of Natural Resources
79 Elm Street
Hartford, CT 06106-5127

Karen Senich, Executive Director and SHPO
CT Commission on Culture and Tourism
One Constitution Plaza, 2nd Floor
Hartford, CT 06103

Robert Kaliszewski, Director/Ombudsman
CT DEP – Office of Planning and Program Development
79 Elm Street
Hartford, CT 06106-5127

Tom Chapman, Supervisor
US FWS - New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301

Mr. Louis Chiarella, Supervisor
US Department of Commerce – NOAA
National Marine Fisheries Service – NE Region
55 Great Republic Drive
Gloucester, MA 01930-2276

Mayor John Harkins
Town of Stratford
Town Hall
2725 Main Street
Stratford, CT 06615

Mr. Robert Bruno, Chief of Engineering Srvs
CT DOT - Bureau of Aviation and Ports
2800 Berlin Turnpike, PO Box 317546
Newington, CT 06131

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Boston, MA 02109-3912

John Carey, PE
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Newington, CT 06131

Willie R. Taylor
US DOI-Office of Environmental Policy and Compliance
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Washington, DC 20240

John Mengacci, Under Secretary
Office of Policy and Management
450 Capitol Avenue
Hartford, CT 06101-1379

Rick Potvin, Refuge Manager
US FWS - Stewart B. McKinney National Wildlife Refuge
733 Old Clinton Road
Westbrook, CT 06498

Mr. Gary Lorentson, Planning/Zoning Administrator
Town of Stratford - Planning and Zoning
Stratford Town Hall
2725 Main Street
Stratford, Connecticut 06615

Honorable Rodney Butler
Chairman, Mashantucket Pequot Tribe of CT
2 Matts Path
Mashantucket, CT 06338

DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT
IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

PUBLIC NOTICE OF AVAILABILITY
The Federal Aviation Administration (FAA) in coordination with the City of Bridgeport and in compliance with the National Environmental Policy Act of 1969, FAA Orders 1050.1E and 5050.4B, has completed a Draft Written Reevaluation of the Environmental Impact Statement for the Runway Safety Area Improvements at Igor I. Sikorsky Memorial Airport in Stratford, Connecticut. Copies of the document are available online at http://www.bridgeportct.gov/airport and at the following locations:

Federal Aviation Administration - New England Office
12 New England Executive Park Drive
Burlington, MA 01803

Stratford Public Library
2203 Main Street
Stratford, CT 06615

Sunday
Sept. 12, 2010

Bridgeport Public Library
925 Broad Street
Bridgeport, CT, 06604

Igor I. Sikorsky Memorial Airport
1000 Great meadow Drive
Stratford, Ct, 06615

Stratford Town Clerk's Office
Town Hall
2725 Main Street
Stratford, CT 06615

Written comments on the Draft Written Reevaluation are requested from interested parties and will be accepted if postmarked or received by September 30, 2010. Comments should be submitted in writing to:

Richard Doucette
Federal Aviation Administration
12 New England Executive Park Drive
Burlington, MA 01803

All substantive comments will be carefully reviewed and addressed in the Final Written Reevaluation. In accordance with Federal regulations, the FAA will not decide whether to implement the proposed projects or take an alternative action until the review process is completed and an environmental finding is issued.

PUBLIC HEARING
The City of Bridgeport would like to announce their intent to conduct a Public Hearing associated with the preparation of this Draft Written Reevaluation of the Environmental Impact Statement at the Airport.

Date: September 22, 2010
Time: 7:00PM - 9:00 PM
Location: Ramada Inn, 225 Lordship Boulevard, Stratford, CT

Submitting Comments
Those wishing to offer public testimony during the hearing will have three minutes to voice their opinion before the hearing officer. Comments and questions will be carefully reviewed and addressed in the Final Written Reevaluation after the public hearing process is complete.

WELCOME

TO THE PUBLIC HEARING FOR THE WRITTEN REEVALUATION

OF THE

ENVIRONMENTAL IMPACT STATEMENT

AT

IGOR I. SIKORSKY MEMORIAL AIRPORT

URS

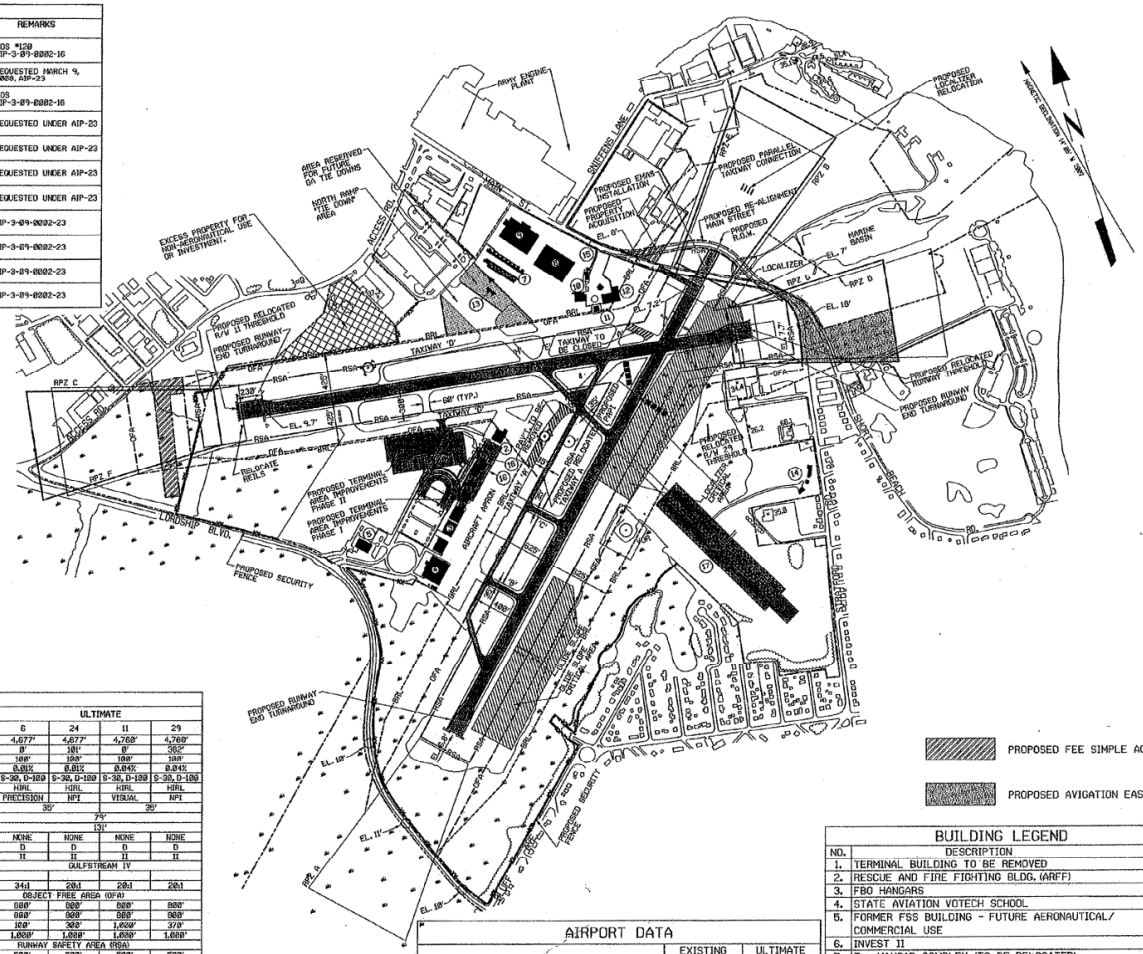
AIRPORT LAYOUT PLAN

NON CONFORMING CONDITIONS

DESCRIPTION	EXISTING/ PLANNED	STANDARD	DATE APPROVED	REMARKS
TAXIWAY D SEPARATION FROM R/W 11-29	VARIES 281' TO 300'	300'	JUNE 3, 2003	MOS #120 AIP-3-09-0002-16
TAXIWAY SIGN G2 LOCATION	PLACED BEHIND ENTRANCE	PLACED BEFORE ENTRANCE		REQUESTED MARCH 9, 2009, AIP-23
SUPPLEMENTAL WIND CONE LOCATION R/W 11	240' FROM R/W ℄	250' MINIMUM	JAN. 27, 2004	MOS AIP-3-09-0002-16
R/W 29 OFA	800' WIDE x 370' BEYOND R/W THRESHOLD	800' WIDE x 1000' BEYOND R/W THRESHOLD		REQUESTED UNDER AIP-23
R/W 6 OFA	800' WIDE x 300' BEYOND THRESHOLD	800' WIDE x 1000' BEYOND THRESHOLD		REQUESTED UNDER AIP-23
R/W 11 OFA	600' WIDE x 1,000' BEYOND R/W THRESHOLD	800' WIDE x 1,000' BEYOND R/W THRESHOLD		REQUESTED UNDER AIP-23
R/W 24 OFA	800' WIDE x 300' BEYOND THRESHOLD	800' WIDE x 1,000' BEYOND THRESHOLD		REQUESTED UNDER AIP-23
R/W 6 SAFETY AREA	200' BEYOND THRESHOLD	1,000' BEYOND THRESHOLD	2-19-09	AIP-3-09-0002-23
R/W 24 SAFETY AREA	300' BEYOND THRESHOLD	1,000' BEYOND THRESHOLD	2-19-09	AIP-3-09-0002-23
R/W 11 SAFETY AREA	500' WIDE x 370' BEYOND THRESHOLD	500' WIDE x 1,000' BEYOND R/W THRESHOLD	2-19-09	AIP-3-09-0002-23
R/W 29 SAFETY AREA	500' WIDE x 370' BEYOND THRESHOLD	500' WIDE x 1,000' BEYOND THRESHOLD	2-19-09	AIP-3-09-0002-23

LEGEND

DESCRIPTION	EXISTING	ULTIMATE
PROPERTY LINE (FEE SIMPLE)		
OBJECT FREE AREA (OFA)	OFA	OFA
FENCE LINE		
ON AIRPORT BUILDINGS		
OFF AIRPORT BUILDINGS		
OPERATIONAL PAVED SURFACES		
BUILDING RESTRICTION LIMITS (BRL)	BRL	BRL
LIGHTED WIND CONE & SEG. CIRCLE		
NAVAID CRITICAL AREA		
RUNWAY PROTECTION ZONE (RPZ)		
RUNWAY SAFETY AREA		
AIRPORT REFERENCE POINT (ARP)		
RUNWAY THRESHOLD LIGHTS		
REILs		
MALSF		
VASIs/PAPI		
AIRPORT BEACON		SAME



RUNWAY DATA

DESCRIPTION / RUNWAY		EXISTING 6	EXISTING 24	EXISTING 11	EXISTING 29	ULTIMATE 6	ULTIMATE 24	ULTIMATE 11	ULTIMATE 29
LENGTH		4,677'	4,677'	4,761'	4,761'	4,677'	4,677'	4,760'	4,760'
DISPLACED THRESHOLD		0'	320'	0'	364'	0'	181'	0'	582'
WIDTH		150'	150'	150'	150'	100'	100'	100'	100'
RUNWAY GRADIENT		0.01%	0.01%	0.04%	0.04%	0.01%	0.01%	0.04%	0.04%
PAVEMENT STRENGTH		S-30, D-105	S-30, D-105	S-30, D-105	S-30, D-105	S-30, D-105	S-30, D-105	S-30, D-105	S-30, D-105
LIGHTING		HIRL	HIRL	HIRL	HIRL	HIRL	HIRL	HIRL	HIRL
MARKINGS		PRECISION	NPI	VISUAL	NPI	PRECISION	NPI	VISUAL	NPI
TAXIWAY - WIDTH		VARIES 35'-100'				35'		35'	
TAXIWAY SAFETY AREA (WIDTH)		79'				79'			
TAXIWAY OBJECT FREE AREA (WIDTH)		131'				131'			
APPROACH LIGHTING		NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
AIRCRAFT APPROACH CAT.		C	C	C	C	D	D	D	D
AIRCRAFT DESIGN GROUP		II	II	II	II	II	II	II	II
DESIGN AIRCRAFT		GULFSTREAM III				GULFSTREAM IV			
APPROACH SLOPE	EXISTING	2.5:1	25:1	6:1	18.0:1				
	STANDARD	34:1	34:1	20:1	34:1	34:1	20:1	20:1	20:1
		OBJECT FREE AREA (OFA)				OBJECT FREE AREA (OFA)			
WIDTH	EXISTING	800'	800'	800'	640'	800'	800'	800'	800'
	STANDARD	800'	800'	800'	800'	800'	800'	800'	800'
LENGTH BEYOND RUNWAY END	EXISTING	100'	0'	1,000'	100'	100'	300'	1,000'	370'
	STANDARD	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
		RUNWAY SAFETY AREA (RSA)				RUNWAY SAFETY AREA (RSA)			
WIDTH	EXISTING	500'	500'	500'	500'	500'	500'	500'	500'
	STANDARD	500'	500'	500'	500'	500'	500'	500'	500'
LENGTH BEYOND RUNWAY END	EXISTING	100'	0'	1,000'	100'	100'	300'	370'	370'
	STANDARD	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
RUNWAY END COORDINATES	NORTH	41°09'25.36'	41°09'55.81'	41°09'56.47'	41°09'52.55'	41°09'25.36'	41°09'55.81'	41°09'56.77'	41°09'52.36'
	WEST	73°07'55.65'	73°07'14.76'	73°06'25.89'	73°07'08.44'	73°07'55.65'	73°07'14.76'	73°06'08.84'	73°07'07.20'

RUNWAY PROTECTION ZONES	A	B	C	D	A	E	F	G
LENGTH	1,700'	1,700'	1,700'	1,700'	1,700'	1,700'	1,700'	1,700'
INNER WIDTH	500'	500'	500'	500'	500'	500'	500'	500'
OUTER WIDTH	1,010'	1,010'	1,010'	1,010'	1,010'	1,010'	1,010'	1,010'
SLOPE	2.5:1	25:1	6:1	18.0:1	34:1	20:1	20:1	20:1

AIRPORT DATA

		EXISTING	ULTIMATE
MEAN MAXIMUM TEMPERATURE		82.6° F	82.6° F
MAGNETIC DECLINATION		W13.88' 1994	W14°05' 2007
AIRPORT REFERENCE POINT (NAD 83)	LAT.	41°09'48.54"N	41°09'48.69"N
	LONG.	73°07'34.24"W	73°07'35.74"W
AIRPORT ELEVATION		10' MSL	10' MSL
AIRPORT & TERMINAL NAVAIDS		REIL PAPI VASI VOR ILS / VOR REIL VASI	REIL PAPI VOR ILS / REIL VOR PAPI
AIRPORT ROLE		GENERAL AVIATION/ CORPORATE	GENERAL AVIATION/ CORPORATE

BUILDING LEGEND

NO.	DESCRIPTION	HEIGHT MSL
1.	TERMINAL BUILDING TO BE REMOVED	49.2'
2.	RESCUE AND FIRE FIGHTING BLDG. (ARFF)	34.1'
3.	FBO HANGARS	41.4'
4.	STATE AVIATION VOTECH SCHOOL	45.1'
5.	FORMER FSS BUILDING - FUTURE AERONAUTICAL/ COMMERCIAL USE	28.3'
6.	INVEST II	36.0'
7.	T - HANGAR COMPLEX (TO BE RELOCATED)	19.6'
8.	HANGAR	67.3'
9.	HANGAR	60.6'
10.	HANGAR	35.3'
11.	FBO OFFICE TO BE RETAINED FOR AERONAUTICAL USE OR REMOVED	35.6'
12.	HANGAR TO BE RETAINED FOR AERONAUTICAL USE OR REMOVED	40.6'
13.	T - HANGARS (TO BE REMOVED)	23.2'
14.	CIVIL AIR PATROL (CAP)	36.3'
15.	FUEL FARM	
16.	PROPOSED CORPORATE HANGARS	
17.	T - HANGAR COMPLEX	
18.	ADMIN. BLDG ATCT, BEACON	49.2'

IGOR I. SIKORSKY MEMORIAL AIRPORT

STRATFORD CONNECTICUT

Sponsors Name:

CITY OF BRIDGEPORT CONNECTICUT

FAA A.I.P. Project Number:

3-09-0002-23

Drawing Name:

AIRPORT LAYOUT PLAN

CERTIFICATION:

THE CITY OF BRIDGEPORT CERTIFIES THAT ALL AIRPORT ELEMENTS SHOWN ON THIS ALP ARE IN ACCORDANCE WITH CRITERIA CONTAINED IN THE CURRENT EDITION OF FAA ADVISORY CIRCULAR 150/5300-13 EXCEPT AS NOTED IN THE TABLE ENTITLED "NON CONFORMING CONDITIONS"

JOHN SICO, AIRPORT MGR. — DATE 3/24/09

FEDERAL AVIATION ADMINISTRATION

APPROVED: [signature] DATE: 5/21/09

BOSTON NEW ENGLAND REGION

CONNECTICUT DEPARTMENT OF TRANSPORTATION

APPROVED: [signature] DATE: 5/19/09

AVIATION DIVISION

IGOR SIKORSKY MEMORIAL AIRPORT COMMISSION

APPROVED: [signature] DATE: 3/24/09

REVISIONS

No.	Description	Date	By

FIGURE 3

Designer: GWD — Checked by:

Technician: MJT — Project Number: 38397090

Autocad Drawing Reference:

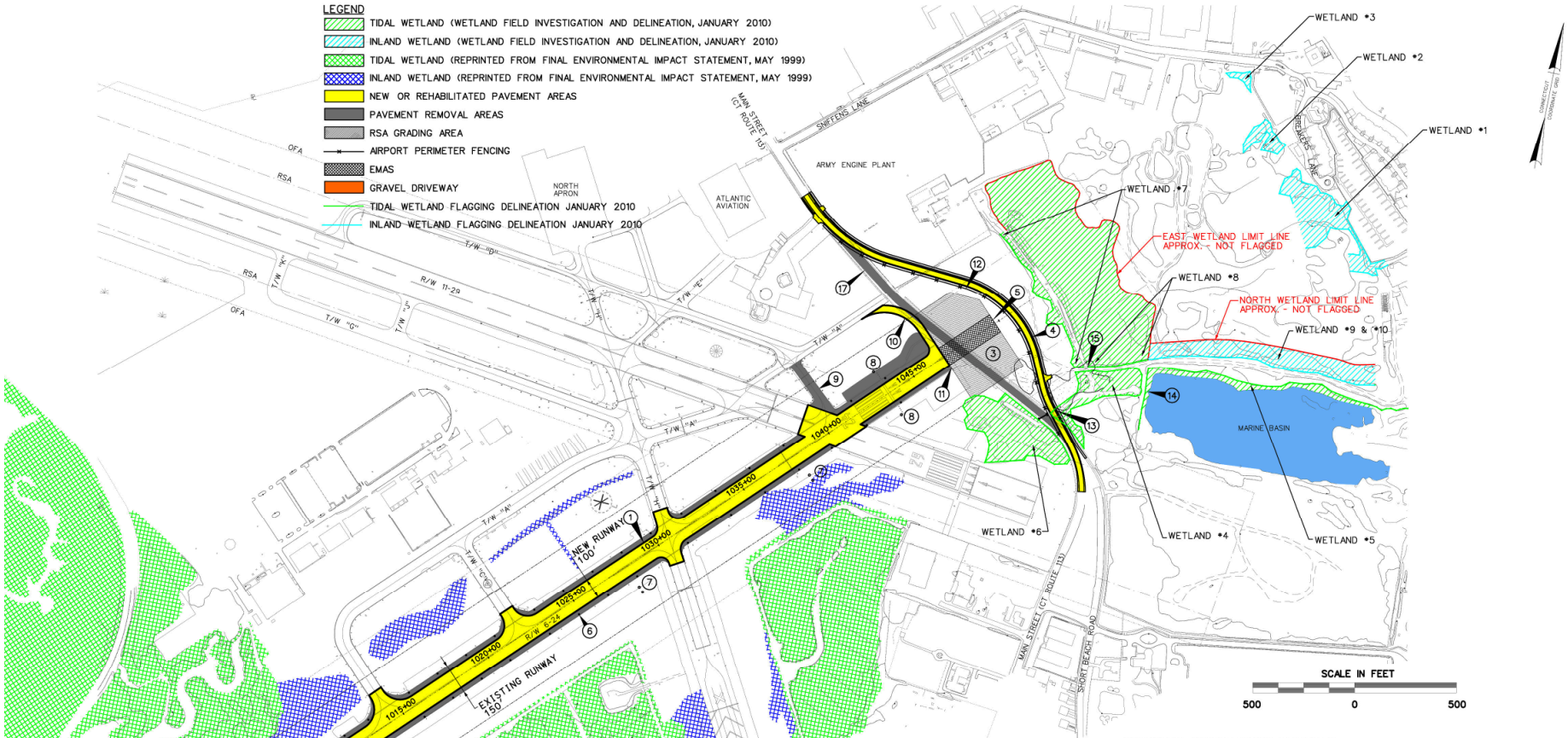
Date: FEBRUARY, 2009 — Sheet Number: 3 of 8

Scale: 50 25 0 50 SCALE IN FEET

URS

500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT 06067

ALTERNATIVE 1-G MODIFIED WITH INSTALLATION OF EMAS



PROPOSED CONSTRUCTION FEATURES

1. REHABILITATE RUNWAY 6-24 PAVEMENT (100'x4677')
2. RUNWAY 6 SAFETY AREA
3. CONSTRUCT RUNWAY 24 SAFETY AREA (300'x500')
4. RE-ALIGN MAIN STREET (2150 L.F.)
5. INSTALL EMAS ON RUNWAY 24 (100'x300')
6. INSTALL NEW RUNWAY EDGE LIGHTS
7. INSTALL NEW PAPI OR RELOCATED VASI
8. RELOCATE REILS ON RUNWAY 6 AND 24
9. REMOVE TAXIWAY AT RUNWAY INTERSECTION
10. CONSTRUCT NEW TAXIWAY TO RUNWAY 24 (35'x330')
11. REMOVE EXISTING BLAST FENCE
12. INSTALL NEW AIRPORT SECURITY FENCE
13. REMOVE EXISTING RTE 113 CULVERT & CONSTRUCT NEW CULVERT
14. REMOVE BERM AND TIDE GATE
15. REMOVE & REPLACE EXISTING DRIVEWAY CULVERT IN TIDAL DITCH
16. CONSTRUCT RUNWAY END TURNAROUND
17. REMOVE EXISTING MAIN STREET

NOTES:

1. CONSTRUCTION FEATURES INCLUDED IN RTE 113 REALIGNMENT STATE PROJECT NO. 15-336 INCLUDE 4 11 12 13 14 17 .
2. CONSTRUCTION FEATURE 15 , CULVERT DRIVEWAY TO BE PERFORMED PRIOR TO STATE PROJECT NO. 15-336.

URS

NEPA Environmental Resource Categories

- Noise
- Compatible Land Use
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks
- Secondary (Induced) Impacts
- Air Quality
- Section 4(f) Resources
- Historical, Architectural, Archeological, & Cultural Resources
- Farmlands
- Water Quality
- Wetlands
- Floodplains
- Coastal Resources
- Wild and Scenic Rivers
- Fish, Wildlife, and Plants
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Natural Resources and Energy Supply
- Light Emissions and Visual Impacts
- Construction Impacts

URS

Potential Environmental Impacts

Environmental Discipline	Potential Impact (Yes / No)	Environmental Discipline	Potential Impact (Yes / No)
Noise	N	Wetlands	Y
Compatible Land Use	N	Floodplains	Y
Socioeconomic Impacts, Environmental Justice, and Children's Health and Safety Risks	N	Coastal Resources	Y
Secondary (Induced) Impacts	N	Wild and Scenic Rivers	N
Air Quality	N	Fish, Wildlife, and Plants	N
Section 4(f) Resources	N	Hazardous Materials, Pollution Prevention, and Solid Waste	N
Historical, Architectural, Archaeological, and Cultural Resources	N	Natural Resources and Energy Supply	N
Farmlands	N	Light Emissions and Visual Impacts	N
Water Quality	Y	Construction Impacts	N

Water Resources: It is not anticipated that the project would have negative impacts to surface water quality. The re-establishment of tidal flow as a result of the removal of the tide gate structure would likely improve water quality in the wetlands with restricted tidal action due to more regular flushing of those wetlands.
Wetlands: Approximately 0.13 acres of permanent tidal wetland impacts and 0.04 acres of permanent tidal open water impacts by the Main Street (Route 113) realignment project are anticipated. Also, temporary impacts by the Main Street project include 0.04 acres of tidal wetlands and 0.01 acres of tidal open water. The runway rehabilitation project would impact approximately 0.13 acres of freshwater inland wetlands. This project would also have 1.79 acres of permanent impact and 4.0 acres of temporary impact in the inland buffer areas.
Floodplains: A Flood Management Certification from the CTDEP would be required; it is not anticipated that there will be any negative impacts to human health or property, fish populations or passage, or promotion of development in flood prone areas.
Coastal Resources: The proposed projects are subject to the provisions of the Connecticut Coastal Management Act and any activities at or waterward of the high tide line and/or in tidal wetlands would require permits from the CTDEP – OLISP.
Hazardous Materials: The proposed project has the potential to encounter, disturb and generate contaminated soil, toxic (or hazardous) soil/waste and possibly contaminated groundwater. Excess contaminated soil, hazardous soil/waste and/or contaminated groundwater generated during construction activities will require proper off-site disposal.

URS

DATE: 9-22-10

Speaker No: 1

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: DAVID FAILE

Address (Optional): 40 CIDER MILL
FAIRFIELD CT 06824

Representing: FRIENDS OF SIKORSKY AIRPORT

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 2

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: KEVIN C. KELLY

Address (Optional): STRATFORD TOWN HALL
2725 MAIN ST.
STRATFORD, CT. 06615

Representing: STRATFORD

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE: 22 SEP 2010

Speaker No: 3

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: BRUCE M. JOHNSON

Address (Optional): 97 FERNWOOD DRIVE
STRATFORD, CT 06614

Representing:

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE: 9/23/10

Speaker No: 4

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: BLINDERMAN MICHAEL

Address (Optional): 25302 TOWN WALK DRIVE
HAMDEN CT 06518

Representing: MIDWEST ATC BRIDGEPORT AIRPORT

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 5

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: JIM MIHALEY

Address (Optional): 510 OVERLAND DRIVE
STRATFORD CT 06614-2220

Representing: MY FAMILY

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 6

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: MARY NORTHCOTT

Address (Optional): 353 1ST AVE
STRATFORD

Representing: ME & MYE

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 7

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: HANK CIECIUCH (CHE-CHU)

Address (Optional): 504 CURTIS AVENUE
LORDSHIP

Representing: SELF

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE: 09-22-10

Speaker No: 8

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: MORGAN KAOLIAN

Address (Optional): 75 YORK ST
STRATFORD, CT

Representing: Morgan Kaolian Aeropix

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 9

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: John Coughlin

Address (Optional): 253 Brechers LN
Stratford CT 06880

Representing:

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 10

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: Marcia Stewart

Address (Optional):

Representing: Protect Your Environment of Stratford, Inc

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 11

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: Eileen Salamon

Address (Optional): 129 Jefferson St
Stratford CT

Representing: myself & community

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 12

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: MICHAEL ALLEN

Address (Optional): 16 GRINDSTONE LN
MONROE, CT 06468

Representing: VOLO AVIATION

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 13

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: DENISE NELSON

Address (Optional): 178 - SIXTH AVE
STRATFORD

Representing:

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 14

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: DAVID HOLLES

Address (Optional): 278 BREAKWATER LN
STRATFORD, CT

Representing: BREAKWATER KEY

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 15

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: DONNA Nichols

Address (Optional):

Representing: Self

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 16

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: George Mallgrave

Address (Optional): (1) Drugs from Columbia
(2) Raymark waste across from Raymark
(3) Pesticide for Stratford

Representing: me

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 17

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: CHRIS BARNABY

Address (Optional):

Representing: STRATFORD 1ST DISTRICT COUNCILMAN

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 18

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: Robert Goetz

Address (Optional): Stratford, CT 06614

Representing:

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 19

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: Helen Benjamin

Address (Optional): 117 Breakers Lane
Stratford CT 06615

Representing: Myself & my neighbors

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 20

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: WALTER P. PIMKONAS

Address (Optional): 425 SECOND AVE

Representing:

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

DATE:

Speaker No: 22

Speaker Registration – Public Hearing

Igor I. Sikorsky Memorial Airport –
Written Reevaluation of the Environmental Impact Statement

If you would like to comment to the Hearing Officer, please complete the following information.

Name: Aimee Sprogis

Address (Optional): 478 Prospect Drive
Stratford CT 06615

Representing: Lordship Neighborhood

☐ Check here if you need assistance to speak

Please complete and submit this card to the Registration Desk. Speakers will be called in the order submitted. Your comments must be limited to 3 minutes to give everyone time to speak. Comments will also be accepted in writing and verbally through a verbatim reporter during the meeting.

1

2 IGOR SIKORSKY MEMORIAL AIRPORT
DRAFT REEVALUATION FOR ENVIRONMENTAL
3 IMPACT STATEMENT
PUBLIC HEARING
4 SEPTEMBER 22, 2010

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REPORTED BY:

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TREVOR DRUMMOND
21 SHORTHAND REPORTER

22 **NIZIANKIEWICZ & MILLER**
REPORTING SERVICES
23 **972 Tolland Street**
East Hartford, Connecticut 06108
24 **Telephone (860) 291-9191**

25

. . . Igor Sikorsky Memorial Airport Draft Reevaluation for Environmental Impact Statement Public Hearing before Trevor Drummond, a duly qualified Court Reporter within and for the State of Connecticut, held at Ramada Stratford, 225 Lordship Boulevard, Stratford, Connecticut on September 22, 2010 at 7:00 p.m.

1 MS. BARRETT: Good evening. My name
2 is Jill Barrett with Fitzgerald & Halliday. And I
3 will serve as the moderator for tonight's public
4 hearing.
5 This is a public hearing on the draft
6 revaluation for the runway safety improvements at Igor
7 Sikorsky Aiport. This hearing is being held at the
8 Ramada Stratford in Stratford, Connecticut on
9 September 22, 2010. And a court stenographer is
10 seated on the left side of this room. He will be
11 recording tonight's testimony, and will prepare a
12 transcript of the hearing. All comments pertaining to
13 the environmental impact statement will be documented
14 and responded to in the final written reevaluation.
15 Before we begin public testimony I will
16 explain the ground rules for this hearing. Can
17 everybody hear me well, even in the back row? The
18 ground rules for this hearing, as tonight's session
19 may be different from other meetings held at Sikorsky
20 Airport -- It's my intent to conduct a fair and
21 orderly hearing. We will not take or respond to
22 questions during the presentation or during the public
23 comment portion of tonight's presentation. Staff
24 present seated here at the table will be able to speak
25 with you and answer questions after the public hearing

1 session has concluded.

2 Please fill out a speaker comment card.
3 Speaker comment cards are located at the back of the
4 room. When we get to the public comment portion of
5 the hearing we will call your name. We ask that you
6 come forward to the microphone, state your name and
7 address, and make your comment. We will also identify
8 the name of the next speaker on the list to alert them
9 they are on deck and be ready. All speakers are asked
10 to use the microphone in the aisle. Comments from the
11 floor will not be included in the official public
12 hearing records.

13 To give an opportunity to all who are in
14 attendance time to speak we will impose a three-minute
15 time limit for all first time speakers. There will be
16 no yielding of your time to other speakers. When you
17 are speaking the timekeeper will use color coded flash
18 cards. These flash cards will indicate how much time
19 you have remaining in your three minutes. We will
20 flash a green card at one minute left, followed by a
21 yellow card at 30 seconds. And when we show the red
22 card it will mean your time has expired. After all
23 first time speakers have spoken at this hearing anyone
24 who wishes to speak again will be afforded additional
25 reasonable time.

1 For those individuals who have a prepared
2 statement you may read it into the record if you
3 desire. However, if your statement is lengthy I would
4 suggest that you offer a print copy for the record and
5 briefly summarize its contents. These written
6 documents carry as much weight as the verbal testimony
7 that we hear tonight. You may place your written
8 copies in the comment box located on the table in the
9 back of the room or hand it to me, the meeting
10 moderator.
11 At the conclusion of the public hearing you
12 may still make written comments on the draft
13 reevaluation written statement, or exhibits may be
14 mailed to Richard Doucette, Environmental Program
15 Manager, Federal Aviation Administration New England,
16 12 New England Executive Park, Burlington, MA. There
17 are comment forms at the sign-in table and a comment
18 box for your use. Any mailed in statement should be
19 in black ink on a sheet 8 1/2 inch by 11 inch. All
20 written comments are required to be postmarked by
21 October 15, 2010. All written comments will included
22 and addressed in the final written assessment in the
23 same regard as verbal statements.
24 I'd like to introduce you to the people
25 seated in the front of the room: From Sikorsky

1 Airport, John Ricci; from the URS consulting team who
2 prepared the reevaluation report, Gerry D'amico, Roger
3 Krauhn and Jennifer Lutz; and from the Federal
4 Aviation Administration Gail Lattrell and Richard
5 Doucette.
6 I'm going to ask Richard Doucette who will
7 be the FAA hearing officer representing the FAA to
8 introduce himself.
9 MR. DOUCETTE: Thank you. As most
10 of you know, the Federal Aviation Administration
11 completed an EIS, environment impact statement, and
12 issued it's ROD, record of decision, in 1999. The EIS
13 and ROD reviewed a number of projects. And none of
14 those projects were built for a variety of reasons.
15 We fast-forward to 2010. There's a new alternative
16 under consideration. Internally we looked back at the
17 EIS and realized it's close to one of the alternatives
18 in the EIS, but not the same.
19 The National Environmental Policy Act tells
20 us when you have a project that has changed before its
21 implemented you should do a written reevaluation.
22 That's the process we engaged in now. What comes out
23 of this could be a new EIS, or simply a new record of
24 decision, or something else. That's unclear. We
25 simply won't make that decision until we get your

1 input and do the agency coordination that's required.
2 We're here to hear what you have to say.
3 The comment period has been extended until October 15.
4 So you have until October 15 to submit written
5 comments to the FAA. The comments we'd like to get
6 are on this document and nothing else. It's your
7 three minutes, and you can use them within certain
8 bounds as you see fit. It would be most useful if
9 your comments pertain to what're here to review.
10 This project is very different from the one
11 from 10 years ago. It is simply a safety project.
12 Gerry will describe the project. But it's far
13 different from the project from over 10 years ago.
14 It would be most helpful for us to hear your
15 comments on the project we're here right now for.
16 Comments not related to the project will have a
17 limited response if any, and won't have an impact on
18 the result. All we're reviewing is this. We have a
19 number of copies in the room. It can be downloaded
20 from the city's website. And we look forward to your
21 comments.
22 MR. D'AMICO: Good evening. My name
23 is Gerry D'Amico, senior airport engineer for the URS
24 Corporation; here tonight to provide a brief summary
25 of the proposed project written reevaluation. The

1 written reevaluation of the environmental impact
2 statement is to assist the FAA in potential
3 environmental impacts design of the unlit safety area
4 and upgrades to Runway 6/24, and document additional
5 data that has been written since the reevaluation
6 referred to as Alternative 1G Modified.
7 This new alternative is similar in scope to
8 the runway improvement presented in the EIS
9 Alternative 1G Modified. This alternative involves
10 rehabilitation of the pavement on Runway 6/24 and
11 reconstruction of a runway safety area 500 feet in
12 width, 250 feet on either side of the runway, and 300
13 feet in length. The runway safety area will be
14 material known as EMAS, a crushable concrete material
15 preventing the aircraft from running beyond the EMAS
16 material. This alternative was presented in the
17 airport layout plan update in 2008, which many of you
18 here in the audience in were in attendance for.
19 EMAS, when it is not practical to obtain a
20 runway safety area that meets FAA standards, allows
21 the aircraft to stop, in the absence of runway to
22 gradually decrease its speed; and allows the aircraft
23 to come to a stop without serious structural damage,
24 and without any damage to the occupants. It provides
25 an opportunity to provide an exceptional level of

1 safety as a conventional aircraft safety area would.
2 Alternatives include the rehabilitation of
3 the runway starting in the exact same location it is
4 today. It also includes the construction of Runway
5 6/24 safety area on the west side of the runway
6 approximately 250 feet in width by 300 feet in length,
7 and construction of the runway safety area on the east
8 side of the runway approximately 250 feet in width by
9 300 feet in length; narrowing the runway; realign Main
10 Street approximately 2200 feet install the EMAS;
11 install new runway edge lights; install new precision
12 approach impact indicator; install new runway
13 identification lights on either end of the runway,
14 those are the flashing lights; remove the existing
15 blast fence; remove and install a culvert on the
16 driveway; remove a berm and tide gate that goes into
17 the basin; and construct a turnaround on Runway 6/24
18 threshold. It should be noted there will be no runway
19 extension and no approach lights to Runway 6/24 which
20 was in the previous EIS.
21 We evaluated environmental impacts to the
22 proposed project; those resource categories that could
23 be impacted by the potential project. Water
24 resources: Not anticipated we will have any negative
25 impacts to water resources. The removal of the tide

gate will improve tidal flow and allow additional flushing in the ditch, thus improving water quality within the 100-year floodplain. This would not start prior to getting floodplain management certification from the Connecticut DEP.

We anticipate no negative impacts to human health or fish population. The existing coastal resources that will be affected are subject to the provisions of the Connecticut Coastal Management Act. And any activity in the watershed will require permit. Wetlands: Wetland impact: Realignment of Main Street will impact approximately 0.13 of an acre, about 5700 square feet, about twice the size of this room of wetlands. Runway project will impact about 0.1 an area of wetlands in the wetland buffer due to proposed project disturbance.

Hazardous waste: Preliminary site assessment finding found the possibility of contaminated soils in limited areas of the site. Any hazardous materials will be removed to a designated hazardous waste disposal zone.

With that I'll turn it back over to Jill.

MS. BARRETT: Thank you, Gerry. Before we begin I'd like to quickly review the format of the public comment. If you wish to comment there's

1 a public speaker comment card. We will call your name
2 in the order which they came in, ask you to step to
3 the microphone and make your comment. All speakers
4 are asked to make their comments from the microphone
5 in the aisle. To give an opportunity to all who are
6 attending we will impose a three-minute time limit on
7 all first time speakers. There's no yielding of your
8 time to another person that's unused. And when you're
9 speaking the timekeeper, that will be me at this
10 point, will be using these color flash cards. So when
11 you see green have you a minute left. When you see
12 yellow it's 30 seconds. And red means your time has
13 expired.
14 Those individuals with a prepared statement,
15 you may read it into the record, or simply summarize
16 it. All written comments will be considered as part
17 of the formal record, and will carry as much weight as
18 the verbal testimony we'll hear tonight.
19 Let's begin with comments from the Mayor of
20 Stratford, John Harkins. Would you come up please.
21 MR. HARKINS: John Harkins, Mayor of
22 Stratford. I'd like to thank you for the opportunity
23 to speak tonight. I entered public service 14 years
24 ago on the belief government was supposed to represent
25 all people.

1 Unfortunately, the federal government has
2 decided Stratford isn't important. Stratford
3 residents may as well be the citizens of a foreign
4 country. Never mind the ugly, blighted facility.
5 Never mind the acre of taxable land the feds have
6 proposed stealing from our grand list. Never mind the
7 traffic issues created by relocating, not in
8 Bridgeport, but Stratford. We don't have a right. We
9 don't have a seat at the table. Stratford residents
10 are second class citizens. As the airport's host
11 community our concerns deserve consideration that the
12 environment be protected and heart of our tax base be
13 preserved. We alone have to live with the impact of
14 this airport. Unfortunately, the federal government
15 can pick and choose whose concerns it will take into
16 consideration.
17 Let me address this accusation we are
18 seeking to only be obstructionists. On numerous
19 issues including terminal improvements we have worked
20 amicably with the city until now because we were
21 included at the outset. If we must be host to an
22 airport over which we have no control we prefer that
23 airport be safe. The safety improvements must be done
24 in a way that is acceptable to the community. Yet
25 Stratford is accused of being the bad guy. I

1 understand Bridgeport is economically distressed.
2 We have tried on numerous occassions to
3 speak directly to the federal officials, sit down and
4 negotiate with good faith to put this issue to bed. I
5 will sit down and talk anytime, anyplace, anywhere as
6 long as Stratford is made equal in negotiations.
7 Instead we have been treated in a condescending,
8 imperious, obnoxious, and wholly unbecoming manner.
9 If anyone in my administration treated anyone as you
10 have they would not have a job at town hall.
11 We acquiesce to everything that Bridgeport
12 and the FAA wants. Stratford has derived no benefit
13 from Sikorsky Airport. And the City of Bridgeport
14 refuses to maintain it to any reasonable aesthetic
15 standard. Stratford is not their play thing. We will
16 use every resource at our disposal to tie this up in
17 court. We can do this the easy way or hard way. I
18 hope you choose the former.
19 MS. BARRETT: Thank you very much.
20 Kevin Kelly to speak, followed by David Faile.
21 MR. KELLY: Good evening. My name
22 is Kevin Kelly, assistant town attorney for the Town
23 of Stratford.
24 The town objects to this public hearing
25 because it is improperly noticed. As you know, this

1 project is subject to the Environmental Protection Act
2 in the environmental impact study process, and must
3 consider the environment in their decision making
4 process and provide the public with information and
5 allow the public to comment further provide
6 information to the affected community and consider the
7 affected community's opinions. All materials must be
8 available 30 days prior to any public meeting and
9 during the entire review period. In addition notice
10 of the public meeting must be given at least 15 days
11 before the meeting. In this case notice was
12 advertised in the Federal Register on September 14, a
13 mere eight days ago, far short of the federal
14 requirement. The FAA broke its own rule in violation
15 of the town's due process rights. Simply put this
16 process will go no further until the FAA follows its
17 own rules.
18 Further, FAA requires expanded public
19 involvement when the issues are complex. The FAA
20 contends the project is not complex. I beg to differ.
21 Just look at the size of the document. This project
22 is complex and mandates expanded public involvement.
23 It's noteworthy what the EIS does not include. It
24 does not include the shortening of runway length as a
25 design alternative. This has precedent because the

1 FAA proposed to shorten the runway at an airport in
2 Santa Monica in 2008.
3 Two, it fails to discuss the possibility of
4 Raymark waste, a known toxin, part of the Environment
5 Protection Agency Superfund clean up. Nothing about
6 the impact on brown pelicans and white-tailed kites,
7 both species of concern in close proximity to a
8 national wildlife preserve.
9 Despite the airport being located entirely
10 in Stratford the FAA listens only to Bridgeport in
11 exclusion of the citizens of Stratford, and begs the
12 question why? What are you afraid of? Airport safety
13 affects everyone wherever they live. And the FAA must
14 follow their own rules.
15 I thank you for the three minutes to comment
16 on a 300-plus page document.
17 MS. BARRETT: The next speaker is
18 David Faile, followed by Bruce Johnson.
19 MR. FAILE: Good evening, and thank
20 you for the opportunity to speak. I live at 40 Cider
21 Mill, Stratford, Connecticut. I am head of an
22 organization Friends of Sikorsky Memorial Airport.
23 I've been flying out of Sikorsky Airport for 50 years.
24 Sikorsky Airport is an economic engine in the region
25 and supports hundreds of people like you and me.

1 Sikorsky has had four needless accidents. The
2 transfer of an acre of land by a federal judge, this
3 land will become a state road used and owned by the
4 State of Connecticut. Its imperative that the safety
5 improvements be implemented. Lives will be saved, and
6 the airport will continue to be an economic engine for
7 the region.
8 This is as an added note: I'd like to say
9 there are many entities at the airport that pay
10 thousands of dollars in taxes to the Town of
11 Stratford. Thank you very much.
12 MS. BARRETT: This next speaker is
13 Bruce Johnson, followed by Michael Blinderman.
14 MR. BLINDERMAN: Good evening, and
15 thank you for the opportunity to speak. My name is
16 Bruce Johnson, 97 Fernwood Drive in Stratford. I
17 strongly support the safety improvements at the
18 airport. Sikorsky Memorial Airport is an economic
19 engine to the region, providing jobs and more. The
20 safety improvements must be adopted and implemented.
21 It would be irresponsible and dangerous not to do so.
22 I urge and expect Stratford's elected leadership to
23 support this safety project. Stop wasting our time
24 and money. And there have been false and exaggerated
25 information circulated by opponents of airport

1 improvements. They serve only to discredit their
2 organization.
3 MS. BARRETT: Thank you. Michael
4 Blinderman, followed by Jim Mihally.
5 MR. BLINDERMAN: Michael Blinderman,
6 air traffic control manager for Sikorsky Airport. I
7 have been the air traffic control manager for two
8 years and an air traffic controller for seven. I have
9 witnessed the area for an extended period of time.
10 Safetywise this is a requirement, otherwise
11 we will have an impact hit on both Lordship and the
12 airport. Cars pass that portion of the section at
13 least one every 30 seconds. And our main runway is
14 Runway 6. As David said, we've had four incidents.
15 The PC-12, thankfully only the nose went through the
16 blast fence. It is a huge impact as far as improving
17 a flood issue I've seen numerous times. And I don't
18 understand what the delay is. As far as a safety
19 issue it's obvious to myself. And I'll be here all
20 day if anybody has any questions for me. Thank you
21 very much.
22 MS. BARRETT: Next speaker is Jim
23 Mihally, followed by Mary Northcott.
24 MR. MIHALLY: My name is Jim
25 Mihally. My family has lived in Stratford for over

100 years. I've flown out of that airport many times. I'm concerned about safety and the environment.

The text in the plan is inconsistent with what's in the exhibits. What bothers me the most is a runway extension for Runway 6/24 is not proposed in this reevaluation. What you say is it's a shift. You're shifting 6/24 875 feet into Main Street. You're changing the footprint, putting EMAS at both ends of it. But your text is inconsistent with your exhibits.

We all want the safety issue. And if I recall over a year ago you said the alternative to modify is going to cost 15,000,000. You haven't addressed the cost of what it's going to be. As taxpayers we're going to pay it. You haven't priced the installation of EMAS, and haven't addressed timing in your proposal.

The sad thing that bothers me is you have 23 people whose names are in this proposal. Not one from Stratford, not one from the Connecticut Department of Environmental Protection. I sincerely hope you put in their thoughts when you're going to do the final report. But I'm very very upset that you have no one from the Connecticut Department of Environmental Protection.

1 Because those of us in this town want that
2 airport to be a safe airport that can help the
3 development of our economy. It will help Dogstar
4 Studios, help the Shakespeare Theater. But get
5 Stratford involved in this plan. You don't get to be
6 like the original speakers, a contest. We don't need
7 a contest. We need a safe airport. So make it safe,
8 and let the people know how much it's going to cost.
9 MS. BARRETT: Next speaker Mary
10 Northcott, followed by Hank Cieciuch.
11 MS. NORTHCOTT: Good evening. My
12 name is Mary Northcott. I live at 353 First Avenue in
13 Stratford.
14 I'm always impressed by the number of
15 reasons for not extending that runway or enlarging the
16 airport. Let's face it, it's in the middle of the
17 wildlife preserve. And there's a major complaint
18 about birds endangering planes. What are you going to
19 do about birds in the middle of a wildlife preserve.
20 And then that road that while you're going to change
21 it, that road is our main evacuation route. It's our
22 only evacution route.
23 And the current airport has been declared
24 safe. It's just shabby, but that is because
25 Bridgeport has stopped maintaining and repairing,

1 doing upkeep as it's needed.
2 And personally I live close enough when
3 larger planes use it on certain nights, hot nights in
4 the summer, humid, low atmospheric ceiling, that
5 exhaust vapor comes into my home. And I'm sure it
6 goes into other people's homes as well. It's an air
7 quality reason. I see no valid reason to expand the
8 airport, just improve it. It's as big as it ought to
9 be.
10 MS. BARRETT: Thank you, Mary. Next
11 speaker is Hank Cieciuch, followed by Morgan Kaolian.
12 MR. CIECIUCH: Hank Cieciuch, 4
13 Curtis Avenue, Stratford. I'm going to start my
14 closing statement because I don't know if I'm going to
15 get to it in three minutes.
16 MS. BARRETT: Sir, you can come back
17 if you don't finish it.
18 MR. CIECIUCH: Scrap the safety area
19 proposal and fund the Runway 6/24 repairs without the
20 safety area. I'm now a retired pilot, flew as a
21 corporate executive pilot in an aviation division
22 based out of Bridgeport, included eight heavy engine
23 multiengine airplanes, maximum gross weight airliners
24 at 71,000 pounds.
25 After many pilot years which include running

1 off runways, and a lot of near misses with ice and
2 snow on the runway with no braking engine, my take is
3 that the EMAS safety area as proposed for the Sikorsky
4 Airport is not practical and is a bad idea. A
5 standard EMAS safety area is 1,000 feet long. But the
6 Sikorsky EMAS will be less than one-third at 300 feet.
7 FAA logic sets off an alarm.
8 Will it stop an older running Sikorsky
9 Gulfstream which grosses out at 75,000 pounds? And
10 will it stop the Piper PA 31-350 airplane which
11 grosses out at 70,000 pounds? And it killed eight
12 people, as you know, injuring another. Will it stop
13 all aircraft? Referring to Paragraph 3 it indicates
14 that approximately 90 percent of all overrunning occur
15 at exit speeds of 80 knots and come to rest 1,000 feet
16 off the runway end.
17 Current models may not stop aircraft that
18 weigh less than 20,000 pounds. There's a bottom note
19 at the end of Paragraph 7G which says the EMAS current
20 models may not stop aircraft that weigh less than
21 25,000 pounds.
22 Because of the Main Street move for the 300
23 long EMAS safety area --
24 MS. BARRETT: Excuse me, Hank, your
25 time is up.

1 MR. CIECIUCH: Okay, just want to
2 finish one thought. An overrunning aircraft will
3 shoot across relocated Main Street according to an FAA
4 12-year study at about 80 miles per hour. There's a
5 lot more I wish I could say.
6 MS. BARRETT: You can speak again
7 when everybody's had a chance. Next speaker is Morgan
8 Kaolian, followed by John Coughlin.
9 MR. KAOLIAN: My name is Morgan
10 Kaolian. I reside at 75 York Street, half mile past
11 the airport. That's in Lordship.
12 I'd like to congratulate Jennifer Lutz for
13 composing the entire manual. The contents of this
14 will lead the airport to greater things.
15 I know it's not in the manual, but I'd like
16 to remind everyone it's Igor Sikorsky that developed
17 the first multiengine aircraft. And also Igor
18 Sikorsky developed the first successful helicopter and
19 the Corsair which one won the air war against Japan in
20 World War II.
21 The airport's runway is really the town's
22 Main Street. In this case it's literally the case.
23 Even if we did not bring up the question of an airport
24 overrun rerouting of Route 113, known as South Main
25 Street, should have been built a long time ago to

alleviate the hazardous flow of water that we've been blamed for. I'm a resident of Stratford, but there was a bum rap given to Bridgeport when talking about the tide gate problems.

It will not take any more time to travel that route which the opponents keep bringing up. To take out that dead man's curve in Route 113 is in itself reason enough to reroute it. And of course the other plus is the overrun, that which is not a runway or ever will be used as a runway. You can't with high heels walk on that EMAS material.

I would also say that aside from the reasons I gave for the safety overrun it's a safety thing for the residents of Lordship which I am one. And I'm tired of rerouting through Great Meadow Road to get to my home.

And in 30 seconds I'd just like to add that the whole airport is an industry. Would you deny Sikorsky Aircraft or any other large plant in Bridgeport or Stratford improvement such as what they're asking for here? It's an industry we must keep in Stratford. It means jobs, and it's good for our economy. Thank you very much.

MS. BARRETT: Next speaker is John Coughlin, followed by Marcia Stewart.

1 MR. COUGHLIN: Hello. My name is
2 John Coughlin. I live in Stratford at Breakwater Key.
3 While everyone here seems to be talking
4 about airport safety no one has mentioned highway
5 safety. And while the department of transportation is
6 representing themselves as supporting this airport no
7 one from the highway department has spoken in support
8 of this highway design. It looks to me, and I have
9 discussed it with engineers from the highway
10 department, like this situation creates a hazardous
11 bend that should be discussed. And design comments
12 should be obtained from the state highway department,
13 because that's who's going to be maintaining this
14 road. So I think your moving this road with this
15 design, I don't think you take into consideration what
16 it's going to be like. You're looking at a yellow
17 line on a piece of pavement. But that doesn't
18 represent how this highway movement will affect the
19 road. And I think the highway department should have
20 input and let us know what impact it's going to have.
21 Also, the safety fence they're talking about
22 in No. 5, install airport security fence: What is an
23 airport security fence? Now you have an airport blast
24 fence. Now you have only 300 feet between the runway
25 and the road. If you have debris and cars going by

1 and doing a jet run up; that's when they run the
2 engines at full capacity before they run off; what
3 happens to that debris when that blast fence is taken
4 down? Is that going to end up in somebody's face?
5 While airport safety is important highway
6 safety is just as important. When there's a lot more
7 cars than airplanes going by the number put in danger
8 by bad highway design is as equally important as
9 airport safety.
10 MS. BARRETT: Thank you very much.
11 Next speaker is Marcia Stewart, followed by Eileen
12 Salamon.
13 MS. STEWART: Marcia Stewart,
14 president of Protect Your Environment of Stratford,
15 Inc., organized in 1969. Almost as old as I am.
16 We are opposed to any relocation of South
17 Main Street/Route 113 adjacent to Sikorsky Memorial
18 Airport Runway 6/24. Route 113 existed long before
19 Sikorsky Memorial Airport existed, and will continue
20 to exist should the airport be relocated to the City
21 of Bridgeport. The Bridgeport owned airport can never
22 become more important than a safe, speedy evacuation
23 route for Stratford residents facing an emergency
24 situation. If Bridgeport needs a larger facility for
25 larger and larger jet aircraft Route 113 will remain a

1 fast, safe, permanent way to evacuate the Lordship
2 community of over 5,000 residents. Clearly evacuation
3 Route 113 is not available for relocation by the FAA,
4 City of Bridgeport, or any other group. The most
5 important part of any other plan for Sikorsky Memorial
6 Airport is a safe, fast, clear evacuation route for
7 Stratford residents. After all, the airport is
8 located entirely within the town of Stratford. This
9 is true in the past, is true now, and will continue to
10 be true in the near and distant future. Message to
11 all interested parties is no relocation of Main
12 Street/Route 113 adjacent to Sikorsky Memorial Airport
13 adjacent to Route 113. Thank you.
14 MS. BARRETT: Thank you Eileen
15 Salamon, followed by Michael Allen.
16 MS. SALAMON: Good evening, my name
17 is Eileen Salamon. I live at 129 Jefferson Street in
18 Stratford.
19 Mr. Doucette has called this project a
20 safety project. And that's a very interesting word,
21 because safety -- because it means a lot of things to
22 a lot of people. I can tell you for the residents of
23 the Lordship area there are a lot of concerns. I'm
24 just going to name a few, because we don't have a lot
25 of time.

1 But just looking at the blue impact board,
2 environmental; where it talks about the impacts, one
3 of the things it talks about is the flood management
4 certificate has to be gotten by the Connecticut DEP
5 which is not represented here, which is a little odd.
6 It does say it's not anticipated there's going to be
7 any problem. But we don't know that. That concerns
8 me. Then there's the problem of the toxins on the
9 other side. It says the proposed project has the
10 potential to encounter contaminated soil, waste, and
11 possibly contaminated groundwater. These materials
12 will be removed from the site and disposed of at a
13 certified waste disposal facility. Obviously, this is
14 a little more complicated.
15 Another area of safety is safety of people.
16 And a curved road, pardon my expression, but you're
17 talking about a dead man's curve. But we could say
18 this is a curve that could possibly be deadly as well.
19 So if you're looking at safety we're also
20 saying a lot of permits have to be appropriated before
21 this environmental work is done. And that hasn't been
22 granted by the environmental safety people. I don't
23 know the names of these because I'm not an official.
24 But I'm a little concerned. I don't see
25 that things are being followed exactly, especially the

1 due process. If you're not following those rules are
2 we supposed to be confident that the impact studies
3 are going to be followed right, and there's going to
4 be a study about the flood management situation before
5 the Connecticut DEP approves this matter? I'm just
6 concerned, and concerned about the environment, and
7 I'm concerned about safety.
8 MS. BARRETT: Thank you very much.
9 Next speaker is Michael Allen, followed by Denise
10 Nelson.
11 MR. ALLEN: Good evening. My name
12 is Michael Allen. I live at 16 Grindstone Lane in
13 Monroe, Connecticut. I am a Monroe resident, but for
14 10 hours a day I spend as an employee of a Sikorsky
15 company.
16 I am strongly in favor of the runway
17 improvement and subsequent resurfacing of Runway 24.
18 On June 12, 2009 I was returning to my office at the
19 airport from the other side of the airport. And I was
20 about a minute past when the PC-12 hit the fence. So
21 I witnessed personally the incredible potential
22 tragedy that could have happened that day. It
23 occurred to me immediately as a former pilot and as an
24 employer that could have been one of our employees in
25 that aircraft, or a passenger or acquaintance. So it

1 may not be a perfect plan. I don't know of a single
2 plan in the world today that's perfect. But it's a
3 1,000 times better than doing nothing.
4 The second point I'd like to make is I think
5 this airport is and should continue to be an economic
6 driver for Connecticut and the cities of Stratford and
7 Bridgeport. It's about been 20 years since my wife
8 and I moved to Connecticut. And immediately we
9 started flying out of this airport back to South
10 Carolina where I'm from. Unfortunately, that part of
11 this airport has ended. But as someone who comes in
12 to work in Stratford every day, and employs several
13 people in our company, and hundreds more are employed
14 at the airport, it's important to note every single
15 day we're spending our income at Stratford businesses
16 and going out and running errands in Stratford. I
17 think we contribute to the economic health of
18 Stratford much more than previously noted.
19 Again, thank you for the opportunity to
20 speak. Very much in favor of moving forward with the
21 runway safety area. Thank you.
22 MS. BARRETT: Next speaker is Denise
23 Nelson, and followed by David Hollis. My name is
24 Denise Nelson. I live at 178 Sixth Avenue in
25 Stratford.

In addition to the noise and the closing of Route 113 for Lordship I'm concerned about the effect of the air pollutants on the health and safety of Lordship residents. It is most likely highly destructive to the households around Lordship.

Environmental science and technology where researchers studied a small airport near the Pacific Ocean in Santa Monica, California which averaged 80 arrivals per day of propeller aircraft found a plume of ultrafine chemicals of organic carbon downwind of the airport. The plume was longer than those typically found around highways during the day. Without epidemiological data it's hard to know what that's doing to people in the neighborhood.

That said, I wouldn't personally live there. Golfers playing at Short Beach complain of jet fuel residue in the air while playing.

The Stratford residents; Bridgeport airport doesn't care about our citizens.

MS. BARRETT: The next speaker is David Hollis, followed by Donna Nichols.

MR. HOLLIS: My name is David Hollis. I live at 278 Breakers Lane, speaking on behalf of the Breakwater Key Condo Association.

We have concerns about our quality of life.

1 We're directly in-line with the runway. There's
2 continuous noise at all hours of the day and evening.
3 Environmental concerns not only with wildlife, but
4 fuel being dumped, residue on the boats. It really is
5 unhealthy. There's additional safety concerns. We
6 feel this is going to lead to future expansion of the
7 airport and bringing in larger jets. As it stands now
8 it feels -- When you're sitting at the pool it feels
9 like you can reach up and touch the airplanes. It's
10 just a matter of time before one hits the condo.
11 We're against this expansion.
12 MS. BARRETT: The next speaker is
13 Donna Nichols, followed by George Mulligan.
14 MS. NICHOLS: Donna Nichols. I live
15 at 240 Breakers Lane which is Breakwater Key. We are
16 literally at the end of Runway 6/24.
17 I was drawn to the Lordship area because of
18 the extreme beauty, the wildlife. It's a crown jewel
19 on the Connecticut coastline. I was fortunate to move
20 in in 1993. I knew there was an airport there. I'm
21 not a stranger to aviation. My father worked for
22 Delta for 23 years. It's part of the allure. I do
23 love planes.
24 But I have to tell you I'm totally opposed
25 to the shifting of the runway and the expansion of the

1 safety area, only because it's changing the footprint,
2 bringing it closer to a beautiful community where
3 there's 84 residential units. We have jet fuel and
4 jet residue. I've heard once this happens it will
5 increase the size of the planes and the traffic.
6 I personally believe because I've flown for
7 a lot of years, and considering the few comments I
8 think it has an incredible safety record. I'm proud
9 to live near where the Corsairs are made. I don't
10 want to see the footprint change, because I truly
11 believe it will have a negative impact on the wildlife
12 and the beauty of this area. And I'm concerned with
13 the safety of my neighbors and residents. I'm opposed
14 to the safety area and expansion. I just wanted to
15 say that. Thank you very much.
16 MS. BARRETT: Thank you. George
17 Mulligan, followed by Chris Barnaby.
18 MR. MULLIGAN: George Mulligan.
19 I recognize there are economic advantages of
20 having an airport. And if Bridgeport would play nice,
21 and the FAA and the other federal agencies would play
22 nice, then we could have a cohesive plan in effect.
23 I'm concerned about the expansion on the drug
24 airplanes. Range airplanes control lights at night.
25 By pressing a button they turn runway lights on and

1 off. I have airplanes flying over my house.
2 If there was an overrun accident into the
3 overrun area the EPA shows there's Raymark waste
4 there. Are you going to have clouds of asbestos or
5 move it inland?
6 And all airline crashes have been pilot
7 error to date. What about airline crashes into homes
8 or businesses or cars? FAA loves to talk about
9 safety. You don't care about the people of Stratford.
10 You have disdain for the people of Stratford.
11 FAA cooperates with all under the judicial
12 and local compliance, U.S. Constitution, and all legal
13 ethical laws and ordinances. There's no timetable
14 between the Stratford Army engine plant and Sikorsky.
15 Federal unfunded mandates; I believe it's a
16 done deal. It's called bullying the citizens of
17 Stratford to do what you want to do as dictators.
18 We want a nice bucolic town, a town people
19 can raise their families. We don't want to have
20 things imposed upon us where you're going to turn
21 around and take away our quality of life, and where
22 we're going to have 365 days a year airplanes bringing
23 in drugs.
24 Sikorsky Airport fit the profile for drug
25 trafficking. That's the Justice Department profile.

1 MS. BARRETT: Next is Chris Barnaby,
2 followed by Robert Goetz.
3 MR. BARNABY: My name is Chris
4 Barnaby, 100 Ash Street, Stratford, Connecticut; First
5 District Councilman for where the airport resides.
6 First, I want to speak in support of the testimony
7 given by our local leaders, Mayor Haskins and Attorney
8 Kevin Kelly. Our requests as a town are simple and
9 clear. All we want is the courtesy to have a voice in
10 the plan. What's everybody so afraid of? It doesn't
11 make sense to me or any of my constituents, residents
12 of the town of Stratford.
13 Mention was made about safety. Obvious ways
14 to make the airport safe: Make the desperate and
15 necessary improvements to the airport, man the tower
16 for 24 hours. These four accidents may have been able
17 to be prevented. You've watched the planes that I've
18 grown up with in Lordship take off and land. They
19 take up a quarter of the runway. The bigger jets take
20 more. If they don't like it go somewhere else. The
21 runway is exactly the size it needs to be for the
22 planes we've known to land at this airport for decades
23 and decades and decades.
24 The economic value to this area was brought
25 up. We're not even at the point of having this as an

1 economic stimulator to the area because it's in such
2 disrepair. We used to have an airport that
3 contributed to the local economy, an airport that
4 stimulated our local economy and global economy. But
5 we're still so far from that. Bridgeport has so many
6 more ways to get this to be the economic stimulator
7 instead of putting an EMAS in to get bigger planes to
8 land on this runway.
9 There's noise pollution. They're already
10 loud. It's going to be greatly increased.
11 This is going to have a longer response time
12 for our emergency vehicles to get to Lordship. 30
13 seconds is all the response time is going to be
14 increased by. How long is 30 seconds to a person in a
15 burning house, or to a person who can't breathe, or to
16 a parent whose child is bleeding uncontrollably?
17 600 members of the Friends of Sikorsky
18 support this. I represent the tens of thousands of
19 people who are against it. Not every one of my
20 constituents are against this, but the majority are.
21 And I hope you hear us tonight.
22 MS. BARRETT: Next speaker is Robert
23 Goetz, followed by Helen Benjamin.
24 MR. GOETZ: My name is Robert Goetz.
25 I live at 20 Merchant Street, Stratford, Connecticut.

1 Grew up there since 1966.
2 Military, commercial, and corporate; that's
3 not why. Talking about the environment and
4 environmental impacts, I believe the construction
5 going on today at Main Street and the railroad and
6 Raymark steel is probably causing more damage and more
7 environmental impact than this proposed safety
8 improvement here at the airport.
9 I'd like to question do the realtors
10 actually disclose the fact there is an airport here
11 when people buy houses in Lordship? And it's been
12 here for 80-plus years.
13 I believe the Connecticut DEP along with
14 everyone else will have the right to comment and have
15 their comments received by the 15th of October. They
16 don't necessarily have to be here to do that. Thank
17 you.
18 MS. BARRETT: Helen Benjamin,
19 followed by Walter Rimkonas.
20 MS. BENJAMIN: Helen Benjamin, 117
21 Breakers Lane.
22 I do not have the experience of the retired
23 pilot who spoke, but I understand aircraft. The size
24 and power of the engines of these planes I can see in
25 the pool or walking around Breakers Lane. These jets

1 come in so low and with such frequency that this is a
2 concern. The smaller planes manage to come in high
3 above our living quarters. But the large corporate
4 jets come in low one after another. My concern is if
5 we do anything to enlarge this airport -- The
6 Gulfstreams I'm familiar with. They're beautiful and
7 elegant, but very powerful. If we bring in more
8 planes of larger size there's a danger to this
9 community. And I'm living under those skies.
10 MS. BARRETT: Walter Rimkonas is the
11 next speaker. I do not have any more speaker cards.
12 It's possible more have come in since we started the
13 hearing. Do we have any more? We have one more card.
14 MR. RIMKONAS: Walter Rimkonas. I
15 reside at the end of Runway 6, 425 Second Avenue.
16 Because of the agreement which Bridgeport is ignoring,
17 Bridgeport airport must get the permission of the Town
18 of Stratford before making any movement outside of the
19 present footprint. We're in court on that and still
20 waiting.
21 Number two, because of the presence of the
22 airport South Main Street is the lifeline of Lordship.
23 Everything must go underneath the ground because of
24 the airport presence; which is water, gas, electrical,
25 telephone, sewer, power, and TV. These are all

installed under Route 113 at the present time. You're talking about relocating the road. Are you going to move all these facilities, leave them as is, or move them with the new road? No one says nothing about that. And if it does move who is going to pay for it? It's going to cost me money. I'm a taxpayer. I'm a federal taxpayer. I pay for the town and pay for the state. It costs me money.

Runway: Okay, we're going to put 300 feet supposedly at the end of the runway. EMAS: I got the brochure here from EMAS. It says that EMAS will be installed on top of a foundation equal to the runway to support the aircraft. You're expanding the runway 300 feet and then putting the EMAS on top. You're giving false information.

Number three, that berm out there that you're talking about doing away with, are you going to raise that road 6 feet higher than what it is now, so that the water won't come across it at season of high tides? Or why don't we just save the state money, raise the road 6 feet where it is now and we don't have any of these, and the airport fix that berm and the pipe that's collapsed underneath leading from that berm, and put that floodgate back into operation, not a mass of rust?

1 The runway is deteriorating. It's bad right
2 now. You brush it twice a day, try to clean it up so
3 you don't get frag of the aircraft taking off. I'm
4 not against fixing that runway, but stay within your
5 footprint. Thank you.
6 MS. BARRETT: Thank you. Amy
7 Sprogis?
8 MS. SPROGIS: I'm Amy Sprogis. I
9 live at 428 Prospect Drive, and I'm glad to be able to
10 express some concern.
11 First of all, I live in Lordship. A lot of
12 the things that people have said I can just say I
13 agree with. The ecological point with the birds and
14 flooding of the road I'm really concerned about. I
15 would like to see the road improved, but I'm not
16 qualified to talk about it, or talk about the actual
17 runway situation itself.
18 But I think the comments that Chris Barnaby
19 brought up, if you review everything he said I totally
20 agree with that. He was right on the money. You
21 really need to talk to Stratford. Stratford needs to
22 get together with Bridgeport and talk about all the
23 issues together.
24 That's pretty much what I have to say. That
25 road is bad anyway. It needs to be made safer. But

extending and doing all this expansion -- I love the airport. I don't have anything against the airport itself. I don't think we should move the airport. But I don't think it should be expanded.

MS. BARRETT: Does anybody else have a comment? Yes, Hank, would you come up to the microphone?

MR. CIECIUCH: My greatest concern about moving Main Street some 350 feet to my understanding is to accommodate the EMAS safety area which puts Main Street in harm's way. Any airplane that overruns the end of the runway will shoot across Main Street into moving traffic. And that's a danger. We've had a few near misses where the airplane went past the fence and we lucked out. But somewhere down the line and with the plan that's proposed now, it's flawed because Main Street is too close to the end of that safety area which is only going to be 350 feet, which is peanuts when an airplane is traveling at 80 miles an hour when it leaves that runway. We've already had situations where in bad weather a pilot can't see the end of the runway.

There's one thing that bothers me that's not in that EIS report is during these reports when airplanes get into the accident there's vital

1 information left out at the National Transportation
2 Safety Board's convenience. When that Piper PA 31-350
3 killed eight people it did so after the tower was
4 closed. There was nobody in the tower to tell the
5 pilot he was landing with tailwind with ground fog.
6 There was no mention by the National Transportation
7 Safety Board. Very important because the airport
8 changed from controlled visual flight rules to visual
9 flying rules with no control. Whereas if the tower
10 was open the pilot would have to come in with
11 instrument landing. And there's no mention of that in
12 the National Transportation Safety Board brief.
13 You people as the FAA answer to the
14 Congress. You wear two hats. One is for aviation
15 safety. You're entrusted to control aviation safety
16 and also interstate traffic. And you answer to
17 Congress. You don't answer to nobody. It's been
18 mentioned by several speakers that's what the problem
19 is.
20 As far as this proposal is concerned I see
21 it's flawed. I see airplanes going across Main
22 Street. It's dangerous. 300 feet is not enough for a
23 safety area. The mandate of that safety area for the
24 airport depends on it being practical to install that
25 safety area. So it's really not a mandate. It's only

1 a mandate that the FAA puts in its rules if they're
2 going to fix an airport in Bridgeport that it's tied
3 in with the safety area.
4 I consider the safety area not practical. I
5 consider it putting Main Street in harm's way.
6 Because not all the airplanes are going to be stopped
7 by that EMAS. 300 feet is nothing when it comes to
8 the FAA definition. By the FAA's own study airplanes
9 leaving the runway usually do at 80 miles an hour and
10 come to rest at 1,000 feet.
11 Scrap that safety area. Fix those runways.
12 Forget about the safety area.
13 MS. BARRETT: Does anybody else have
14 a comment? Gentleman in the back who hasn't spoken.
15 MR. BUCK: Russell Buck, 85 Hartland
16 Street.
17 I have two concerns. One is that Bridgeport
18 will use this safety extension to bring in more and
19 larger jets, and that is a concern. I've lived at
20 Hartland Street for 17 or 18 years. And I've noted
21 the increasing frequency of the larger jets in the
22 last three years, two years. And it is a concern.
23 And my second concern is that Bridgeport has
24 operated this economic engine that I've heard. And I
25 don't believe it's paid any taxes to Stratford.

1 That's not fair. I don't see why they shouldn't
2 contribute to the community that they work in.
3 MS. BARRETT: Thank you. There's a
4 woman in the back row. Please come to the microphone
5 and tell us who you are.
6 MS. MERCHANT: My name is Sheila
7 Merchant. I'm a Trumbull resident, but I've made my
8 living at the airport for the last 28 years. I'm a
9 flight instructor and a pilot.
10 First of all, I don't have the exact
11 numbers. Perhaps the tower people or Mr. Faile can
12 tell me the exactly weight bearing capacity of the
13 runway. So as far as larger aircraft coming, it's not
14 going to happen. The runways can only take so much
15 weight. And the fact they're narrowing the runways
16 will not accommodate larger aircraft. We're not
17 turning this into LaGuardia.
18 I was diverted to New Haven the night the
19 Navajo went through the blast fence. Everyone was
20 alive. The fuel tank ruptured. Everyone was alive
21 when the aircraft came to a rest. And six people
22 burned alive because of that.
23 No less than three times this year alone I
24 have been unable to get to the south of Main Street
25 area to the south ramp area because the road was

1 flooded, sometimes closed for more than a day. So
2 everyone who wanted to get to Lordship for whatever
3 reason had to go Great Meadow Road. For me it's a
4 twofer. You're getting airport improvement and road
5 safety.
6 As far as overruns, they will stop some
7 things. You can't promise everything will be stopped.
8 There was pilot error involved in all of the
9 accidents.
10 Personally I'd like to see approach lights.
11 That would make a tremendous improvement.
12 You're not going to get larger and larger
13 aircraft simply because the surface of the runways
14 will not support them.
15 MS. BARRETT: Thank you very much.
16 MR. KAOLIAN: Morgan Kaolian. I
17 just have to point this out. As a former airport
18 manager I opposed the construction of the Breakwater
19 Key Condominiums. We fought and fought not to build
20 those condos, because we said the airplane could come
21 over. I went to planning and zoning and all the other
22 agencies and boards in town. And they approved that.
23 Not only that, but everyone who purchased a condo was
24 to sign a disclaimer that they are aware they are in
25 the path of runway 6/24, and they realize there will

be noises and inconveniences. I'm surprised to hear the residents at Breakwater complaining about the airport. It's in your deed. Planning and zoning in this community approved it.

The other question comes up, what is a footprint? To me the footprint is my property line around my own home, not just the footprint of my house. So in actuality no part of the airport is being expanded. They're within that footprint.

And as far as the flooding is concerned, it just so happens that the overrun will solve a lifelong problem of flooding. And it's a situation that makes it safer for the airport, and makes it safer for me as a resident of Lordship. I know I'm not going to be flooded out and have to take another route to my home.

MS. BARRETT: Does anybody else have a comment?

MS. SALAMON: I'd just like to clarify a few things. I'd just like to say it's not in my deed to have fumes in my front door, not in my deed to see destruction of the environment. And this footprint is very important. And just talking around it does not change things. There was an environmental agreement in 1978. It still is important, and it still should hold. I don't think we should step

1 around these things. I think it's extremely important
2 we're serious about this. It's people's lives, 30
3 seconds, the environment, our future. We're talking
4 about digging things up that could change the
5 groundwater. I've heard a lot more than I've heard
6 about before. It's really something.
7 Let me put it to you this way. We're the
8 people who cannot afford planes. We're the people who
9 live here. And I've never taken a flight from there
10 because I can't afford the extra paid flights from
11 that airport, even when they had commercial. That had
12 no benefit. Not only are there no taxes paid, but now
13 it's taking away from the value of our lives. I see
14 no balance there.
15 Let's think about are there other design
16 alternatives. And let's sit down with the all the
17 parties. And let's talk fairly here, because we
18 should not be excluded. We are citizens of this area,
19 of the state, and this country. And as far as I'm
20 concerned that makes it important for us to be
21 included.
22 MS. BARRETT: Thank you very much.
23 Gentleman in the back?
24 MR. ALTMAN: Howard Altman. I am a
25 resident of Westport, Connecticut, and I'm a pilot.

1 And I've been thinking of moving to Lordship.
2 At the last meeting I recall when they
3 discussed moving 113. I've heard discussion about 30
4 seconds being lost. From what I recall not only was
5 this going to be a better road, but the speed limit
6 was going to be increased. The airport has been there
7 for 80 years, plus or minus.
8 This gentleman has suggested just repaving
9 Runway 6/24. That's not going to stop pilot error,
10 not going to stop overruns, not going to stop jet fuel
11 smells. But it's not going to give you a safety area.
12 To me putting in these safety improvements will
13 benefit people in Lordship with a better road, benefit
14 the safety of pilots and people coming in, will
15 benefit -- The Army engine plant will have a better
16 aspect if the airport is improved.
17 And it's not an expansion. There's nothing
18 expanding at this airport at all. It's an overrun
19 area. It's a safety area. Nothing is expanding. The
20 larger planes coming in now have better engines,
21 quieter engines. Everything is being improved. And
22 with the fuel efficiency and burn you probably end up
23 with less fumes anyway.
24 One other thing: The kite that came in that
25 was seen for the first time came in regardless of the

fact that the airport was here. So I don't think it had any ecological impact on that bird.

MS. BARRETT: What I would like to mention is that after the hearing some of the people who prepared the EIS and from the FAA will be here to talk with you one-on-one if you like to answer your questions.

MS. NICHOLS: My name is Donna Nichols. And again, I live at Breakwater Condos.

And I'd like to respond to something Morgan said. Didn't we know there was an airport? Yes. You'd have to be blind and deaf if you moved into that area and didn't know there was an airport there. I didn't hear anybody saying close this airport. I haven't heard that at all. I've heard people say don't shift that road, don't move Main Street. Is 300 feet enough to stop a Gulfstream that overruns the runway? Some of us -- I'm not protesting the airport. Yes, there was a rare kite sighting. I just wanted to say we are not trying to shut any runways down. Thank you very much.

MS. BARRETT: Thank you.

MR. RIMKONAS: Walter P. Rimkonas. I reside at 425 Second Avenue.

I've got a little piece here from your

1 pamphlet. And it says there was an agreement between
2 the airport and the Connecticut Department of
3 Transportation on August 3, 2006. That was done
4 without any input from the Town of Stratford where the
5 site is situated. How the heck did the State of
6 Connecticut talk about my area and they live up in
7 Hartford? They're assuming something and agreeing
8 with the people from the City of Bridgeport and the
9 Bridgeport airport.
10 Number two, several accidents; the one that
11 happened at night where the people got killed, god
12 bless them. I looked out my window and I couldn't see
13 my car which was 10 feet away from my house. And they
14 tried to land and look what happened.
15 The other accident, several, all happened in
16 daylight. Daylight means what the tower is open.
17 They were given permission to land. If the fog is
18 down you can't see. Why are they giving permission to
19 land?
20 One of them, the one where the aircraft came
21 in the snowstorm, heavy snowstorm, by luck I was
22 coming down South Main Street coming home in the lane
23 right next to the fence. I come around, just get
24 through there, and lo and behold, what do I see? My
25 wife looks out the window, and there's the nose of the

1 aircraft almost into the window of my vehicle. What
2 happened? She was flying from an airport over near
3 Long Island ferrying it to Bridgeport airport where
4 there was no reason for it in a snowstorm. But she
5 had tower okay. So it's not only pilot error. Some
6 of it goes onto the tower too.
7 MS. BARRETT: Thank you. If there
8 are no other comments we will close the hearing.
9 MR. BLINDERMAN: Mike Blinderman,
10 airport traffic manager.
11 As everybody is aware, pilots are able to
12 make human error. State issues warnings that the
13 roads are unsafe, stay inside. That doesn't stop
14 people from driving on the roads.
15 This safety area will stop an aircraft
16 better than a fence. That is proven.
17 And as far as I'm concerned we're required
18 to issue the clearance, even if it's below minimums
19 because it's the pilot's decision. We give him the
20 best information we can. He has responsibility for
21 the aircraft.
22 During the incident with the Pilatus the
23 EMAS would have made it better. And we deal with the
24 situation at hand. And with the safety areas involved
25 here it's just going to create a safer environment for

1 everybody. Things change. This EMAS system hasn't
2 been around for 100 years. And we're just deciding to
3 use it. It's a new system, like air bags for cars.
4 Everybody has it now. If somebody said, oh, my god,
5 my steering wheel is going to be 2 inches closer in
6 front of my face because of the air bag, so I don't
7 want it; that would be ridiculous. Thank you very
8 much.
9 MS. BARRETT: Please remember to
10 submit any additional written comments by October 15,
11 2010. I'm going to close the hearing. And thank you
12 all for coming forward, expressing your views with us
13 this evening. And have a safe trip back to your home.
14 (The hearing was concluded at 8:35
15 p.m.)
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25

1 STATE OF CONNECTICUT)
2) ss:
3 COUNTY OF HARTFORD)
4
5 I, Trevor Drummond, do hereby certify that
6 the foregoing matter was recorded stenographically by
7 me and reduced to typewriting by me.
8 I FURTHER CERTIFY that the foregoing
9 transcript of the said hearing is a true and correct
10 transcript of the testimony given at the time and
11 place specified hereinbefore.
12 I FURTHER CERTIFY that I am not a relative
13 or employee or attorney or counsel of any of the
14 parties, nor a relative or employee of such attorney
15 or counsel, or financially interested directly or
16 indirectly in this action.
17 IN WITNESS WHEREOF, I have hereunto set my
18 hand and seal of office at East Hartford, Connecticut,
19 this 11th day of October , 2010.
20
21
22
23 Trevor Drummond,
24 Court Reporter
25

URS	COMMENTS AND RESPONSES - PUBLIC HEARING (SEPTEMBER 22, 2010)	
PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010	
PROJECT LOCATION:	IGOR I. SIKORSKY MEMORIAL AIRPORT	
NAME	**COMMENT**	**RESPONSE**
Mr. Harkin	As the airport's host community our concerns deserve consideration that the environment be protected and heart of our tax base be preserved.	The public hearing was held in Stratford, and the draft document was mailed to all who had previously commented, to gather input from local residents and interested parties. The proposed work outlined in the Written Reevaluation has been thoroughly reviewed for possible environmental impacts. The Written Reevaluation has not uncovered any significant environmental impacts due to the proposed improvements. We understand and appreciate the airport provides the infrastructure, similar to that of an industrial park, for enhancing the tax base.
Mr. Kelly	All materials must be available 30 days prior to a public meeting and during the entire review period. In addition notice of the public meeting must be given at least 15 days before the meeting. In this case notice was advertised in the Federal Register on September 14, a mere eight days ago, far short of the Federal requirement.	Federal regulations and guidance do not require a public hearing, or a notice in the Federal Register, for a Written Reevaluation. The extensive public outreach completed as part of this effort was not required; it was voluntary. Section 1.0 has been updated to reflect the extensive number of public comments on the Draft Written Reevaluation.
	It does not include the shortening of runway length as a design alternative.	The original EIS (May 1999) included thirteen alternatives for Runway 6-24, including five alternatives with runway lengths less than the current 4,677 feet. These alternatives were not considered further because they would not serve the aircraft using the runway at that time. These aircraft included Gulfstream, Learjet and Hawker. The Airport Layout Plan Update prepared in 2008 confirmed the need to preserve the existing runway length of 4,677 feet to continue to serve the aircraft currently using the airfield.
	It fails to discuss the possibility of Raymark waste, a known toxin.	Hazardous materials are covered in Section 3.14 and Section 4.6 of the draft and final document. In addition, the EPA has been involved in documenting the extent and location of the waste materials. The construction documents will address proper handling and disposal of any hazardous waste materials encountered.
	Nothing about the impact on brown pelicans and white-tailed kites, both species of concern in close proximity to a national wildlife preserve.	Analysis of impacts is not required for wildlife that rarely utilizes an area, unless the federal or State wildlife agencies identify the area as critical habitat. This project mostly impacts areas currently paved, or immediately adjacent to pavement. No impact to the brown pelicans or white-tailed kites is anticipated. Additional information on Rare, Threatened and Endangered Species is contained in Section 3.13.1 which includes references to coordination with both CTDEP and FWS.

URS	COMMENTS AND RESPONSES - PUBLIC HEARING (SEPTEMBER 22, 2010)	
PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010	
PROJECT LOCATION:	IGOR I. SIKORSKY MEMORIAL AIRPORT	
NAME	**COMMENT**	**RESPONSE**
Mr. Faile	It's imperative that the safety improvements be implemented. Lives will be saved, and the airport will continue to be an economic engine for the region.	Commented noted.
Mr. Blinderman	The safety improvements must be adopted and implemented. It would be irresponsible and dangerous not to do so.	Comment noted. This is similar to the findings of the National Transportation Safety Board contained in Appendix G.
Mr. Mihally	What bothers me the most is a runway extension for Runway 6/24 is not proposed in this reevaluation. What you say is it's a shift. You're shifting 6/24 875 feet into Main Street.	There is no runway shift or extension. The project is repair of runway pavement and installation of safety areas. Runway 6-24 will not move from its current location. The runway will remain at its existing length of 4,677 feet; however, the runway will be narrowed from 150 feet to 100 feet. Current safety standards require that a safety area be provided at the end of each runway. The safety area cannot be used as runway. The Written Reevaluation proposes a safety area 300 feet in length. Main Street, Route 113, would have to be re-aligned, approximately 350 feet easterly of its existing location to accommodate the runway safety area.
Ms. Northcott	What are you going to do about birds in the middle of a wildlife preserve.	The improvements proposed in the Written Reevaluation will occur on the east side of the airfield, while the Stewart McKinney National Wildlife Preserve is located on the south and west side of Lordship Boulevard, on the opposite side of the airfield. The proposed development is not designed to attract additional aircraft. No impacts are anticipated to wildlife in the preserve, as a result of this project. Impacts will be localized to the areas of grading and paving.
	And then that road is our main evacuation route. It's our only evacuation route.	The road relocation will not cause the road to be closed. Flooding should be decreased somewhat, as the road will be raised slightly. In that respect, it will be an improvement to the evacuation route. It should be noted that Main street is not the only evacuation route for the residents of the Lordship neighborhood. They can also leave their neighborhood via Lordship Boulevard.
	I see no valid reason to expand the airport, just improve it. It's as big as it ought to be.	The proposed project is not airport expansion. It is the installation of runway safety areas and repair of runway pavement. No change is anticipated in the type or number of aircraft using the airport.
Mr. Cieciuch	Scrap the safety area proposal and fund the Runway 6/24 repairs without the safety area.	The FAA does not fund reconstruction of the runway without making all practicable steps to meet the current FAA safety standards as identified in FAA Advisory Circular 150/5300-13 and 14 CFR Part 139.309. In addition, the National Transportation Safety Board has urged the FAA to install the safety areas, following the 1994 fatal crash that killed 8 people.

URS	COMMENTS AND RESPONSES - PUBLIC HEARING (SEPTEMBER 22, 2010)	
PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010	
PROJECT LOCATION:	IGOR I. SIKORSKY MEMORIAL AIRPORT	
NAME	COMMENT	RESPONSE
	Will it stop an older running Sikorsky Gulfstream which grosses out at 75,000 pounds? And will it stop the piper PA 31-350 airplane which grosses out at 70,000 pounds? And it killed 8 people, as you know, injuring another. Will it stop all aircraft?	The heaviest aircraft frequently using the airport include the Gulfstream family of business jets, with gross weights between 65,000 and 89,000 pounds. The EMAS will be designed to slow and stop these aircraft. Note that EMAS has performed successfully in the following small aircraft incidents: May 1999 Saab SF 340 Aircraft @JFK International Airport; July 2006 Falcon 900 aircraft @ Greenville (NC) Downtown Airport; January, 2010 Bombadier CRJ-200 aircraft @ Yeager (WV) Airport; and October 2010 Gulfstream G-IV aircraft @ Teterboro (NJ) Airport.
Mr. Kaolian	It will not take any more time to travel that route which the opponents keep bringing up.	Traffic analysis estimates the new roadway design would add approximately 3 seconds to the local travel time.
Mr. Coughllin	It looks like to me, and I have discussed it with engineers from the highway department, like this situation creates a hazardous bend that should be discussed. And design comments should be obtained from the state highway department, because that's who's going to be maintaining this road. Now you have 300 feet between the runway and the road.	Connecticut DOT has been involved in the design of the roadway. It will meet all requirements for safe roadway design.
	Now you have only 300 feet between the runway and the road. If you have debris and cars going by and doing a jet run up; that's when they run off; what happens to that debris when that blast fence is taken down?	Jet blast decreases proportionately to the distance behind the jet engines. The largest impact example for Runway 24 would occur if a Bombardier Global Express Aircraft, the heaviest aircraft regularly using this runway, were to be taking off from the threshold. Jet blast directly behind the aircraft would exceed 150 MPH; however it would drop to approximately 40 MPH by the time it reached the re-aligned Main Street – a distance of 375 feet. This blast effect could be mitigated by a chain link fence with inserts, which would be used to contain air borne particles of dust and dirt.
Ms. Stewart	The most important of any other plan for Sikorsky Memorial Airport is safe, fast, clear evacuation route for Stratford residents.	The road relocation will not cause the road to be closed. The new road segment will be completed before the existing road segment is closed . Flooding should be decreased somewhat, as the road will be raised slightly. In that respect, it will be an improvement to the evacuation route. It should be noted that Main street is not the only evacuation route for the residents of the Lordship neighborhood. They can also leave their neighborhood via Lordship Boulevard.

URS	COMMENTS AND RESPONSES - PUBLIC HEARING (SEPTEMBER 22, 2010)	
PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010	
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NAME	**COMMENT**	**RESPONSE**
Mr. Salamon	One of the things it talks about is the flood management certificate has to be gotten by the Connecticut DEP which is not represented here, which is a little odd.	CTDEP has been involved in the design of this project. URS and CTDOT have consulted with the CTDEP on the required permitting process. Appropriate permits will be obtained after the completion of the NEPA process.
	It says the proposed project has the potential to encounter contaminated soil, waste, and possibly contaminated groundwater. These materials will be removed from the site and disposed of at a certified waste disposal facility. Obviously, this is a little more complicated.	All parties are well aware of the presence of hazardous materials in the project area. Excavation and disposal of any hazardous material encountered during construction will follow appropriate regulatory requirements.
	Another area of safety is safety of people. And a curved road, pardon my expression, but you're talking about a dead man's curve.	Connecticut DOT has been involved in the design of the roadway. It will meet all requirements for safe roadway design.
Mr. Allen	I am strongly in favor of the runway improvement and subsequent resurfacing of Runway 24.	Comment noted.
Ms. Barrett	I'm concerned about the effect of the air pollutants on the health and safety of Lordship residents.	An Air Quality analysis was conducted for the proposed project and is included in the Written Reevaluation (see Section 3.4 and Section 4.1). The total project-related emissions are well below the applicable de minimis thresholds, signifying that project emissions do not interfere with the air quality goals of the area's State Implementation Plan.
Mr. Hollis	There's continuous noise at all hours of the day and evening.	Noise levels will sometimes be objectionable to residents living near an airport. The proposed project is not designed to result in any changes to the number or type of aircraft using the airport, and will have no impact on noise levels.
	There are additional safety concerns. We feel this is going to lead to future expansion of the airport and bringing in larger jets.	The proposed project is not airport expansion. It is the installation of runway safety areas, and repair of runway pavement. No change is anticipated in the type or number of aircraft using the airport.
Ms. Nichols	I've heard once this happens it will increase the size of the planes and the traffic.	The proposed project is not airport expansion. It is the installation of runway safety areas, and repair of runway pavement. No change is anticipated in the type or number of aircraft using the airport.

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NAME	**COMMENT**	**RESPONSE**
Mr. Mulligan	If there was an overrun accident into the overrun area the EPA shows there's Raymark waste there. Are you going to have clouds of asbestos or move it inland?	Runway safety areas are designed to support the weight of aircraft and emergency vehicles. Safety areas with EMAS are generally paved first, and then the EMAS is built on top of the paved surface. The underlying paved surface is designed to support the EMAS and any aircraft that is slowed and stopped by the EMAS. All disturbed areas during the construction will be tested for asbestos (Raymark waste) and waste material will be hauled off site to a designated waste handling facility. An aircraft overrunning the runway onto the EMAs would not affect underground materials.
Mr. Barnaby	The runway is exactly the size it needs to be for the planes we've known to land at this airport for decades and decades and decades.	We concur. The proposed project is not airport expansion. It is the installation of runway safety areas with EMAS, and repair of runway pavement. No change is anticipated in the type or number of aircraft using the airport.
	There's noise pollution. They're already loud. It's going to be greatly increased.	Noise levels will sometimes be objectionable to residents living near an airport. The proposed project is not expected to result in any changes to the number or type of aircraft using the airport and will not increase the current noise levels.
	This is going to have a longer response time for our emergency vehicles to get to Lordship. 30 seconds is all the response time is going to be increased by. How long is 30 seconds to a person in a burning house, or to a person who can't breathe, or to a parent whose child is bleeding uncontrollably?	Traffic analysis estimates the new roadway design would add approximately 3 seconds to the local travel time. Connecticut DOT has been involved in the design of the roadway. It will meet all requirements for safe roadway design.
Mr. Goetz	I believe the Connecticut DEP along with everyone else will have the right to comment and have their comments received by the 15th of October.	That is correct. The responses to the CTDEP are contained in Appendix F.
Ms. Benjamin	My concern is if we do anything to enlarge this airport…the Gulfstream's I'm familiar with - . They're beautiful and elegant, but very powerful. If we bring in more planes of larger size there's a danger to this community.	The proposed project is not airport expansion. It is the installation of runway safety areas, and repair of runway pavement. No change is anticipated in the type or number of aircraft using the airport.
Mr. Rimkonas	Because of the agreement which Bridgeport is ignoring, Bridgeport airport must get the permission of the Town of Stratford before making any movement outside of the present footprint. We're in court on that and still waiting.	The FAA is not a party to any agreement between the two communities. We are not aware of any agreements that would forestall the installation of runway safety areas, which are required by Congress and strongly recommended by the National Transportation Safety Board.
	Are you going to move all these facilities, leave them as is, or move them with the new road? No one says nothing about that. And if it does move who is going to pay for it?	Other than underground utilities, no facilities need to be relocated by this project. Utilities will be relocated with the new roadway layout. The majority of the cost for this, and most airport capital improvements nationwide, is funded by grants from the FAA. The source of these funds is a fee on airline tickets and a tax on jet fuel.

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NAME	**COMMENT**	**RESPONSE**
	You're expanding the runway 300 feet and then putting the EMAS on top. You're giving false information.	The proposed project is not a runway extension. The EMAS is installed on a paved surface, but an EMAS is not designed to allow an aircraft to utilize the surface for takeoffs of landings. In fact the EMAS is designed to slow and stop an aircraft. The runway will remain 4,677 feet in length. No change is anticipated in the type or number of aircraft using the airport.
	Are you going to raise that road 6 feet higher than what it is now, so that the water won't come across it at season of high tides? Or why don't we just save the state money, raise the road 6 feet where it is now and we don't have these?	The proposed plans show the Rte. 113 (Main Street) roadway grade to be approximately one foot (1') higher than the existing roadway elevation in the vicinity of the existing culvert where flooding occasionally occurs. The existing drainage culvert under Main Street is proposed to be replaced with a 24" diameter culvert, along with other drainage improvements. The combination of the proposed increase in the roadway elevation and proposed improvements to the drainage system will eliminate the flooding of Main Street in this location, during rainfall events (up to the 100 year frequency storm event) that coincide with the spring high tide.
Ms. Sprogis	You really need to talk to Stratford.	The City of Bridgeport, FAA, and URS, as the airport's consultant, have reached out to Stratford since the initiation of this project in 1995. The original EIS included one public scoping hearing, two public informational Workshops, a final public hearing, seven focus group meetings with Stratford and Milford citizens, and six Study Group Meetings. A newsletter was sent to all Stratford households, approximately halfway through the original EIS process, and a final summary newsletter was sent to approximately 400 local citizens. During the development of the Airport Layout Plan Update in 2008-2009, there were five public meetings. Publication and availability of the Written Reevaluation Update was sent to the Town of Stratford. All public meetings during this process have been held in Stratford, and the draft documents were mailed to all who had previously commented.
	I don't think it should be expanded.	The proposed project is not airport expansion. It is the installation of runway safety areas, and repair of runway pavement. No change is anticipated in the type or number of aircraft using the airport.
Mr. Cieciuch	Any airplane that overruns the end of the runway will shoot across Main Street into moving traffic.	This is the current situation, which we are attempting to rectify. The current proposal is to provide a safety area with EMAS. The EMAS will be designed to slow and stop aircraft that overrun the runway (see comment on EMAs on page 3).

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NAME	**COMMENT**	**RESPONSE**
	Scrap that safety area. Fix those runways. Forget about the safety area.	The FAA does not fund reconstruction of the runway without making all practicable steps to meet the current FAA safety standards as required under 14 CFR Part 139.309. The National Transportation Safety Board has urged the FAA to install the safety areas, following a fatal crash that killed 8 people.
Mr. Buck	Bridgeport will use this safety extension to bring in more and larger jets, and that is a concern.	The proposed project is not airport expansion. It is the installation of runway safety areas, and repair of runway pavement. No change is anticipated in the type or number of aircraft using the airport.
	I don't believe it's paid any taxes to Stratford.	That is correct; one municipality does not pay taxes for land owned in another municipality. Various airport tenants who lease land at the Airport pay personal property taxes to Stratford. Also, at least one tenant makes an annual "payment in lieu of taxes" to Stratford. That being said, the local/regional economic benefit of an airport is less related to taxes generated by airport land, and more from induced economic growth in the surrounding area, increased spending by employees and airport users, and job creation by airport related businesses.
Ms. Merchant	Perhaps the tower people or Mr. Faile can tell me the exactly weight bearing capacity of the runway. So as far as larger aircraft coming, it's not going to happen. The runways can only take so much weight. And the fact they're narrowing the runways will not accommodate larger aircraft.	The runway pavement is designed to accommodate the Gulfstream business jets that presently use the airfield. The pavement design is based on a 75,000 pound aircraft.
	Personally I'd like to see approach lights. That would make a tremendous improvement.	The installation of approach lights would be a safety benefit to the airport. In an effort to implement a project that had support from local and State authorities, the approach lights were removed from the project.
	No less than three times this year alone I have been unable to get to the south of Main Street area to the south ramp area because the road was flooded, sometimes closed for more than a day. So everyone who wanted to get to Lordship for whatever reason had to go Great Meadow Road. For me it's a two-fer. You're getting airport improvement and road safety.	That is correct.
Mr. Kaolian	As far as the flooding is concerned, it just so happens that the overrun will solve a lifelong problem of flooding. And it's a situation that makes it safer for the airport, and makes it safer for me as a resident of Lordship.	That is correct.

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NAME	COMMENT	RESPONSE
Ms. Salamon	Let's think about are there other design alternatives.	The original EIS (May 1999) included thirteen alternatives for Runway 6-24, including five alternatives with runway lengths less than the current 4,677 feet. These alternatives were not considered further because they would not serve the aircraft using the runway at that time. These aircraft included Gulfstream, Learjet and Hawker. The EIS recommended Alternative 2D Modified as it met minimum needs of the Airport and FAA Standards. The Airport Layout Plan Update prepared in 2008 confirmed the need to preserve the existing runway length of 4,677 feet to continue to serve the aircraft currently using the airfield, and recommended leaving the runway in its current location and constructing a 300 foot safety area on the Runway 24 end. This alternative is currently referred to Alternative 1-G modified with the installation of EMAS.
Mr. Altman	At the last meeting I recall when they discussed moving 113. I've heard discussion about being 30 seconds being lost. From what I recall not only was this going to be a better road, but the speed limit was going to be increased.	The proposed roadway geometric features (horizontal alignment, roadway profile, cross slope, etc.) are being designed to meet a 40 mph design speed. The 40 mph design speed was selected in coordination with the CT Department of Transportation, based on factors such as the functional classification of the roadway (Urban Collector) and existing travel speeds. The existing posted speed limit is 30 miles per hour. It is common for the design speed to exceed the posted speed limit, to enhance the safety of the roadway facility. The increase in travel distance, along the proposed alignment verses the existing alignment, is approximately 120 feet. Vehicles traveling at 30 miles per hour (the posted speed limit) will increase their travel time by less than 3 seconds, along the proposed alignment.
	This gentleman has suggested just repaving Runway 6/24. That's not going to stop pilot error, not going to stop overruns, not going to stop jet fuel smells. But it's not going to give you a safety area.	That is correct. Repaving the runway only does not meet safety standards. In addition, the NTSB urged the FAA to install the safety areas, following a fatal crash that killed 8 people.
	The kite that came in that was seen for the first time came in regardless of the fact that the airport was here. So I don't think it had any ecological impact on that bird.	Comment noted.

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NAME	COMMENT	RESPONSE
Ms. Nichols	Is 300 feet enough to stop a Gulfstream that overruns the runway?	The heaviest aircraft frequently using the airport include the Gulfstream family of business jets, with gross weights between 65,000 and 89,000 pounds. The EMAS will be designed to slow and stop these aircraft. Note that EMAs has performed successfully in the following small aircraft incidents: May, 1999 Saab SF 340 Aircraft (28,800#) @JFK International Airport; July, 2006 Falcon 900 aircraft (45,500#) @ Greenville (NC) Downtown Airport; January, 2010 Bombadier CRJ-200 aircraft @ Yeager (WV) Airport; and October, 2010 Gulfstream G-IV (72,000#) aircraft @ Teterboro (NJ) Airport.
Mr. Rimkonas	If the fog is down you can't see. Why are they giving permission to land?	Aircraft are equipped, and pilots are trained, to land and take off in various weather conditions. Airports do not close in periods of bad weather.

URS	COMMENTS AND RESPONSES – LETTERS	
PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010	
PROJECT LOCATION:	IGOR I. SIKORSKY MEMORIAL AIRPORT	
NO.	COMMENT	RESPONSE
☒ **Agency Review (US Environmental Protection Agency, dated October 5, 2010)**		
1	US Environmental Protection Agency (EPA) typically recommends that measures be implemented to reduce fine particle emissions from diesel engines during construction. Emissions from older diesel engines can be controlled with retrofit pollution control equipment such as diesel oxidation catalysts or particulate filters that can be installed on the exhaust of the diesel engine. Retrofit technologies may include EPA verified emission control technologies and fuels and CARB-verified emission control technologies. These lists can be accessed at http://www.oa.gov/otaq/retrofitiverif-list.htm. We strongly encourage the Federal aviation Administration (FAA) to revise the Reevaluation to reflect that the project will be required to commit to the use of specific emission controls during construction.	Design specifications will incorporate measures to reduce fine particle emissions from diesel engines during construction, including the use of retrofit pollution control equipment, or other measures recommended by the EPA.
2	Raymark Industries, Inc. disposed of manufacturing wastes now considered a hazardous waste, at a number of locations throughout Stratford. The former facility along with the locations where Raymark waste has been found are part of the Raymark Superfund Site. The location of the proposed Route 113 relocation construction is one of the areas found to contain Raymark waste and, because of this, any proposed activity conducted in or near this area must comply with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).	Portions of the site contain Raymark Waste and are considered part of the Raymark Waste Superfund Site. Further coordination with EPA is needed to confirm their regulatory role in the roadway construction process and confirm what, if any, activities other than proper soil management are required. The City of Bridgeport will coordinate all work with the EPA and CTDEP. Any contaminated soil or water will be disposed of in approved disposal sites using appropriate best management practices.
3	For over 10 years, EPA has been working with the Town of Stratford and various citizens groups in an effort to reach agreement on how to cleanup Raymark waste from various locations. Unfortunately, agreement has not been reached to date. In the interim, and until a cleanup agreement is reached, EPA will work with any property owner with an interest in performing the remedial cleanup themselves. Unfortunately, the costs for such cleanup efforts will have to be borne by the property owner.	See response above.
4	As correctly stated in the Reevaluation, there is no formal permit process necessary for the proposed activities near or within the Raymark waste areas. Because portions of the Route 113 relocation work are within a CERCLA site, however, EPA must require the development of formal plans (General Work Plan, Sampling and Analysis Plan, Health and Safety Plan, and perhaps others, as appropriate) for review and approval prior to allowing any work to be conducted near these areas. This will require coordination with and approvals from EPA for the accurate delineation, sampling, handling, and disposal of Raymark waste. In addition, EPA will likely provide oversight during invasive activities in delineated Raymark waste areas. While the above requirements can be burdensome, they are necessary to ensure the safe handing and disposal of a CERCLA waste.	The City of Bridgeport will coordinate all work with the EPA and CTDEP. Any contaminated soil or water will be disposed of in approved disposal sites using appropriate best management practices.
5	Please note that in addition to henzo(a)pyrene and dibenzo(a,h)anthracene, site sampling found benzo(a)anthracene, benzo(b)lfuoranthene, and benzo(k)fluoranthene at levels above the CTDEP target total risk level of 10^{-5} for multiple contaminants.	Refer to Section 3.14, *Hazardous Waste, Pollution prevention and Solid Waste,* and Section 4.6, *Emissions Inventory Results.*

PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010
PROJECT LOCATION:	IGOR I. SIKORSKY MEMORIAL AIRPORT

NO.	COMMENT	RESPONSE
6	Based on discussions with CTDEP, it is our impression that the transfer of FAA land to the City of Bridgeport would not be exempt from the CT Property Transfer Law as noted in the Reevaluation. We strongly suggest that the applicability of the Connecticut Property Transfer Law be reconsidered in the Reevaluation.	The Property Transfer Act is not applicable where there has been no placing of hazardous materials since 1980. The City has owned the property since 1975; there has been no placing of materials on the site under its ownership. The City contents that it is not subject to the Property Transfer Act. The City and State continue to discuss alternatives to transferring the property in fee simple.
☒ **Agency Review (CT Department of Environmental Protection, dated October 5, 2010)**		
1	The runway 6 safety area, as depicted in Exhibit 4.5-1, has been dramatically reduced from the conceptual plan circulated during scoping for the document, significantly reducing impacts to tidal and inland wetlands. The southernmost tip of runway 24 safety area appears to slightly encroach into tidal wetlands. If that is the case, this potential impact can be completely avoided by a minor adjustment to the runway safety area.	The wetland impacts provided in the Written Revaluation reflect a reasonable estimate of the impacts. URS continues to refine the design to minimize the wetland impacts to the site; however, the final impact will not be determined until the final permit is issued. All reasonable efforts will be made to avoid or minimize wetland impacts.
2	Given the airport's location surrounded by sensitive tidal and inland wetlands, strict erosion and sediment controls should be employed during construction. The Connecticut Guidelines for Soil Erosion and Sediment Control prepared by the Connecticut Council on Soil and Water Conservation in cooperation with CTDEP is a recommended source of technical assistance in the selection and design of appropriate control measures. The 2002 revised edition of the Guidelines, published as DEP Bulletin 34, may be obtained at the DEP bookstore, either by telephone 860-424-3555 or online at: DEP Bookstore. Additionally, all silt fencing should be removed after soils are stable.	The project design will comply / incorporate these guidelines for soil erosion and sediment control.
3	In response to our comments on the DEIS in 1998, the FEIS stated "re-seeding the runway and taxiway margins with an FAA-approved mixture of warm-season grasses is anticipated as part of project implementation." The Department recommends that this measure be incorporated into this project.	Warm season grasses are typically used to improve wildlife habitat in grasslands. Project specifications will include warm season grasses when re-seeding is required; however, the project environment is an operating airport and, as such, will be maintained consistent with FAA regulations and the Airport's obligations to ensure safe operations of aircraft and the travelling public.
4	On page 4-14, the document states that the transfer of a portion of the Stratford Army Engine Plant (SAEP) to the City of Bridgeport is not subject to the CT Property Transfer Act. This is technically correct, in that no explicit specific release or disposal has been documented on this part of the parcel; however, the limited investigation in that part of the site has determined there are elevated levels of some pollutants (these are almost ubiquitous on the SAEP and not reflective of specific releases so much as a 70 year industrial history.) In the event further investigations determine that a specific release is a cause of the elevated pollutants, any transfer would be subject to the CT Property Transfer Act.	If further data regarding the presence of "specific releases" is identified on the FAA parcel, such further data will be taken into consideration of whether the Property Transfer Act could apply to a future transfer of this parcel. The Property Transfer Act would not apply if the method of transfer does not meet the definition of a "transfer" as defined in the Property Transfer Act.

NO.	COMMENT	RESPONSE
5	It should also be recognized that the SAEP is currently subject to a RCRA Stewardship Permit (Permit Number: DEP/HWM/CS-134-003) issued by DEP, to perform closure, post-closure care and corrective action measures at the former hazardous waste storage, treatment and disposal facility. The permit requires that all areas of the site be brought into conformance with CTDEP's Remediation Standard Regulations (RSR) [sections 22a-133k-1 through 22a-133k-3 of the RCSA]. The US Army must, under the permit, conduct further characterization of the indicated RSR exceedances and remediate these to the RSR criteria in order for the stewardship permit to not apply to this parcel of land to be transferred. The Army may allow another party to do this work for them in meeting this obligation. It is anticipated that the installation of a roadway will render the polluted soil inaccessible, if the polluted soil has been fully identified through characterization and properly managed during roadway construction. The filing of an Environmental Land Use Restriction would maintain such inaccessibility in accordance with the RSRs.	The US Army has an obligation to remediate the entire parcel under the RCRA Stewardship Permit. Roadway final design will determine how much of the soils will have to be removed during construction. These soils will be removed from the site and disposed of in an approved location. Handling and disposal of these soils will be included in the project specifications. During the final design, an Environmental Land Use Restriction (ELUR) could be used in lieu of removing the soil, if deemed the more practical solution.
6	It is assumed that a portion of the airport parcel (currently owned by the City of Bridgeport) will be transferred to ConnDOT as part of the road realignment. It should be noted that this transfer would most likely be subject to the CT Property Transfer Act due to the disposal of hazardous waste on the subject parcel.	The Property Transfer Act is not applicable where there has been no placing of hazardous materials since 1980. The City has owned the property since 1975 and there has been no placing of materials on the site under its ownership. The City contents that it is not subject to the Property Transfer Act. The City and State continue to discuss alternatives to transferring the property in fee simple and the applicability of the CT Property Transfer Act (see also response to #4 above).
7	If Raymark waste is located within the expanded runway safety area, it is recommended that the airport work with EPA and CTDEP to remediate this area as part of the project. If the Raymark waste area is not remediated as part of this safety area improvement project, EPA will have to access the safety area in the future to remediate the existing Raymark waste. Failure to coordinate with EPA on this issue could have significant legal and financial impacts on ConnDOT and/or the City of Bridgeport.	The City of Bridgeport will continue to coordinate with both the EPA and CTDEP if and when contaminated soil or ground water is encountered.

PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010
PROJECT LOCATION:	IGOR I. SIKORSKY MEMORIAL AIRPORT

NO.	COMMENT	RESPONSE
☒	**Agency Review (Town of Stratford, dated October 15, 2010)**	
1	Pursuant to FAA Order 1050.1E, §500a(1), the FAA must consider "other reasonable alternatives" to the preferred Alternative 1G-Modified with installation of EMAS plan. Such "other reasonable alternative" that most significantly "avoid(s) or minimize(s) adverse impacts" is clearly Alternative 1 that utilizes the existing pavement envelope of Runway 6-24. The DEIS failed to provide due consideration to Group 1 Alternative. The DEIS failed to discuss the minimal environmental impacts that would result from constructing Engineered Materials Arresting System (EMAS) on the current runway without extending the overall footprint of the runway or relocating Main Street.	The minimum runway length sufficient to accommodate existing operations is the current length of 4,677 feet, based on present users and aircraft operational characteristics. The EIS (May, 1999) evaluated 22 alternatives. Alternative 1-G modified with the installation of EMAS was selected as the alternative that best meets the Purpose and Need while minimizing environmental impacts. In 2007, there were over 6,000 operations of jet aircraft (an average of over 17 operations per day). Many of these aircraft are restricted to using this runway during "bare and dry" conditions and well under their maximum carrying capacity. A reduction in runway length would prevent many of the current aircraft from using the runway. Therefore FAA does not consider the commentor's proposal of siting the EMAS on the existing runway a reasonable alternative since placing the EMAS on the existing runway pavement would shorten the runway length by approximately 300 feet.
2	It should be noted that any work completed within 100-feet of any inland wetlands would be defined as "regulated activity" in accordance with Section 226 of the SIWWR. Since the proposed applicant would be the City of Bridgeport or FAA, the project would require a permit from the Stratford Inland Wetland and Watercourses Agency (SIWWA) for any work that would be completed within 100-feet of any inland wetland or watercourse to Section 6.1 of the SIWWR.	The City of Bridgeport will comply with all laws, rules, and regulations required to construct this project.
3	Due to the age of the previous FEIS (May 1999), any tidal or inland wetlands located within the proposed project area that were not delineated as part of this DEIS would need to again be delineated to define the limits of the inland and tidal wetland boundaries. Any potential impacts to the (tidal or inland) along the western portion of the site must be evaluated based upon the updated wetland mapping.	The Written Reevaluation did not rely on outdated wetland data. In December 2009, the boundaries of the inland and tidal wetlands within the vicinity the Runway 24 end and Main Street were again field-delineated. In June 2010 and October 2010, the wetlands in the vicinity of the Main Street Realignment Project were further evaluated (see Section 3.12). Current wetland mapping will be used for all permit applications.
4	The new Federal Emergency Management Agency Flood Insurance Rate Map for the project area were revised and issued on June 18, 2010 prior to the completion of the DEIS dated August 2010. The reliance on old and outdated data from the previously issued June 1992 FEMA maps is incorrect and must be updated to reflect the changes.	The Final Written Reevaluation of the EIS incorporates the June 18, 2010 FIRM. There would be both temporary and permanent impacts below the 100-year floodplain elevation.

NO.	COMMENT	RESPONSE
5	The DEIS fails to study or adequately address impacts to the Connecticut State listed species from the proposed project based on the Alternative 1-G Modified plan. Further clarification to determine the methodology behind the determination that no species will be affected should be provided in the DEIS (i.e. site-specific species inventory).	The project will not adversely impact wildlife habitat; the project will increase and improve the existing habitat. Removing the tide gate and berm, and replacing the culverts under the road and driveway will increase tidal flow and restore the tidal ditch. The re-alignment of Route 113 would occur on property that is currently disturbed fill material (crushed concrete rubble and stone) while the majority of the existing road bed would be restored to grass. The runway rehabilitation project would actually reduce the current paved areas by approximately four acres. Section 3.13.1, *Rare, Threatened and Endangered Species*, provides additional information including references to coordination with both CTDEP and FWS. Although no impacts are anticipated, coordination with CTDEP is ongoing; agency wildlife biologists will review the Final EIS and provide additional clarification on any potential impacts to protected species.
6	There is no indication that coordination with the FWS or the National Marine Fisheries Service occurred, in the 11 years since the FEIS.	Work has been coordinated with the FWS and the NMFS (see Appendix B) including, the FWS letter dated January 16, 2010 and the NMFS Letter dated January 22, 2010. In addition, an Essential Fish Habitat Assessment was submitted to the NMFS in August and revised in November 2010. The project will increase and improve the existing habitat. Removing the tide gate and berm, and replacing the culverts under the road and driveway will increase tidal flow and restore the tidal ditch.

PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010
PROJECT LOCATION:	IGOR I. SIKORSKY MEMORIAL AIRPORT

NO.	COMMENT	RESPONSE
7	Solid Waste Disposal Area Section 3.14.3 (Paragraph 10) states, "The so called Raymark Waste identified in several portions of the site and the airport earth fill located near the project area may contain solid waste at a volume (greater than 10 cubic yards) that could subject the Site to the requirements of the Connecticut Solid Waste Regulations." The potential effects from the disturbance and proper remediation of the Raymark waste area must be addressed as part of the DEIS. Since the exact size of the Raymark waste area has not been identified, further investigation and a feasibility study will be required to accurately the effects of a potential remediation strategy.	The Raymark waste is present on the site. According to previous studies, including Raymark Bulletin 44, published by the EPA, Raymark Waste may be present between proposed roadway Stations 23+50 and 26+00. As noted in Bulletin 44, EPA has been examining cleanup options. Project specifications will include provisions for including best management practices and compliance with all federal, state, and local regulation. These specifications will require testing of waste materials for contamination during excavation and hauling contaminate soils to sanctioned waste disposal sites. A Solid Waste Disposal Area Disposal Area Disruption Authorization may be necessary if more than 10 cubic yards of solid waste is present. Potential excavation and removal of the Raymark waste would be of short duration and of a minimal amount. While long term exposure to high levels of asbestos is a known carcinogen, there is little data available for limited exposure.
8	Compatible Land Use. Section 4.0.1 (Paragraph 5) states, "Coordination with the Town of Stratford planning has indicated that no new development is located within the proposed project area. It can be concluded that the proposed improvements would be compatible with existing and proposed land uses and would be consistent with local plans." Section 4.0.1 regarding compatible land use failed to identify the Short Beach Landfill as a probable opposing land use in relation to the build alternative. In particular, the final cap and closure of the landfill, which is required in accordance with Regulations of Connecticut State Agencies (RCSA) § 22a-209-13, will require consultation with the FAA and the EPA regarding final grading and elevations. It is obvious from the DEIS that no communication has occurred between the FAA and EPA regarding this parcel of real estate adjacent to the airport.	The City of Bridgeport and Town of Stratford have met on the closure of the Short Beach Landfill; discussions regarding the closure are expected to continue. The proposed redevelopment options (coastal linear park, ball fields or municipal operated compost facility) are all compatible land uses.
9	Section 4.5.2 (Paragraph 5) states, "An existing shared use path for bicycles and pedestrians located along the east side of Main Street will need to be restructured. A temporary path, up to 300feet long, may be need to maintain bike and pedestrian traffic, along this segment immediately south of the Main Street culvert crossing. If needed, this will result in additional temporary impacts to tidal wetland resources. Further determination of the type of tidal resource impacts will be included in permit applications submittals." Any proposed construction or realignment of Main Street would have to include temporary access to both bicycles and pedestrian traffic. This statement should be modified to ensure that any pathways be reconstructed after any potential alignment of Main Street and that temporary access would be provided during the course of the proposed project.	The realignment of Main Street will incorporate a shared use path for bicycles and pedestrians. Temporary access will be provided during construction.

PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010
PROJECT LOCATION:	IGOR I. SIKORSKY MEMORIAL AIRPORT

NO.	COMMENT	RESPONSE
10	Any filling of inland wetlands on the site would require a Stratford IWWA permit. Furthermore, projects that aim at filling wetlands would need to propose an alternative mitigation project so that there is no net loss of wetlands as a result. The DEIS does not address how wetland mitigation would be performed for the filling of inland wetlands at the site. The applicant must consult with Town of Stratford to determine a proper wetland mitigation plan for the project. To date, there has been no coordination with the Town regarding this issue.	Due to ongoing litigation between FAA, Bridgeport, and Stratford, consultation has been strained. Despite the litigation, the City of Bridgeport will comply with all applicable laws and ordinances during the construction. Permit applications will be submitted to appropriate agencies. Any proposed wetland mitigation will be included in the design and permit applications. It is anticipated that most, if not all, mitigation will be possible on-site. Mitigation plans will be developed in detail upon further review with CTDOT and CTDEP. Mitigation options include improving quality of wetlands along the tidal ditch between the berm and the Main Street cross culvert by removing chunks of reinforced concrete and other debris along the banks of the ditch. Other options include grading and establishing additional wetland vegetation along tidal ditches within the project limits.
11	Section 4.7 (paragraph 2) states, "An air quality emission inventory for the period of the proposed actions indicated that the construction-related emissions would be well below the de-minims threshold during construction." The paragraph does not address any air quality impacts from the disturbance of known and confirmed Raymark waste. It is reasonable to conclude that construction impacts associated with the proposed design Alternative 1 -G Modified will have air quality impacts that will include release of air borne asbestos from the disturbance of Raymark waste. These air quality impacts must be addressed and mitigation efforts/Best Management Practices discussed.	As noted by the commenter, an Air Quality analysis was conducted for the proposed project and is included in the Written Reevaluation (see Section 3.4 and Section 4.1). The total project-related emissions are well below the applicable de minimis thresholds, signifying that project emissions do not interfere with the air quality goals of the area's State Implementation Plan. Project specifications will address the handling and disposal of any contaminated materials within the project area. All excavation and disposal will comply with current federal and state rules, regulations and laws. Best management practices will be employed during the construction.
12	Non-Airport Related Projects. Section 4.8.2 — (Paragraph 1) states, "The Town of Stratford Planning Department has been contacted to determine planned non-airport related actions that are reasonably foreseeable within the geographic area defined for this analysis. No new development has been proposed within the vicinity of the airport. Therefore, the potential impacts below only address airport-related impacts." This statement is false as future plans to properly close the Short Beach Landfill in accordance with the CTDEP and EPA regulations is proposed. Furthermore, part of the request to close the landfill is a request by the FAA that the height of the landfill comply with FAA glide slope requirements. The discussion of potential impacts should include an analysis of the Short Beach Landfill closure project and any potential impacts in relation to the proposed project.	Section 4.8.2 relates to proposed adjacent land uses which might be affected by an airport project. One example would be an airport project that directs new flight tracks over undeveloped land, where new residential development is proposed in that area. This runway safety area project and the proposed landfill closure have no impact on each other, so no further analysis is required. The City of Bridgeport and Town of Stratford have met on the closure of the landfill; discussions regarding the closure are expected to continue.

PROJECT NAME:	**DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010**
PROJECT LOCATION:	**IGOR I. SIKORSKY MEMORIAL AIRPORT**

NO.	COMMENT	RESPONSE
13	The August 2010 DEIS fails to adequately address numerous and new significant circumstances and information affecting environmental concerns. Therefore, pursuant to FAA Order 1050 1.E, 515a(2), the preparation of a new EIS is necessary in order to address such inadequacies and concerns.	The commentor refers to the document as a Draft Environmental Impact Statement. This document is a Written Reevaluation. Section 1.0 describes why a Written Reevaluation is an appropriate analysis for this project. The Written Reevaluation will determine whether the contents of the previously prepared 1999 environmental documents remain valid or whether significant changes require the preparation of a supplemental or new EIS. As evidenced by this Final Written Reevaluation FAA does not agree that there are "numerous and new significant circumstances and information affecting environmental concerns."
14	The DEIS failed to address numerous, significant circumstances and information regarding valid environmental concerns that have a direct on the local environment, residents, and airport operations. It is our request that the FAA follow federal law and its own rules to take steps necessary to investigate and analyze these with due consideration for the safety and health of all parties affected, not solely pilots passengers. We therefore request that the FAA prepare a new EIS pursuant to FAA Order1050.1E, §§ 515 and 516, in furtherance of the purposes of NEPA.	Comment noted. FAA disagrees with this conclusion and has addressed what the commenters assert is "significant new circumstances and information" concerns in the responses above.
☒ **Agency Review (City of Bridgeport, dated October 15, 2010)**		
1	The City stands strongly in favor of the proposed safety project and believes that the scope of any adverse environmental impact will be significantly less than what was approved in the FEIS and, in some respects, the environmental impacts will be those of improvements.	Comment noted. The current environmental impacts are less than the larger project approved in 1999. This includes less impact on local roadway travel time (1999: 56-second increase, 2011: 3-second increase) and wetlands (1999: up to 2.95 acres inland and tidal wetlands, 2011 up to 0.46 inland and tidal wetlands).
☒ **Public Review (Paul Anderson, United Technologies, dated September 27, 2010)**		
1	Aircraft of United Technologies frequently operate into and out of the airport. RSA's on Runway 6-24 should meet current FAA minimum safety standards. Runway 6-24 is badly in need of new pavement.	Comment noted (see Section 1.3).
☒ **Public Review (Russell Buck, dated October 3, 2010)**		
1	I see this runway extension as justifying further increases in the frequency of these jets.	The proposed project at Igor I. Sikorsky Airport does not include a runway extension (see Section 1.0).
2	The addition of a safety zone will change the usable length of the runway.	The existing runway length will not change under this project (see Section 2.2.1). The minimum runway length sufficient to accommodate existing operations is the current length of 4,677 feet, based on present users and aircraft operational characteristics.

URS	COMMENTS AND RESPONSES – LETTERS	
PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010	
PROJECT LOCATION:	IGOR I. SIKORSKY MEMORIAL AIRPORT	
NO.	COMMENT	RESPONSE
☒ **Public Review (David Faile, Friends of Sikorsky Airport, dated September 27, 2010)**		
1	Many Stratford residents and Mayor of Stratford complained that they have not been listened to when it comes to the Airport. Looking at the history of the design and planned safety improvements at the Airport tells a completely different story.	Comment noted. The last paragraph of Section 1.0 has been updated to reflect the public review process related to this Written Reevaluation.
2	Moving the road and the fence has many benefits for both the Airport and Stratford.	Comment noted.
☒ **Public Review (Bruce Johnson, no date)**		
1	I strongly support the proposed safety improvements at the airport. Sikorsky Memorial Airport is an economic asset to the whole region provided business and jobs. The proposed plan to improve safety must be adopted and implemented.	Comment noted.
☒ **Public Review (Lisa Matson, dated September 13, 2010)**		
1	If runway 6-24 is so unsafe, why does the FAA allow it be used at all? How bad does the runway surface need to be before the runway will be closed? If planes have continued to land and take off since 1999, how unsafe could the length and surface of the airport runway be? If safety is a concern, why hasn't the FAA given the City of Bridgeport the funds to pave runways other than 6-24?	The Runway 6-24 pavement requires normal re-surfacing to continue to provide an acceptable surface for use by aircraft. FAA standards related to runway pavement conditions are contained in FAA Advisory Circular 150/5380-6B, *Guidelines for Maintenance of Airport Pavements*. The objective of FAA's Runway Safety Area Program (FAA Order 5200.8) "is that all federally obligated airports and all RSAs at airports certificated under 14 Code of Federal Regulations (CFR) part 139 shall conform to the standards contained in FAA Advisory Circular 150/5300-13 to the maximum extent practicable. In addition, prior to receiving federal funding for re-surfacing, the RSAs at the Airport must conform to the standards set forth by the FAA, to the extent practicable. Igor I Sikorsky Airport is certified under 14 CFR part 139 and Runway 6-24 requires resurfacing so improving the RSA is require under 14 CFR 139.309.
2	Why are planes allowed to land in Stratford on dark and stormy nights when even metropolitan airports are closed?	Public airports are generally open 365 days a year and can operate in a safe manner at night and in bad weather. Metropolitan airports generally do not close. Aircraft are equipped and pilots are trained to land and takeoff in various weather conditions.
3	Why isn't the tower manned 24 hours a day, 7 days a week? Why are planes allowed to land when the tower is not manned?	Most airports do not have air traffic control towers and can operate safely. The traffic at Sikorsky does not reach levels where it meets FAA criteria for a 24-hour manned tower.

PROJECT NAME:	**DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010**
PROJECT LOCATION:	**IGOR I. SIKORSKY MEMORIAL AIRPORT**

NO.	COMMENT	RESPONSE
4	What scientific data is there to prove that a shorter runway caused the loss of life and not the poor runway surface, bad weather, and poorly staffed airport?	The National Transportation Safety Board issued a determination on the probable cause of the accident which included the non-frangible blast fence (see Appendix G). The FAA has established standards for Runway Safety Areas at all airports, and seeks to implement these standards to the fullest extent practicable. This is particularly relevant here at Sikorsky considering the history of aircraft accidents which included the fatal accident in 1994. This Reevaluation document makes no determination on a "shorter runway" causing the 1994 accident.
5	Why isn't there regular commercial service that used to be available to Washington DC? What evidence is there that there is a demand for service out of Stratford? How many airports can the area support? Isn't Tweed New Haven struggling to survive?	Airlines make the decision regarding when and where to have commercial service. This document makes no determination regarding demand for service or number of airports. The FAA has established standards for Runway Safety Areas at all airports, and seeks to implement these standards to the fullest extent practicable.
☒ **Public Review (George Mulligan, dated September 28, 2010)**		
1	Expanded airport footprint can affect range of drug airplanes and possibly terrorists.	The installation of the Runway Safety Area does not affect runway length or aircraft range.
2	An overrun of the runway to the safety area shall affect capped asbestos.	Asbestos materials may be present on the site of the proposed runway safety area. Project specifications will include provisions for including best management practices and compliance with all federal, state, and local regulation. These specifications will require testing of waste materials for contamination during excavation and hauling contaminate soils to sanctioned waste disposal sites. All disturbed areas will be either landscaped with grass or overlain with asphalt, both of which will cap the underlying asbestos materials.
3	EPA Bulletin #44 shows EPA plans to consolidate Raymark to inland dumpsite.	EPA Bulletin 44 notes that EPA, CTDEP and Town Officials have agreed to develop a master plan to cleanup the numerous Raymark waste locations in Stratford. Potential clean approaches for the Site adjacent to the Airport, known as Operable Unit #6, include excavation (off-site disposal), treatment and capping of the site. A combination of off -site disposal and capping of the disturbed areas will be used when asbestos material is encountered during the construction.

NO.	COMMENT	RESPONSE
4	All Sikorsky crashes have been pilot error.	There have been various contributing factors to past aircraft accidents and fatalities at this airport Appendix G contains the National Transportation Safety Board accident investigation reports. The lack of standard safety areas is one such factor. On October 1, 1999, the FAA issued FAA Order 5200.8, *Runway Safety Area Program*, which stated that all federally obligated airports and all RSAs at airports certificated to provide scheduled passenger service shall conform to the standards contained in FAA Advisory Circular 150/5300-13, *Airport Design*, to the extent practicable.
5	FAA only cares about airplane, pilots, passenger safety, under purview.	While safety of the national aviation system is FAA's core mission, the FAA also has responsibilities to comply with federal environmental law. This includes the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA, and various natural/cultural resource protection laws and regulations.
6	Statutorily, all federal departments and agencies are mandated to work together under direction from executive, legislative, and judicial.	Comment noted.
☒ **Public Review (Denise Nelson, no date)**		
1	In addition to the noise: the danger of closing the evacuation route for 2,300 Lordship households and the destruction of wildlife adjacent to a wildlife refuge.	The project will not close any evacuation route for Lordship. The proposed project is the installation of the runway safety areas and repair of the runway pavement. No impacts to the wildlife refuge are anticipated.
2	I am concerned about the effect of the airplane pollutants.	An Air Quality analysis was conducted for the proposed project and is included in the Written Reevaluation (see Section 3.4 and Section 4.1). The total project-related emissions are well below the applicable de minimis thresholds, signifying that project emissions do not interfere with the air quality goals of the area's State Implementation Plan.
☒ **Public Review (Pete Pantelis, dated October 5, 2010)**		
1	FAA should make the runway improvements and any other improvements that facilitate a better airport.	Comment noted. The project under consideration includes repair of pavement and installation of safety areas as recommended by the NTSB.

URS	COMMENTS AND RESPONSES – LETTERS	
PROJECT NAME:	DRAFT WRITTEN REEVALUATION OF THE ENVIRONMENTAL IMPACT STATEMENT FOR THE RUNWAY SAFETY AREA IMPROVEMENTS, DATED AUGUST 2010	
PROJECT LOCATION:	IGOR I. SIKORSKY MEMORIAL AIRPORT	
NO.	COMMENT	RESPONSE
☒ **Public Review (Mike Rosen, dated October 6, 2010)**		
1	People fear that the safety expansion will just be paved over one day to allow bigger planes and in turn, increase the noise. If that is not the intent, then offer a legally binding document stating so. It would be a more meaningful if it included monetary consequences paid by the FAA To the Town of Stratford for breach of agreement (Noise Abatement Program).	The approved Airport Layout Plan (ALP) does not include a runway extension (see Exhibit 1.1-1). Any extension or change to the runway footprint would have to include additional safety area and be shown on an approved ALP. Any increase to the runway would also require a new Environmental Impact Statement and public involvement.
☒ **Public Review (Burton Schwartz, dated September 16, 2010)**		
1	The many benefits to a clean, updated airport are advantageous to everyone and the economic growth of the area. The safety issues and accident prevention must be considered.	Comment noted.
☒ **Public Review (Walter Smith, dated September 27, 2010)**		
1	Eight lives would have been saved had the current fence been replaced at the time by a safety area. The safety area will make a safe airport even safer for both takeoffs and landings. The safety improvements will benefit the community at large through better drainage in the immediate vicinity. A number of modifications have already been made to the original safety plan to satisfy community concerns.	Comment noted.
☒ **Public Review (Emily Wood, dated September 3, 2010)**		
1	Any expansion will be even more detrimental to our life here. The planes now go over our houses and are very low and very noisy. We've been told this flight pattern is only for bad weather; however, every day there are at least 10 planes that come over the houses.	The approved Airport Layout Plan (ALP) does not include a runway extension. Any extension or change to the runway footprint would have to include additional safety area and be shown on an approved ALP. Any increase to the runway would also require a new Environmental Impact Statement and public involvement.
2	Safety modifications are surely needed as there have already been several mishaps but accommodations for larger planes will surely bring trouble – perhaps even hitting houses.	This project does not include any "accommodations for larger planes". It is the installation of runway safety areas, and repair of runway pavement. No change is anticipated in the type or number of aircraft using the Airport.

This appendix contains the following articles/reports regarding relevant aircraft accidents that have occurred at Igor I. Sikorsky Memorial Airport since 1994:

APRIL 27, 1994 INCIDENT (NTSB IDENTIFICATION: DCA94MA053)
National Transportation Safety Board - Narrative.

National Transportation Safety Board - Factual Report Aviation

MARCH 9, 2001 INCIDENT (NTSB IDENTIFICATION: NYC0FA084)
National Transportation Safety Board - Factual Report Aviation

Cummings, B. & Ramunni, K. (2001, March 10). No one hurt; Sikorsky officials cite need for safety improvements. *Connecticut Post*, pp A1, A9.

JUNE 12, 2009 INCIDENT (NTSB IDENTIFICATION: ERA09LA339)
National Transportation Safety Board – Preliminary Narrative.

Burgeson, J. (2009, June 12). 7 survive Sikorsky Airport plane crash. Connecticut Post. Retrieved from http://www.connpost.com

NTSB Identification: **DCA94MA053** .
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Nonscheduled 14 CFR
Accident occurred Wednesday, April 27, 1994 in STRATFORD, CT
Probable Cause Approval Date: 4/12/1995
Aircraft: PIPER PA=31-350, registration: N990RA
Injuries: 8 Fatal, 1 Serious.

The captain had ILS glideslope data available during the approach but did not fly the ILS glideslope. The partial obscuration of the airport environment, due to ground fog, contributed to the captain's failure to recognize that the airplane was high on both his approach and landing. The destruction of the airplane and the resulting occupant injuries were a direct result of the collision with the blast fence. FAA interaction & communication with local communities, although persistent, were unsuccessful in gaining support for runway safety area improvements and for the installation of approach lighting for runway 6. The passenger seats had been improperly assembled using unapproved parts, and seat belts had been installed incorrectly.

The National Transportation Safety Board determines the probable cause(s) of this accident as follows:

The failure of the captain to use the available ILS glideslope, his failure to execute a go-around when conditions were not suitable for landing, and his failure to land the airplane at a point sufficient to allow for a safe stopping distance; the fatalities were caused by the presence of the nonfrangible blast fence and the absence of a safety area at the end of the runway. (NTSB Report AAR-94/08)

Full narrative available

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National Transportation Safety Board FACTUAL REPORT AVIATION	NTSB ID: DCA94MA053	Aircraft Registration Number: N990RA
	Occurrence Date: 04/27/1994	Most Critical Injury: Fatal
	Occurrence Type: Accident	Investigated By: NTSB

Location/Time

Nearest City/Place	State	Zip Code	Local Time	Time Zone	
STRATFORD	CT	06497	2256	EDT	

Airport Proximity: On Airport/Airstrip	Distance From Landing Facility:

Aircraft Information Summary

Aircraft Manufacturer	Model/Series	Type of Aircraft
PIPER	PA=31-350 /PA=31-350	Airplane

Revenue Sightseeing Flight: No Air Medical Transport Flight: No

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

SEE NTSB BLUE COVER REPORT NTSB/AAR-94-008

National Transportation Safety Board
FACTUAL REPORT
AVIATION

NTSB ID: DCA94MA053
Occurrence Date: 04/27/1994
Occurrence Type: Accident

Landing Facility/Approach Information

Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
SIKORSKY MEMORIAL	BDR	10 Ft. MSL	6	4677	150

Runway Surface Type: Asphalt

Runway Surface Condition:

Approach/Arrival Flown: Visual

VFR Approach/Landing: Full Stop

Aircraft Information

Aircraft Manufacturer	Model/Series	Serial Number
PIPER	PA=31-350 /PA=31-350	31-7405417

Airworthiness Certificate(s): Experimental (Special); Acrobatic; Normal

Landing Gear Type: Retractable - Tricycle

Amateur Built Acft?	Number of Seats:	Certified Max Gross Wt.	Number of Engines:
No	10	7250 LBS	2

Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:
Reciprocating	LYCOMING	TIO-540-J2BD	350 HP

- Aircraft Inspection Information

Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time
Annual	01/1994	Hours	Hours

- Emergency Locator Transmitter (ELT) Information

ELT Installed?/Type	ELT Operated?	ELT Aided in Locating Accident Site?
No		

Owner/Operator Information

Registered Aircraft Owner	Street Address	City	State	Zip Code
JIB, INC	BOX 117	EAST HADDAM	CT	06423

Operator of Aircraft	Street Address	City	State	Zip Code
ACTION AIR CHARTERS			T	

Operator Does Business As: ACTION AIR CHARTERS

Operator Designator Code: JIBA

- Type of U.S. Certificate(s) Held:

Air Carrier Operating Certificate(s): On-demand Air Taxi

Operating Certificate:

Operator Certificate:

Regulation Flight Conducted Under: Part 135: Air Taxi & Commuter

Type of Flight Operation Conducted: Unknown;Non-scheduled; Domestic; Passenger Only

National Transportation Safety Board
FACTUAL REPORT
AVIATION

NTSB ID: DCA94MA053
Occurrence Date: 04/27/1994
Occurrence Type: Accident

First Pilot Information

Name	City	State	Date of Birth	Age
On File	On File	On File	On File	33

Sex: M | Seat Occupied: Left | Occupational Pilot? Civilian Pilot | Certificate Number: On File

Certificate(s): Commercial; Private

Airplane Rating(s): Multi-engine Land; Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): None

Current Biennial Flight Review?

Medical Cert.: Class 1 | Medical Cert. Status: Valid Medical--w/ waivers/lim. | Date of Last Medical Exam: 03/1994

- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Night	Instrument Actual	Instrument Simulated	Rotorcraft	Glider	Lighter Than Air
Total Time	3500	527		2000	1125	250				
Pilot In Command(PIC)	2200									
Instructor										
Instruction Received										
Last 90 Days	71	71		71						
Last 30 Days	44	44		44						
Last 24 Hours	2	2		2						

Seatbelt Used? Yes | Shoulder Harness Used? No | Toxicology Performed? Yes | Second Pilot? No

Flight Plan/Itinerary

Type of Flight Plan Filed: VFR

Departure Point	State	Airport Identifier	Departure Time	Time Zone
ATLANTIC CITY	NJ	ACY	2155	EST

Destination	State	Airport Identifier
Same as Accident/Incident Location		

Type of Clearance: VFR

Type of Airspace: Class D

Weather Information

Source of Wx Information:

Flight Service Station

National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB ID: DCA94MA053

Occurrence Date: 04/27/1994

Occurrence Type: Accident

Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
BDR	2150	EST	10 Ft. MSL	1 NM	250 Deg. Mag.

Sky/Lowest Cloud Condition: Scattered 2700 Ft. AGL | Condition of Light: Night/Dark

Lowest Ceiling: Broken 9500 Ft. AGL | Visibility: 2 SM | Altimeter: 29.00 "Hg

Temperature: 15 °C | Dew Point: 15 °C | Weather Conditions at Accident Site: Visual Conditions

Wind Direction: 250 | Wind Speed: 6 | Wind Gusts:

Visibility (RVR): 0 Ft. | Visibility (RVV) 0 SM

Precip and/or Obscuration:

Accident Information

Aircraft Damage: Destroyed | Aircraft Fire: Ground | Aircraft Explosion Ground

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot	1				1
Second Pilot					
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers	7	1			8
- TOTAL ABOARD -	8	1			9
Other Ground	0	0	0		0
- GRAND TOTAL -	8	1	0		9

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB ID: DCA94MA053

Occurrence Date: 04/27/1994

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

ROBERT P. BENZON

Additional Persons Participating in This Accident/Incident Investigation:

DAVID IVEY
WASHINGTON, DC

DEEPAK JOSHI
WASHINGTON, DC

MALCOLM BRENNER
WASHINGTON, DC

JOHN DELISI
WASHINGTON, DC

National Transportation Safety Board FACTUAL REPORT AVIATION	NTSB ID: NYC01FA084	Aircraft Registration Number: N48DD
	Occurrence Date: 03/09/2001	Most Critical Injury: None
	Occurrence Type: Accident	Investigated By: NTSB

Location/Time

Nearest City/Place	State	Zip Code	Local Time	Time Zone
Bridgeport	CT	06497	1301	EST

Airport Proximity: On Airport/Airstrip | Distance From Landing Facility:

Aircraft Information Summary

Aircraft Manufacturer	Model/Series	Type of Aircraft
Hawker Siddeley	HS-125-3A	Airplane

Revenue Sightseeing Flight: No | Air Medical Transport Flight: No

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

HISTORY OF FLIGHT

On March 9, 2001, about 1301 eastern standard time, a Hawker Siddeley HS-125-3A, N48DD, was substantially damaged when it overran the runway while landing at the Igor I. Sikorsky Memorial Airport (BDR), Bridgeport, Connecticut. The two certificated airline transport pilots were not injured. Instrument meteorological conditions prevailed and an instrument flight rules flight plan was filed for the positioning flight that originated from the Bradley International Airport, Windsor Locks, Connecticut, about 1230. The flight was conducted under 14 CFR Part 91.

According to the pilot-in-command (PIC), the airplane was positioned to BDL for the second-in-command (SIC) to receive a PIC checkride from the Federal Aviation Administration (FAA); however, the checkride was canceled due to weather conditions. The PIC additionally stated that part of the oral portion of checkride, which was conducted, included preflight planning of airplane performance data and weather evaluation for the flight to BDR.

According to the SIC, the airplane was repositioned to BDR for her to complete a checkride with the FAA; however, due to the airplane's airworthiness paperwork not being in order, a FAA inspector canceled the checkride. The flightcrew then contacted a FSS to check the weather and file a flight plan for the flight to BDR. The SIC additionally stated that the flightcrew did not complete any airplane performance or weather planning prior to their departure from BDL.

According to the FAA airworthiness inspector who examined the airplane's documents for the SIC's checkride, he could not make a determination of the airplane's airworthiness due to the failure of the flightcrew's ability to produce documents confirming the airworthiness. The inspector then informed the FAA operations inspector that he could not make a determination of the airplane's airworthiness, and not to fly in the airplane.

According to the FAA operations inspector who was to conduct the checkride, he did not conduct any airplane performance or weather planning with the flightcrew.

The SIC additionally stated that she contacted a Flight Service Station (FSS), about 1045, to check the weather and file a flight plan for the checkride, and the return flight to BDR. At 1122, the SIC made a second call to a FSS, requesting the weather conditions at Westfield and Worchester, Massachusetts, "to see just how much it changed after the hour." At 1226, the SIC made a third call to a FSS. She requested the weather at BDL and BDR. The briefer advised the weather at BDL, then advised that the hourly BDR weather was, "three hundred overcast, one-half mile, snow and fog, [winds] one thirty at seven, [temperature and dew point] plus one, zero. OK? Anything else?" The SIC replied, "that's what I needed." Review of recorded conversations between the SIC and the FSS briefer revealed that the SIC did not request, nor receive, any NOTAMS during any of the calls.

Narrative (Continued)

The airplane then departed BDL with the SIC at the left seat position flying the airplane, for the positioning flight to BDR.

According to the flightcrew, the flight arrived in the BDR area, and an ILS approach to runway 6 was executed to the airport. During the approach, while completing the landing checklist, the PIC visually observed that the hydraulic pressure gauge, "smiley face," was normal, and he performed a "brake test." The BDR tower controller advised the flightcrew that a Navajo had just landed and reported a 250-foot ceiling, 3/4 miles of visibility, and that the runway braking action was "good." On final approach, the airplane broke out of the overcast clouds about 400 feet above the ground. The runway appeared dry, with only blowing snow across it, and the approach was continued at an airspeed of about 126 knots. As the airplane touched down on the runway, at an airspeed of about 116 knots, the SIC stated to the PIC that she did not have any braking effectiveness, and selected the "dump flaps" to slow the airplane. The airplane continued down the runway and did not seem to be slowing to a safe speed. The flightcrew observed the 1,000-foot remaining marker approaching and the SIC selected the emergency brakes. After she felt a lack of deceleration, the SIC selected the parking brake. The airplane continued off the end of the runway, impacted a non-frangible fence, and came to rest with about 4 feet of the airplane protruding onto a public access road.

After the accident, the air traffic controller who had issued the landing clearance to the airplane stated that he observed the airplane touch down on runway 6, abeam "taxiway Bravo, with 3,200 feet remaining." On landing rollout, slush was observed, "spraying" from the airplane, which extended rearward, about 5 feet from the airplane. The controller did not observe the airplane impact the fence due to the obscured visibility from snow. The controller added that the airplane "landed at a high rate of speed."

According to a witness who was driving on a road about 1/4 mile prior to runway 6, he observed a jet airplane on approach to the airport. The witness, who was also a private pilot, estimated that the airplane crossed over the threshold of the runway at an altitude of about 100 feet and about 125 feet to the right of the runway centerline. As the witness continued to observe the airplane, it banked to the left about 10-15 degrees and became aligned with the centerline of the runway. The witness thought he would see the airplane execute a missed approach, but it continued to fly down the runway, about a "gear length" above the runway. The witness did not observe the airplane touchdown on the runway, as it traveled out of view due to the snow obscuring the visibility, which he estimated as 3/4 mile. The witness estimated the speed of the airplane, as he observed it landing, was "hot", but he could not estimate a numerical value.

Excerpts of the cockpit voice recorder (CVR) transcript revealed the following:

At the beginning of the transcribed recording, BDR ATIS weather information "Kilo" was recorded on the PIC's channel.

At 12:49:12, the ATIS recording stated, "Bridgeport tower information Kilo, time one six five four, wind one four zero at seven, visibility one half mile with snow, fog, ceiling three hundred overcast, temperature one, dew point zero, altimeter two nine eight zero. Expect the ILS approach landing runway six, departing runway eleven. NOTAMS. PAPI runway six out of service. Thin wet snow all surfaces. Braking action advisories in effect. Aircraft taxiing for departure are require to read back runway assignments. Sikorsky heliport class Delta airspace north of Bridgeport is active."

The PIC then briefed the SIC with the information that he had received. During the brief, the PIC did not mention any of the current NOTAMS transmitted on the ATIS.

At 13:00:27.7, the PIC stated, "ref plus five."

Narrative (Continued)

At 13:00:30.4, the PIC stated, "little gusty."

At 13:00:34.9, the cockpit area mike recorded sounds of clicks and knocks.

At 13:00:35.1, the PIC stated, "ah uh we need to get on it, two thousand feet to go."

Throughout the CVR transcript, there was no discussion between the flightcrew of the current NOTAM's at BDR, or landing performance data.

The accident occurred during the hours of daylight, approximately 41 degrees, 09 minutes north latitude, and 70 degrees, 07 minutes west longitude.

FLIGHTCREW INFORMATION

Pilot-in-Command

The PIC held an airline transport certificate with a rating for airplane multi-engine land, and commercial privileges for airplane single-engine land. In addition, the PIC was type rated in the Boeing 727, Hawker Siddeley HS-125, Israel Industries IA-JET, and North American Rockwell N-265. The PIC reported his total flying experience in airplanes was 7,000 hours. He also reported that he had accumulated about 600 hours in the Hawker Siddeley HS-125 series airplane, of which about 42 hours were in the last 90 days.

The captain's most recent FAA first class medical certificate was issued on November 24, 2001.

The PIC attended and successfully completed HS-125 recurrent training at Simuflite, on January 24, 2001.

Second-in-Command

The SIC held an airline transport certificate with a rating for airplane single-engine and multi-engine land. The SIC also held a commercial certificate with privileges for airplane single-engine sea. In addition, the SIC was type rated in the Dassault DA-10, Dassault DA-20, Dassault DA-50, Gulfstream G-1159, Hawker Siddeley HS-125, and Israel Industries IA-JET. The SIC reported her total flying experience in all aircraft was 8,750 hours. She also reported that she had accumulated a total of 400 hours in the Hawker Siddeley HS-125 series airplane, of which 1.3 were in the last 3 years.

The most recent training attended by the SIC, for the HS-125, was in 1997.

The SIC's most recent FAA first class medical certificate was issued on March 2, 2001.

AIRCRAFT INFORMATION

Review of the airplane's maintenance records by a FAA inspector did not reveal any recorded notations referencing the braking system.

The airplane was not equipped with thrust reversers.

METEOROLOGICAL INFORMATION

The weather recorded at BDR, at 1354 was, winds from 080 degrees at 5 knots, 3/4 mile visibility, light snow and mist, overcast skies at 300 feet, and a temperature of 34 degrees Fahrenheit.

Aviation Terminal Forecasts (TAF)

The TAF for BDR, issued March 9, about 1120, and valid from March 9 about 1100 to March 10 about 0700, was as follows: Wind from 140 degrees at 12 knots, visibility 2 statute miles, light snow, overcast skies at 900 feet. Between 1100 and 1200, visibility temporarily 4 statute miles, light snow, rain and mist, overcast skies at 1,200 feet. From 1300 to 1900, wind from 070 degrees at 10 knots, visibility 4 statue miles, light rain, and overcast skies at 1,200 feet. Between 1300 and 1500, visibility temporarily 2 statute miles, light snow, rain and mist, overcast skies at 600 feet.

The TAF for BDR, issued March 9, about 1132, and valid from March 9 about 1200 to March 10 about 0700, was as follows: Wind from 140 degrees at 12 knots, visibility 1-1/2 statute miles, light snow and mist, overcast skies at 800 feet. Between 1100 and 1200, visibility temporarily 1/2 statute mile, snow and fog, overcast skies at 600 feet. From 1300 to 1900, wind from 070 degrees at 10 knots, visibility 4 statue miles, light rain, and overcast skies at 1,200 feet. Between 1300 and 1500, visibility temporarily 2 statute miles, light snow, rain and mist, overcast skies at 600 feet.

AIRPORT INFORMATION

Runway 6 at BDR was a 4,677-foot long, 150-foot wide, hard surfaced asphalt runway. The usable length of the runway when landing at the glideslope intercept point was 3,686 feet. No safety area existed at the end of runway 6. Runway 24 had a displaced threshold located 320 feet from the beginning of the runway.

The distance from taxiway Bravo, to the end of runway 6, was about 3,214 feet.

According to BDR records, a NOTAM was issued on March 9, 2001, that referenced the condition of the runway surfaces. The NOTAM was issued at 1143 and indicated, "Thin wet snow all surfaces."

An airport operations officer stated that he was instructed to conduct a braking action test on runway 6 after that accident. The test was conducted using a vehicle, at a speed of 40 mph. The results were braking action "good" for the first, second, and third portions of the runway. The officer also observed 1/8 - 1/4 inch of slush patches on the runway surface.

A pilot, who was flying a Piper PA-31 the day of the accident, stated that he had flown the ILS to runway 6 just prior to the accident airplane and was asked by an ATC controller to "keep his speed up" for a trailing airplane. The pilot recalled that the weather conditions were, visibility of about 1/2-3/4 mile, with a "ragged" ceiling of 250-300 feet. After landing, the pilot was queried by the ATC tower for a braking action report, which the pilot replied, "good." The pilot additionally stated that the conditions on the runway were "slushy" with snow accumulations towards the middle of the runway. After the pilot parked his airplane, he observed that it was snowing very heavy at times, with wet heavy snowflakes.

Blast Fence

An 8-foot 9-inch-high, nonfrangible metal blast fence was located about 342 feet prior to the runway 24 displaced threshold. The fence was installed to protect Connecticut State Highway 113, a public road that ran parallel to the fence, from jet/propeller blast of aircraft operating at the airport. The highway was located about 10 feet beyond the blast fence. The blast fence was constructed with galvanized structural steel upright sections and double reverse galvanized corrugated sheet metal.

FLIGHT RECORDERS

Cockpit Voice Recorder

The airplane was equipped with a B&D Instruments and Avionics cockpit voice recorder (CVR). The CVR was transported to the Safety Board, Office of Research and Engineering, on March 13, 2001. The CVR group convened on April 25, 2001. A transcript was prepared for the last 11 minutes and 55 seconds of the 31-minute 44-second recording.

WRECKAGE INFORMATION

The airplane was examined at the accident site on March 9, 2001.

The nose of the airplane was crushed rearward and to the right. Buckling was observed to the firewall. The nose landing gear was canted to the left and partially collapsed.

Damage to the left wing consisted of a galvanized structural steel upright section embedded about 32 inches into the wing, about 36 inches from the wing root. Another galvanized structural steel upright section was imbedded about 10 inches into the wing about 96 inches from the wing root.

The damage to the right wing consisted of a galvanized structural steel upright section embedded about 11 inches into the wing, at the wing root. Another galvanized structural steel upright section was imbedded about 8 inches into the wing about 72 inches from the wing root.

The flaps were observed in the "dump" position, and the wing spoilers were extended at an angle of 45 degrees.

When the cockpit area was examined, the parking brake was observed in the applied position, the flap selector was in the "dump" position, and the thrust levers were in the idle position.

The hydraulic brake pressure gauge in the cockpit was observed as 2,000 PSI on the left and right side. The supply was at a full scale left reading of "4."

The "bug" speed selected for the PIC's and SIC's airspeed indicators was observed as 116 knots.

Power was not applied to airplane due to the extent of damage to the wing and fuel tanks.

On March 10, 2001, the runway was examined. Two sets of skid marks were observed beginning at the displaced threshold, and continued to the non-frangible fence.

TOXICOLOGY INFORMATION

Post accident drug and alcohol tests were not administered to the pilots after the accident.

TEST AND RESEARCH

The airplane was further examined in a hangar at BDR on March 12, 2001 by a Safety Board investigator, an FAA inspector, and a certified HS-125 mechanic. The emergency brake lever located in the cockpit was observed in the release position. The accumulated hydraulic pressure was full scale high. When the emergency brake was selected, a "squishing sound" was heard and the brake pads of the left and right main landing gear were observed to move. The emergency brake was then released. The brake pedals on the left and right side of the cockpit were applied individually. Each time pressure was applied to a brake pedal, a "squishing sound" was heard and the brake pad of the respective main landing gear were observed to move.

The parking brake of the airplane was then applied to perform a "pad wear check" on the assembled main landing gear wheel brakes. Measurements were taken of the pad wear gauge. The measurement of the right outboard brake pad was 1.75 inches, and the right inboard was 1.5 inches. The measurement of the left outboard brake pad was 1.63 inches, and the right inboard was 1.63 inches.

Narrative (Continued)

Review of the Raytheon Aircraft HS-125 Aircraft Maintenance Manual revealed that, a 1/4 worn brake pad was 1.544 inches, a 1/2 worn brake pad was 1.613, and a fully worn brake pad was 1.751 inches.

According to a representative of Raytheon Aircraft, the wear dimensions described in the maintenance manual were provided to give a mechanic guidance on brake pad wear trends and replacement. The dimensions were not suggestive of actual brake pad condition.

All four main landing gear tires were observed as having 4-inch "flat spots" on the treads. The "flat spots" were worn to a depth of about 1/8 inch.

The tire pressure for the outer right main landing gear tire was 111 PSI, and the inner right main landing gear tire was 112 PSI. The tire pressure for the outer left main landing gear tire was 111 PSI, and the inner left main landing gear tire was 108 PSI.

ADDITIONAL INFORMATION

According to the Aeronautical Information Manual Pilot/Controller Glossary, a contaminated runway, "is considered contaminated whenever standing water, ice, snow, slush, frost in any form, heavy rubber or other substances are present."

According to FAA Accident Prevention Program Publication, On Landings Part II, FAA-P-8740-49, WATER ON THE RUNWAY AND DYNAMIC HYDROPLANING:

"Spring, summer, winter or fall, anytime is time for water on the runway. When the runway's wet you may be confronted with dynamic hydroplaning. Dynamic hydroplaning is a condition in which the airplane rides on a sheet of water rather than on the runway's surface. Because hydroplaning wheels are not touching the runway, braking and directional control are almost nil. You are literally 'surfing'."

"There are actually three types of hydroplaning, Dynamic - where the airplane rides on standing water; Viscous - where a film of moisture covers the painted or rubber coated portion of the runway; and Reverted, or melted rubber - where locked tires on a wet runway can cause heat so intense that the aircraft is actually riding on a mixture of steam and melted rubber. For now, we'll concentrate only on dynamic hydroplaning. To help minimize dynamic hydroplaning, some runways are grooved to help drain off water. But most runways are not. Tire pressure is a factor in dynamic hydroplaning. By this simple formula you can calculate the minimum speed, in knots, at which hydroplaning will begin. In plain language, the minimum hydroplaning speed is determined by multiplying the square root of the main gear tire pressure, in PSI, by nine."

"Landing at higher than recommended touchdown speeds will expose you to a greater potential for hydroplaning. And once hydroplaning starts, it can continue well below the minimum, initial hydroplaning speed. When the runway is wet, be prepared for hydroplaning and opt for a suitable runway most aligned with the wind. Landing into the wind gives you the best chance for directional control - but don't count on it. If you hydroplane, make no abrupt control movements. Your brakes will be completely useless - so don't use them. Use aerodynamic braking to your fullest advantage. In summary, think about runway braking problems well before you land."

Landing Data

When the airplane was examined after the accident, a takeoff and landing information card (TOLD card) was not observed in the cockpit area. The flightcrew was queried as to the location of the TOLD information. They replied that they could not recall what happened to the original information.

Narrative (Continued)

On the NTSB Pilot/Operator Aircraft Accident Report, the PIC stated that the estimated fuel onboard the airplane at the time of the accident was about 6,000 pounds.

In a follow-up interview, the PIC stated that he did not recall what the landing weight at the time of the accident was, nor the landing reference speed. When advised that the reference speed as indicated on the pilot's airspeed indictor correlated to a landing weight of 19,800 pounds, the PIC stated, "that sounds about right". The PIC additionally stated that he could not recall what the landing distance required was, but stated that it was well within the legal limits to land on runway 6.

In a subsequent interviews related to the landing weight and reference speed, the PIC stated that he recalled the basic operating weight of the airplane was about 12,600 pounds and the airplane landed at BDR with about 2,000 pounds of fuel remaining. The SIC stated that she had the airplane fueled at BDR with about 8,000 pounds of fuel. She estimated that the airplane arrived back in the BDR area with about 5,000-6,000 pounds of fuel remaining, making the landing weight about 18,000 pounds.

According to the Hawker Siddeley HS-125 AFM performance section, "Landing Reference Speed Vref" chart, the Vref speed at a weight of 15,000 pounds, was about 102 knots. The reference speed of 117 knots, as indicated on the pilot's airspeed indictor, correlated to a landing weight of 19,800 pounds.

The AFM performance section estimated the uncorrected landing distance [the distance from touchdown to a complete stop], on a dry runway, at a landing weight of 15,000 pounds, with a 5-knot headwind, was approximately 2,160 feet. The uncorrected landing distance [the distance from touchdown to a complete stop] at 19,800 pounds was approximately 2,610 feet.

The AFM performance section also had a chart for the "Effect of Slippery Runway on Landing Distance." The chart determined that the "equivalent scheduled landing distance available," for the contaminated 4,677-foot long runway, with a 5-knot headwind, was approximately 2,150 feet.

Wreckage Release

The airplane wreckage was released to a representative of the operator on March 18, 2001.

National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB ID: NYC01FA084

Occurrence Date: 03/09/2001

Occurrence Type: Accident

Landing Facility/Approach Information

Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
Igor I. Sikorsky Memorial	BDR	10 Ft. MSL	6	4677	150

Runway Surface Type: Asphalt

Runway Surface Condition: Snow--wet

Approach/Arrival Flown: ILS

VFR Approach/Landing: None

Aircraft Information

Aircraft Manufacturer	Model/Series	Serial Number
Hawker Siddeley	HS-125-3A	25115

Airworthiness Certificate(s): Transport

Landing Gear Type: Retractable - Tricycle

Amateur Built Acft?	Number of Seats:	Certified Max Gross Wt.	Number of Engines:
No	10	21700 LBS	2

Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:
Turbo Fan	Garrett	TFE-731	3400 LBS

- Aircraft Inspection Information

Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time
Continuous Airworthiness	03/2000	2 Hours	10974 Hours

- Emergency Locator Transmitter (ELT) Information

ELT Installed?/Type	ELT Operated?	ELT Aided in Locating Accident Site?
No	No	No

Owner/Operator Information

Registered Aircraft Owner	Street Address	City	State	Zip Code
DDH Aviation Inc.	2221 Alliance Blvd., Suite 200	Fort Worth	TX	76177

Operator of Aircraft	Street Address	City	State	Zip Code
DDH Aviation Inc.	2221 Alliance Blvd., Suite 200	Fort Worth	TX	76177

Operator Does Business As:

Operator Designator Code:

- Type of U.S. Certificate(s) Held: None

Air Carrier Operating Certificate(s):

Operating Certificate:

Operator Certificate:

Regulation Flight Conducted Under: Part 91: General Aviation

Type of Flight Operation Conducted: Positioning

National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB ID: NYC01FA084

Occurrence Date: 03/09/2001

Occurrence Type: Accident

First Pilot Information

Name	City	State	Date of Birth	Age
On File	On File	On File	On File	69

Sex: M | Seat Occupied: Right | Occupational Pilot? Civilian Pilot | Certificate Number: On File

Certificate(s): Airline Transport

Airplane Rating(s): Multi-engine Land; Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): None

Current Biennial Flight Review? 01/2001

Medical Cert.: Class 1 | Medical Cert. Status: Valid Medical--no waivers/lim. | Date of Last Medical Exam: 11/2000

- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Night	Instrument Actual	Instrument Simulated	Rotorcraft	Glider	Lighter Than Air
Total Time	7000	600	2000	5000	800	1000	200			
Pilot In Command(PIC)	6600	500	1900	4700	750	950	165			
Instructor	1000		400	600	100	50	100			
Instruction Received										
Last 90 Days	43	42		42	12	8	2			
Last 30 Days	13	13		13	9	2				
Last 24 Hours	2	2		2	1	1				

Seatbelt Used? Yes | Shoulder Harness Used? Yes | Toxicology Performed? No | Second Pilot? Yes

Flight Plan/Itinerary

Type of Flight Plan Filed: IFR

Departure Point	State	Airport Identifier	Departure Time	Time Zone
Windsor Locks	CT	BDL	1335	EST

Destination	State	Airport Identifier
Same as Accident/Incident Location		BDR

Type of Clearance: IFR

Type of Airspace: Class D

Weather Information

Source of Wx Information:

Flight Service Station

National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB ID: NYC01FA084

Occurrence Date: 03/09/2001

Occurrence Type: Accident

Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
BDR	1354	EST	10 Ft. MSL	NM	Deg. Mag.

Sky/Lowest Cloud Condition: Ft. AGL

Condition of Light: Day

Lowest Ceiling: Overcast 300 Ft. AGL

Visibility: 0.75 SM

Altimeter: 29.76 "Hg

Temperature: 1 °C

Dew Point: 0 °C

Weather Conditions at Accident Site: Instrument Conditions

Wind Direction: 80

Wind Speed: 5

Wind Gusts:

Visibility (RVR): Ft.

Visibility (RVV) SM

Precip and/or Obscuration:

Accident Information

Aircraft Damage: Substantial

Aircraft Fire: None

Aircraft Explosion None

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot				1	1
Second Pilot				1	1
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers					
- TOTAL ABOARD -				2	2
Other Ground					
- GRAND TOTAL -				2	2

National Transportation Safety Board FACTUAL REPORT AVIATION	NTSB ID: NYC01FA084 Occurrence Date: 03/09/2001 Occurrence Type: Accident	

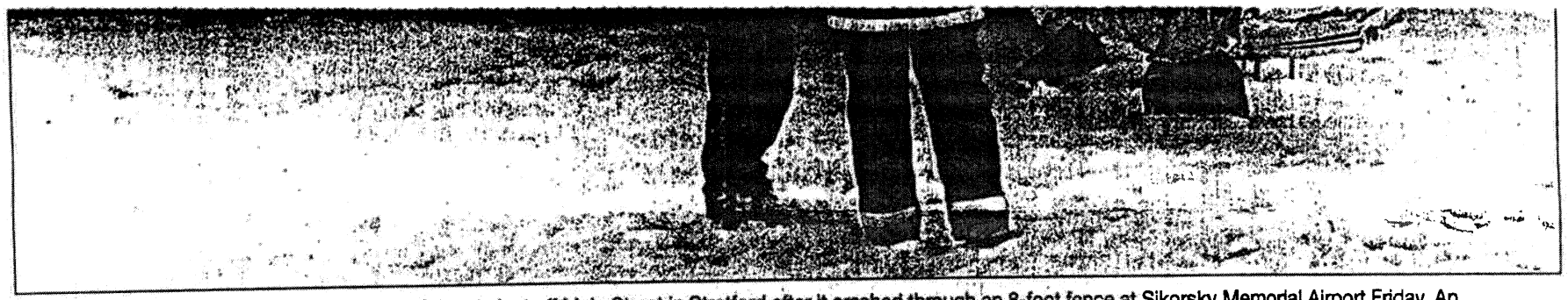
Administrative Information

Investigator-In-Charge (IIC)

Stephen M. Demko

Additional Persons Participating in This Accident/Incident Investigation:

David Carreau
FAA
Windsor Locks, CT



Private jet crashes: A twin-engine corporate jet rests just off Main Street in Stratford after it crashed through an 8-foot fence at Sikorsky Memorial Airport Friday. An unidentified man talks with a member of the airport rescue crew while assessing the damage. Main Street was blocked off in the afternoon while firefighters and a hazardous materials squad from the Department of Evironmental Protection contained leaking fuel. Photos by Morgan Kaolian/AEROPIX

No one hurt; Sikorsky officials cite need for safety improvements

What happened

- **A British Aerospace BAe 125 Hawker,** trying to land in a snow-storm, could not stop and crashed through an 8-foot fence at Sikorsky Memorial Airport in Stratford Friday afternoon.
- **The plane** came to a stop with its nose in Main Street.
- **After it crashed through the fence,** it narrowly missed a car driving along Main Street, according to witness Jean Boone. "It must have missed that plane by inches. Can you imagine what that driver must have thought?"
- **No one was injured** in the accident.
- **The accident** occurred in the same spot as an April 1994 crash.

By BILL CUMMINGS and KATE RAMUNNI
Staff writers

STRATFORD

A twin-engine corporate jet — trying to land in blizzard-like conditions Friday at Sikorsky Memorial Airport — skidded off the runway, rammed through an 8-foot fence and came to rest with its nose on Main Street.

The pilot and co-pilot, the only passengers on board, were not injured in the 1 p.m. accident, which heavily damaged the 14-passenger plane.

Officials of the Bridgeport-owned airport said if proposed safety improvements to the main runway had already been made, the accident would have been nothing more than a blown tire.

Police blocked off Main Street most of Friday afternoon as firefighter teams stood by in case leaking fuel ignited.

"I heard a thud and looked out the window, but the snow was so heavy I could barely see the tail of the plane," said Jean Boone, owner of the Windsock Inn restaurant, located only a few hundred yards from the accident.

"It was a total whiteout," she said.

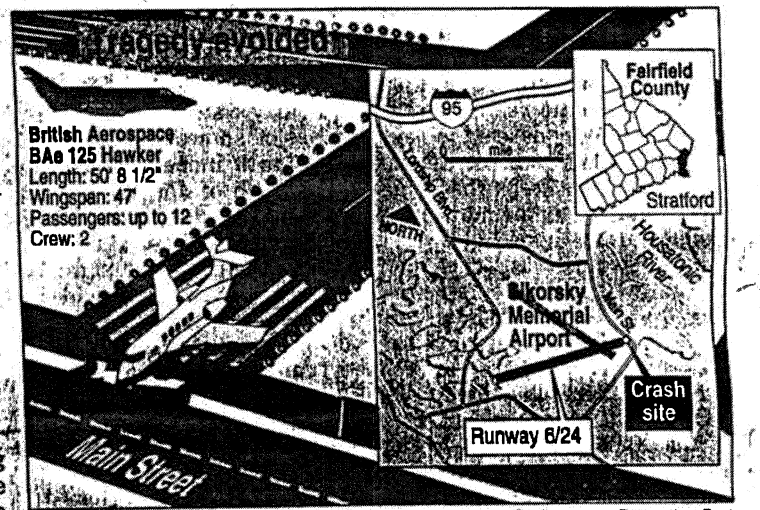
Boone said a car was traveling along Main Street at the same time the plane crashed through the fence and earthen embankment onto the roadway.

"It must have missed that plane by inches," Boone said. "Can you imagine what that driver must have thought?"

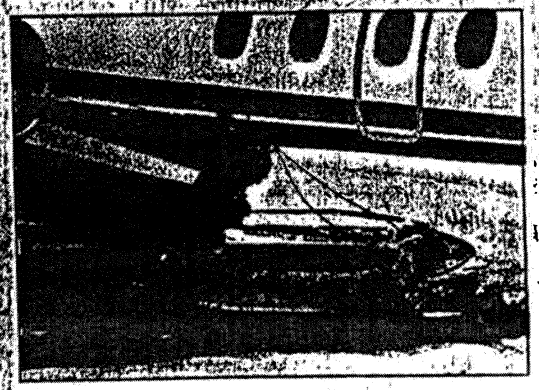
Bridgeport and Stratford police and fire personnel quickly surrounded the stricken plane and its leaking fuel.

The state Department of Environmental Protection's hazardous materials squad was also dispatched to the scene.

➤ Please see JET on A9



Source: The Complete Encyclopedia of World Aircraft and Connecticut Post — Connecticut Post



Broken wings: Most of the damage to the British Aerospace BAe 125 Hawker was to the nose cone and the wings, which were damaged when they struck the 8-foot fence. No one was injured in the accident.

(2/2) 3/10/2000

(112) 3/10/2001

CONNECTICUT POST Saturday, March 1

Containment: Members of the Stratford Fire Department, Sikorsky Airport Rescue Team, and hazardous waste squad from the Department of Environmental Protection map out a containment plan for leaking fuel from a British Aerospace BAe 125 Hawker that crashed through an 8-foot fence at Sikorsky Memorial Airport Friday. Photo by Morgan Kaolian/AEROPIX

Jet at Sikorsky skids into Stratford street

Continued from A1

Agents from the Federal Aviation Administration were also called to investigate the accident.

The plane came to rest with its nose jutting onto Main Street. Its wings were crumpled from bursting through a heavy blast fence surrounding the airport perimeter.

Airport Manager John Ricci said the jet, a British Aerospace BAe125 Hawker, seats up to 14 passengers, but was carrying only a female pilot and male co-pilot, both from Texas. The pair flew the plane, owned by 448 Allience Corp. of Dover, Del., to Long Island on Thursday and to Bridgeport on Friday.

The plane broke through the fence because it lost braking action, Ricci said, which may have been caused by mechanical conditions, the weather, or a combination of both.

A plane landing at Sikorsky minutes before the crash had no problems with braking, he said.

The pair brought the plane to the airport because Sikorsky Airport-based Flight Services Group was interested in purchasing it and had planned to inspect it, Ricci said.

The accident took place at the same spot where eight people were killed in April 1994, when their plane crashed into the fence as it tried to land in heavy fog.

Airport officials since have been planning to upgrade the runway, which would include adding safety zones at each end of the main runway and installing new lighting.

However, the plans have been held up over a four-acre tract of land — part of the Stratford Army Engine Plant across Main Street — needed to do the work.

The Army has said it intends to give the land to the airport, which is owned by Bridgeport, but Stratford officials have vowed to fight it because it entails rerouting Main Street down Sniffins Lane.

The project requires a series of approvals — federal, state and local — to proceed.

"This is a clear demonstration of why we need the safety area," Ricci said. "If I had to stage a demonstration, I couldn't have done it any better than [Friday's accident]."

If the runway work had already been done, the plane that crashed Friday would only have skidded off the runway into the safety area, Ricci said.

"It would have maybe blown a tire," he said. Instead, the plane sustained heavy damage, he said.

"We are just fortunate no one was hurt," he added.

WE BUY I

NTSB Identification: **ERA09LA339**
Nonscheduled 14 CFR Part 91 Subpart K: Fractional
Accident occurred Friday, June 12, 2009 in Bridgeport, CT
Aircraft: PILATUS AIRCRAFT LTD PC-12/47, registration: N877AF
Injuries: 7 Uninjured.

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On June 12, 2009 at 0756 eastern daylight time, a Pilatus PC-12/47 airplane, N877AF, was substantially damaged when it impacted a blast fence during landing at Igor Sikorsky Memorial Airport (BDR), Bridgeport, Connecticut. The two pilots and five passengers were not injured. Instrument meteorological conditions prevailed, and an instrument flight rules (IFR) flight plan was filed for the flight that originated at Norwood Memorial Airport (OWD), Norwood, Massachusetts. The aircraft was fractionally owned by private individuals who delegated the management of the airplane to Alpha Flying, Inc. The fractional ownership flight was conducted under the provisions of 14 Code of Federal Regulations Part 91, Subpart K.

According to the pilots, they checked the weather prior to departure from Norwood and determined they would not be able to fly to their original destination of White Plains, New York. The captain discussed the weather with the operator and they decided to amend their destination to Bridgeport. The pilots reported that at the time of their departure, the weather being reported at Bridgeport included an overcast ceiling of 700 feet with 7 miles visibility and light rain.

When they arrived in the Bridgeport area, the pilots conducted the VOR 24 approach "to minimums." When they were not able to visually obtain the runway environment at the missed approach point, they conducted a missed approach. The pilots then received "vectors to final" for the ILS 6 approach. The captain flew the approach with the autopilot engaged, and as the airplane reached the decision height for the approach (307 feet), the co-pilot visually obtained the runway lights and the captain disconnected the autopilot and continued the descent. As the airplane descend to an altitude of approximately 200 feet, the pilots visually obtained the runway and the captain decreased the power and called for "flaps 30."

Both pilots stated they knew they were "landing long;" however, they had "plenty of runway" in front of them to safely touch down and stop on the runway. The captain estimated the airplane touched down about halfway down the 4,677-foot-long runway, and she immediately applied "max reverse" thrust, and "more than average braking." The airplane initially began to slow, and then "started hydroplaning" on the wet runway. The pilots observed a fence at the end of the runway, and decided they would not be able to perform a go-around. The airplane continued to skid on the runway and impacted the fence before coming to a stop.

The pilots completed an "emergency shut down," and assisted the passengers in evacuating out the main cabin door.

Both pilots stated they did not perform any landing distance calculations prior to or during the flight. They also reported no mechanical deficiencies with the airplane or engine.

Examination of the airplane revealed substantial damage to the left wing. Additionally, examination of the airplane and engine by a Federal Aviation Administration inspector revealed no pre-impact mechanical anomalies.

Weather reported at Bridgeport at 0752, included wind from 260 degrees at 5 knots, 2 miles visibility

with light rain and mist, overcast clouds at 300 feet, temperature 17 degrees C, dew point 17 degrees C, and altimeter setting of 29.70 inches mercury.

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7 survive Sikorsky Airport plane crash

By John Burgeson
Staff writer

Updated: 06/12/2009 09:09:27 PM EDT

STRATFORD ---- Seven people on board a chartered single-engine plane that crashed into a blast fence while landing Friday at foggy Sikorsky Memorial Airport survived without serious injuries -- the same site where eight people died in an accident on another foggy day 15 years earlier.

The turboprop aircraft, which took off from Norwood, Mass., about 7 a.m., collided with the fence at 7:54 a.m., closing down the airport for about two hours. Debris from the plane also fell onto Main Street, forcing police to close the street for about two hours as well.

An investigation has been launched into the crash by the Federal Aviation Administration, but it was not immediately clear whether the foul weather conditions, pilot error or mechanical problems were contributing factors.

The accident eerily echoed an April 1994 crash in which a chartered twin-engine plane smashed into the same fence while attempting to land at night. In that crash, eight of the nine people aboard were killed.

The passengers in Friday's crash, who apparently were headed to a business meeting, were rushed from the scene and were not identified. The plane's pilot and co-pilot, who also were not immediately identified, were interviewed by FAA officials through much of the day Friday.

The flight departed from Norwood Memorial Airport, a small facility about 15 miles south of Boston, approximately the same size as Sikorsky Memorial Airport.

"Was weather a factor? Yes," said David Faile, a professional pilot and a master certified flight instructor, who arrived at Sikorsky Airport after the incident. "It's the pilot's decision. When he gets to the minimum altitude, he has to have a mile visibility on this runway. He has to have the runway environment in sight."

Airport Manager John Ricci said the pilot, a woman, apparently "landed long," meaning that the aircraft was well down the length of the runway before touching down.

The crash will be sure to spark anew the decades-long fight between Bridgeport, the airport's owner, and Stratford over installing a safety zone at the end of runway 11-29, where both the 1994 crash and Friday's incident took place.

The craft suffered moderate to serious damage. In addition to the crumpled engine cowling and bent propeller, the left wing tip was clipped off. There was also a left wing fuel spill and a hydraulic fluid spill where it came to rest against the blast fence. The left-side landing gear had a flat tire.

"I can tell you first off that if we had the runway safety area that we've been working on for the last 15-plus years, this wouldn't have even been an accident," Faile said. "It wouldn't have even been a newsworthy item."

"We've been in a controversy with the town of Stratford over this runway safety area," said Ricci. "It's time that we put politics aside and start looking at what really could have happened here today."

Ricci said the pilot "had the presence of mind" to

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turn the aircraft slightly just prior to impact. This kept the plane for hitting the blast fence head on. "Had she hit it square on, the tanks would have been ruptured and we would have had fire ---- it would have been a whole different scenario."

Bridgeport Mayor Bill Finch, attending a mayors' conference in Providence, R.I., at the time, echoed Ricci's comment in a prepared statement released to the media.

"I urge Stratford officials to end their resistance to the necessary improvements that need to be made in order to safeguard the lives of the flying public," he said.

The plan calls for removing the blast fence and installing a bed of lightweight concrete that would slow runaway planes.

"It's concrete with air mixed in which crumbles easily when an airplane goes across it," Faile said of the material that would be the safety zone's surface. Officially, it's called Engineered Materials Arresting System, or EMAS, Faile said, who had a sample of it in a plastic bag to show to reporters.

The advantage of EMAS, he said, is that 300 feet of the material provides the same protection as 1,000 feet of grass.

But installing this safety zone also would require repositioning Main Street ---- moving the travel lanes to the east by 300 feet ---- which is one reason Stratford officials have resisted the idea.

But Stratford Mayor James Miron, contacted by telephone, said that "the reality is this ---- the airport is safe ---- tens of thousands of takeoffs and landings take place there safely every year." Miron, also attending the mayors' conference, said that Bridgeport could install the safety area "right now" by not changing the "existing footprint" of the airport.

"That would impact the runway length a little bit, but it wouldn't stop existing aircraft there from using the airport," Miron said. "We have all of the downsides of having the airport, but none of the positives." He added that Stratford and Bridgeport should develop a "joint partnership" in owning and running the airport. "We need to find common ground, and I think we can get there," he said.

On March 4, Gail Cottrell, an FAA planner, said airport safety is being threatened by not taking action on the matter. She also said that because there is no runway safety zone, the airport has missed out on tens of millions of dollars in FAA support, some of which could have been used to repave the airstrip, which also is needed.

Cottrell said the FAA is prepared to pay 95 percent of the estimated $15 million cost of creating a safety zone for planes, removing a blast fence, as well as raising and repositioning Main Street ---- state Route 113 ---- 300 feet away from the site of an April 1994 crash that killed eight people.

The aircraft in Friday's crash, a Pilatus PC-12, was manufactured in 2007. It's a Swiss-built, single-engine turboprop that can hold about eight people in some configurations, including the pilot and first officer. The plane, which sells for about $3.5 million, also has a lavatory and a generous luggage compartment, according to the manufacturer.

The aircraft was listed as being co-owned, meaning that it has several owners who share its use and also share the cost of insurance and upkeep. This is referred to as "fractional ownership" in the industry.

The plane was officially registered to Difly Inc., of Portsmouth, N.H., in a plane-sharing deal facilitated

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by Alpha Flying Inc., also of Portsmouth.

Alpha's pilots are no strangers to Sikorsky. "They're in and out of here a lot," Faile said.

An Alpha spokeswoman reached Friday afternoon declined comment and said no one was available for comment from Difly, either.

Atlantic Aviation, which operates the hangar where the plane was headed, also declined comment.

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