ENCAP
INCORPORATED

2585 Wagner Ct.
DeKalb, IL 60115
Phone: 815.748.4500
Fax: 815.748.4255
www.encapinc.net

John Clayton
Sugar Grove Park District
61 Main Street
Sugar Grove, IL 60554
(630) 466-7436 / jclayton@sgparks.org

RE: Dugan Park West Stormwater Project

Dugan Park West contains a stormwater retention pond that is fed by two stormwater inlets from the east and drains via one outlet on the west side of the pond. There is also an emergency overflow adjacent to the west outlet, characterized by a lower elevation than the surrounding terrain. Both the outlet and the emergency overflow drain into a creek to the west.

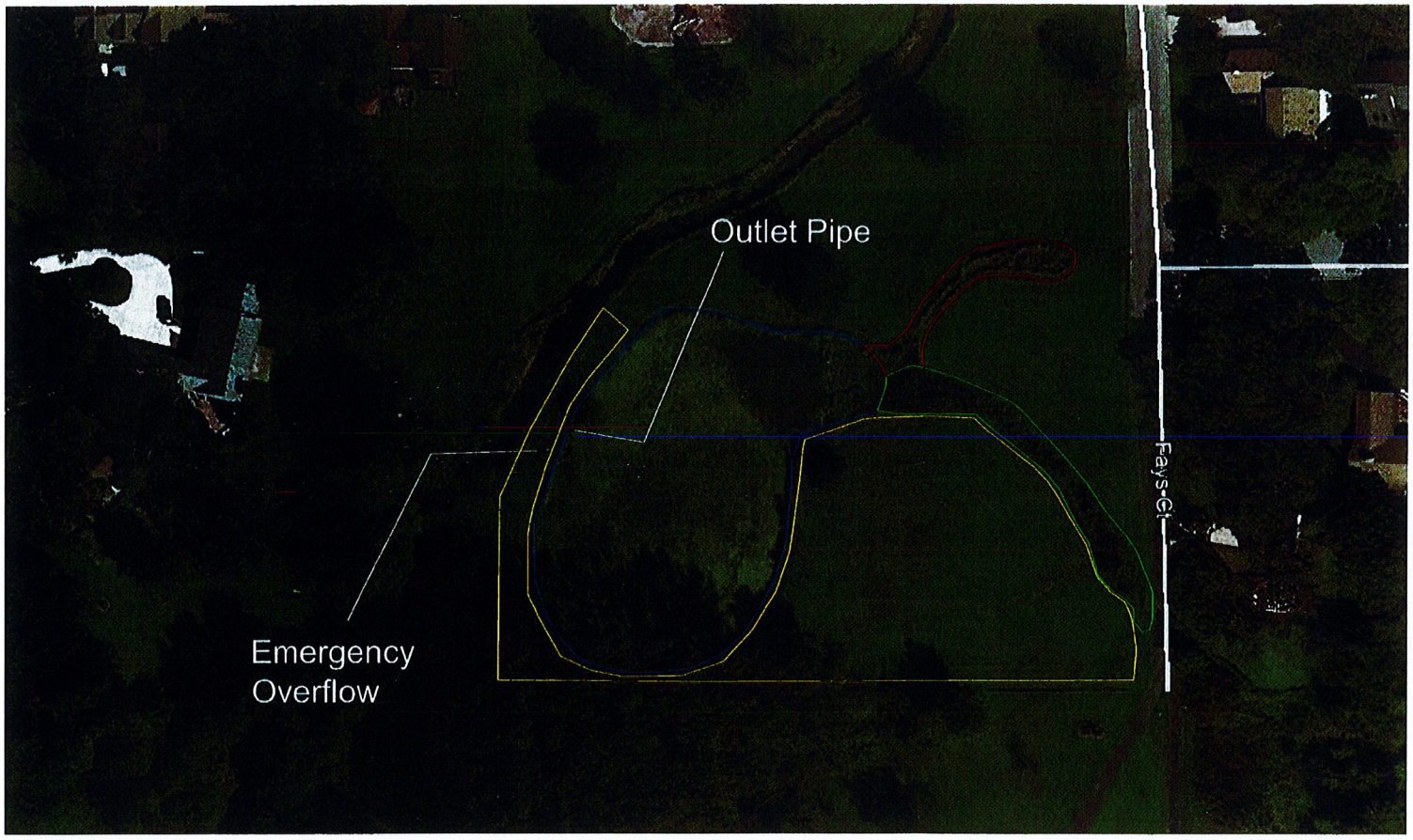
Recent years have seen an increase in the amount of stormwater being fed into the pond. The result has been flooding and oversaturated soil in the area marked in yellow in the attached aerial photo. This area is planted as turf, but due to the aforementioned stormwater issue, has been increasingly difficult to mow. Therefore, this area has been left to grow into a turfgrass meadow. The two inlet corridors, marked in red and green, as well as the pond has become highly incised and has been populated by invasive species. These species include reed canary grass (*Phalaris arundinacea*), cattail (*Typha angustifolia L.*), and boxelder (*Acer negundo*). While these species do provide some bank/shoreline stabilization, it would be recommended to remove them and reseed with native species. The creek corridor to the west is experiencing the same issues.

The attached proposal includes all labor and materials to treat broadleaf weeds in the new meadow area, herbicide reed canary grass & cattail, remove boxelder & other woody invasive species, and reseed highly herbicided areas with low profile native seed for the purposes of bank stabilization. A prescribed burn is also included to remove excess thatch and aid in suppression of invasive woody growth.

Future work that may be needed would be to reshape eroded slopes of the pond and inlet areas, install riprap stone to protect against future erosion, and the installation of rock riffles in the inlet areas to help dissipate the energy of the water flowing into the pond. These items may require coordination with regulating bodies to acquire the necessary permits. If the Park District is interested, ENCAP, Inc.'s consulting division can provide a separate proposal for that coordination.

Thank you for the opportunity,

Brett Suhayda
Sr. Estimator


Fays Ct
Outlet Pipe
Emergency
Overflow

Your info here

Low Profile Vegetated Drainage Swale

Native species per mix	**35**
Native seeds per square foot	**690**
Native FQI NE Illinois	**30.93**
Native FQI Illinois	**25.52**
Native Mean C Value NE Illinois	**5.23**
Native Mean C Value Illinois	**4.31**
Mean W Value NE Illinois	**(3.91)**
Mean W Value Illinois	**(3.89)**

A mix of medium to low grasses, sedges, rushes, & forb seed for low areas where water collects or runs after heavy rains, & the soil is moist fall, winter & spring. An integral part of any native landscape. If drainage is from parking lots, salted roads, etc, or chemically laden, toxic turf, use Sedge Ghetto or Urban Wetland/Floodplain. Best if dormant seeded & straw netted, but if the water will have a lot of energy, seed & net in spring. Height depends on fertility & age of stand. Low profile for those toilet trained at gun point who think plants in a hole should be short, & we aint talking bioretention here either, folks.

The term drainage swale is a relative term that denotes a topographic low in the landscape that periodically receives excess runoff precipitation. It has no connotation of long-term soil moisture or the type of vegetation that will grow in the swale. This

Graminoids, or grasses, sedges, rushes, and other grasslike plants.

ACRONYMS S&W	ILL	USDA	vPlants	scientific name	common name	family	type	S&W C	S&W wet index	S&W wet acro	Illinois C	IL wet index	IL wet acro	height	color	bloom time M A M J J A S O N	seeds/oz	seeds/lb	lb/ac	seeds/ acre	seeds/ft sq	% by weight	% by count
ACOCAL	ACOAME	ACAM	ACAM	*Acorus americanus {A calamus}*	Sweet Flag	*Acoraceae*	Nt P-Forb	7	-5	OBL	4	-5	OBL	1.0-3.0 (2.0)	green		6,938	111,000	0.063	6,993	0.16	0.52%	0.02%
AGRALP	AGRALP	AGST2	AGST2	*Agrostis stolonifera {A alba palustris}*	Bent Grass	*Graminae*	Nt P-Grass	10	-5	[OBL]	8	-3	FACW	1.0-2.0 (1.5)	na		400,000	6,400,000	2.000	12,800,000	293.85	16.47%	42.59%
CXBEBB	CXBEBB	CABE2	CABE2	*Carex Bebbii*	Bebbs Sedge	*Cyperaceae*	Nt P-Sedge	6	-5	OBL	8	-5	OBL	2.0-3.0 (2.5)	na		112,500	1,800,000	0.375	675,000	15.50	3.09%	2.25%
CXCRIS	CXCRIS	CACR7	CACR7	*Carex cristatella*	Crested Oval Sedge	*Cyperaceae*	Nt P-Sedge	4	-4	FACW+	3	-4	FACW+	1.5-3.0 (2.3)	na		112,500	1,800,000	0.125	225,000	5.17	1.03%	0.75%
CXFRAN	CXFRAN	CAFR3	CAFR3	*Carex Frankii*	Franks Sedge	*Cyperaceae*	Nt P-Sedge	8	-5	OBL	4	-5	OBL	1.0-2.0 (1.5)	na		26,875	430,000	0.250	107,500	2.47	2.06%	0.36%
CXMOLE	CXMOLE	CAMO11	CAMO11	*Carex molesta*	Troublesome Sedge	*Cyperaceae*	Nt P-Sedge	2	-1	FAC+	2	0	FAC	2.0-4.0 (3.0)	na		36,250	580,000	0.188	109,040	2.50	1.55%	0.36%
CXSCOP	CXSCOP	CASCS	CASCS	*Carex scoparia*	Pointed Broom Sedge	*Cyperaceae*	Nt P-Sedge	7	-3	FACW	5	-3	FACW	1.0-3.0 (2.0)	na		87,500	1,400,000	0.375	525,000	12.05	3.09%	1.75%
CXSTIP	CXSTIP	CAST5	CAST5	*Carex stipata*	Awl-fruited Sedge	*Cyperaceae*	Nt P-Sedge	3	-5	OBL	2	-5	OBL	2.0-3.0 (2.5)	na		35,000	560,000	0.125	70,000	1.61	1.03%	0.23%
CXVULP	CXVULP	CAVU2	CAVU2	*Carex vulpinoidea*	Fox Sedge	*Cyperaceae*	Nt P-Sedge	2	-5	OBL	3	-5	OBL	2.0-3.0 (2.5)	na		97,188	1,555,000	0.500	777,500	17.85	4.12%	2.59%
ELEPAM	ELEPAL	ELPA3	ELPA3	*Eleocharis palustris major*	Great Spike Rush	*Cyperaceae*	Nt P-Sedge	10	-5	OBL	8	-5	OBL	0.3-3.3 (1.8)	na		87,500	1,400,000	0.063	88,200	2.02	0.52%	0.29%
ELYCAN	ELECAN	ELCA4	ELCA4	*Elymus canadensis*	Canada Wild Rye	*Graminae*	Nt P-Grass	4	1	FAC-	4	1	FAC-	2.0-4.0 (3.0)	na		7,500	120,000	2.000	240,000	5.51	16.47%	0.80%
ELYVIR	ELYVIR	ELVI3	ELVIV	*Elymus virginicus*	Virginia Wild Rye	*Graminae*	Nt P-Grass	4	-2	FACW-	4	-2	FACW-	1.5-3.0 (2.3)	na		5,750	92,000	2.000	184,000	4.22	16.47%	0.61%
GLYSTR	GLYSTR	GLST	GLST	*Glyceria striata*	Fowl Manna Grass	*Graminae*	Nt P-Grass	4	-3	[FACW]	4	-5	OBL	1.5-3.0 (2.3)	na		153,125	2,450,000	0.500	1,225,000	28.12	4.12%	4.08%
JUNBAL	JUNBAL	JUAR1	JUBA1	*Juncus balticus littoralis [J arcticus l]*	Lake Shore Rush	*Juncaceae*	Nt P-Rush	6	-3	[FACW]	6	-5	OBL	1.0-2.5 (1.7)	green		593,750	9,500,000	0.063	598,500	13.74	0.52%	1.99%
JUNTOR	JUNTOR	JUTO	JUTO	*Juncus torreyi*	Torreys Rush	*Juncaceae*	Nt P-Rush	4	-3	FACW	3	-3	FACW	0.5-1.5 (1.0)	green		2,375,000	38,000,000	0.063	2,394,000	54.96	0.52%	7.97%
LEEORY	LEEORY	LEOR	LEOR	*Leersia oryzoides*	Rice Cut Grass	*Graminae*	Nt P-Grass	4	-5	OBL	3	-5	OBL	2.0-3.0 (2.5)	na		25,625	410,000	0.063	25,830	0.59	0.52%	0.09%
SCIATR	SCIATR	SCAT2	SCAT2	*Scirpus atrovirens*	Dark Green Rush	*Cyperaceae*	Nt P-Sedge	4	-5	OBL	4	-5	OBL	2.0-5.0 (3.5)	brown		581,250	9,300,000	0.250	2,325,000	53.37	2.06%	7.74%
SCICYP	SCICYP	SCCY	SCCY	*Scirpus cyperinus*	Wool Grass	*Cyperaceae*	Nt P-Sedge	6	-5	OBL	5	-5	OBL	2.0-5.0 (3.5)	brown		137,500	2,200,000	0.125	275,000	6.31	1.03%	0.92%
SCIPEN	SCIPEN	SCPE4	SCPE4	*Scirpus pendulus {S lineatus}*	Red Bulrush	*Cyperaceae*	Nt P-Sedge	4	-5	OBL	3	-5	OBL	1.0-5.0 (4.0)	brown		331,250	5,300,000	0.015	79,500	1.83	0.12%	0.26%
																Graminoid totals			9.143	22,731,063	522	75.28%	75.64%

Forbs

ACRONYMS S&W	ILL	USDA	vPlants	scientific name	common name	family	type	S&W C	S&W wet index	S&W wet acro	Illinois C	IL wet index	IL wet acro	height	color	bloom time M A M J J A S O N	seeds/oz	seeds/lb	lb/ac	seeds/ acre	seeds/ft sq	% by weight	% by count
ALISUB	ALIPPA	ALSU	ALSU	*Alisma subcordatum {A plantago-aquatica parviflorum}*	Common Water Plantain	*Alismataceae*	Nt P-Forb	4	-5	OBL	2	-5	OBL	1.0-3.0 (2.0)	white		81,250	1,300,000	0.500	650,000	14.92	4.12%	2.16%
ASCINC	ASCINC	ASIN	ASIN	*Asclepias incarnata*	Swamp Milkweed	*Asclepiadaceae*	Nt P-Forb	4	-5	OBL	4	-5	OBL	2.0-4.0 (3.0)	pink		5,625	90,000	0.250	22,500	0.52	2.06%	0.07%
BIDCER	BIDCER	BICE	BICE	*Bidens cernua*	Nodding Bur Marigold	*Compositae*	Nt A-Forb	5	-5	OBL	2	-5	OBL	1.0-4.0 (2.5)	yellow		20,625	330,000	0.063	20,790	0.48	0.52%	0.07%
BOLLAR	BOLLAS	BOAS	BOASR	*Boltonia asteroides*	False Aster	*Compositae*	Nt P-Forb	9	-5	[OBL]	5	-3	FACW	2.0-4.0 (3.0)	white		278,125	4,450,000	0.125	556,250	12.77	1.03%	1.85%
EUPPER	EUPPER	EUPE3	EUPE3	*Eupatorium perfoliatum*	Thoroughwort	*Compositae*	Nt P-Forb	4	-4	FACW+	4	-4	FACW+	1.5-3.0 (2.3)	white		196,875	3,150,000	0.125	393,750	9.04	1.03%	1.31%
HELAUT	HELAUT	HEAU	HEAU	*Helenium autumnale*	Sneezeweed	*Compositae*	Nt P-Forb	5	-4	FACW+	3	-4	FACW+	2.0-4.0 (3.0	yellow		131,250	2,100,000	0.125	262,500	6.03	1.03%	0.87%
IRIVIS	IRISHR	IRVIS	IRVIS	*Iris virginica shrevei {I shrevei}*	Blue Flag Iris	*Iridaceae*	Nt P-Forb	5	-5	OBL	5	-5	OBL	2.0-4.0 (3.0)	blue		1,063	17,000	0.063	1,071	0.02	0.52%	0.00%
LIASPI	LIASPI	LISP	LISP	*Liatris spicata*	Spike Blazingstar	*Compositae*	Nt P-Forb	6	0	FAC	7	0	FAC	1.0-4.0 (2.0)	lavender		10,188	163,000	0.375	61,125	1.40	3.09%	0.20%
LOBSIP	LOBSIP	LOSI	LOSI	*Lobelia siphilitica*	Great Blue Lobelia	*Campanulaceae*	Nt P-Forb	6	-4	FACW+	4	-4	FACW+	1.0-3.0 (2.0)	blue		687,500	11,000,000	0.094	1,034,000	23.74	0.77%	3.44%
MIMRIN	MIMRIN	MIRI	MIRI	*Mimulus ringens*	Monkey Flower	*Scrophulariaceae*	Nt P-Forb	6	-5	OBL	5	-5	OBL	1.0-2.0 (1.5)	blue		2,812,500	45,000,000	0.031	1,395,000	32.02	0.26%	4.64%
PYCVIR	PYCVIR	PYVI	PYVI	*Pycnanthemum virginianum*	Common Mt Mint	*Labiatae*	Nt P-Forb	5	-4	FACW+	5	-4	FACW+	1.0-3.0 (2.0)	white		281,250	4,500,000	0.188	846,000	19.42	1.55%	2.82%
SOLGIG	SOLGIG	SOGI	SOGI	*Solidago gigantea*	Late Goldenrod	*Compositae*	Nt P-Forb	4	-3	FACW	3	-3	FACW	4.0-7.0 (5.5)	yellow		362,500	5,800,000	0.125	725,000	16.64	1.03%	2.41%
ASTNOV	ASTNOV	SYNO2	ASNO	*Symphyotrichum novae-angliae {Aster n}*	New England Aster	*Compositae*	Nt P-Forb	4	-3	FACW	4	-3	FACW	3.0-5.0 (4.0)	blue		87,500	1,400,000	0.188	263,200	6.04	1.55%	0.88%
ASTPUP	ASTPUN	SYPUP	ASPU5	*Symphyotrichum puniceum {Aster p}*	Swamp Aster	*Compositae*	Nt P-Forb	8	-5	OBL	7	-5	OBL	4.5-5.5 (5.0)	blue		100,000	1,600,000	0.063	100,800	2.31	0.52%	0.34%
VERHAS	VERHAS	VEHA2	VEHA2	*Verbena hastata*	Blue Vervain	*Verbenaceae*	Nt P-Forb	4	-4	FACW+	3	-4	FACW+	2.0-6.0 (3.0)	blue		112,500	1,800,000	0.500	900,000	20.66	4.12%	2.99%
VERFAS	VERFAS	VEFA2	VEFA2	*Vernonia fasciculata*	Common Ironweed	*Compositae*	Nt P-Forb	5	-3	FACW	5	-3	FACW	3.0-6.0 (4.0)	purple		29,375	470,000	0.188	88,360	2.03	1.55%	0.29%
																Forb totals			3.003	7,320,346	168	24.72%	24.36%
																Graminoid & forb totals			12.146	30,051,409	690	100.00%	100.00%

v120712

All items subject to availability. Mix composition may vary seasonally

		5.23	-3.91		4.31	-3.89	

Key

- main bloom
- extended bloom
- fall leaf color
- fruit color
- [Abc] new scientific name
- {Abc} old scientific name
- *Abc* transitional name

Yellow is uncertain data

OBL = -5, FACW+ = -4, FACW = -3, FACW- = -2, FAC+ = -1, FAC = 0, FAC- = 1, FACU+ = 2, FACU = 3, FACU- = 4, UPL = 5.

Graminoids include *Graminae* (grasses), *Cyperaceae* (sedges), *Juncaceae* (rushes), *Sparganaceae* (burreeds), and *Acoraceae* (sweetflag) Forbs are herbs and select shrubs, which typically behave as herbaceous in a fire managed context, both having more or less showy flowers.

New and old scientific names are relative terms. Many 'new' names are actually names that were in use 80 to 100 years ago, but were replaced by the names with which we have become accustomed. New is used in the sense that the names have recently come into use or will be soon in Illinois.

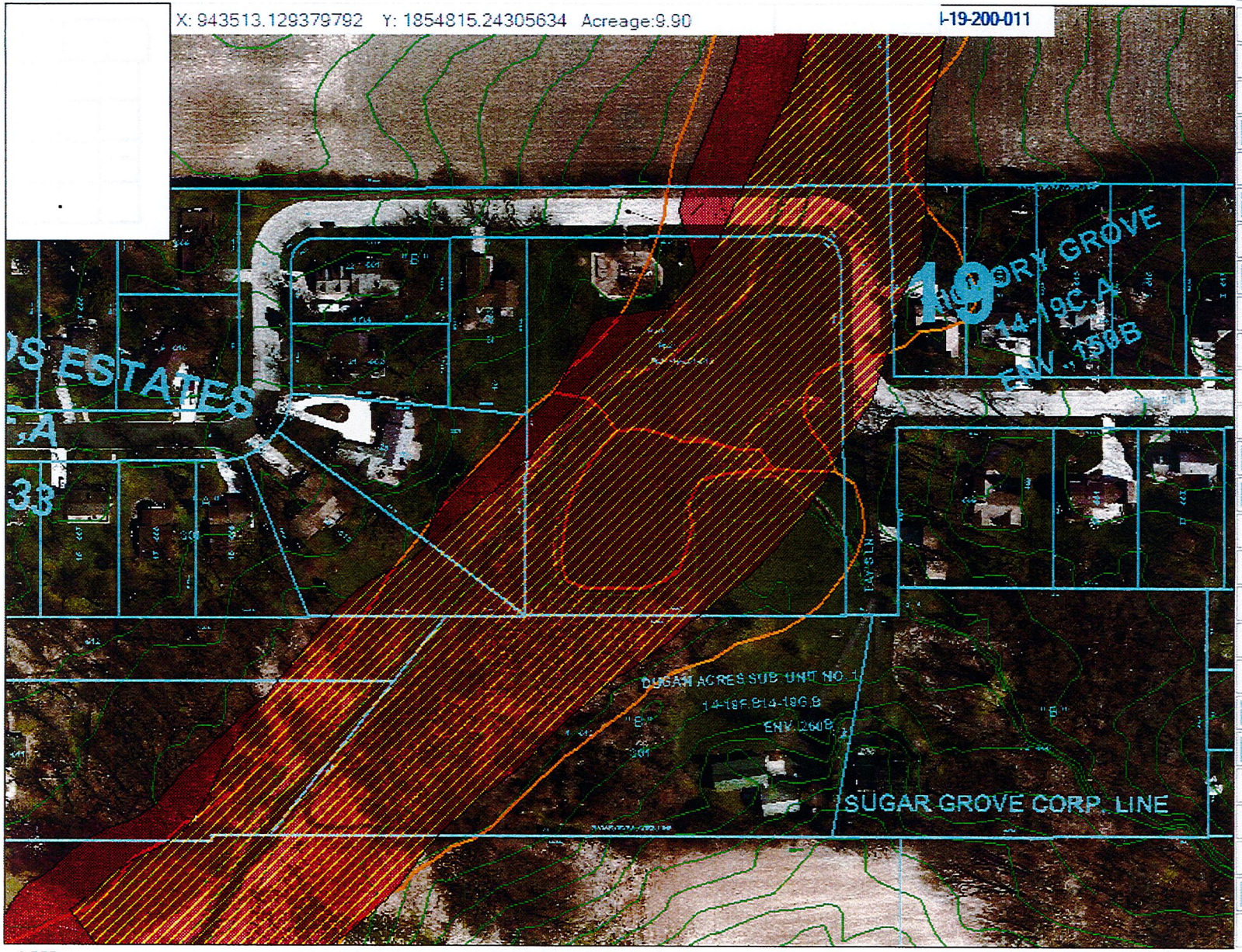
KaneGIS Viewer - Copyright © 2015 GIS-Technologies, Kane County Illinois

File MapTips OverViewMap Help

MapTipID: ParcelData Search For: PIN <- Search

X: 943513.129379792 Y: 1854815.24305634 Acreage:9.90

I-19-200-011



ForestPreserve
Creeks Water
FoxRiver
WaterShed
FEMAIndex
Floodway
CrossSections
100yr 500yr
Aquifer Major
Aquifer Sensity
Bedrock Lith
Bedrock Topo
Hydric Soils
Topography
Municipalities
Library Fire
School Park
CountyBoard
Subdivisions
ParcelLines
ParcelText
Railroads
AdressPoints
AddressGrid
Aerials
Exit

1,222