UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
FIVE POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT NUMBER: **MA0040282**

PUBLIC NOTICE START AND END DATES: March 1, 2013 – March 30, 2013

NAME AND MAILING ADDRESS OF APPLICANT:

STERLING SUFFOLK RACECOURSE, LLC.
111 WALDEMAR AVENUE
EAST BOSTON, MA 02128

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

STERLING SUFFOLK RACECOURSE, LLC
111 WALDEMAR AVENUE
EAST BOSTON, MA 02128

RECEIVING WATER: Sales Creek; State Basin Code MA-70-10

RECEIVING WATER CLASSIFICATION: Class SA/ORW

SIC CODE: 7948

TABLE OF CONTENTS

I. PROPOSED ACTION

On September 29, 2008, Sterling Suffolk Racecourse, LLC (Suffolk) applied to the U.S. Environmental Protection Agency (EPA) for a National Pollutant Discharge Elimination System (NPDES) permit under the federal Clean Water Act (CWA or Act), 33 U.S.C. § 1251 *et seq.*, and to the Massachusetts Department of Environmental Protection (MassDEP) for a surface water discharge permit under the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26 through 53, for discharges from the Suffolk Downs Racecourse facility (Suffolk Downs) to Sales Creek. Suffolk Downs is a concentrated animal feeding operation (CAFO) facility that discharges to waters of the United States and of the Commonwealth, and is accordingly subject to the requirements of the CWA and the Massachusetts Clean Waters Act. Upon review of the permit application and other relevant information, EPA and MassDEP propose to authorize the discharge in accordance with the terms and conditions of the draft permit.

Suffolk Downs generates three wastewater streams. The facility's Production Area (i.e., horse stables, horse exercise area, temporary mortality holding shed, and manure storage areas) generates contaminated *process wastewater* (i.e., any water which comes into contact with, for example, manure or other wastes), which is collected in an on-site wastewater storage pond prior to disposal at the Massachusetts Water Resource Authority's (MWRA) Deer Island treatment plant. Under extreme weather conditions (which are defined in the draft permit and applicable AFO regulations), Suffolk is authorized to discharge the *overflow of process wastewater* from the wastewater storage pond to Sales Creek. Suffolk also generates and discharges *industrial stormwater* from both the Production Area and non-production areas of the facility to Sales Creek. Suffolk does not land apply process wastewater or manure on-site; therefore, EPA's land application regulations for Large CAFO s are not applicable to Suffolk nor are the regulations included in the draft permit.

I. TYPE OF FACILITY

A. Site History and Facility Description

Suffolk Downs is an approximately 161-acre thoroughbred horse racetrack located in East Boston and Revere, Massachusetts. The facility was constructed in 1935 and horse racing began on July 10, 1935. The only time since 1935 that racing did not occur at Suffolk Downs was during the 1990 and 1991 racing seasons. In the early 1960s, Suffolk conducted significant renovations to the grandstand buildings and grounds. According to the City of Revere's 1997 infrastructure report, the installation of the existing culverts associated with Sales Creek within the boundaries of Suffolk Downs was completed in 1982.

Suffolk Downs includes two racetracks (a 1-mile dirt track and a 7/8-mile grass track), a grandstand, clubhouse, ancillary buildings, and parking areas. Horses are stabled at Suffolk Downs from about March 31 until about November 20 of each year. For each year since at least calendar year 2002, more than 500 horses have been stabled at Suffolk Downs for at least 199 days per year. The stable area includes 32 stable buildings, approximately 1200 horse stalls, feed and bedding storage areas, approximately 115 satellite manure storage dumpsters located throughout the stables, a grain/bedding storage area, a consolidated manure tractor trailer storage

area, an animal mortality storage area (Suffolk Downs averages 15-25 dead horses per year), animal walkways, horse exercising equipment and approximately 70 crushed stone pad horse washing stations.

Approximately 100-200 cubic yards of manure is generated daily when horses are stabled at Suffolk Downs. Manure, bedding materials and excess feed are transported from the stalls to approximately 115 dumpsters located throughout the stable area. Some manure and other waste materials spill onto the ground during the transfer into the dumpsters. A forklift collects the full dumpsters and brings them to a staging area, where the dumpsters are emptied into manure consolidation trailers. According to Suffolk's permit application, every other day during the racing season, approximately 66 tons of manure is transported to an off-site compost facility.

Suffolk Downs is bisected by Sales Creek, a small (0.008 square mile) water body. Sales Creek enters the facility through a culvert and surfaces in the infield of the racetrack before being culverted again and draining (from the west side of Bennington Avenue) to Belle Island Inlet, designated an outstanding resource water (ORW) under Massachusetts Surface Water Quality Standards ("MA WQS"), to Winthrop Bay to Boston Harbor to Massachusetts Bay. Although Sales Creek is tidally connected to Belle Isle Inlet, the Bennington Street tandem tidal gate shuts out incoming tidal surges but allows Sales Creek runoff to flow into Belle Isle Inlet unimpeded.[1] The tidal gate and Belle Isle Inlet/Sales Creek Pump Station are located less than 500 feet from Suffolk's property line. See Map 1. According to the City of Revere's Division of Waterways, the construction of the pumping station was completed in 1982.

Between April 2011 and April 2012, Suffolk made significant changes to the Production Area north of Sales Creek and ceased all Production Area activities south of Sales Creek. These changes reduced the size of the Production Area used to house and care for thoroughbred horses from 27 acres to approximately 23 acres and included the construction of a dedicated sewer system and an approximately 1.2 acre process wastewater storage pond located within the racetrack infield. The storage pond contains the Production Area's contaminated runoff from at-grade areas (15.2 acres). As part of the 2011-2012 facility improvements, Suffolk also installed berms and re-graded the site to prevent process wastewater from exiting the Production Area and to keep off-site stormwater from entering the Production Area. The boundary and layout of the reconfigured Production Area is shown in Figure 1 of this Fact Sheet.

In order to further minimize the amount of runoff generated within the Production Area (and managed as process wastewater), Suffolk constructed a clean water diversion system at the close of the 2011 racing season. The clean water diversion system is designed to collect roof stormwater runoff from stable buildings and divert it to a dedicated drainage system that discharges to Sales Creek. Suffolk's August 2012 Nutrient and Stormwater Management Plan, Section 5.0, Production Area Roof Runoff Separation Plan, Attachment 1 of this Fact Sheet, describes the improvements to the roof runoff system in detail.

During the winter of 2011-2012, Suffolk constructed a process wastewater management system within the racetrack infield that includes a wastewater storage pond that satisfies the requirement

---

[1] See "Receiving Water Description" at IV.B. of this Fact Sheet.

of the large horse Concentrated Animal Feeding Operation (CAFO) effluent limitation guideline set forth at 40 C.F.R. Part 412, Subpart A. See Section II.C, NPDES Permitting History, of the Fact Sheet and Suffolk's August 2012 Nutrient and Stormwater Management Plan, Section 4.0, Production Area Process Wastewater Management Plan (Attachment 1 of the Fact Sheet) for more information on the process wastewater system.

B. Facility Classification under Clean Water Act and Implementing Regulations

1. Facility is a Large Horse Concentrated Animal Feeding Operation (CAFO)

The CWA's NPDES program regulates the discharge of pollutants from point sources to waters of the United States. CAFOs from which pollutants are discharged are point sources under Section 502(14) of the Act, 33 U.S.C. § 1362(14). EPA's regulations define "CAFO" to include, *inter alia,* any "animal feeding operation" that confines more than 500 horses. 40 C.F.R. §§ 122.23(b)(2) and 122.23(b)(4)(vi). In turn, EPA's regulations define "animal feeding operation" to include any lot or facility where (a) animals have been, are or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and (b) crops, vegetation forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility. 40 C.F.R. § 122.23(b)(1).

As stated earlier, horses are stabled at Suffolk Downs from about March 31 until about November 20 of each year and, since at least calendar year 2002, more than 500 horses have been stabled there for at least 199 days per year. Crops, vegetation, forage growth, and post-harvest residues are not sustained in the normal growing season over any portion of the facility. Because greater than 500 horses are maintained at the facility for more than 45 days per year, and crops, vegetation, forage growth or post-harvest residues are not sustained in the normal growing season at Suffolk Downs, the facility qualifies as a "CAFO" and more specifically as a "Large CAFO" as defined at 40 C.F.R. § 122.23(b)(4), and is subject to, *inter alia*, the requirements of 40 C.F.R. §§ 122.23 and 122.42(e), as well as the Large Horse CAFO NELG at 40 C.F.R. Part 412.

2. Facility is Engaged in "Industrial Activity" Under Applicable Storm Water Permitting Regulations

In addition to being regulated under applicable CAFO regulations, Large Horse CAFOs are subject to the industrial storm water permitting requirements at 40 C.F.R. § 122.26. NPDES storm water regulations at 40 C.F.R. § 122.26 (b)(14) define eleven categories of "storm water discharge associated with industrial activity." Facilities engage in "industrial activity" pursuant to 40 C.F.R. § 122.26 (b)(14)(i) if, among other things, they are subject to storm water effluent limitations guidelines. As a Large Horse CAFO, Suffolk Downs is subject to the storm water effluent limitation guidelines set forth at 40 C.F.R. § 412.13 and is accordingly required to comply with applicable industrial storm water permitting requirements. *See* NPDES Storm Water Program Question and Answer Document Volume 1, Page 1 (EPA 833-F-93-002, March 1992). CAFOs subject to EPA's CAFO regulations (40 C.F.R. § 122.23) and EPA's industrial activity storm water regulations (40 C.F.R. § 122.26) may have both sets of requirements included in a single NPDES permit or in two separate permits, one for wastewater discharges and

the other for stormwater discharges. In this case, EPA is including both requirements in one permit.

C. NPDES Permitting and Relevant Enforcement History

Suffolk has never received an NPDES permit to authorize the existing discharges from the facility to waters of the United States. On May 1, 2008, EPA issued an Administrative Order (AO) under the Clean Water Act Section 309(a)(3) to address Suffolk's unauthorized discharges of pollutants into Sales Creek. Suffolk was ordered, among other things, to apply for an NPDES permit. Subsequently, on September 30, 2008, Suffolk submitted to EPA an NPDES permit application, which included a Nutrient Management Plan (NMP), for its CAFO operation.

On November 17, 2009, EPA issued to Suffolk a Notice of Deficiency that required, among other things, that Suffolk's NMP specify how the facility will achieve compliance with the effluent limitations guideline in 40 C.F.R. § 412.13, requiring implementation of the best available technology economically achievable (BAT), i.e., that "there shall be no discharge of process wastewater pollutants into waters of the United States, except when rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated and maintained to contain all process-generated wastewater plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source." On May 22, 2012, Suffolk submitted an NMP to EPA that documents the best management practices Suffolk has and will implement to protect water quality and to comply with the CAFO regulations and large horse CAFO effluent limitation guidelines. On August 22, 2012, the Department of Justice (on behalf of EPA) and Suffolk entered into a Consent Decree that addressed the CWA violations that were the subject of EPA's enforcement action.

Over the course of resolving the enforcement action, between April 2011 and April 2012, Suffolk has implemented a number of infrastructure improvements to the Production Area, including the construction of a process wastewater storage pond that is designed to meet the requirements of the Large Horse CAFO effluent limitations guideline at 40 C.F.R. § 412.13 and the installation of a clean roof water diversion system that collects and diverts stable roof stormwater runoff to a dedicated drainage system. Suffolk also constructed and implemented upgrades to the existing racetrack stormwater management system, including the construction of four sand filters that will provide additional treatment for runoff originating from the dirt racetrack before it enters Sales Creek, and a sediment forebay, located within the track maintenance area south of Sales Creek. Additionally, Suffolk constructed three infiltration islands and a drop inlet to convey non-production area stormwater flow from the facility's northern aisle parking lot and roadways to Suffolk's dedicated stormwater drainage system. See Suffolk's August 2012 Nutrient Management and Stormwater Plan (Attachment 1 of this Fact Sheet) for more specific information on the wastewater management improvements that Suffolk has constructed and implemented.

III. QUANTITATIVE AND QUALITATIVE DESCRIPTION OF EXISTING DISCHARGES AND SUMMARY OF AUTHORIZED DISCHARGES COVERED BY THE DRAFT PERMIT

A. Existing Discharges

To develop the draft permit, EPA reviewed and used quantitative descriptions of the effluent parameters in wet weather discharges of pollutants from Suffolk to Sales Creek contained in the monthly discharge reports submitted by Suffolk to EPA. Four data sets, each from different time periods between September 1, 2008 and April 23, 2012, were used in EPA's analysis.

The first set of data includes both dry and wet weather monitoring for the period September 1, 2008 through November 30, 2010. A summary of the discharge status report data is provided in Attachment 2 of the Fact Sheet.[2]

On June 29, 2010, EPA requested, under CWA Section 308(a), that Suffolk conduct additional monthly dry weather and wet weather sampling for pH, nutrients, total aluminum and total copper at four outfalls. The second set of data that EPA considered in the development of the draft permit is the additional wet weather monitoring data for the period of August 23, 2010 through November 17, 2010. A summary of this additional wet weather monitoring data is provided in Attachment 3 of the Fact Sheet.

In its June 29, 2010 letter, EPA further requested that Suffolk conduct a one-time dry weather sampling event in an effort to identify toxic and priority pollutants which may be present in the surface runoff due to current or past uses of the site. The October, 2010 toxicity and priority pollutant test results are summarized in Part IV.B.3.iv. of the Fact Sheet.

Lastly, EPA reviewed and used the wet weather monitoring data submitted by Suffolk for the time period of June 2011 through April 2012. This is the time period during which Suffolk constructed and installed the process wastewater storage pond and collection system and the stormwater improvement projects referenced previously in the Fact Sheet. A summary of this monitoring data is provided in Attachment 4 of the Fact Sheet.

It should be noted that at the time the draft permit was developed, EPA had not received any discharge status report data from Suffolk for any discharges from the facility that may have occurred since Suffolk constructed, installed and implemented the facility improvements discussed in detail below.

1. CAFO-Regulated Discharges from the Facility

On August 1, 2012, MassDEP issued a Boston Sewer Connection Permit that allows Suffolk to discharge up to 150,000 gallons per day of process wastewater from its wastewater storage pond to the MWRA sewer system, eliminating this wastewater contribution to Sales Creek except during certain extreme rainfall events. Suffolk has constructed the process wastewater storage

---

[1] The May 1, 2008 EPA-issued Administrative Order requires Suffolk to submit monthly Discharge Status Reports to EPA that include the results of sample analysis of discharges from 8 outfalls and/or sample locations.

pond and reconfigured its Production Area to eliminate discharges of process wastewater to surface waters from all storm events smaller than the 50-year, 24-hours rainfall event, which significantly exceeds the 25-year, 24-hour rainfall event required by the Large Horse CAFO NELG. The storage pond includes an impermeable clay liner that limits discharge of process wastewater to groundwater. Underdrains installed below the storage pond prevent damage to the liner that could otherwise result from a potential temporary rise in the groundwater level. The storage pond includes two spillways (Outfalls 001 and 002) to manage discharges from extreme rainfall events exceeding the capacity of the storage pond. The spillways are reinforced with riprap and are directed to existing drainage swales that discharge to Sales Creek.

Whenever extreme weather conditions do cause an overflow of process wastewater from the Production Area's wastewater storage pond, the overflow is discharged into Sales Creek, through Outfalls 001 and 002. The two outfalls are located on the northern bank of Sales Creek where Sales Creek flows above ground in the Track Area infield. Table 1 of the Fact Sheet identifies the facility's outfalls.

Table 1 - Suffolk Downs Post-Construction Outfall Nomenclature and Locations

NPDES PERMIT NOMENCLATURE	SUFFOLK OUTFALL NOMENCLATURE	Outfall Location and Description
001	PWP-1	Sediment basin drainage channel located on the northern bank of Sales Creek where Sales Creek flows above ground in the Track Area in-field. Discharge: overflow from Production Area wastewater storage pond.
002	PWP-2	Sediment drainage swale located on the northern bank of Sales Creek (downstream of PWP-1) where Sales Creek flows above ground in the Track Area in-field. Discharge: Overflow from Production Area wastewater storage pond.
003	SD-3	Outfall (flow-through pit) located in the wetlands adjacent to Sales Creek, to the east of the racetrack and to the southeast of the mortality holding area. Discharge: Production Area (roof runoff) stormwater.
004	SD-4	Outfall located on the southern bank of Sales Creek just prior to where Sales Creek first flows beneath the north-western portion of the racetrack. Outfall located directly across from outfall SD-5. Discharge: Non-Production Area stormwater from the grandstand, paved track maintenance area and paved parking area.
005	SD-5	Outfall pipe located on the northern bank of Sales Creek, just prior to where Sales Creek first flows beneath the north-western portion of the racetrack. Discharge: Production Area (roof runoff) stormwater
	SD-6: Outfall eliminated 3/30/12	Drainage swale located on northern bank of Sales Creek that drains the southeastern portion of the Production Area.

NPDES PERMIT NOMENCLATURE	SUFFOLK OUTFALL NOMENCLATURE	OUTFALL LOCATION & DESCRIPTION
006	SD-10 – 24" pipe	Outfall pipes located on the eastern bank of Sales Creek immediately south of Route 145. Discharge: Production Area (roof runoff) and Non-Production Area (northern aisle parking and roadway) stormwater runoff.
007	SD-7/BMP1 Sediment Forebay Discharge	Sediment forebay located west of Sales Creek within the Track Maintenance Area. Discharge: Non-Production Area runoff from the racetrack entrance, track maintenance area, parking area and racetrack material stockpile area.
008	BMP-2 sand filter	Sediment basin drainage swale located on the southwest bank of Sales Creek where Sales Creek flows above ground in the Track Area in-field. Discharge: Track Area industrial stormwater.
009	BMP-3 sand filter	Sediment basin drainage swale located on the northwest bank of Sales Creek where Sales Creek flows above ground in the Track Area in-field. Discharge: Track Area industrial stormwater.
010	BMP-4 sand filter	Sediment basin drainage swale located on the northeast bank of Sales Creek where Sales Creek flows above ground in the Track Area in-field. Discharge: Track Area industrial stormwater.
011	BMP-5/SD 13 sand filter	Sediment basin drainage swale located on the southeast side of Sales Creek where Sales Creek flows above ground in the Track Area in-field and towards Walley Street. Discharge: Track Area industrial stormwater.

The Production Area generates an average volume of approximately 147,000 cubic feet (1.1 million gallons) of process wastewater per month.[3] Production Area process-generated wastewaters include, but are not limited to, Production Area contaminated stormwater, stable wash water that comes in contact with manure, litter and feed in the horse stalls and in the manure storage areas, as well as contaminated stormwater from the animal mortality area, and contain bacteria, phosphorus, nitrogen, TSS, sediments, and aluminum. The process wastewater system's piping is designed to convey anticipated volume from the 10-year storm event when flowing full. Flows exceeding the 10-year storm event may result in pipe surcharges, but all surcharges will be contained within the pipe network or immediate surface areas with no discharge outside of the Production Area.

[3] Suffolk's August 2012 Nutrient and Stormwater Management Plan estimates that the Production Area will generate an average of approximately 147,000 cubic feet or 1.1 million gallons of contaminated runoff volume per month, calculated as follows: **Monthly runoff volume** = Precipitation average x reduction rate x area x conversion factors; Runoff Volume = (3.5 inches/month) x (0.76 inches runoff/ inches rainfall) x (15.2 Acres) x (43,560 ft^2/acre) x (1 ft/12 in) = ***147,000*** **cubic feet/month runoff volume.** (147,700 FT^3 x 7.48052 gallons = 1,099,636 gallons = **1.1 million gallons/month runoff volume**.

The perimeter of the Production Area is graded and/or bermed to prevent process wastewater from exiting the Production Area and to keep non-Production Area stormwater from flowing into the Production Area. All process wastewater is collected, conveyed and stored in the process wastewater storage pond, located within the racetrack infield, immediately north of Sales Creek. Suffolk's process wastewater system includes dedicated process wastewater drains, the wastewater storage pond, and a pump station and associated force main. Dedicated drains convey process wastewater from the Production Area to the wastewater storage pond for flow equalization, which in turn is pumped to the Boston Water and Sewer Commission's (BWSC) sanitary sewer system within Walley Street for eventual discharge from the MWRA's Deer Island wastewater treatment plant.

The wastewater storage pond is designed to contain the anticipated run-off volume from the Production Area as well as direct precipitation to the storage pond, from a 50-year, 24-hour storm event with no discharge to Sales Creek or groundwater. This design significantly exceeds the 25-year, 24-hour large horse CAFO effluent limitation guideline at 40 C.F.R. § 412.13. The wastewater storage pond has a storage capacity of approximately 307,000 cubic feet (cf), excluding the volume associated with one foot of freeboard (51,000 cf) and six inches of accumulated sediment/operational storage (17,000 cf).

STORAGE STRUCTURE	Storage Period (days)	Total Capacity (gallons)	Total Capacity (cf)
Storage Pond	60 days	2,296,520 gal	307,000 cf

Suffolk has reduced the facility's historical monthly amount of Production Area stormwater runoff volume by approximately 40% (0.85 million gallons/month) through the installation of stable building roof gutters and a dedicated roof runoff drainage system that discharges stormwater to Sales Creek. (See the discussion at III.A.2.a.i. Production Area Roof Runoff). The anticipated monthly Production Area runoff volume (147,000 cubic feet) compares favorably with the 307,000 cubic feet of total storage volume provided by the storage pond and indicates that based on the average monthly runoff, the storage pond could contain approximately 60-days of runoff.

During the 2009 season, Suffolk transferred approximately 19,170 tons of manure to a composting facility, estimated by Suffolk to conservatively be at least 99 percent of the manure generated at the facility. A conservative assumption is that the remaining approximately 193 tons/year of manure will enter the stormwater management system. Using an estimated annual stormwater manure loading rate of 193 tons/year and an industry standard stable waste density of 30 lbs/cf, the pond can be expected to receive approximately 12,900 cf/yr of stable waste. The current total sediment storage volume provided in the pond is approximately 17,000 cf, more than 130% the expected annual volume. A depth marker is located in the storage pond with indicators of the maximum depth of sediment accumulation and the minimum capacity necessary to contain the maximum runoff and direct precipitation from the 25-year rainfall event.

As mentioned, process wastewater from the storage pond is pumped to the BWSC sewer system, except under extreme weather events. More specifically, process wastewater contained within the storage pond is pumped to the BWSC sewer system via a duplex wastewater pumping station. Flows from the pond enter the station through an intake structure. The intake structure is located within the pond and has multiple intakes outfitted with oil/debris control hoods. The multiple intakes ensure adequate flow to the pump station while the hoods prevent trash and other debris from fouling pumps as well as providing spill control. The pump station is a wet well/dry well configuration with two 160 gallons per minute (gpm) variable frequency drive pumps located in a dry well adjacent to a wet well. The wet well houses floats and system controls while the dry well houses pumps and related valves. The pumps have been sized to provide maximum operational flexibility with each pump discharging to independent 3" force mains. Independent force mains are required to manage friction losses over the desired wide range of operational discharges. Pump station controls have been designed to provide for discharges ranging from 80 gpm to 320 gpm based on holding pond elevation. Lower discharge rates are intended to maintain pond volumes during normal rain events while higher discharge rates are intended to evacuate the pond in advance and following large events. At peak flow, the pump station is capable of evacuating the entire wastewater storage pond volume in just under five days. The effluent in the BWSC sewer system flows by gravity to the MWRA's Constitution Beach combined sewer overflow (CSO) facility and eventually to the Deer Island treatment plant.

The MWRA, through its Sewer Use Discharge Permit, has reserved the right to suspend discharges from Suffolk during periods of high precipitation in an effort to reduce or prevent CSO activations within the MWRA system. However, the large wastewater storage pond volume (which is designed for a 50-year 24-hour rain event and significantly exceeds the 25-year, 24-hour large horse CAFO ELG) and robust pumping system should be adequate to bridge gaps in service for all but the most extreme rain events. It is likely that in those instances when extreme weather events cause an overflow of pollutants from the process wastewater storage pond (Outfalls 001 and 002) to Sales Creek, there will be sufficient capacity available in the storage pond to contain the first flush of stormwater occurring during the rain event[4], which is calculated to be 49,658 cubic feet of runoff or approximately 16% of the of the storage pond's total storage capacity. (Runoff volume coefficient for impervious cover x rainfall amount x area x conversion factors; 0.9 x 1 inch x 15.2 acres x 43,560 ft^2/acre x 1 ft/12 in = 49,658 cf).

Suffolk does not currently land apply manure on-site; therefore, there is no CAFO regulated land application area at Suffolk.

2. Stormwater Discharges from the Facility

Prior to the 2011-2012 reconfiguration of the Production Area, Outfalls 003, 004, 005, 006 and 007 were located within the Production Area and these outfalls discharged Production Area process wastewater (commingled process wastewater, contaminated stormwater and silt and soil) from both the stable area and the Racetrack Area's dirt racetrack. Historically, these discharges consistently contributed to exceedances of applicable water quality criteria for bacteria and/or

[4] The first flush is the initial surface runoff of a rainstorm (from an area with a high proportion of impervious surfaces) and typically contains a more concentrated pollutant load compared to the remainder of the storm.

total suspended solids during wet weather events. See Attachments 2 and 4 of the Fact Sheet. At this time EPA does not have sufficient effluent data to fully characterize discharges from these outfalls for the time since Suffolk's Production Area process wastewater storage pond and the process wastewater and "clean stormwater" (see discussion below) diversion systems became operational, but based on the nature and extent of site upgrades and the imposition of new pollutant controls, they are presumably much reduced in terms of both effluent volume and pollutant load to the receiving waters. Also, the draft permit contains BMPs and SWPPP requirements that should further reduce and/or eliminate pollutant loads through these outfalls.

a. Clean Stormwater Diversion System Discharges

i. Production Area Roof Runoff: Stormwater runoff from the roofs of buildings located within the stable area of the Production Area is collected and diverted to a dedicated drain system for eventual discharge to Sales Creek via Outfall 003, located in the wetlands adjacent to Sales Creek; and Outfall 005, located on the northern bank of Sales Creek, just prior to where Sales Creek first flows beneath the north-western portion of the racetrack; and Outfall 006, located on the eastern bank of Sales Creek, immediately south of Route 145. The diversion system includes standard gutters on all stable area buildings where installation is practicable. The gutters flow to piped downspouts and connect to dedicated drainage infrastructure, which is sized to convey runoff volumes for the 25-year 24-hour storm event without discharge to at-grade portions of the stable area. Prior to the initiation of the use of the diversion system, portions of the existing drain system used as a component of the diversion system were cleaned of accumulated sediments.

ii. Non-Production Area Stormwater Runoff: Stormwater runoff from the northern drive aisle, adjacent to Winthrop Avenue, and northern drive dedicated stable parking lot is directed toward three infiltration islands, which include a drop inlet. When infiltration capacity is exceeded, the stormwater flow enters the drop inlet and discharges to Outfall 006 via the diversion system.

b. Racetrack Area Stormwater Discharges

The Racetrack Area consists of the one mile dirt racetrack, the 7/8 mile turf racetrack, the track area infield, and the track maintenance area, all of which are located outside of the Production Area. The Racetrack Area's discharge consists of stormwater runoff that contains silt, sediments and fine particulates from the facility's dirt racetrack. Historically, the Racetrack Area discharges contained significant levels of total suspended solids (TSS), which increases the turbidity of the receiving water and causes visible discoloration of Sales Creek. In 2012 Suffolk constructed a Racetrack Area stormwater management system that includes four sand filters located with the racetrack infield to address the high levels of TSS in discharges from the dirt racetrack. Stormwater from the racetrack proper flows towards the inside of the track and enters an open concrete drainage swale. The concrete drainage swale discharges through pipes to sand filters that include an 18-inch sediment forebay and an overflow structure (or the stormwater pond located within the southern portion of the track infield). The sand filters discharge to Sales Creek through four existing discharge points, Outfalls 008, 009, 010 and 011, that were used by the track's previous drainage system.

Stormwater runoff from the grandstand, paved parking area and the paved track maintenance area is discharged to Sales Creek through Outfall 004, which is located on the southern bank of Sales Creek, just prior to where Sales Creek first flows beneath the north-western portion of the racetrack.

A sediment forebay, located west of Sales Creek and within the track maintenance area, receives stormwater flows from the racetrack's northwestern entrance. It also receives flows from a portion of the paved track maintenance area, a parking area west of the track maintenance area, and the racetrack surfacing materials stockpile area. The forebay includes four stone check dams and discharges stormwater into Sales Creek through Outfall 007.

IV. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMIT DERIVATIONS

The effluent limitations, monitoring requirements, and implementation schedule may be found in Part I (Effluent Limitations and Monitoring Requirements) of the draft permit.

A. General Basis of Permit Requirements

The Clean Water Act, 33 U.S.C. § 1251 *et seq.*, prohibits the discharge of pollutants to waters of the United States without authorization from a National Pollutant Discharge Elimination System (NPDES) permit. *See* 33 U.S.C. §§ 1311(a) and 1342(a). NPDES permits are used to implement the CWA's technology- and water quality-based requirements on a site-specific basis through the imposition of numeric and non-numeric (i.e., BMP-based) effluent limitations and conditions (e.g., maintenance, monitoring and reporting). Where technology-based effluent limits are not sufficiently stringent to ensure that applicable State water quality standards will be attained in the receiving water, CWA § 303(b)(1)(C) and implementing NPDES regulations (40 C.F.R. § 122.44(d)) require the imposition of water quality-based effluent limits as stringent as necessary to ensure compliance with such standards. The regulations governing the NPDES permit program are generally found at 40 C.F.R. Parts 122, 124, 125, and 136. Concentrated animal feeding operations are subject to the CAFO requirements at 40 C.F.R. §§ 122.23 and 122.42(e). Manure, litter and/or process wastewater discharges from CAFOs are subject to the NELGs found at 40 C.F.R. Part 412.

The CWA covers certain types of stormwater discharges, among them those associated with industrial activity. Under Section 402(p)(2) of the Act, all stormwater discharges associated with industrial activity that discharge stormwater through a municipal separate storm sewer system (MS4) or discharge directly to waters of the United States are required to obtain an NPDES permit. The regulations at 40 C.F.R. § 122.26(b)(14)(i-xi) identify categories of facilities that are considered to be engaging in "industrial activity." Those categories include, but are not limited to, "[f]acilities subject to stormwater effluent limitations guidelines," which are required to apply for NPDES permits for stormwater discharges. The regulations define "stormwater discharges associated with industrial activity" as discharges from any conveyance used for collecting and conveying stormwater and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. Under CWA § 402(p)(3)(A), NPDES permits for stormwater discharges associated with industrial activity are to require compliance with all

applicable provisions of Sections 301 and 402 of the CWA, *i.e.*, all applicable technology-based and water quality-based requirements of the Act.

1. Technology-Based Requirements

The CWA imposes a number of technology standards requiring the use of particular levels of pollution control technology. Federal technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 C.F.R. § 125 Subpart A). Technology-based discharge standards include: (a) the best practicable control technology currently available (BPT) standard for a limited number of "conventional pollutants" and metals, (b) the best conventional control technology (BCT) standard for other conventional pollutants; and (c) the best available technology economically achievable (BAT) standard for toxic and non-conventional pollutants. See 33 U.S.C. §§ 1311(b)(1)(A), 1311(b)(2)(A), and 1311(b)(2)(E). Which of the CWA's technology standards apply to a given facility is determined by a variety of factors, such as the type of pollutant at issue and the type of facility in question. The CWA requires compliance with BPT, BCT and BAT effluent limits no later than March 31, 1989. *See* 33 U.S.C. § 1311(b)(1)(A) and (2); 40 CFR § 125.3(a)(2). Thus, the statutory deadline for achieving compliance with effluent limits based on these standards has already passed and compliance is required immediately. NPDES permits may not include compliance schedules and deadlines that would purport to extend these statutory compliance deadlines. *See* 40 C.F.R. § 122.47(a)(1).

EPA has two alternative methods for giving effect to the CWA's technology standards. First, EPA can approach the matter on an industrial category-wide basis (e.g., for CAFOs or paper mills). Industrial categories may, in turn, be broken down into sub-categories based on factors such as the type of processes used or the location of the facilities (e.g., effluent limitations may be tailored for different types of CAFOs or paper mills). EPA then determines the pollution reduction method(s) that satisfies the applicable technology standard for that industrial category (e.g., BAT or BCT), and sets the effluent limitations for particular pollutants based on the use of that method. These industrial category-wide (or sub-category-wide) effluent limitations are referred to as National Effluent Limitation Guidelines (NELGs). Once a pertinent NELG has been developed, it is used to determine the limits to be included in individual facility permits. *See* 40 C.F.R. § 125.3(c)(1).

Second, when EPA has not developed an NELG for a particular industry, or for a particular pollutant discharged by an industry for which NELGs have otherwise been promulgated, EPA uses its Best Professional Judgment (BPJ) to develop permit limits based on a case-by-case, site-specific application of the relevant technology standard. *See* 33 U.S.C. § 1342(a)(1)(B); 40 C.F.R. § 125.3(c)(2). As one court has explained, "BPJ limits constitute case-specific determinations of the appropriate technology-based limitations for a particular point source." *NRDC v. EPA*, 859 F.2d 156, 199 (D.C. Cir. 1988).

EPA has promulgated technology-based National Effluent Guidelines for Concentrated Animal Feeding Operations (CAFO) Point Source Category, Subpart A, Horses and Sheep. Specifically, the NELG prohibits the discharge of process wastewater pollutants into U.S. waters, except whenever rain events cause an overflow of process wastewater from a facility that is designed, constructed, operated, and maintained to contain all of process wastewater, including the runoff

from a 25-year, 24-hour rain event at the location of the CAFO facility in question. If those conditions have been met at a CAFO facility, then any process wastewater pollutants in the overflow may be discharged into waters of the U.S in accordance with the technology-based ELG.

2. Water Quality-Based Requirements

Water quality-based limitations are required in NPDES permits when effluent limits and other requirements and standards more stringent than technology-based requirements are necessary to maintain or achieve compliance with State or Federal water quality requirements. *See* 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. § 122.44(d)(1). State water quality standards (WQS) have three components: (a) beneficial designated uses for water bodies or segments of water bodies; (b) instream numeric and/or narrative water quality criteria intended to protect the assigned designated uses; and (c) antidegradation requirements intended to ensure that once a particular level of water quality is attained it will not be degraded, except under very limited circumstances, and to protect especially high quality or important water bodies. *See* 40 CFR § 131.12; 310 CMR 4.04(3). The Massachusetts Surface Water Quality Standards, found at 314 CMR 4.00, include each of these three elements.

The Commonwealth of Massachusetts assigns each of the water bodies under its jurisdiction, and in some cases specific segments of these water bodies, to a particular water quality classification (e.g., Class A, Class B or Class C). Each water quality classification is assigned a particular set of designated uses and accompanying water quality criteria. Massachusetts also has a number of water quality criteria that apply to all its waters, including narrative water quality criteria requiring restrictions on the discharge of toxic constituents and mandating the use of EPA criteria established pursuant to Section 304(a) of the CWA unless the water quality standards specify a different criterion for the specific pollutant or the Commonwealth establishes site-specific criteria.

NPDES permits must address any pollutant or pollutant parameter (conventional, non-conventional, toxic and whole effluent toxicity) that is or may be discharged at a level that causes, contributes, or has a "reasonable potential" to cause or contribute to an excursion above any water quality standard. *See* 40 C.F.R. § 122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration of a pollutant discharge exceeds the applicable criterion or interferes with maintenance of applicable designated uses. In determining whether there is a reasonable potential for an excursion, EPA considers (a) existing controls on point and non-point sources of pollution; (b) pollutant concentrations and variability in the effluent and receiving water; (c) the sensitivity of the test species used in toxicity testing; (d) known water quality impacts of processes on wastewater; and, (e) where appropriate, dilution of the effluent in the receiving water. *Id.*

3. Antidegradation Requirements

Federal regulations found at 40 C.F.R. § 131.12 require states to develop and adopt a statewide antidegradation policy as part of their water quality standards, to ensure the maintenance and protection of existing instream water uses and the level of water quality necessary to protect the

existing uses. Antidegradation policies are also supposed to maintain the quality of waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water, subject to limited exceptions. The Massachusetts Antidegradation Policy is found at 314 CMR 4.04.

The antidegradation requirements of the Massachusetts WQS provide heightened protection for Outstanding Resource Waters (ORWs). As previously mentioned, Suffolk Downs discharges wastewater to Sales Creek, which is classified as an ORW under the Massachusetts WQS. *See* 314 CMR 4.06(1)(d)(2), 4.06(5) and 4.06 (Tables and Figures: Table 15 (Boston Harbor Drainage Area: Belle Isle Inlet and tributaries thereto -- Qualifiers "Outstanding Resource Waters"). Sales Creek and Belle Isle Inlet are included in the area designated by the Commonwealth as the Rumney Marshes Area of Critical Environmental Concern (ACEC)[5]. The Rumney Marshes ACEC is an extensive and biologically significant salt marsh system that is located within the northern Greater Boston area.

Massachusetts' antidegradation requirements restrict both new (or increased) and existing discharges of pollutants to ORWs. While Suffolk is not proposing new or increased pollutant discharges, its existing discharges still must satisfy antidegradation requirements. Specifically, the Commonwealth's regulations provide that:

> [a]ny person having an existing discharge to these waters shall cease said discharge and connect to a Publicly Owned Treatment Works (POTW) unless it is shown by said person that such a connection is not reasonably available or feasible. Existing discharges not connected to a POTW shall be provided with the highest and best practical method of waste treatment determined by the Department as necessary to protect and maintain the outstanding resource water. 314 CMR 4.04(3)(a).

Therefore, Suffolk's existing discharges of pollutants to Sales Creek must cease and be redirected to a POTW unless such redirection is "not reasonably available or feasible," in which case such pollutant discharges must receive the "highest and best practical method of waste treatment" that MassDEP determines is needed to protect and maintain the ORW. In MassDEP's antidegradation policy document, entitled, "Implementation Procedures for the Antidegradation Provisions of the Massachusetts Surface Water Quality Standards, 314 CMR 4.00" (10/21/09) (MassDEP Antidegradation Implementation Procedures), the State explains that "[t]he purpose of this requirement is to minimize any degradation and to ensure that water quality remains as close to natural background conditions as feasible." *Id.* at 6.[6] On September 24, 2012, the

---

[5] Executive Office of Environmental Affair's Designation of Portions of the Cities of the Boston, Lynn and Revere, and the Towns of Saugus and Winthrop as the Rumney Marshes Area of Critical Environmental Concern, August 22, 1988.

[4] MassDEP's 2009 Antidegradation Implementation Procedures supercedes its 1992 document entitled, "Antidegradation Review Procedure For Discharge Requiring A Permit Under 314 CMR 3.03." Nevertheless, the 1992 document is of interest in that its discussion of the antidegradation protections for ORWs is consistent with the 2009 document, but adds some additional detail regarding the "highest and best practical method of waste treatment"

Commonwealth of Massachusetts determined that, *inter alia*, the proposed discharge meets applicable antidegradation requirements under Massachusetts WQS. The Commonwealth's determination states that the discharges covered by the terms and conditions of the draft permit, coupled with the significant pollution abatement and control efforts required by both the draft permit and the August 22, 2012 federal Consent Agreement between Suffolk and EPA to improve Suffolk's management and treatment of stormwater will result in the improvement of water quality necessary to meet and protect existing uses of the receiving waters and have no significant potential to impair any existing or designated uses.

4. Applicable Water Quality Standards

The Commonwealth of Massachusetts has designated Sales Creek as a Class SA Outstanding Resource Water (ORW). Because of their outstanding socio-economic, recreational, ecological and/or aesthetic values, ORWs are afforded higher protection to maintain their existing uses and water quality. It is important to note that the 2010 errata sheet for the Mystic River Watershed 2004-2008 Water Quality Assessment Report states that "(A)lthough Sales Creek is currently classified in the SWQS as a Class SA/ORW since it is a tributary to Belle Isle Inlet, it is separated from Belle Isle Inlet by a tide gate and does not function as a tidal system. It is recommended that this waterbody be reclassified in the next revision of the SWQS as a Class B/ORW." Until the State formally reclassifies Sales Creek to a Class B water body, the draft permit must contain effluent limits that meet the Class SA water quality standards. For pollutants with different limits for discharge to Class SA and Class B waterbodies, the draft permits contains both limits (i.e., bacteria limits for both fecal coliform, the Class SA requirement, and E.Col, the Class B requirement).

Class SA waters "are designated as an excellent habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact. In certain waters, excellent habitat for fish, other aquatic life and wildlife may include, but is not limited to, seagrass. In approved areas, SA waters shall also be suitable for shellfish harvesting with depuration. These waters shall have excellent aesthetic value." The Massachusetts water quality standards for bacteria for Class SA waters designated for shellfishing states that "fecal coliform shall not exceed a geometric mean Most Probable Number (MPN) of 14 organisms per 100 ml, nor shall more than 10% of the samples exceed an MPN of 28 per 100 ml, or other values of equivalent protection based on sampling and analytical methods used by the Massachusetts Division of Marine Fisheries and approved by the National Shellfish Sanitation Program in the latest revision of the *Guide For The Control of Molluscan Shellfish*

---

requirement. Specifically, the 1992 document states (at p. 7) that 314 CMR 4.05(3)'s restrictions on existing discharges to ORWs mean:

> … that existing discharges will be connected to POTW's where possible. Where it is not possible, treatment levels higher than those required by the technology-based review may be imposed. The purpose of this higher treatment is to provide the highest water quality possible so that the ORW is at minimal risk of degradation and to insure that water quality remains as close as natural background conditions as possible.

(more stringent regulations may apply, see 314 CMR 4.06(1)(d)(5))." *See* 314 CMR 4.0, Table 15.

Class B waters are designated as a habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary (*e.g.*, swimming) and secondary (*e.g.*, fishing and boating) contact recreation. *See* 314 C.M.R. §§ 4.05(3)(b) and 4.06 (Table 15). Under Massachusetts WQS, such waters must have consistently good aesthetic value and, where designated, must be suitable as a source of public water supply with appropriate treatment, as well as for irrigation and other agricultural uses. *See* 314 C.M.R. § 4.05(3)(b). They must also be free of floating, suspended or settleable solids that are aesthetically objectionable or could impair uses, *id.* at § 4.05(3)(b)(5), and changes to color or turbidity of the waters that are aesthetically objectionable or use-impairing are also prohibited. *Id.* at § 4.05(3)(b)(6). Dissolved oxygen levels in Class B waters must not be less than 5.0 mg/l, and pH must fall within the range of 6.5-8.3 s.u. and not more than 0.5 units outside the background range. *Id.* at §§ 4.05(3)(b)(1) and (3). Massachusetts water quality standards for recreational use of Class B waters for bacteria are: "[T] he geometric mean of all *E. coli* samples taken within the most recent six months shall not exceed 126 colonies/100 ml typically based on a minimum of five samples and no single sample shall exceed 235 colonies/100 ml"; alternatively, "[T]he geometric mean of all *Enterococci* samples taken within the most recent six months shall not exceed 33 colonies/100 ml typically based on a minimum of five samples and no single sample shall exceed 61 colonies/100 ml."

In addition to criteria specific to classified waters, Massachusetts imposes minimum narrative criteria applicable to *all* surface waters, including aesthetics ("free from pollutants in concentrations or combinations that settle to form objectionable deposits; float as debris, scum or other matter to form nuisances; produce objectionable odor, color, taste or turbidity; or produce undesirable or nuisance species of aquatic life"); bottom pollutants and alterations ("free from pollutants in concentrations or combinations or from alterations that adversely affect the physical or chemical nature of the bottom, interfere with the propagation of fish or shellfish, or adversely affect populations of non-mobile or sessile benthic organisms."); and nutrients ("unless naturally occurring, all surface waters shall be free from nutrients in concentrations that would cause or contribute to impairment of existing or designated uses…"). *See* 314 C.M.R § 4.05(5)(a),(b) and (c).

B. Receiving Water Description

1. Background

The receiving water, Sales Creek, (Boston Harbor/Mystic River Watershed/Segment MA71-12), is a Class SA/ORW[7] small freshwater tidally connected tributary of Belle Isle Inlet (Segment MA71-14). Belle Isle Inlet is a Class SA/ORW, and flows into Winthrop Bay (Segment MA70-10) to Boston Harbor. The creek's surface area is 0.008 square miles. The creek runs from the headwaters at Route 145 in Revere, less than ¼ mile from Suffolk's Production Area, to the tidegate/confluence with Belle Isle Inlet. Although Sales Creek is tidally connected to Belle Isle

[7] See Sales Creek Class SA/Class B discussion at IV.A.4. of the Fact Sheet.

Inlet, the Bennington Street tandem tidal gate shuts out incoming tidal surges but allows Sales Creek runoff to flow into Belle Isle Inlet unimpeded. The tidal gate and Belle Isle Inlet/Sales Creek Pump Station are located less than 500 feet from the Suffolk's property line. See Map 1.

According to the November, 2011 Final Massachusetts year 2010 Integrated List of Waters, CN 360.1, Sales Creek is a category 3 waterbody, no uses assessed (insufficient data were available to assess aquatic life, fish consumption, primary and secondary contact, and aesthetic uses). The Belle Isle Inlet is impaired for fish consumption due to PCB in fish tissue, source unknown, and for shellfish, due to a Massachusetts Department of Marine Fisheries prohibition and fecal coliform, source unknown. EPA has not authorized any continuous non-storm water discharges to Sales Creek upstream of the discharge. Global Revco Terminal LLC, (MA0003298) a petroleum bulk storage facility, has been authorized to discharge stormwater to the headwaters of Sales Creek.

Sales Creek (the receiving water for Suffolk's wastewater discharges) is located within the Rumney Marshes Area of Critical Environmental Concern (ACEC). An ACEC receives special recognition by the Commonwealth because of the quality, uniqueness, and significance of its natural and cultural resources. ACEC designation creates a framework for enhanced local, regional, and the Commonwealth's stewardship of these critical resources. The purpose of the ACEC Program is to preserve, restore, and enhance critical environmental resources and resource areas of the Commonwealth. The goals of the program are to identify and designate these ecological areas, to increase the level of protection for ACECs, and to facilitate and support the stewardship of ACECs. Rumney Marsh is a biologically significant salt marsh adjacent to the facility which provides habitat for a wide range of aquatic species and native and migratory birds. Due to the historical alteration of this wetland, there are ongoing efforts to restore portions of this salt marsh and the related intertidal areas.

2. Available Dilution

State water quality standards establish the hydrologic condition at which water quality criteria must be applied. For rivers and streams the hydrologic condition is the lowest observed mean river flow for seven consecutive days recorded over a 10 year recurrence interval (7Q10) (314 CMR § 4.03(3)). Water quality-based limits are then based on a dilution factor calculated using the permitted flow of the facility and the low flow condition in the receiving water. Streamstats, a USGS program, was used to calculate the runoff area and low flow for Sales Creek. According to Streamstats, the assimilative capacity of the receiving waters is extremely limited. There is no appreciable dilution at the point of discharge due to the small watershed area. Streamstats calculated the 7Q10 of Sales Creek to be 0.0102 cubic feet per second or 26,879 cubic feet per month (0.0066 MGD). Suffolk estimates its production area runoff flow to be 260,700 cubic feet per month (0.0989 MGD). The dilution factor (0.0989 + 0.0066/0.989) is 1.07 or 1.1.

3. Water Quality Impairments

Under Section 303(d) of the CWA, states are required to develop information on the quality of their water resources and report this information to the EPA, the U. S. Congress, and the public. In Massachusetts, the responsibility for monitoring the waters within the Commonwealth,

identifying those waters that are impaired, and developing a plan to bring them into compliance with Massachusetts WQS, resides with the MassDEP. The MassDEP evaluated and developed a comprehensive list of the assessed waters and the most recent list was published in the *Massachusetts Year 2010 Integrated List of Waters*. The Commonwealth has not assessed Sales Creek's uses, nor has it developed a TMDL for that water. The Massachusetts Year 2008 Integrated List of Waters (MassDEP, December 2008 and March 2010) identifies Winthrop Bay and Belle Isle Inlet (the closest water bodies to Sales Creek evaluated by MassDEP) as impaired. Fish consumption and shellfish uses are impaired in both water bodies, due to PCB in fish tissue and fecal coliform, respectively. The state has indentified Winthrop Bay as requiring a TMDL due to the presence of pathogens, which are not considered to be present due to natural causes. Further, Winthrop Bay is impaired for primary contact due to elevated enterococci bacteria from municipal separate storm sewer systems and unspecified urban stormwater discharges.

i. *Total Suspended Solids*

Historically, the discharges from Suffolk's Production Area and Racetrack Area contain significant levels of total suspended solids (silt, sediment and particulate fines) which increase the turbidity of the receiving water and causes visible discoloration of Sales Creek in violation of the narrative (non-numeric) water quality standards for color, turbidity and solids set forth at 314 C.M.R 4.005(3)(b).

A review of Attachment 2 of this Fact Sheet, Suffolk's Discharge Status Report Data Summary for the period September 2008 through November 2010, shows that during dry weather sampling the facility occasionally exceeds the benchmark concentration of 100 mg/l for TSS contained in EPA's 2008 Stormwater Multi-Section General Permit for Industrial Activity (MSGP), Part 8, Section J, Subsector J.1.[8], and during wet weather, the facility frequently exceeds the benchmark concentration for TSS. A review of Attachment 4, Suffolk's wet weather discharge status report data summary for the period June 2011-April 2012, shows that the facility continues to frequently exceed the MSGP benchmark concentration for TSS. Wet weather TSS exceedance data for the periods September 2008-November 2010, June 2011-April 2012 is provided below. Data is listed under EPA permit outfall number with Suffolk's sampling nomenclature in parentheses.

Wet Weather TSS Exceedance Data - 9/2008-11/2010

Outfall Number	Maximum	Average	# of Times Exceeded
003(SD-3)	960 mg/l	108 mg/l	18/55
005 (SD-5)	6,700 mg/l	397 mg/l	44/55
007 (SD-7)	770 mg/l	110 mg/l	15/52
006 (SD-10)	480 mg/l	105 mg/l	20/54

[8] See also Part IV. 2. a. of the Fact Sheet for further discussion on the TSS benchmark concentration.

6/2011-4/2012

Outfall Number	Maximum	Average	# of Times Exceeded
003(SD-3)	820 mg/l	148 mg/l	6/19
005 (SD-5)	1,800 mg/l	438 mg/l	14/19
007 (SD-7)	2,000 mg/l	223 mg/l	7/19
006 (SD-10)	530 mg/l	132 mg/l	8/19

At the time that this draft permit was prepared, there was no discharge status report data available for discharges from the facility that have occurred since Suffolk constructed, installed and implemented the facility improvements discussed in detail in Section III.A of this Fact Sheet. It is anticipated that those improvements (clean water diversion system, infiltrations system, sediment forebay, drainage swales, sand filters and overflow structure) and the implementation of the best management practices included in the permit will greatly reduce the level of TSS in Suffolk's discharge.

ii. Bacteria

Historically, numerous dry weather discharges from the facility exceed the Massachusetts water quality standard for bacteria and during wet weather, the facility's discharges consistently exceeded the Massachusetts water quality standards for bacteria. For wet weather discharges, both the E.Coli limit (no single sample shall exceed 235 cfu/100 ml) and the fecal coliform level (28 cfu/100 ml) were grossly exceeded in discharges from all outfalls. Discharges from the individual outfalls exceeded the standards within a range of 58 to 96 percent of the total number of sampling events. Wet weather bacteria exceedance data for the periods September 2008-November 2010 and June 2011-April 2012 is provided below. Data is listed under EPA permit outfall number with Suffolk's sampling nomenclature in parentheses.

Wet Weather E.coli (cfu/100ml) Exceedance Data - 9/2008-11/2010

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	780,000	38,929	36/54
004 (SD-4)	68,000	9,371	38/55
005 (SD-5)	1,100,000	106,550	50/55
007 (SD-7)	440,000	22,166	53/51
006 (SD-10)	430,000	30,997	51/54

6/2011-4/2012

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	240,000	48,205	14/19
004 (SD-4)	240,000	41,976	16/19
005 (SD-5)	820,000	190,408	17/19
007 (SD-7)	63,000	18.036	18/19
006 (SD-10)	1,410,000	115,698	17/19

Wet Weather Fecal Coliform (cfu/100ml) Exceedance Data - 9/2008-11/2010

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	190,000	21,237	44/53
004 (SD-4)	53,000	6,812	45/53
005 (SD-5)	2,000,000	124,400	51/55
007 (SD-7)	10,000,000	210,514	50/50
006 (SD-10)	430,000	32,638	53/54

6/2011-4/2012

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	180,000	38,765	14/19
004 (SD-4)	180,000	38,485	17/19
005 (SD-5)	5000,000	138,094	17/19
007 (SD-7)	76,000	18,036	17/19
006 (SD-10)	180,000	47,385	18/19

At the time that this draft permit was prepared, there was no discharge status report data available for discharges from the facility that have occurred since Suffolk constructed, installed and implemented the facility improvements discussed in detail in Section III.A of this Fact Sheet. It is anticipated that those improvements (40% reduction in stormwater runoff volume, the operation of the newly constructed Production Area wastewater process wastewater collection and storage system and the issuance of a discharge permit from the MWRA that allows Suffolk to discharge the process wastewater storage pond to the Deer Island wastewater treatment plant) will greatly reduce the volume of process wastewater being discharged into Sales Creek from Suffolk Downs.

Most, if not all, Production Area discharges to Sales Creek will be eliminated. Suffolk has designed and constructed its Production Area to prevent any dry weather process wastewater discharge from the Production Area, and to contain all process-generated wastewater plus the runoff from a 50-year, 24-hour storm event for its location. This level of control significantly exceeds the requirements of the Large Horse CAFO effluent guideline. The draft permit imposes manure management BMPs and requires that Suffolk operate and maintain the wastewater pond in accordance and consistent with the structural, operational and maintenance requirements contained in Part I.B.1.b.(6) of the draft permit. Further in those cases where there is an overflow of pollutants from the wastewater storage pond to Sales Creek, the first flush of pollutants (the initial surface runoff from a storm event that commonly contains elevated pollutant concentrations) should be contained within the retention structure's storage volume equivalent of the 50-year, 24-hour storm.

Lastly, the application of the no discharge large horse CAFO NELG satisfies the federal water quality-based requirements of the CWA with respect to CAFO-regulated discharges. The NELG is a performance standard of "no discharge" from the Production Area subject to an exception for discharges attributable to unusual rain fall events if certain conditions are met. The exception

provides recognition of the fact that the basic technology for preventing discharges from feedlots requires containment and/or storage facilities. Containment and storage facilities have physical limitations on their capacity to accommodate excessive quantities of rainfall, resulting in occasional unavoidable overflows.

iii. Aluminum

Race horses are fitted with aluminum horse shoes and aluminum is routinely detected in the effluent of discharges from racetracks. Historically, during wet weather Suffolk's discharges consistently exceeded the acute aluminum water quality criteria of 0.75 mg/l. Data below is taken from Attachment 3, Additional Wet Weather Sampling Data, August 23-November 17, 2010 and Attachment 4, Wet Weather Sampling Data, June 12, 2011-April 23, 2012 (Construction Period). Data is listed under EPA permit outfall number with Suffolk's sampling nomenclature in parentheses.

Wet Weather Aluminum (mg/l) Exceedance Data - August-November 2010

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	9	3.5	2/4
005 (SD-5)	200	51.8	5/5
007 (SD-7)	10	3.8	5/5

June 2011-April 2012

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	16	3.3	8/16
005 (SD-5)	50	9.4	17/17
007 (SD-7)	34	4.5	13/17

At the time that this draft permit was prepared, there was no discharge status report data available for discharges from the facility that have occurred since Suffolk constructed, installed and implemented the facility improvements discussed in detail in Section III.A of this Fact Sheet. It is anticipated that those improvements (e.g., sand filters) will greatly reduce the level of aluminum in Suffolk's discharge.

iv. Whole Wet Effluent Toxicity and Priority Pollutant Analysis

Whole effluent toxicity (WET) testing is conducted to assess whether certain effluents are discharged in a combination which produces a toxic amount of pollutants in the receiving water. Toxicity testing is used in conjunction with pollutant specific control procedures to control the discharge of toxic pollutants.

Toxic pollutants in toxic amounts are prohibited by the Massachusetts water quality standards which state, in part, that "all surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife." NPDES regulations under 40 C.F.R. §§ 122.44(d)(l)(iv) and (v) require WET effluent limits in a permit when the permitting

authority determines that a discharge causes, has the reasonable potential to cause or contributes to an in-stream excursion above a State's narrative or numeric criterion within an applicable State water quality standard for toxicity. On June 29, 2010, EPA required Suffolk to conduct a priority pollutant analysis and freshwater acute whole wet effluent toxicity test on Production Area effluent from Outfall 005 (SD-5). The results of an LC_{50} toxicity test reveal whether the toxicity of the effluent causes mortality in 50% or fewer test organisms. Suffolk's November 29, 2010 report results, measured by the WET test using the daphnid, Ceriodaphnia dubia, and the fathead minnow, Pimephales promelas, as the test organisms, indicate that the effluent samples passed the WET test with an LC50 result of >100%. Volatile organics, semi-volatile organics and pesticides were not detected in the effluent samples. Therefore, additional WET testing is not required under the draft permit. The complete test results are included in the Administrative Record of the draft permit.

C. Proposed Permit Effluent Limitations and Conditions

1. CAFO-Regulated Discharges from the Facility

a. Technology-based Effluent Limitations

i. National Effluent Limitation Guidelines Applicable to Large Horse and Sheep CAFOs - Production Area

Large Horse CAFOs are subject to the NELGs at 40 C.F.R. Part 412, Subpart A (Subpart A). Subpart A applies to discharges from a CAFO's "production areas." Subpart A requires the application of Best Practicable Control Technology currently available (BPT) which prohibits discharges of process wastewater pollutants to navigable waters except whenever rain events, either chronic or catastrophic, cause an overflow of process wastewater from a facility designed, constructed and operated to contain all process generated wastewaters plus the runoff from a 10-year, 24-hour rain event for the location of the point source. Subpart A also requires the application of the Best Available Technology Economically Achievable (BAT), which prohibits discharges of process waste water pollutants into U.S. waters except whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated, and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source.

As described previously in this Fact Sheet, in order to meet the Subpart A effluent guidelines and Part I.A.1 of the draft permit, Suffolk has designed and constructed its Production Area to (1) prevent any dry weather process wastewater discharge from the Production Area and (2) contain all process-generated wastewater plus the runoff from the 25-year, 24-hour rainfall event for its location. In fact, Suffolk's process wastewater collection system is designed to contain all process-generated wastewater plus the runoff from a 50-year, 24-hour rainfall event, which exceeds the design capacity requirements of Subpart A. Therefore, the draft permit authorizes the discharge of process wastewater from Outfalls 001 and 002 to Sales Creek whenever rainfall events cause an overflow of process-generated wastewater from Suffolk's process wastewater storage structure, provided that Suffolk operates and maintains the storage structure as required in the draft permit. See Section III.A.1. of the Fact Sheet for more information on the process

wastewater storage pond and collection system.

b. Water Quality-Based Effluent Limitations

The Massachusetts Surface Water Quality Standards, found at 314 CMR 4.00, consist of three parts: (1) beneficial designated uses for a water-body or a segment of a water-body; (2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s); and (3) anti-degradation requirements to ensure that once a use is attained it will not be degraded.

i. Water Quality-based Effluent Limitations and Standards – Production Area and Authorized Overflow from the Production Area

Compliance with the Large Horse CAFO NELG satisfies the CWA's water quality-based requirements for those discharges that are prohibited by the NELG. In Suffolk's case, all Production Area discharges are prohibited except those that occur whenever rainfall events cause an overflow of process wastewater from Suffolk's process wastewater storage structure, provided that Suffolk operates and maintains the storage structure as required by the draft permit.

The NELG is a performance standard of "no discharge" from the Production Area is subject to an exception for discharges attributable to unusual rain fall events if certain conditions are met. The exception provides recognition of the fact that the basic technology for preventing discharges from feedlots requires containment and/or storage facilities. Containment and storage facilities have physical limitations on their capacity to accommodate excessive quantities of rainfall, resulting in occasional unavoidable overflows. Dry weather discharges are never allowed nor are discharges caused by poor management, even if it is raining.

The draft permit contains the following minimum design specifications applicable to Suffolk's process wastewater storage structure, based upon EPA's CAFO technical guidance document "Managing Manure Nutrients at Concentrated Animal Feeding Operations" December 2004, Chapter 2, Section B.1:

- the volume of manure, litter, process wastewater, and other wastes accumulated during the storage period;
- normal precipitation less evaporation during the storage period;
- normal runoff during the storage period;
- the direct precipitation from the 25-year, 24-hour storm;
- the runoff from the 25-year, 24-hour storm event from the production area;
- residual solids after liquid has been removed,
- sediment load in the runoff from the Production Area; and,
- necessary freeboard to maintain structural integrity of the storage system.

The draft permit also specifies the maximum length of time between emptying events for Suffolk's wastewater collection system, which is the sixty (60) day storage period used by Suffolk to calculate the design volume of the collection system.

EPA has determined that the technology-based effluent limitations contained in the draft permit are sufficiently stringent to satisfy the CWA's water quality-based requirements and that, based on currently available data, there is no reasonable potential for any overflow discharge allowed by the ELG to cause, or contribute to, an excursion above Massachusetts WQS. Most, if not all, Production Area discharges to Sales Creek will be prevented because (1) Suffolk has constructed a process wastewater storage pond and collection system that exceeds the volume of stormwater runoff (50-year/24-hour storm event) that is required by the NELG (25- year/24-hour storm event); and (2) Part 1.B of the draft permit requires that Suffolk implement the BMPs and procedures necessary to achieve the applicable effluent limitations and standards found at Part 1.A of the draft permit. Further, in those cases where there is an overflow of pollutants from the wastewater storage pond to Sales Creek, the first flush of pollutants (the initial surface runoff from a storm event that commonly contains elevated pollutant concentrations) should be contained within the retention structure's storage volume equivalent of the 50-year, 24-hour storm. With this said, the draft permit requires that each discharge event be monitored, documented and reported to EPA and MassDEP on the monthly discharge monitoring reports so that the effluent can be properly characterized. The monitoring requirements are for the purpose of monitoring whether water quality standards are met and to determine, in the future, if more stringent effluent limitations should be required in Suffolk's NPDES permit.

c. Dry Weather Monitoring

Dry weather discharges from all outfalls (Outfall Numbers 001-011) are prohibited. Part I.A.3 of the draft permit requires Suffolk to conduct weekly visual inspections of all outfalls during dry weather and, if a discharge is observed during regular visual inspections or at any other time, Suffolk is required to monitor and report the maximum daily flow, total suspended solids, E.Coli, pH, total aluminum, total phosphorous and nitrogen-ammonia for each dry weather condition discharge, as well as to report the total number of dry weather condition discharges per month to EPA and MassDEP with its monthly DMR report.

d. Prohibitions

Part I.A.11 of the draft permit details eight (8) prohibitions at Suffolk's CAFO which require that Suffolk ensure that confined animals do not come into direct contact with surface water and that there is no discharge of rainfall runoff from manure or litter or feed storage piles, dumpsters, or other storage devices into surface waters. The land application of manure, litter or process wastewater at Suffolk's CAFO is prohibited under this permit. Suffolk shall not expand its CAFO operations, either in size or numbers of animals, prior to amending or enlarging the waste handling procedures and structures to accommodate any additional wastes that will be generated by the expanded operations. No manure, litter, or process wastewater storage and handling structure shall be abandoned at Suffolk's CAFO and the closure of all such structures shall occur as promptly as practicable after the permittee has ceased to operate, or, if the permittee has not ceased to operate, within 12 months after the date on which the use of the structure ceased. The closure of a manure, litter, or process wastewater storage and handling structure requirements are found at Part 1.A.13. of the draft permit. All dry weather discharges of pollutants from Suffolk's

Production Area to surface waters are prohibited. All discharges to Suffolk's process wastewater storage pond shall be composed only of (1) manure, litter, or process wastewater from the proper operation and maintenance of the CAFO; and (2) stormwater from the Production Area.

e. Facility Closure

Part I.A.13 of the draft permit contains the closure requirements for lagoons, other surface impoundments and other manure, litter or process wastewater storage and handling structures. The facility closure requirements address maintenance of lagoons, impoundments and other structures prior to closure, closure schedules, compliance with the Massachusetts Natural Resources Conservation Service Technical Standard Number 360, and waste material removal and disposal requirements

f. Nutrient Management Plan Requirements

Pursuant to 40 CFR §122.42(e)(1), an NPDES permit issued to a CAFO must include a requirement that the CAFO implement a Nutrient Management Plan (NMP) that, at a minimum, contains best management practices necessary to meet the specific requirements of 40 CFR §122.42(e) (1) and applicable effluent limitations and standards, including those specified in the CAFO NELG at 40 C.F.R. Part 412. The goal of an NMP is to minimize the CAFO's impact on water quality. CAFOs are agricultural operations where animals are kept and raised in confined situations. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures. CAFOs generally congregate animals, feed, manure, dead animals, and production operations on a small land area referred to as the Production Area. Manure and wastewater from CAFOs have the potential to contribute pollutants such as nitrogen and phosphorus, organic matter, sediment, pathogens, heavy metals, hormones, antibiotics, and ammonia to the environment. Animal waste can enter water bodies from spills or breaks of waste storage structures, due to accidents or excessive rain, and non-agricultural application of manure to crop land.

An NMP describes the practices and procedures that will be implemented at the CAFO to meet Production Area and land application area requirements that apply to the specific CAFO operation. NMPs for large CAFOs must describe how the operation will achieve the discharge limits and specific management practices required in the permit. The Draft Permit contains specific best management practices and other requirements derived from Suffolk's NMP, and EPA's CAFO regulations at 40 C.F.R. §122.42(e) (1) and 40 C.F.R. Part 412, Subpart A.

Suffolk does not land apply manure, litter, or process wastewater nor does Suffolk's NMP contain protocols to land apply process wastewater in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the process wastewater. Therefore, the draft permit prohibits Suffolk from the land application of manure, litter or process wastewater. In the future, should Suffolk want to land apply manure, litter or process wastewater, Suffolk must submit to EPA, for its review and approval, EPA Form 2B, CAFO Discharge Permit Application and an NMP that meets the requirements of 40 C.F.R. § 122.42(e) and the applicable NEGL at 40 C.F.R. Part 412.

i. Schedule

Suffolk is required to implement the terms and conditions of its NMP which are incorporated into Part I.B. of the draft permit. The NMP shall be modified as necessary to reflect the best management practices, operation and maintenance procedures and infrastructure improvements implemented by the facility to fulfill and/or maintain the requirements of this draft permit. In accordance with 40 C.F.R. § 122.42(e)(6), whenever Suffolk makes any changes to its NMP, Suffolk must submit the revised NMP to EPA as soon as it is revised, and must identify any changes from the previous version. EPA will review the changes to Suffolk's NMP and follow applicable procedural requirements under 40 C.F.R. § 122.42(e)(6).

ii. NMP Content

Suffolk's NMP and the terms and conditions of its NMP which are incorporated into the draft permit are designed to prevent the discharge of pollutants from the Production Area at Suffolk Downs to Sales Creek and adjacent wetlands. The NMP and the terms and conditions of Suffolk's NMP that have been incorporated into the draft permit are consistent with the federal CAFO requirements found at 40 C.F.R. § 122.42(e) and the applicable 40 C.F.R. Part 412 effluent limitations and standards. Suffolk's NMP also contains the soil and manure sampling requirements of the Massachusetts Natural Resources Conservation Service (NRCS) Conservation Practice Standard Code 590.

iii. Terms of the NMP

In Part I.B of the draft permit EPA has incorporated the best management practices (BMPs) and procedures necessary to achieve the applicable effluent limitations and standards found at Part 1.A. of the permit. The BMPs found in Part I.B. of this draft permit are designed to ensure that Suffolk's facility meets at least the following minimum requirements for NMPs identified at 40 CFR § 122.42(e)(1):

a. Adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities. Storage capacity must be sufficient to meet minimum requirements of Part I.A.1 and I.A.4.(a) of the permit. [40 CFR §122.42(e)(1)(i)]

b. Clean water must be diverted, as appropriate, from the Production Area. Clean water includes rain falling on the roofs of facilities, runoff from adjacent land, and rainwater from other sources. Clean water that comes into contact with manure or process wastewater must be managed as contaminated process wastewater. [40 CFR §122.42(e)(1)(iii)]

c. Chemicals and other contaminants handled on-site must not be disposed of in any manure, litter, process wastewater, or stormwater storage or treatment system unless specifically designed to treat such chemicals or contaminants. [40 CFR §122.42(e)(1)(v)]

d. Site specific BMPs and conservation practices must be implemented to control runoff of pollutants to waters of the United States. [40 CFR §122.42(e)(1)(vi)]

e. Protocols for appropriate testing of manure, litter, and process wastewater. [40 CFR §122.42(e)(1)(vii)]

f. Proper disposal of dead animals within 48 hours in a manner that protects water quality. [40 CFR §122.42(e)(1)(ii)]

g. Direct contact of confined animals with waters of the United States must be prevented. [40 CFR §122.42(e)(1)(iv)]

h. Recordkeeping requirements documenting that Suffolk is implementing its NMP and complying with this draft permit. [40 CFR §122.42(e)(1)(ix)]

iv. Off-site Transfer of Manure, Litter or Process Wastewater Requirements

In cases where CAFO-generated manure, litter, or process wastewater is sold or given away to other persons, the draft permit requires Suffolk to maintain records (for five years) showing the date and amount of manure, litter or process wastewater transferred to another person and the name and address of the recipient. Suffolk must also provide the recipient(s) with the most current nutrient content analysis of the manure, litter or wastewater. [40 C.F.R. § 122.42(e)(3)].

2. Other Regulated Discharges from the Facility

a. Discharges of Storm Water Associated with Industrial Activity

Prior to Suffolk's 2011-2012 reconfiguration of its Production Area, Outfalls 003, 004, 005, 006 and 007 were located within Suffolk's Production Area and discharged process wastewater, contaminated stormwater, and silt and soil from both the Production Area's stable area and the Racetrack Area's dirt racetrack. Since the reconfiguration of the Production Area and the installation of a number of wastewater and stormwater improvements, Outfalls 003, 005 and 006 discharge Production Area industrial stormwater and Outfalls 004 and 007 discharge non-Production Area stormwater. Suffolk also constructed four sand filters within the Racetrack infield that discharge stormwater runoff from the dirt racetrack through Outfalls 008, 009, 010 and 011.

Nationally, sediment and siltation from CAFOs are known to contribute to the impairment of water quality, and prior to Suffolk's 2011-2012 process wastewater and stormwater management improvements, the discharges from Suffolk's Production Area and Racetrack Area caused visible discoloration in Sales Creek in violation of the Massachusetts water quality standard for solids. At the time that this draft permit was prepared, there was no discharge status report data available for stormwater discharges that have occurred at the facility since process wastewater and stormwater management improvements have been implemented, including a sediment forebay and four sand filters to control total suspended solids (TSS) in the discharge.

Suffolk's industrial stormwater discharges do not fall within the description of industrial activities eligible for coverage under EPA's 2008 Stormwater Multi-Sector General Permit for Industrial Activities (MSGP). EPA has not promulgated a national industrial stormwater effluent

limitation guideline for large horse CAFOs. However, Suffolk's stormwater discharges are nonetheless regulated as storm water discharges associated with industrial activity and must therefore be authorized through this individual NPDES permit. See 40 CFR §122.26(b)(14)(i). In exercising its BPJ, EPA reviewed the MSGP to determine the appropriate and analogous non-numeric technology-based limitations for the facility. EPA has determined that the stormwater discharge from Suffolk is similar in consistency to the discharge of sand and gravel mining facilities covered under Part 8, Sector J, Subsector J.1 of the MSGP. Sand and gravel mining is an industry activity where sediment and turbidity in the discharge are significant pollutants of concern. Section 8.J.8. of the MSGP contains monitoring requirements and a benchmark concentration of 100 mg/l for TSS. In the MSGP this concentration is not an effluent limitation, but rather an indication of the effectiveness of the facility's Stormwater Pollution Plan (SWPPP, see Part C.2.a.i. below.) Pursuant to CWA Section 402(a)(1)(B) and 40 C.F.R. § 125.3(c), the non-numeric technology-based effluent limitations designed to address the historically high level of TSS in Suffolk's stormwater discharges have been incorporated in the draft permit based on a BPJ basis.

i. Stormwater Pollution Prevention Plan (SWPPP)

Suffolk engages in activities which could result in the discharge of pollutants to waters of the United States either directly or indirectly through stormwater runoff. To control the activities which could contribute pollutants to waters of the United States, potentially violating Massachusetts WQS, the draft permit requires the facility to develop, implement and maintain a Stormwater Pollution Prevention Plan (SWPP) documenting the application of BMPs appropriate for this facility.

The goal of the SWPPP is to reduce, or prevent, the discharge of pollutants through the stormwater system. The SWPPP serves to document the selection, design and installation of structural BMPs (i.e., the four sand filters located within the racetrack in-field) and other BMPs. Additionally, the SWPPP requirements in the draft permit are intended to facilitate a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the draft permit. The SWPPP shall be prepared in accordance with good engineering practices and identify potential sources of pollutants, which may reasonably be expected to affect the quality of stormwater discharges associated with industrial activity from the facility. The SWPPP documents the appropriate BMPs implemented or to be implemented at the facility to satisfy the non-numeric limitations in the draft permit. The SWPPP contains measures with which Suffolk must comply pursuant to the draft permit and which supplement the express individual terms and conditions of the draft permit. Consequently, the SWPPP is an enforceable element of this permit.

Implementation of the SWPPP involves the following four main steps:

1. Form a team of qualified facility personnel who will be responsible for developing and updating the SWPPP and assisting the environmental compliance officer in the plan's implementation;
2. Assess the potential stormwater pollution sources;

3. Select and implement appropriate management practices and controls for these potential pollution sources; and,
4. Periodically reevaluate the effectiveness of the SWPPP in preventing stormwater contamination and in complying with the various terms and conditions contained in the draft permit.

To minimize preparation time of the SWPPP, the permittee may, for example, reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans [under Section 311 of the CWA and 40 CFR Part 112], Corporate Management Practices, Suffolk's Nutrient and Stormwater Management Plan, etc., and may incorporate any part of such plans into the SWPPP by reference. Provided these references address specific pollution prevention requirements and the goals of the SWPPP, they can be attached to the SWPPP for review and inspection by EPA and MassDEP personnel. Although relevant portions of other environmental plans, as appropriate, can be built into the SWPPP, ultimately however, it is important to note that the SWPPP should be a comprehensive, stand-alone document. See Part I.C. of the draft permit for specific SWPPP requirements.

3. Additional Technology- and Water Quality-based Effluent Limitations

a. Production Area - Outfalls 001, 002

Flow

Consistent with the effluent limit guideline (ELG) exception for discharges from Large Horse CAFOs (40 CFR Part 412) no flow limits have been set for the Production Area collection system overflow, since Suffolk's collection system is designed and operated to accommodate all process waste water, including runoff from all rainfall events exceeding a 25-year, 24-hour rainfall event. The draft permit requires Suffolk to report the total number of discharge events per month. The draft permit also requires that, for each discharge event, Suffolk monitor and report the flow volume of the system overflow on the monthly discharge monitoring report (DMR). Acceptable means of measuring this flow are use of continuous flow meters, weirs or a calculated estimation based on site conditions. The draft permit also requires reporting of weather data from a rain gauge located at the facility concurrent with each rain event that results in a discharge. Suffolk is required to report the intensity, duration, and amount of precipitation for the rain event on the DMR cover letter. Intensity shall be reported in units of inches/hour and amount of rainfall shall be reported in units of inches. Measurement of the duration of a rain event shall begin at the start of a rain event greater than 0.1 inches in magnitude and end when the rain event ends.

In addition, Part I.A.3 of the draft permit requires Suffolk to conduct weekly visual inspections of all Production Area outfalls during dry weather and, if a discharge is observed during regular visual inspections or at any other time, Suffolk is required to report the maximum daily flow for each dry weather condition discharge and the total number of dry weather condition discharges per month to EPA and MassDEP with its monthly DMR report.

Total Suspended Solids (TSS)

Total suspended solids (TSS) include all particles suspended in water which will not pass through a filter. Runoff carrying silt, dirt and eroded soil is often a source of suspended solids. Nationally, sediment and siltation from CAFOs are known to contribute to the impairment of water quality. Although there is a history of discharges from the facility's Production Area that cause visible discoloration in Sales Creek, Suffolk has made numerous improvements to its process wastewater management system (See Section III. A of this Fact Sheet) that should greatly reduce the level of TSS in its discharge.

Massachusetts has a narrative water quality standard for solids that states, "[t]hese waters shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom." EPA has determined that until the Production Area process wastewater storage pond and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable water quality standards. Therefore, for each overflow discharge of Production Area wastewater pollutants, the draft permit establishes a monitoring requirement for TSS, monitored at a frequency of once per overflow discharge event and whenever a dry weather discharge is observed from any of the existing outfalls.

Oil and Grease (O&G)

According to Massachusetts Water Quality Standards (314 CMR 4.05(4)(a)(7) and (3.)(b)(7)), Class SA water bodies shall be free from oil, grease and petrochemicals and Class B water bodies shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portion of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life. A concentration of oil and grease of 15 mg/L is recognized as the level at which many oils produce a visible sheen. EPA has determined that until the Production Area process wastewater storage pond and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable water quality standards. Therefore, for each overflow discharge of Production Area wastewater pollutants, the draft permit establishes a monitoring requirement for O&G, monitored at a frequency of once per overflow discharge event.

pH

The Massachusetts Surface Water Quality Standards at 314 CMR 4.05(4)(a)(3) requires that the pH of Class SA water bodies be in the range of 6.5 to 8.3 standard units (s.u.) with not more than 0.2 s.u outside of the receiving water background range. For Class B inland waters, the Massachusetts Surface Water Quality Standards at 314 CMR 4.05 (3)(b)3 require that the pH be in the range of 6.5 to 8.3 s.u. with not more than 0.5 s.u. outside of the receiving water background range. The water quality standards also require there be no change from background

conditions that would impair any use assigned to this class. Based on monitoring results summarized in Attachment 3 of this Fact Sheet, the pH of the discharge consistently falls within the water quality standard ranges (a minimum of 6.5 s.u. to a maximum of 7.8 s.u). Therefore, for each overflow discharge of Production Area wastewater pollutants, the draft permit establishes a monitoring requirement for pH, monitored at a frequency of once per overflow discharge event and whenever a dry weather discharge is observed from any of the existing outfalls.

Dissolved Oxygen (DO)

The Massachusetts Surface Water Quality Standards at 314 CMR 4.05(4)(a)(1) requires that the dissolved oxygen level of the discharge to Class SA water bodies shall not be less than 6.0 mg/l. Where natural background conditions are lower, DO shall not be less than natural background. Natural seasonal and daily variations that are necessary to protect existing and designated uses shall be maintained. For Class B warm water fisheries, the Massachusetts Water Quality Standards (314 CMR 4.05(3)(b)(1)), requires that the dissolved oxygen level of the discharge shall not be less than 5.0 mg/l. EPA has determined that until the Production Area process wastewater storage pond and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable water quality standards. Therefore, for each overflow discharge of Production Area wastewater pollutants, the draft permit establishes a monitoring requirement for DO, monitored at a frequency of once per overflow discharge event.

Biochemical Oxygen Demand (BOD_5)

Biochemical oxygen demand (BOD_5) is a measure of the amount of oxygen required to degrade organic matter in water. According to the American Society of Agricultural Engineers ASAE D384.1 and the Midwest Plan Service MWPS-18, a 1,000 pound horse excretes 51 pounds of wet raw manure a day, and that manure has a BOD_5 level of 1.7 lbs/day. The majority of the raw manure generated at Suffolk Downs is collected and transferred off-site for disposal. The remaining Production Area solid organic material becomes comingled with the large volume of Production Area process wastewater and collected in the process wastewater storage pond. Except during extreme weather events, the process wastewater contained in the storage pond will be discharged directly to the public sewer system. The storage pond is an anaerobic, which will reduce the BOD_5 level of manure. Further, it is expected that the level of BOD_5 in the manure will be diluted by the high volume of liquid waste contained in the storage pond.

EPA has determined that until the Production Area process wastewater storage pond and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable water quality standards. Therefore, for each overflow discharge of Production Area wastewater pollutants, the draft permit establishes a monitoring requirement for BOD_5, monitored at a frequency of once per overflow discharge event. The NPDES permit Writer's Handbook indicates that grab samples are appropriate when the flow and characteristics of the waste stream being sampled are relatively constant. The discharges from the process wastewater storage pond are not expected to vary over time and a grab sample is appropriate.

Bacteria

The primary pollutants of concern from CAFOs are manure and manure pathogens. Historically, during wet weather and prior to the completion of the 2011-2012 major renovation and construction projects at Suffolk to improve process wastewater and stormwater management, discharges from the Production Area to Sales Creek grossly and consistently exceed the Massachusetts Surface Water Quality Standards at 314 CMR 4.05.(3)(b)4 and (4)(a)(4)(a) for bacteria.

As previously described throughout the Fact Sheet, Suffolk's recently constructed process wastewater collection system and retention structure meets the application of the no discharge Large Horse CAFO NELG and satisfies the federal water quality-based requirements of the CWA with respect to CAFO-regulated discharges. The NELG is a performance standard of "no discharge" from the Production Area subject to an exception for discharges attributable to unusual rainfall event if certain conditions are met. The exception provides recognition of the fact that the basic technology for preventing discharges from feedlots requires containment and/or storage facilities. Containment and storage facilities have physical limitations on their capacity to accommodate excessive quantities of rainfall, resulting in occasional unavoidable overflows.

As described throughout this Fact Sheet, most, if not all, Production Area discharges to Sales Creek will be prevented because Suffolk has constructed a process wastewater storage structure and collection system (that discharges to the MWRA's Deer Island wastewater treatment facility) that will retain up to a 50-year, 24-hour storm event, a volume that greatly exceeds the NELG requirement of containment of the volume from a 25-year, 24-hour storm and provides twice the protection required to meet the Commonwealth's maximum extent practicable (MEP) standard through use of best management practices. The draft permit requires that Suffolk operate and maintain the storage structure in accordance and consistent with the structural, operational and maintenance requirements contained in Part I.B.1.b. (6) of the draft permit. Further, in those cases where there is an overflow of pollutants from the wastewater storage structure to Sales Creek, the first flush of pollutants (the initial surface runoff from a storm event that commonly contains elevated pollutant concentrations) should be contained within the retention structure's storage volume equivalent of the 50-year, 24-hour storm. For these reasons, EPA and MassDEP have determined that the inclusion of bacteria limits in the permit is not warranted and that the proposed monitoring requirements are sufficient.

The draft permit requires that monitoring for both fecal coliform (Class SA requirement) and E. coli (Class B requirement) be conducted per discharge event for overflow discharges of Production Area wastewater pollutants and whenever a dry weather discharge is observed from any of the existing outfalls. This requirement applies year round.

Aluminum

EPA's National Recommended Water Quality Criteria for aluminum in freshwater (with pH from 6.5 to 9.0) are 0.750 mg/l CMC (acute) and 0.087 mg/l CCC (chronic). Historically and

prior to Suffolk's 2011-2012 process wastewater and stormwater improvements, wet weather discharges from the Production Area (Outfalls 003, 005 and 007[9]) consistently exceed the acute aluminum water quality criteria of 0.750 mg/l. See Section B.3 of this Fact Sheet, Water Quality Impairments, and Attachment 4 to this Fact Sheet. EPA has determined that until the Production Area process wastewater storage pond and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable water quality standards. The draft permit requires monitoring for aluminum during each rain event that causes an overflow of wastewater pollutants from the Production Area and whenever a dry weather discharge is observed from any of the existing outfalls.

Nutrients – Phosphorous and Nitrogen

Animal waste contains significant quantities of nutrients, particularly nitrogen and phosphorous. Manure nitrogen occurs in several forms, including ammonia and nitrate, which can produce adverse environmental impacts when transported in excess quantities to the environment. Ammonia is of environmental concern because it is toxic to aquatic life and it exerts direct biological oxygen demand (BOD) on the receiving water, thereby reducing dissolved oxygen levels and the ability of water bodies to support aquatic life. Phosphorous is of concern in fresh surface waters because it is a nutrient that can lead to eutrophication and the resulting adverse impacts - fish kills, reduced biodiversity, objectionable odors and growth of toxic organisms. The Massachusetts Surface Water Quality Standards (314 CMR 4.00) do not contain numeric criteria for total phosphorus and nitrogen. The narrative criteria for nutrients is found at 314 CMR 4.05(5)(c), which states that nutrients "shall not exceed the site specific limits necessary to control accelerated or cultural eutrophication." EPA has determined that the intermittent discharge of nutrients in the overflow from the Production Area process wastewater storage pond during extreme rainfall events does not pose a reasonable potential for the discharge to cause or contribute to an excursion above the applicable state water quality standards. However, the draft permit does require monitoring for total phosphorous and nitrogen-ammonia whenever a dry weather discharge is observed from any of the existing outfalls.

b. Stormwater associated with an Industrial Activity - Production Area and former Production Area Outfalls 003, 004, 005, 006, and 007

Flow

Part I.A.2.a of the draft permit requires that Suffolk monitor its industrial stormwater flow from the Production Area (Outfalls 003, 005, and 006) as well as both the Racetrack Area and other non-Production Area locations (Outfalls 004 and 007) one time during wet weather conditions for each month of the year. The draft permit also requires that the flow be estimated at the discharge point located at the end of the pipe, prior to discharging into the receiving water. The draft permit furthermore requires reporting of weather data from a rain gauge located at the

---

[9] Outfalls 003 and 005 now discharge Production Area roof runoff and outfall 007 discharges non-Production Area runoff. EPA has determined that there is no reasonable potential for aluminum to be present in these discharges.

facility concurrent with the rainfall event when monitoring occurs. Suffolk is required to report the intensity, duration, and amount of rainfall for the rain event on the DMR cover letter. Intensity is required to be reported in units of inches/hour and amount of rainfall is required to be reported in units of inches. Measurement of the duration of a rain event shall begin at the start of a rain event greater than 0.1 inches in magnitude and end when the rain event ends.

Total Suspended Solids (TSS)

As described earlier, TSS includes all particles suspended in water which will not pass through a filter. Runoff carrying silt, dirt and eroded soil is often a source of suspended solids. Nationally, sediment and siltation from CAFOs are known to contribute to the impairment of water quality. Although there is a history of discharges from Outfalls 003, 004, 005, 006 and 007 that cause visible discoloration in Sales Creek (See Section IV.B.3.i of this Fact Sheet, Water Quality Impairments, and Attachments 2 and 4 of this Fact Sheet) during the winter of 2012, Suffolk made a number of process wastewater and stormwater management improvements at the facility. The improvements include the installation of a process wastewater management system that discharges most of the time to the MWRA wastewater treatment facility, separating out the process wastewater and stormwater discharges, and the installation of a stormwater management system that should reduce the amount of silt and solids in both the Production Area and non-Production Area stormwater runoff. Data to support this assumption was not available to EPA during permit development.

Massachusetts has a narrative water quality standard for solids that states, "[t]hese waters shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom." Additionally, the MSGP contains a TSS benchmark concentration of 100 mg/l. (See Part IV.C.2.a. of this Fact Sheet for the MSGP discussion). EPA has determined that until the Production Area process wastewater and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above applicable state water quality standards. Therefore, the draft permit requires Suffolk to monitor for TSS one time during wet weather conditions for each month of the year.

Bacteria

As stated previously, the primary pollutants of concern from CAFOs are manure and manure pathogens. Manure is generated and stored throughout the Production Area and although manure is not stored at the Racetrack Area, it is likely that manure is present in the area. Historically, during wet weather, and prior to the completion of Suffolk's 2011-2012 facility wastewater and stormwater management improvement projects, the Production Area process wastewater and stormwater runoff co-mingled prior to discharging into Sales Creek. The co-mingled discharge consistently exceeded the Massachusetts Surface Water Quality Standards for bacteria.

Suffolk has made a number of process wastewater and stormwater management improvements at the facility, including separating out the process wastewater and stormwater discharges, the

construction of a process wastewater storage structure that discharges most of the time to the MWRA wastewater treatment facility, and the installation of a series of sand filters to further settle out conventional pollutants, including E.coli, in stormwater before it is discharged to Sales Creek. EPA has determined that until the Production Area process wastewater and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable state water quality standards. Therefore, the draft permit establishes year-round, monthly wet-weather monitoring requirements for both fecal coliform and E.coli.

Nutrients – Nitrogen and Phosphorus

Animal waste contains significant quantities of nutrients, particularly nitrogen and phosphorous. Manure nitrogen occurs in several forms, including ammonia and nitrate, which can produce adverse environmental impacts when transported in excess quantities to the environment. Ammonia is of environmental concern because it is toxic to aquatic life and it exerts direct BOD on the receiving water, thereby reducing dissolved oxygen levels and the ability of water bodies to support aquatic life. Phosphorous is of concern in fresh surface waters because it is a nutrient that can lead to eutrophication and the resulting adverse impacts – fish kills, reduced biodiversity, objectionable odors and growth of toxic organisms.

As stated previously, (1) Suffolk has made a number of process wastewater and stormwater management improvements at the facility, including separating out the process wastewater and stormwater discharges, and, (2) EPA has determined that the intermittent discharge of nutrients in the overflow from the Production Area process wastewater storage pond during extreme rainfall events does not pose a reasonable potential for the discharge to cause or contribute to an excursion above the applicable state water quality standard and therefore wet weather monitoring of nutrients is not required.

c. Stormwater associated with an Industrial Activity - Racetrack Area
Outfalls 008, 009, 010, 011

Flow

Part I.A.2.b. of the draft permit requires that Suffolk monitor its industrial stormwater flow from the Racetrack Area one time during wet weather conditions for each month of the year. The draft permit also requires that the flow be estimated at the discharge point located at the end of the pipe, prior to discharging into the receiving water. The draft permit also requires reporting of weather data from a rain gauge located at the facility concurrent with the rain event when monitoring occurs. Suffolk is required to report the intensity, duration, and amount of rainfall for the rain event on the DMR cover letter. Intensity is required to be reported in units of inches/hour and the amount of rainfall is required to be reported in units of inches. Measurement of the duration of a rain event shall begin at the start of a rain event greater than 0.1 inches in magnitude and end when the rain event ends.

Total Suspended Solids (TSS)

As described earlier, TSS includes all particles suspended in water which will not pass through a filter. Runoff carrying silt, dirt and eroded soil is often a source of suspended solids. Nationally, sediment and siltation from CAFOs are known to contribute to the impairment of water quality. Although there is a history of discharges from the facility's dirt racetrack that cause visible discoloration in Sales Creek (See Section IV.B.3.i of this Fact Sheet, Water Quality Impairments, and Attachments 2 and 4 of this Fact Sheet) during the winter of 2012, Suffolk made major wastewater and stormwater management improvements at the facility. Improvements include the the construction of four sand filters within the Racetrack area infield specifically to reduce the amount of silt and solids in the stormwater runoff from the racetrack proper.
The draft permit establishes a TSS monitoring requirement for Outfalls 008-011. This monitoring is consistent with the requirement to meet the Massachusetts narrative water quality standard for solids that states, "[t]hese waters shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom." Therefore, the draft permit requires Suffolk to monitor for TSS one time during wet weather conditions for each month of the year.

V. MONITORING AND REPORTING

A. Monitoring Requirements for all Discharges

The effluent monitoring and reporting requirements included in the draft permit have been established to yield data representative of the discharge. These requirements have been established under Section 308 and 402 of the CWA and implementing regulations, including 40 C.F.R. §§ 122.41 (j), 122.44 (i) and 122.48.

The draft permit includes revised provisions related to Discharge Monitoring Report (DMR) submittals to EPA and the State. The draft permit requires that, no later than one year after the effective date of the permit, Suffolk begin submitting all monitoring data and other reports required by the permit to EPA using the electronic system called NetDMR (instead of in hard copy), unless Suffolk is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and other reports ("opt-out request"). In the interim (until one year from the effective date of the permit), Suffolk may either submit monitoring data and other reports to EPA in hard copy form, or report electronically using NetDMR.

NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure Internet application to U.S. EPA through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing hard copy forms under 40 CFR § 122.41 and § 403.12. NetDMR is accessed from the following url: http://www.epa.gov/netdmr. Further information about NetDMR, including contacts for EPA Region 1, is provided at this website address.

EPA currently conducts free training on the use of NetDMR, and anticipates that the availability of this training will continue to assist permittees with the transition to use of NetDMR. To participate in upcoming trainings, visit http://www.epa.gov/netdmr for contact information for permittees in the Commonwealth of Massachusetts. The draft permit requires Suffolk to report monitoring results obtained during each calendar month, using NetDMR, no later than the 15th day of the month following the completed monthly reporting period. All reports required under the draft permit are required to be submitted to EPA as an electronic attachment to the DMR. Once Suffolk begins submitting electronic reports using NetDMR, Suffolk will no longer be required to submit hard copies of DMRs or hard copies of other reports to EPA and will no longer be required to submit hard copies of DMRs to MassDEP. However, Suffolk must continue to send hard copies of reports other than DMRs to MassDEP until otherwise notified by MassDEP.

The draft permit also includes an "opt-out request" process, described above. If Suffolk believes that it cannot use NetDMR due to technical or administrative infeasibility, or other reasonable basis, Suffolk must demonstrate that the asserted reason precludes the use of NetDMR. Suffolk must submit the justification, in writing, to EPA at least sixty (60) days prior to the date the facility would otherwise be required to begin using NetDMR. Opt-outs become effective upon the date of written approval by EPA and are valid for twelve (12) months from the date of EPA approval. The opt-outs expire at the end of this twelve (12) month period. Upon expiration of the opt-out, Suffolk would be required to submit DMRs and other reports to EPA using NetDMR, unless Suffolk were to have submitted a renewed opt-out request sixty (60) days prior to expiration of its existing opt-out, and if such a request were to be approved by EPA.

Until electronic reporting using NetDMR begins, or if Suffolk receives written approval from EPA to continue to submit hard copies of DMRs and other reports, the draft permit requires that submittal of DMRs and other reports continue in hard copy format. The draft permit requires that hard copies of DMRs be postmarked no later than the 15th day of the month following the completed monthly reporting period.

B. CAFO Annual Reporting Requirements

The draft permit requires Suffolk to prepare and submit an annual report for the previous 12 months. The annual report is due to EPA and MassDEP on January 31 of each calendar year for the preceding months of January through December. The report must include the number of animals confined at the facility; an estimation of the total amount of manure, litter and process wastewater generated at the facility in the past 12 months; an estimate of the total amount of manure, litter and process wastewater transferred to other persons in the past 12 months; the dates and times and estimated volumes of all discharges from the Production Area in the past 12 months; and a statement of whether a certified nutrient management planner developed or approved Suffolk's nutrient management plan. CAFOs that land apply manure, litter and process wastewater are required to report additional information specific to their land application practices. However, because Suffolk has chosen not to land apply manure, litter or process wastewater at the Facility, and is therefore not authorized by the draft permit to do so, Suffolk's annual report need not contain such information at this time. See 40 C.F.R. § 122.42(e)(4).

VI. ENDANGERED SPECIES ACT

Section 7(a) of the Endangered Species Act of 1973 (ESA), as amended, grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers the Section 7 consultations for freshwater species. The National Marine Fisheries Service (NMFS) administers the Section 7 consultations for marine species and anadromous fish.

The federal action being considered in this case is EPA's proposed issuance of an NPDES permit to Sterling Suffolk Race Course to allow the discharge of stormwater and, under extreme weather events, Production Area process wastewater overflow from a 50-year, 24-hour rainfall event into the receiving water, Sales Creek. Sales Creek (State Basin Code MA-70-10) is a currently classified as a Class SA [10] and a tributary of Belle Isle Inlet, a Class SA water body. See attached Map 1. Although Sales Creek is tidally connected to Belle Isle Inlet, the Bennington Street tandem tidal gate shuts out incoming tidal surges but allows Sales Creek runoff to flow into Belle Isle Inlet unimpeded.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, and plants to determine if any such listed species might potentially be impacted by the issuance of this NPDES permit. See Attachment 5, US Fish & Wildlife Species Listings and Occurrences for Massachusetts. Coastal areas of Massachusetts provide habitat for a number of federally protected marine species, including: mammals (whales: North Atlantic Right, Humpback, Fin, Sei, Sperm, Blue – all endangered); reptiles (sea turtles: Kemp's Ridley, Leatherback, Green – all endangered; Loggerhead – Threatened but proposed for listing as endangered). In addition, the shortnose sturgeon is an anadromous fish species listed as endangered that may be found in certain coastal areas of Massachusetts. However, EPA does not consider the area influenced by the authorized discharges from Suffolk's CAFO facility to be suitable habitat for the species listed above. Based on the normal distribution of these species, it is extremely unlikely that there would be any NMFS listed species in the vicinity of Sales Creek and Belle Isle Inlet. EPA has made the determination that no protected species are present in any area influenced by the discharge CAFO.

VII. ESSENTIAL FISH HABITAT

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the NMFS if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat" (EFH). The Amendments define EFH as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," (16 U.S.C. § 1802

---

[10] See Sales Creek Class SA/Class B discussion at IV.A.4. of the Fact Sheet.

(10)). "Adverse impact" means any impact which reduces the quality and/or quantity of EFH (50 CFR § 600.910 (a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

EFH is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b) (1) (A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999. Attachment 6 is a list of the EFH species and applicable lifestage(s) for Boston Harbor estuaries. A review of the relevant EFH information provided by NMFS indicates that EFH has been designated for 16 managed species within the NMFS boundaries encompassing the outfall locations at Suffolk's Facility. The area supports 12 of the 16 listed species during three or more of their life stage categories (i.e., eggs, larvae, juveniles, adults and spawning adults).

EPA has made the preliminary determination that while the discharge of industrial stormwater and, under extreme weather conditions, Production Area process wastewater from the facility could potentially cause an adverse impact to essential fish habitat. A potential direct or indirect impact exists due to historic elevated levels of pathogens and TSS in the discharge. However, there are several factors expected to minimize any potential adverse impacts on EFH resulting from Suffolk's future discharges, including the nature of the discharges, the locations of the outfalls, and mixing in receiving waters. For example, the discharges from the facility flow intermittently and are directly related to very large (greater than 50-year, 24-hour) storm events. The facility's outfalls discharge to Sales Creek and become further diluted as they mix within the tidal currents of Winthrop Bay and Boston Harbor. It is therefore unlikely that EFH are subject to immediate undiluted contact with any of the discharges from the facility's outfalls. Furthermore, the discharges are restricted by the draft permit's limitations and standards. Discharges are limited to extreme weather events, and for such discharges the draft permit contains monitoring requirements that are designed to ensure that Massachusetts Surface Water Quality Standards are met for the receiving Class SA and/or B water. The draft permit establishes monitoring of process wastewater effluent for flow, pH, TSS, fecal coliform, E.Coli, oil and grease, BOD_5, dissolved oxygen and aluminum.

EPA has determined that the limits and conditions contained in the draft permit minimize adverse effects to EFH for the following reasons:

- The discharge, when permitted, will be subject to new pollutant controls that will significantly improve effluent quality and decrease effluent quantity;

- Suffolk has completed the installation of a process wastewater collection and retention system that complies with the Large Horse CAFO NELG "Production Area no discharge criteria," and is authorized to discharge to the process wastewater to the MWRA wastewater treatment facility so that most, if not all, Production Area discharges to Sales Creek and the adjacent wetlands will be prevented;

- Suffolk has completed the installation of a stormwater management system, including four sand filters, a sediment forebay and three infiltration islands, which should reduce

the amount of suspended solids in the facility's stormwater discharges to Sales Creek at or below the draft permit's stormwater benchmark concentration for TSS.

- The draft permit is written to ensure the discharge complies with applicable state water quality standards, including water quality criteria designed to achieve the uses designated for the receiving water. Class B[11] waters are designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. The limitations, conditions, and monitoring requirements contained in the draft permit are designed to meet applicable state water quality standards, and therefore will minimize impacts to aquatic organisms, including EFH species;
- The draft permit contains substantially increased monitoring requirements. As part of the permit application process, EPA required Suffolk to conduct whole effluent toxicity (WET) testing of its Production Area process wastewater discharge. WET testing confirmed that the aggregate of known or unknown pollutants in the effluent are not toxic to aquatic organisms.

The conditions and limitations contained in the draft permit are designed to meet applicable water quality standards and protect all aquatic life, including species with EFH designation. Any impacts from Suffolk's CAFO facility on EFH species, their habitat and forage, have been minimized. Further mitigation is not warranted. Should adverse impacts to EFH be detected as a result of this permit action, or if new information is received that changes the basis for EPA's conclusions, NMFS will be contacted and an EFH consultation will be re-initiated.

VIII. COASTAL ZONE MANAGEMENT (CZM) CONSISTENCY REVIEW

Suffolk's CAFO facility discharge is within the defined CZM boundaries. Under EPA regulations:

> The Coastal Zone Management Act, 16 U.S.C. 1451 et seq. section 307(c) of the Act and implementing regulations (15 CFR part 930) prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State Coastal Zone Management program, and the State or its designated agency concurs with the certification (or the Secretary of Commerce overrides the State's nonconcurrence). 40 CFR § 122.49 (d).

Suffolk has submitted a letter to the Massachusetts Coastal Zone Management Program stating that the activities at its facility comply with the enforceable policies of the approved Massachusetts coastal management program and will be conducted in a manner consistent with such policies. The Commonwealth of Massachusetts will review the draft permit and a final permit will only be issued after CZM concurs with Suffolk's certification.

---

[11] See Sales Creek Class SA/Class B discussion at IV.A.4. of the Fact Sheet.

IX. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless the MassDEP certifies that the effluent limitations and conditions contained in the permit are stringent enough to ensure compliance with all applicable requirements of the CWA and with all applicable requirements of state law, including the Massachusetts Surface Water Quality Standards, or unless state certification is waived. EPA has requested permit certification by the Commonwealth of Massachusetts pursuant to CWA Section 401(a)(1) and 40 CFR § 124.53 and expects that the Commonwealth will certify the draft permit.

X. STATE PERMIT CONDITIONS

The NPDES Permit is issued jointly by the U. S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection under federal and state law, respectively. As such, all the terms and conditions of the permit are, therefore, incorporated into and constitute a discharge permit issued by the MassDEP Commissioner.

XI. ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Office of Ecosystem Protection Attn: Ms. Austine Frawley, 5 Post Office Square (OEP06-4), Boston, Massachusetts 02109-3912 or via email to Frawley.austine@epa.gov. T**he comments should reference the name and permit number of the facility for which they are being provided**.

Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and MassDEP. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the draft permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston office. Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of final permit decision, permits may be appealed to the Environmental Appeals Board in the manner described at 40 CFR § 124.19.

XII. EPA and MASSDEP CONTACTS

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from the EPA and MassDEP contacts below:

Ms. Austine Frawley, EPA New England - Region I
Five Post Office Square, OEP 06-4
Boston, MA 02109-3912
Telephone: (617) 918-1065 FAX: (617) 918-0065
email: frawley.austine@epa.gov

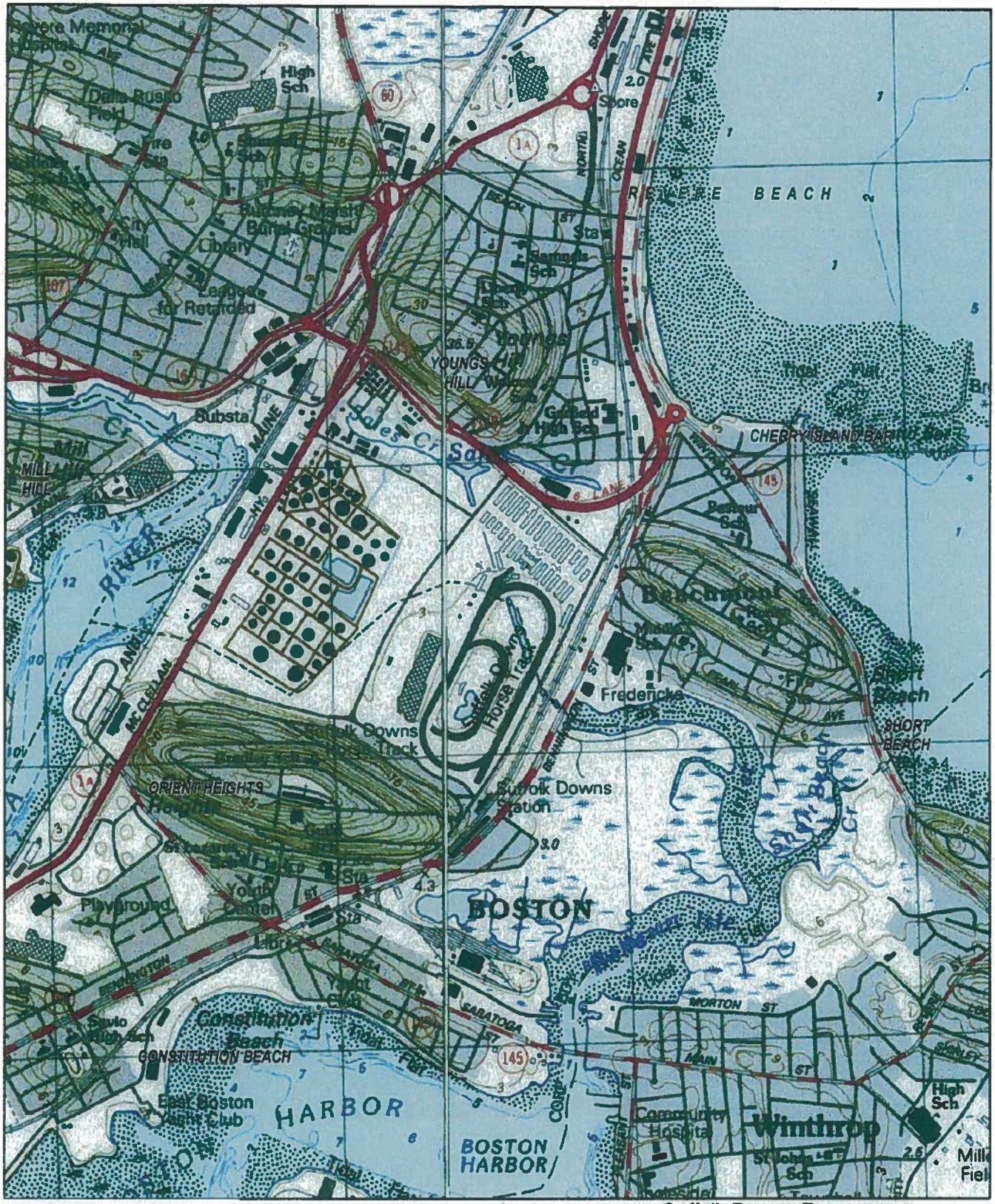
David Ferris, Director
Massachusetts Wastewater Management Program
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108
Telephone: (617) 654-6514 FAX: (617) 556-1049
email: David.Ferris@state.ma.us

XIII. ATTACHMENTS

Attachment 1, Suffolk's August 2012 Nutrient & Stormwater Management Plan
Attachment 2, Discharge Status Report Data Summary, September 2008 to November 2010
Attachment 3, Additional Wet Weather Sampling Data, July 2010 to November 2010
Attachment 4, Discharge Status Report Data Summary, June 2011 to April 23, 2012
Attachment 5, US Fish & Wildlife Species Listings and Occurrences for Massachusetts
Attachment 6, NOAA Summary of Essential Fish Habitat Designations, Boston Harbor
Figure 1, Sterling Suffolk Racecourse, Site Plan, Existing Conditions
Map 1, Rumney Marshes ACEC and Sterling Suffolk Racecourse

February 2013
DATE

Ken Moraff, Acting Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency



TETRATECH

One Grant Street
Framingham, MA 01701-9005
508.903.2000
www.tetratech.com

1 inch = 1,500 feet

0 750 1,500
Feet

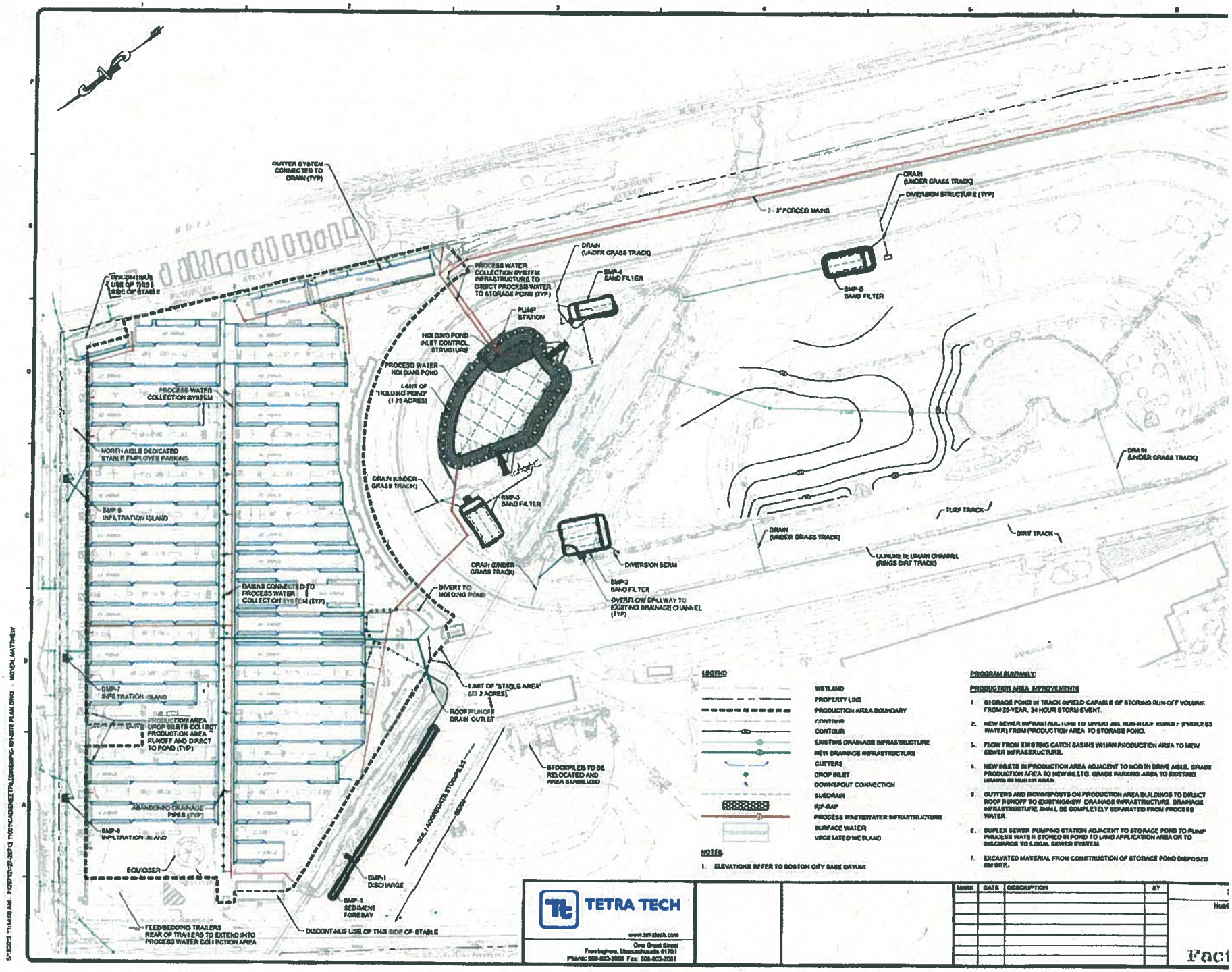
N

Suffolk Downs Racecourse
East Boston/Revere, Massachusetts

MA0040282 Fact Sheet Map 1

Notes:
Base Map:
MassGIS

Locus Map



TETRA TECH
www.tetratech.com
One Grant Street
Framingham, Massachusetts 01701
Phone: 508-903-2000 Fax: 508-903-2001

MARK	DATE	DESCRIPTION	BY

Num

Pact