

March 10, 2016

Dave Buckley, PE, CFM, CPSWQ

IAFSM

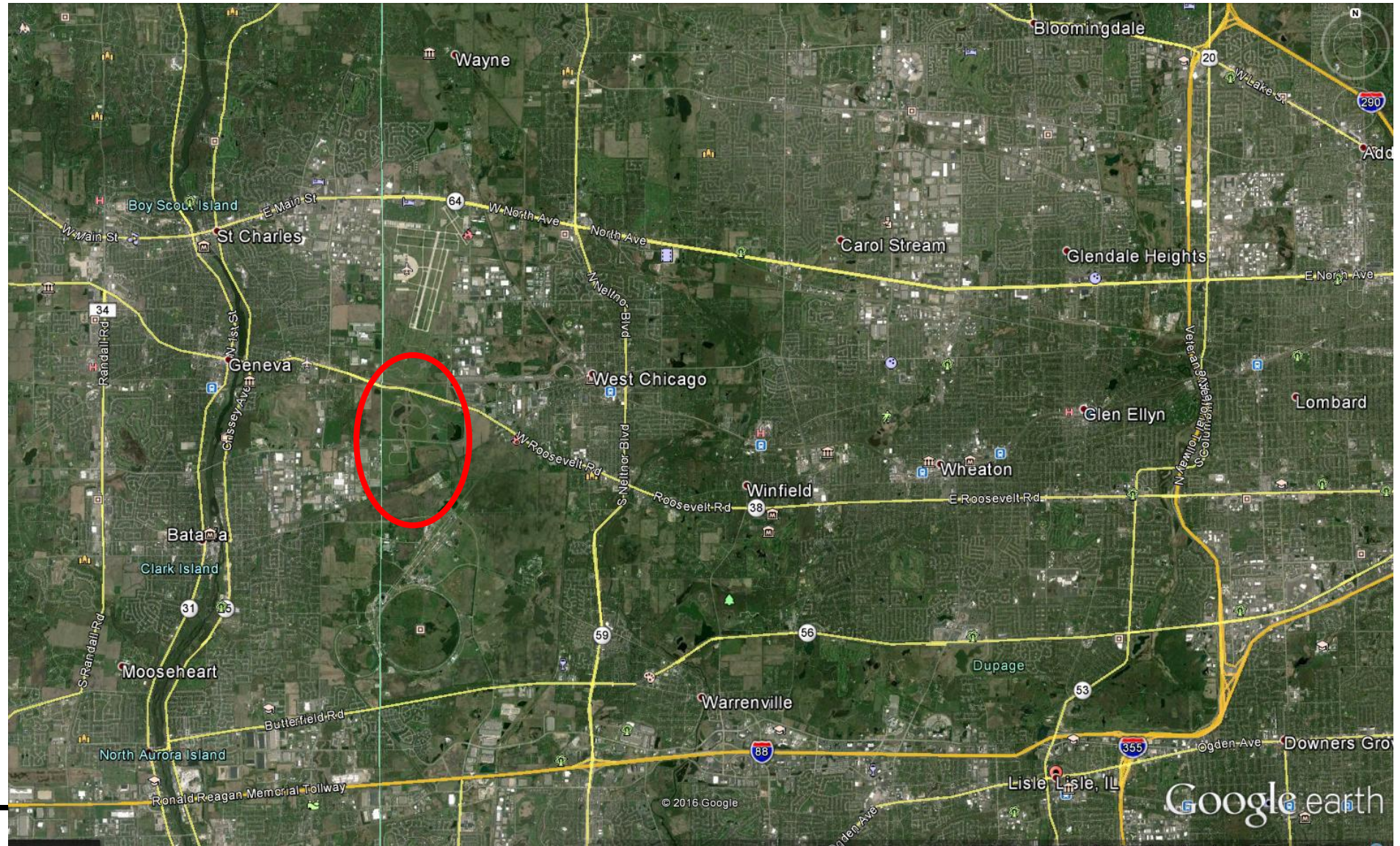


Post Construction Best Management Practices – Regional Pond Retrofit





DuPage Business Center





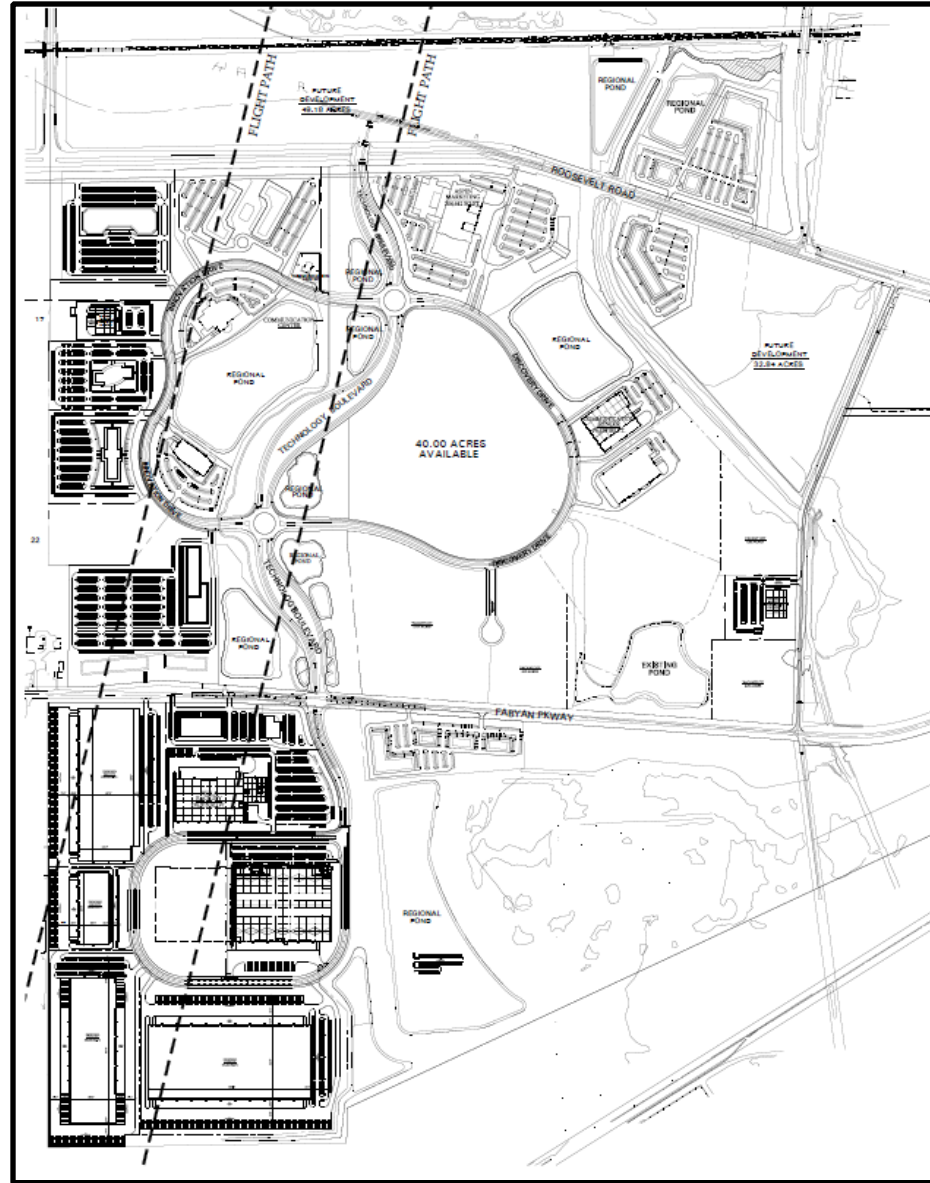
Formally known as the DuPage County Technology Park

600 acre site

2003 – Design began.

2005 – Permitted through DuPage County and City of West Chicago.

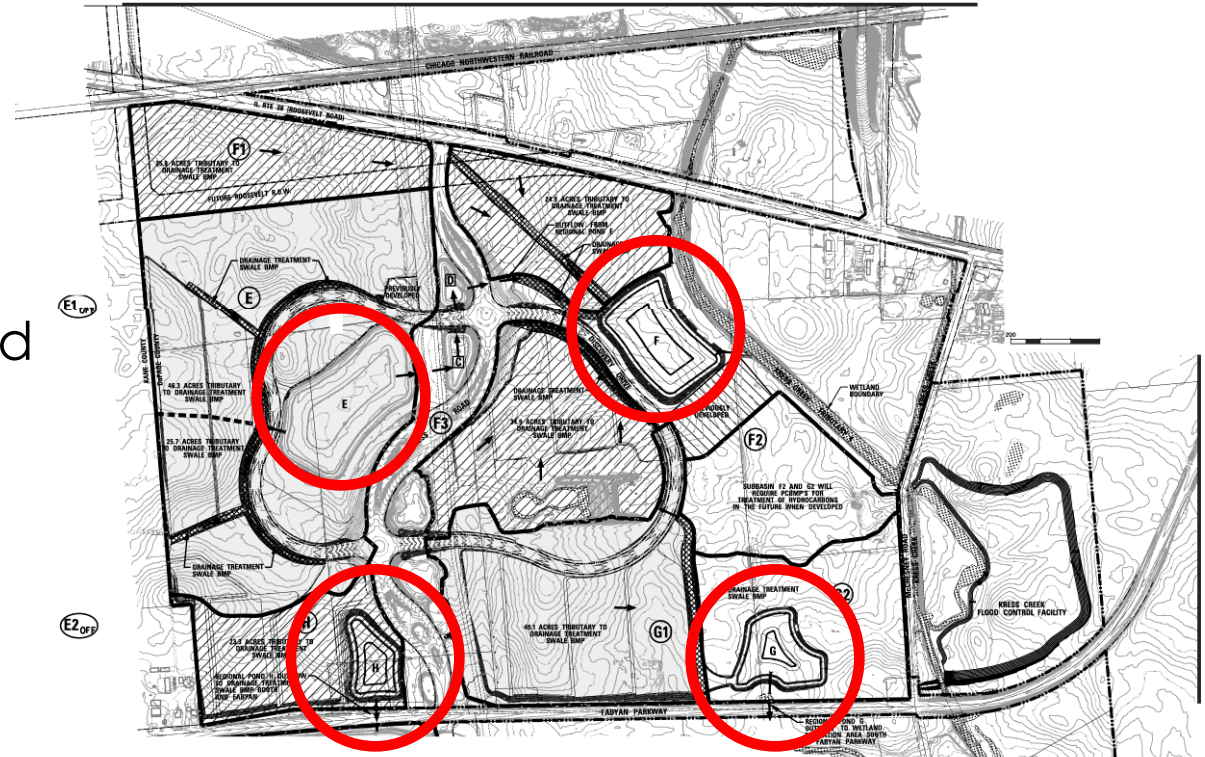
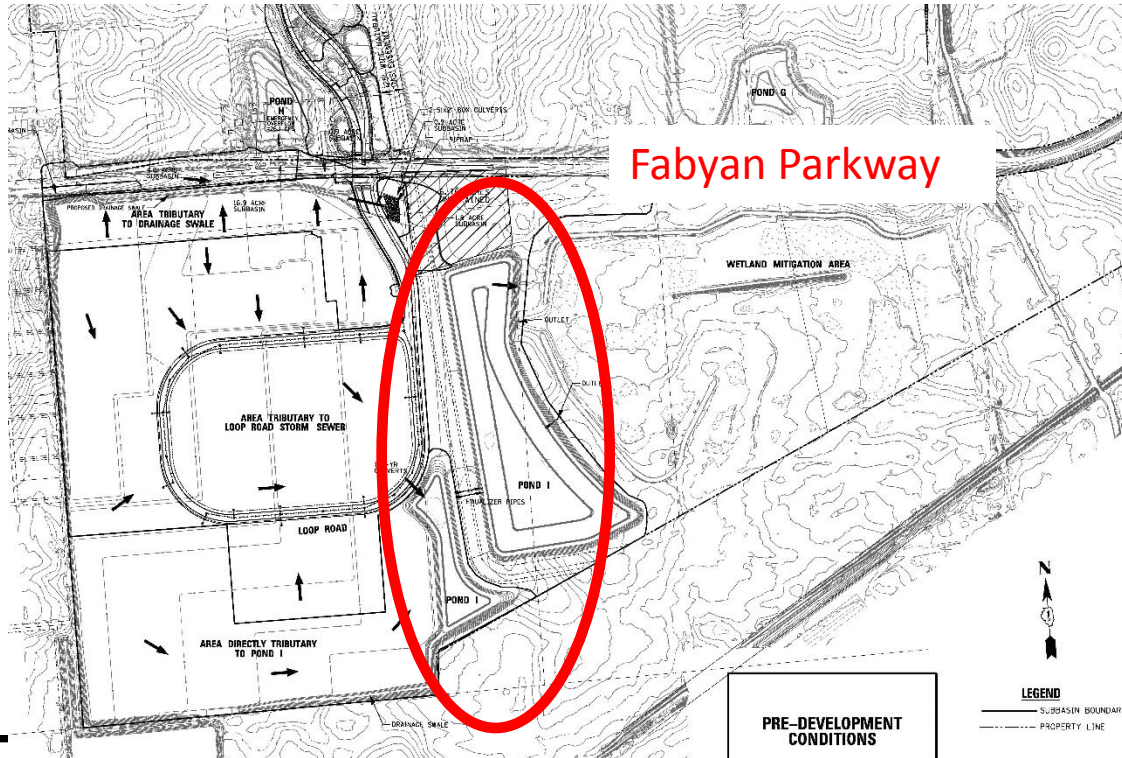
2007 – Regional stormwater management facilities and associated mass grading completed.



Permitting

Regional ponds assumed 90% impervious coverage for fixed tributary areas.

Naturalized wet bottom pond with enhanced riparian buffer and native plantings.



3-year M&M period completed on all regional ponds.

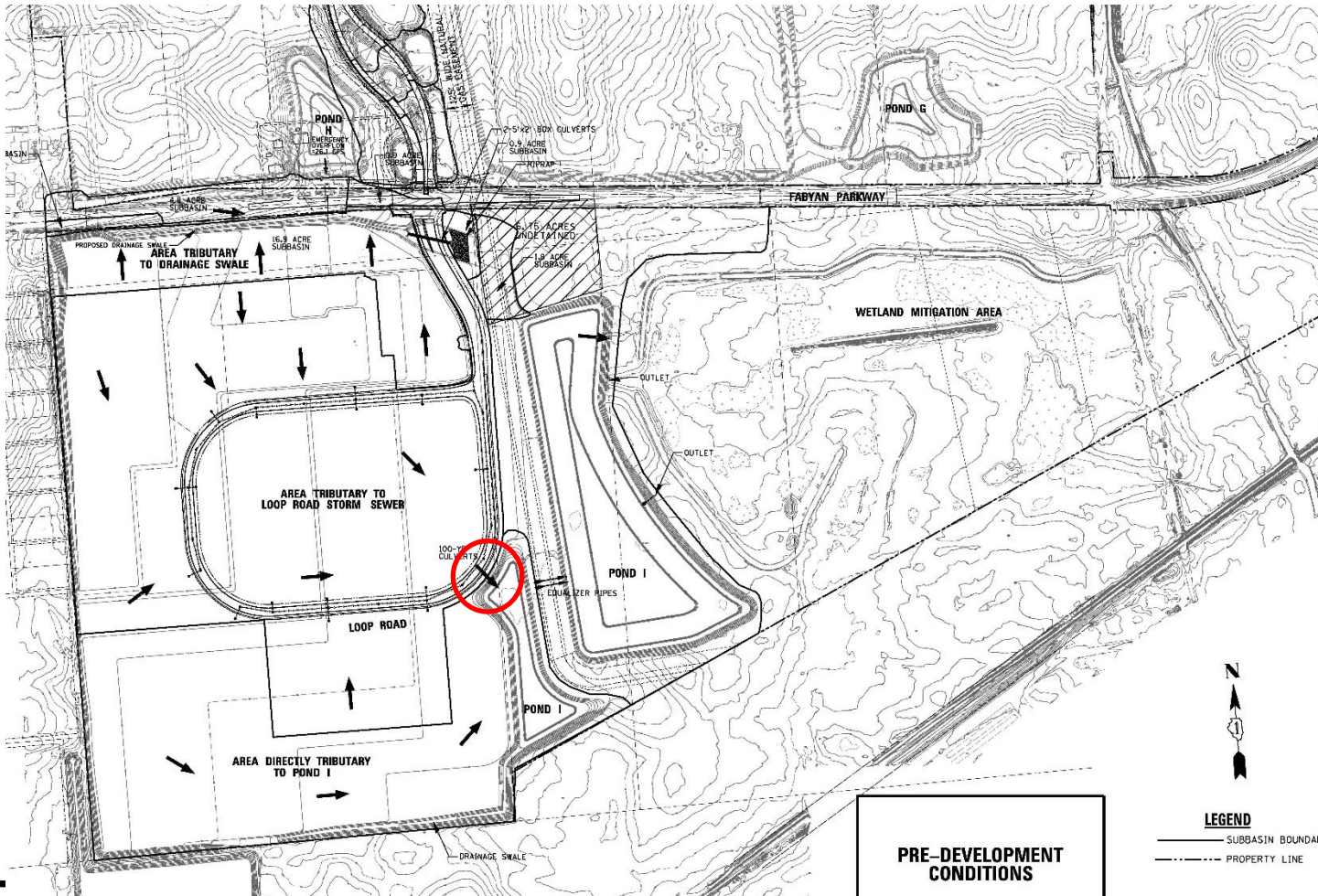


2007 Construction





South of Fabyan Parkway



**PRE-DEVELOPMENT
CONDITIONS**

LEGEND
 ——— SUBBASIN BOUNDARY
 - - - - - PROPERTY LINE

Regional facility, twin 36 inch equalizer pipes under gas main.

Serves 150 acres of tributary area.

100-year storm sewer south of Fabyan Parkway.

Maximize buildable area

Maintain wetland hydrology to the east.

Christopher B. Burke Engineering, Ltd.



South of Fabyan Parkway



Infrastructure Construction

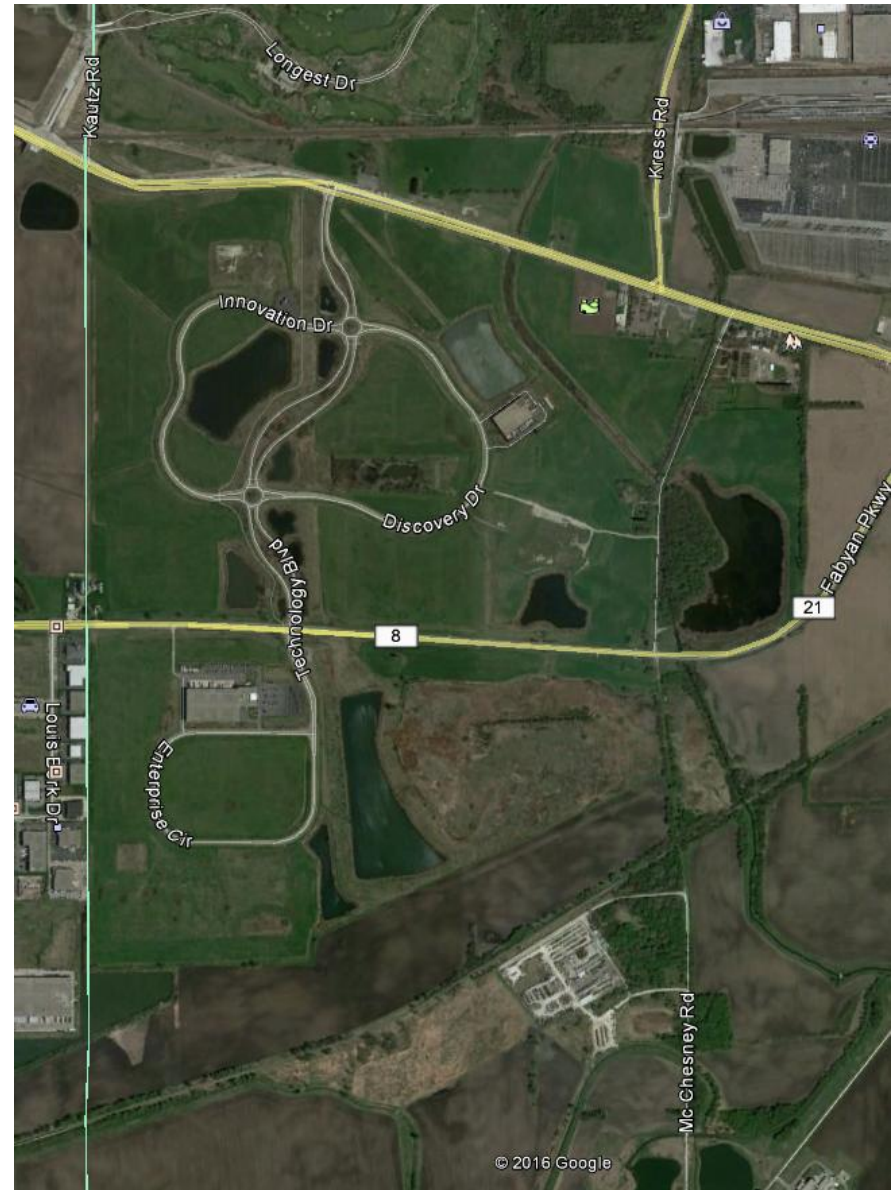
2007 Construction complete

Stormwater management,
sanitary, roadways, utilities, etc.

Pad-ready sites met all County and
City permitting requirements and are
ready for user construction.

2007 – 2014

Site marketing for development
Build-to-Suit





New User

2014

Development Permit
from the City

Partial Waiver Community





County and City Requirements

2008

Best Management Practice Manual

Scoring system (1-3) for BMP components (vegetated swales, infiltration, etc.)

BMPS < 2.5 → Limitations are addressed through additional BMP(s)

2012

County Ordinance incorporates the use of Post Construction Best Management Practices

Volume control

Constituents of concern



Existing Conditions Met Most Constituents of Concern



Volume control (met)

TSS – settling basin (met)

Nutrients – wet detention and naturalized wetland shelf (met)

Limitation = Hydrocarbons





Limitations of Existing Regional Ponds

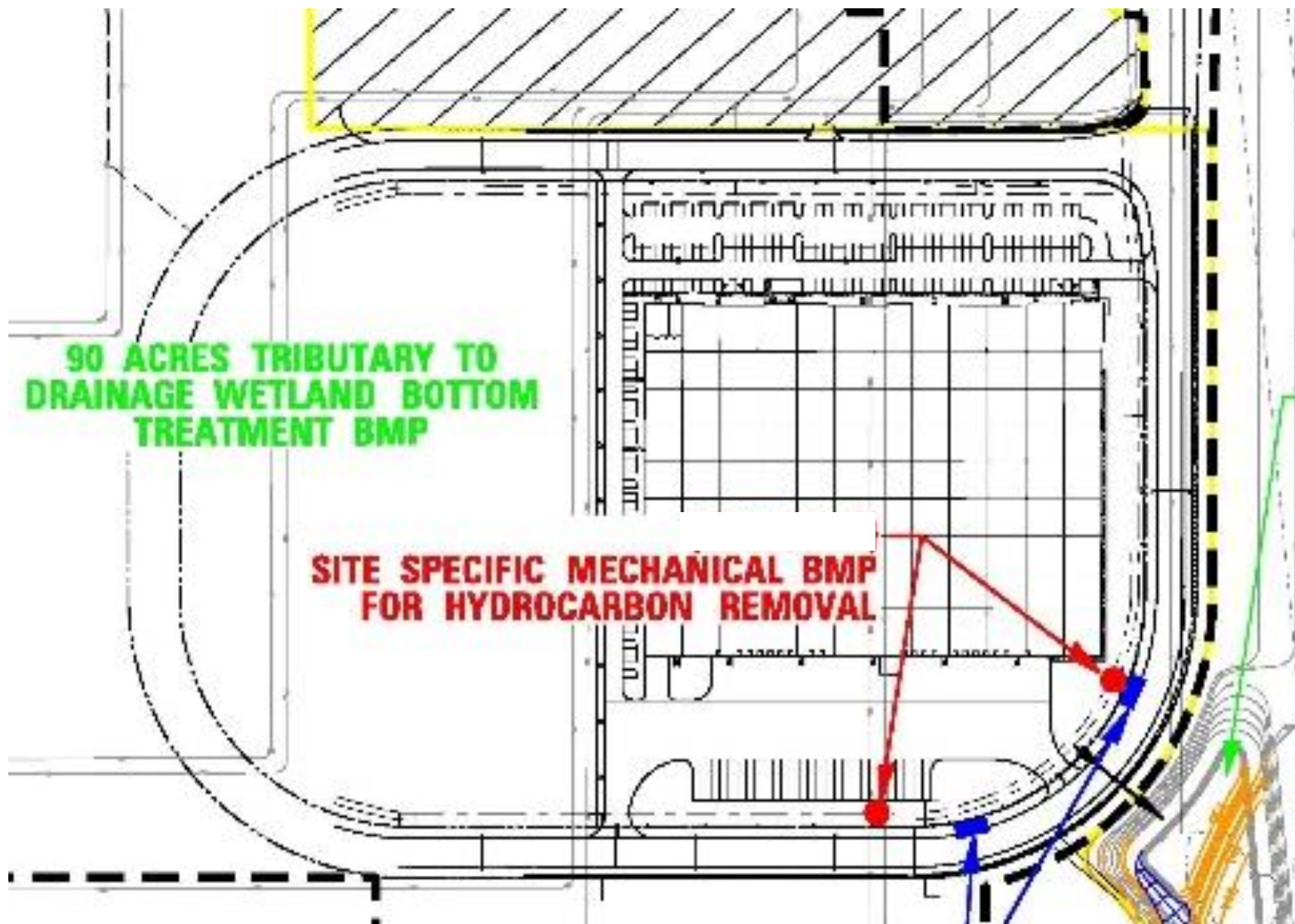
Hydrocarbons – low flows

Regional or site specific solution?

How do we meet the requirement to serve full 150 acre tributary area?

Is each user required to install site specific BMPs?

Development could be 1 site or 20 sites.

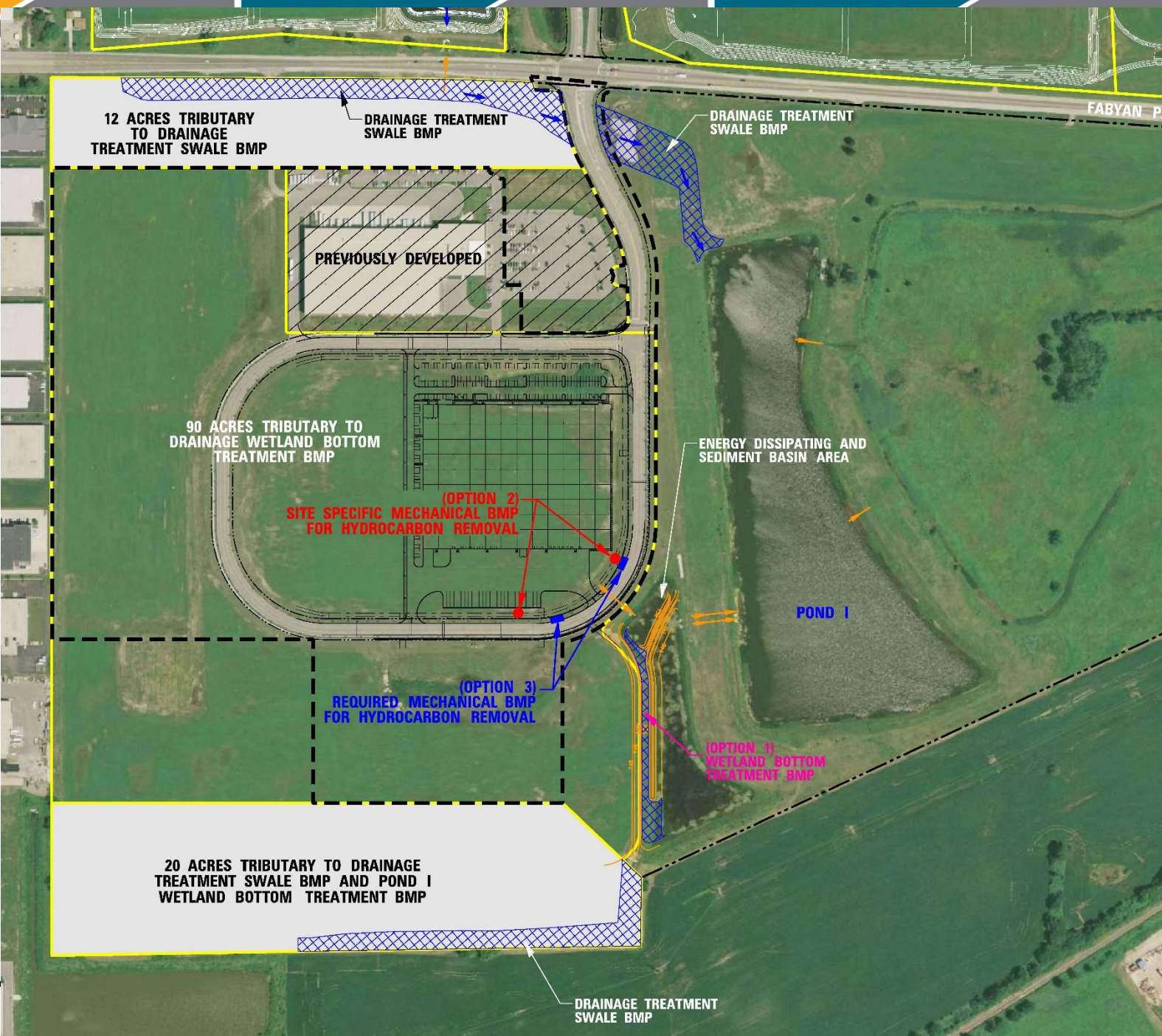
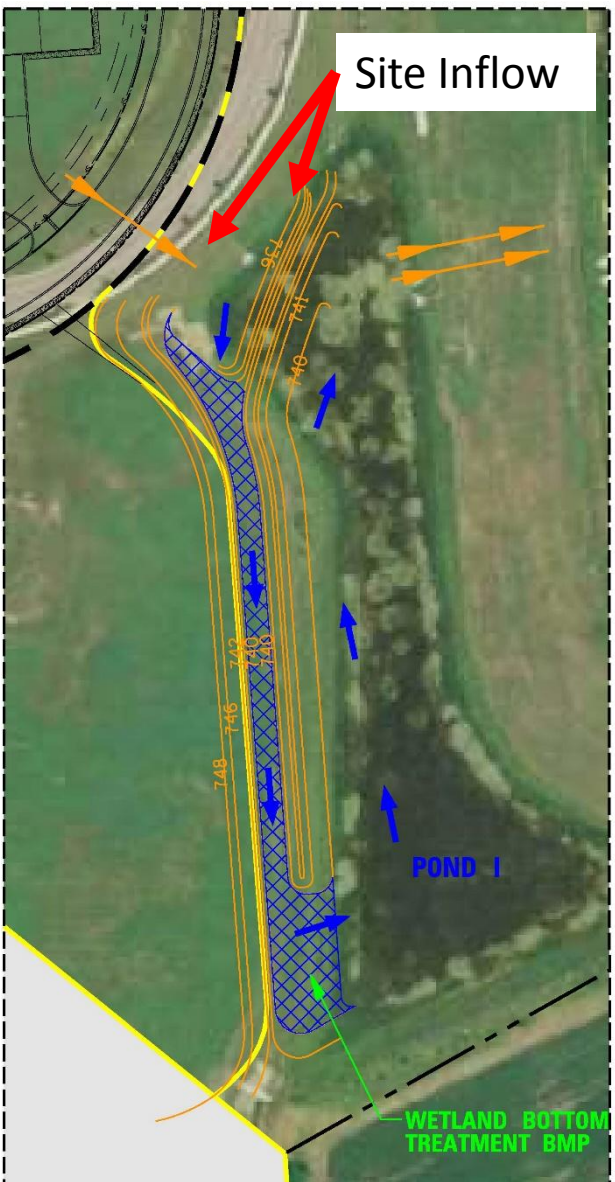


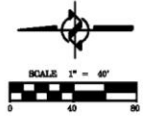
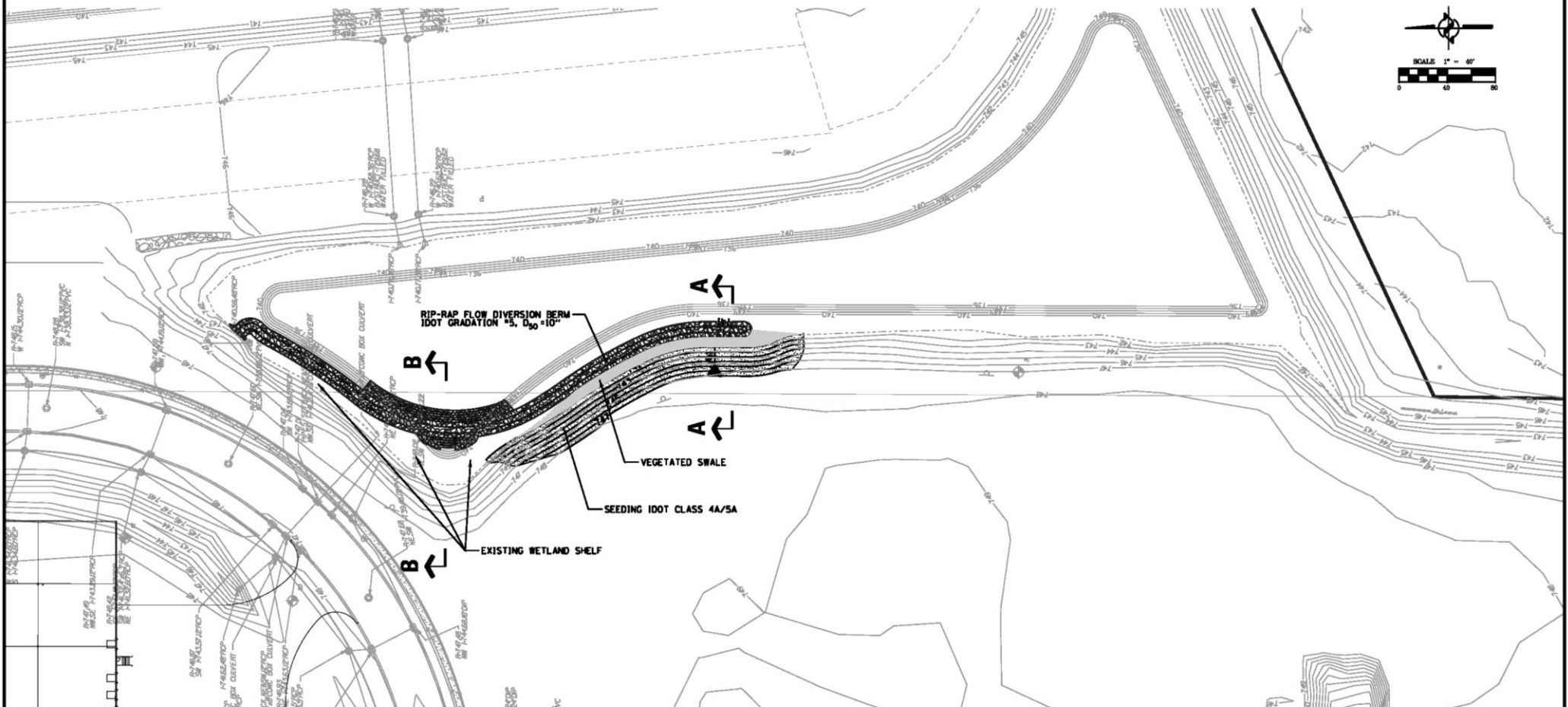
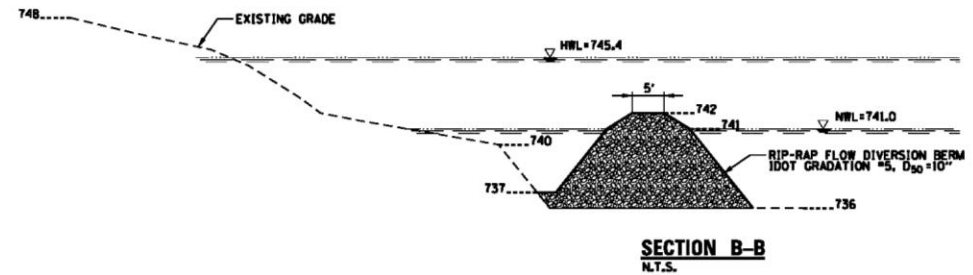
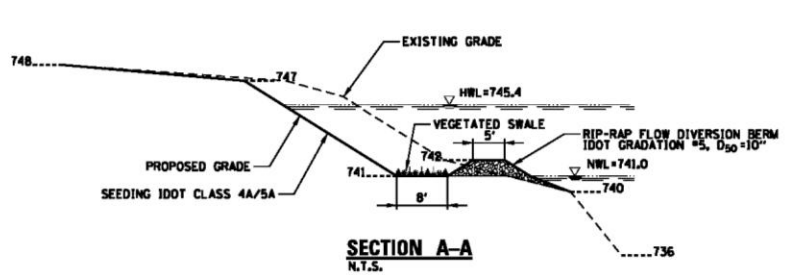
Requires future users to follow suit.

Additional installation cost to users.

Long term maintenance cost.

Regional Solution





CB CHRISTOPHER B. BURKE ENGINEERING, LTD.
 9575 W. Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

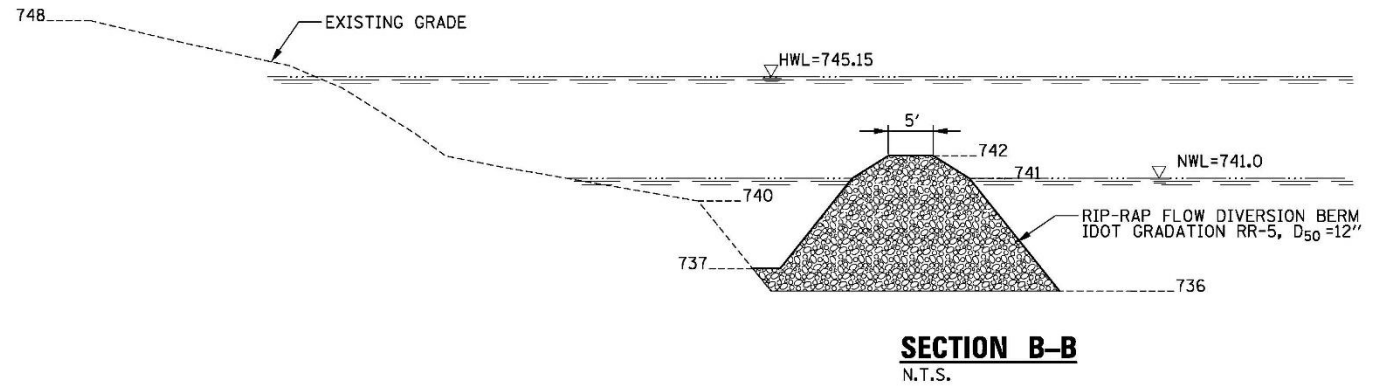
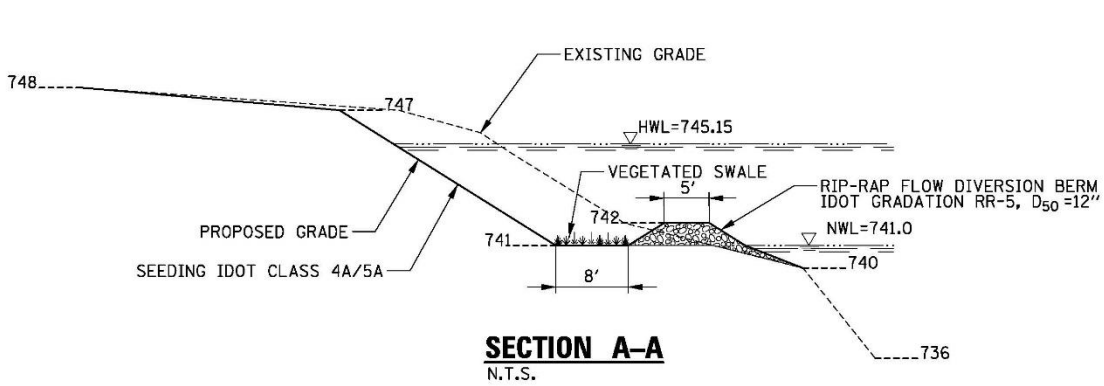
CLIENT:
DUPAGE BUSINESS CENTER A.K.A.
 DUPAGE NATIONAL TECHNOLOGY PARK N.F.P.
 2700 INTERNATIONAL DRIVE, SUITE 100
 WEST CHICAGO, IL 60185

DESIGN	DRB	TITLE:
DRAWN	EAT	
CHECKED	TFB	
SCALE:	80'	
PLOT DATE:	4/9/2015	
CAD USER:	gmo1050	
MODEL:	Default	
REV. DATE	NATURE OF REVISION	CHG.
FILE NAME	\\nasacsv001p1\server\plan\serv01-6002\Grading\Revup	

GRADING PLAN

PROJ. NO. 150182
 DATE: 4/9/2015
 SHEET OF
 DRAWING NO.
 PLN

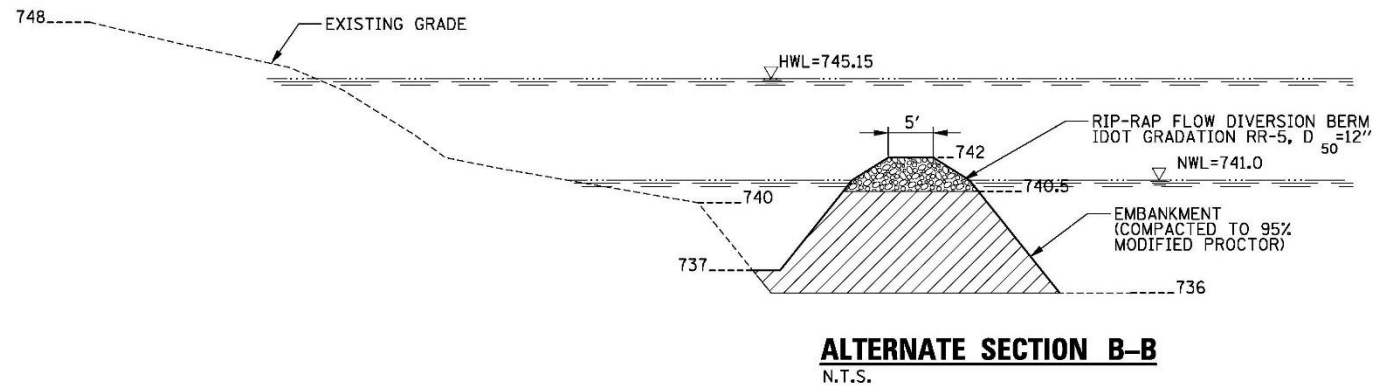




Two options

Rip-rap only

Clay base with rip-rap cap





Pond dewatering – discharging into east basin



Vegetation removal



Vegetation removal and clay placement



Construction of wetland shelf



Construction of rip-rap berm



Top soil re-spread



Seed and blanket of slopes



Seed and blanket of slopes and wetland shelf



Naturalized Buffer Area

Area will undergo 3 year M&M plan:

Goal → FQI = 20 and C= 3.5

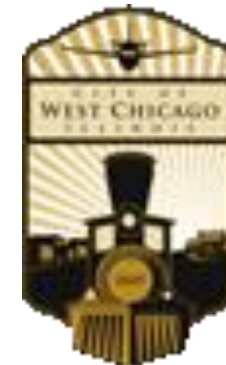
Existing FQI = 29.9 and C=3.5

FQI of 20 or greater is considered high quality aquatic resource.

Construction photos courtesy of:



Thanks to:



DuPage Business Center

Questions.....

Christopher B. Burke Engineering, Ltd.

