MEMORANDUM

BOICES LANE/MORTON BLVD/EAST DRIVEWAY INTERSECTION REVIEW

FROM: Thomas Johnson, PE, PTOE
TO: Lynne Ward, George Distefano, Lauren Calabria
CC: Stuart Mesinger, AICP; Walter Kubow, PE; Haley Bigando
DATE: April 7, 2023
RE: iPark 87, Ulster, NY

A. Introduction

The purpose of this assessment is to review the Tech City East Campus recommended improvements at the signalized intersection of Boices Lane/Morton Blvd/East Driveway for their applicability to the iPark87 proposed project.

B. Boices Lane/Morton Blvd/East Driveway

1. Existing Intersection Layout

The Boices Lane eastbound and westbound approaches consist of three lanes: separate left-turn, through, and right-turn lanes. The northbound approach of Morton Boulevard has a shared left-turn/through lane and a separate right-turn lane. The East Driveway southbound approach has a separate left-turn lane and a shared through/right-turn lane. It is noted that the eastbound left-turn lane was added to the intersection after the Tech City East Campus traffic study was completed.

2. Tech City East Campus

The Tech City East Campus Master Plan (attached) provided for two primary north-south roadways and two primary east-west roadways that connected to Enterprise Drive and Boices Lane, with the eastern-most north-south roadway (East Driveway) intersecting Boices Lane opposite Morton Blvd in its current location. Each of these primary roadways provide access to all land uses throughout the site. It was estimated that almost a quarter of the site traffic would use the East Driveway, about 425 vehicles per hour for the weekday PM peak hour. With this volume of traffic, it was recommended that a second eastbound through lane on Boices Lane be added to the intersection and switching the lane arrangement on Morton Boulevard for a separate left-turn lane. The concept for the improvement is attached.

3. iPark 87

The iPark 87 concept plan (attached) provides for two primary east-west roadways, it does not include any north-south roadway that extends through the entire site. The East Driveway access road is short and would serve a portion of the residential component of the project. Further, it is contemplated that the East Driveway be restricted to right-turns in and right-turns out only. These factors limit the amount of site traffic expected to use the East Driveway, estimated at 55 vehicles per hour in the weekday PM peak hour. Most of that volume will be right-turns entering from Boices Lane westbound. A preliminary capacity analysis conducted for the 20-year build-out condition showed that the intersection will

operate at an overall level of service C with all movements operating at level of service D or better. This is without the second eastbound through lane on Boices Lane. A concept of the intersection is attached as well as the capacity analysis worksheet.

[Note: Levels of service are assigned in the range of A through F with A the best condition and F the worst, or failure conditions. Levels of service A through D are typically the minimal acceptable operating conditions with levels of service E and F indicating conditions at or above capacity levels.]

C. Conclusion

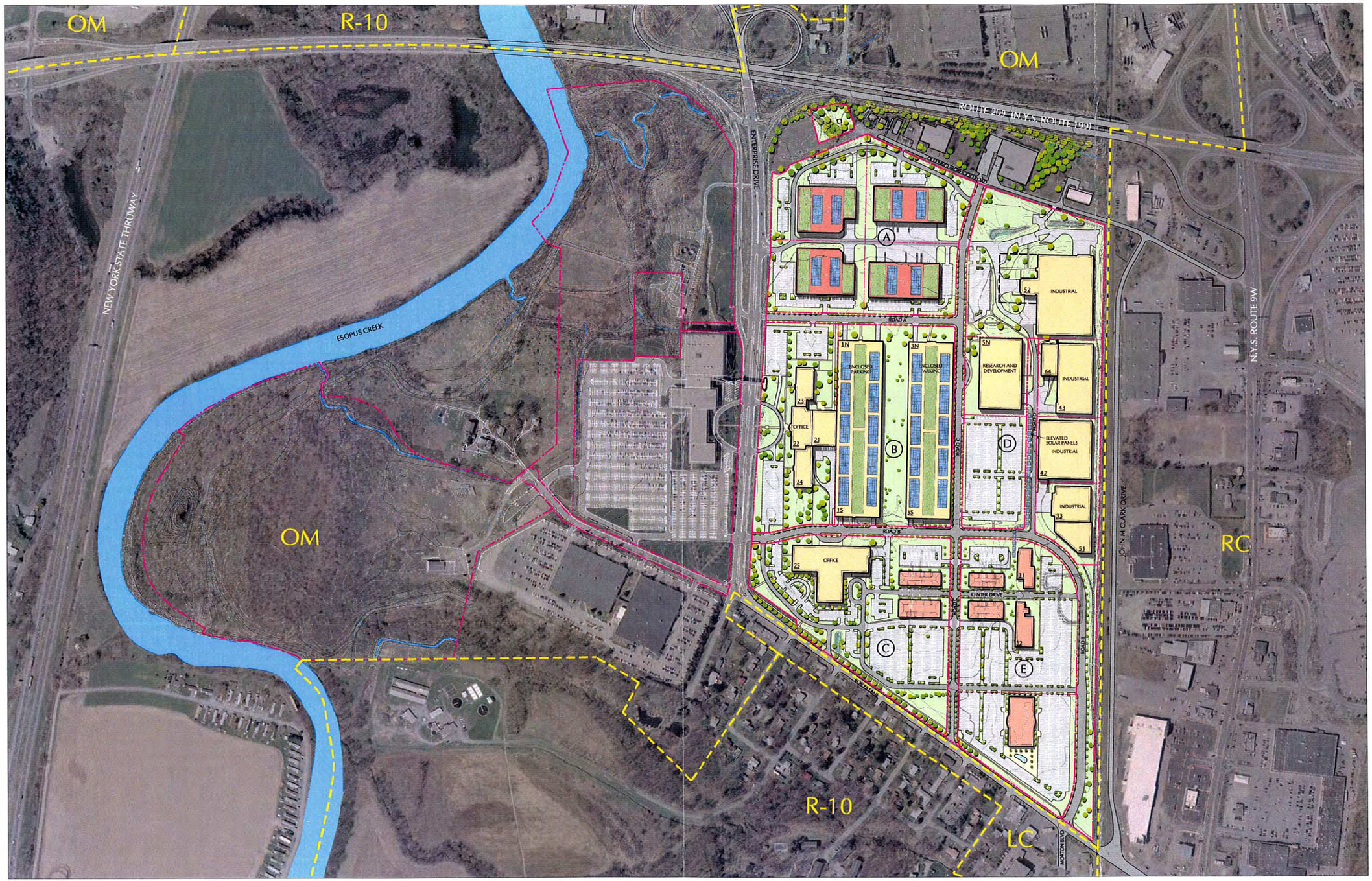
The layout of the iPark 87 project and restricting the East Driveway site access at Boices Lane to right-turns in and right-turns out limit the amount of traffic that will use the East Driveway. As such, the second eastbound through lane recommended on Boices Lane for the Tech City East Campus will not be needed for the iPark 87 project.

Attachments

Tech City East Campus Master Plan
iPark 87 Concept Plan
Tech City East Campus Boices Lane/Morton Blvd/East Driveway Concept
iPark 87 Boices Lane/Morton Blvd/East Driveway Concept
Capacity Analysis Worksheet

Tech City East Campus Master Plan

TECH CITY- TOWN OF ULSTER, NY



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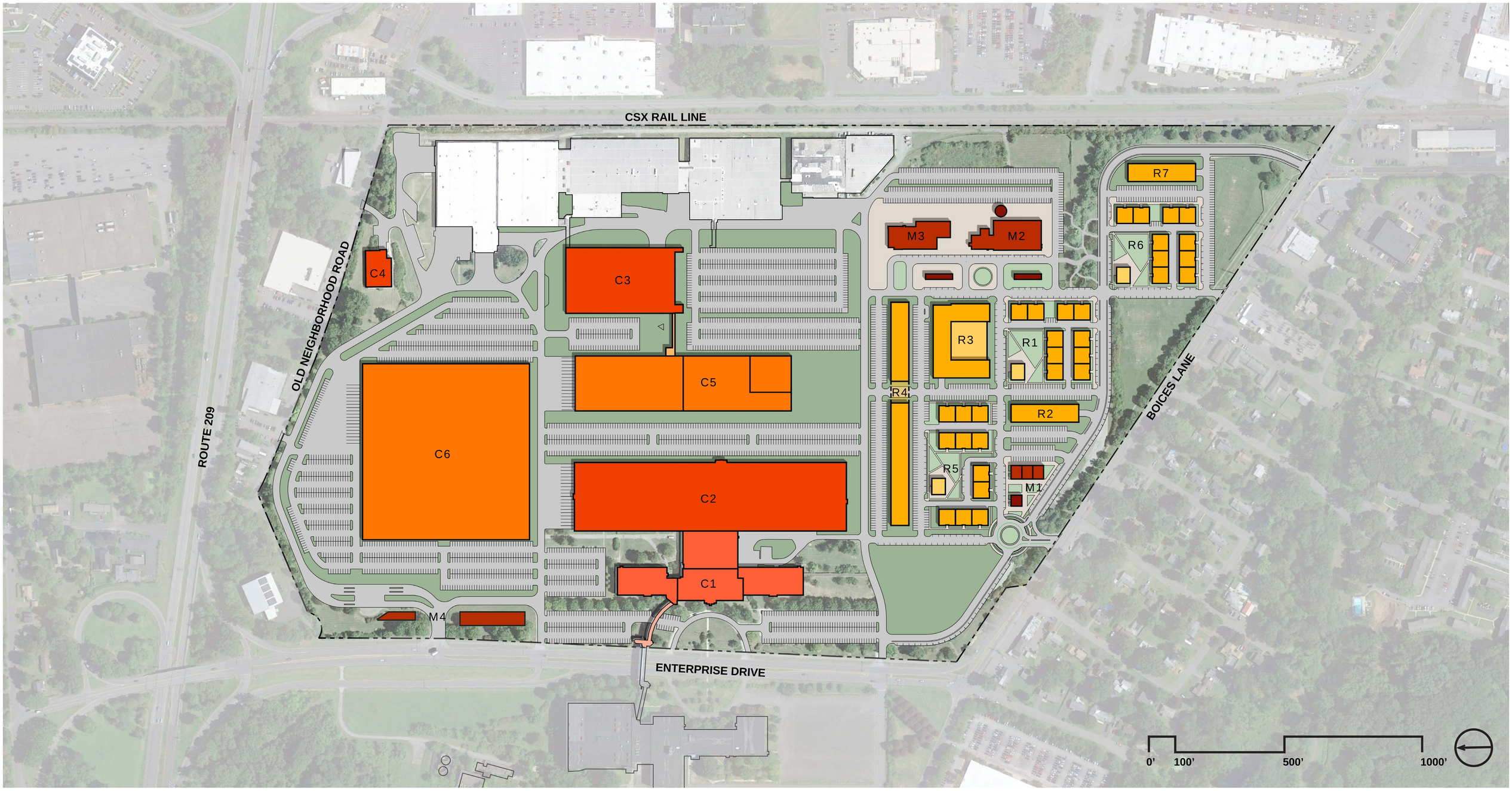
Intelligent Land Use

Note: This plan pre-dates the Traffic Study and does not necessarily reflect the access recommendations found in the report.

CAMPUS MASTER PLAN

JANUARY 27, 2009

iPark 87 Concept Plan



iPARK87

iPARK87 | EAST CAMPUS COMPREHENSIVE DESIGN PLAN

NOTES:

1. BUILDING SQUARE FOOTAGE (S.F.) IS MEASURED TO THE EXTERIOR OF THE BUILDING, INCLUDES MECH. CLOSETS & PARKING GARAGES, EXCLUDES BALCONIES.
2. PROVIDED RESIDENTIAL PARKING ASSUMES A TARGET RATIO OF 1.5 SPACES PER UNIT INSTEAD OF THE CURRENT CODE REQUIREMENT OF 2.5 SPACES PER UNIT.
3. PROVIDED MIXED-USE PARKING ASSUMES A TARGET RATIO OF 1 SPACE PER 250 SF OF GROSS FLOOR AREA.
4. NEIGHBORING PROPERTY EASEMENT - 80 PARKING SPACES APPROVED
5. FINAL PARKING NUMBERS TO BE REFINED BASED ON FINAL USE-TYPE AND REQUIREMENTS OF FUTURE TENANTS.
6. CURRENT RESIDENTIAL BUILDINGS ASSUME GROUND FLOOR RESIDENTIAL.

CATEGORY	TAG	PRIMARY USE	PHASE	STORIES	TOTAL AREA (S.F.)	COMMERCIAL AREA (S.F.)			RESIDENTIAL AREA (S.F.)				# UNITS	PARKING			
					TOTAL	COMMERCIAL	RETAIL	HOTEL	RESIDENTIAL	AMENITY	UTILITY	GARAGE		REQUIRED	PROVIDED (TOTAL)	PROVIDED (SURFACE)	PROVIDED (GARAGE)
TOTAL					**2,326,835**								**880**	**3,661**	**4,257**		
COMMERCIAL					**1,303,000**									**2,136**	**2,680**	2,680	-
	C1	OFFICE	PHASE 1	2	180,000	180,000								360	450	450	0
	C2	INDUSTRIAL	PHASE 1	1	250,000	250,000								357	490	490	0
	C3	OFFICE	PHASE 1	3	300,000	300,000								600	650	650	0
	C4	INDUSTRIAL	PHASE 1	1	13,000	13,000								19	25	25	0
	C5	FILM STUDIOS	PHASE 2	1	160,000	160,000								229	265	265	0
	C6	INDUSTRIAL	PHASE 2	1	400,000	400,000								571	800	800	0
RESIDENTIAL					**957,440**								**880**	**1,320***	**1,320**	825	495
	R1	RESIDENTIAL	PHASE 2A	3	111,300				86,950	6,200	3,000	15,150	100	150	150	90	60
	R2	RESIDENTIAL	PHASE 2A	5	82,500				66,000	3,500	2,500	10,500	80	120	120	87	33
	R3	RESIDENTIAL	PHASE 2B	5	202,035		6,500		140,520	10,000	3,000	42,015	158	237	237	106	131
	R4	RESIDENTIAL	PHASE 2C	5	245,675				196,540	10,000	4,000	35,135	252	378	378	268	110
	R5	RESIDENTIAL	PHASE 2D	3	122,450				95,965	6,520	3,000	16,965	110	165	165	99	66
	R6	RESIDENTIAL	PHASE 2E	3	110,980				86,950	5,880	3,000	15,150	100	150	150	90	60
	R7	RESIDENTIAL	PHASE 2E	5	82,500				66,000	3,500	2,500	10,500	80	120	120	85	35
MIXED-USE					**66,395**									**206**	**257**	257	0
	M1	RETAIL ENTRY PLAZA	PHASE 2A	1	7,600		7,600							30	38	38	0
	M2	RETAIL/AMENITY	PHASE 2A	1	24,440		22,940				1,500			98	122	122	0
	M3	HOTEL/ARTS CENTER	PHASE 2C	2	19,355			19,355						77	97	97	0
	M4	MOBILITY HUB	PHASE 3	1	15,000	15,000								N/A	0	0	0

Tech City East Campus

Boices Lane/Morton Blvd/East Driveway Concept

East Dwy.

John Clark Drive

Improvements are Shown as Asymetrical Widening on the North Side of Boices Lane to Avoid ROW Impacts to Private Property on the South Side of Boices Lane

Provide ROW for Roadway Widening

MATCH EXISTING

Maintain Seperate Left-Turn, Thru, and Right-Turn Lanes on the WB Approach

MATCH EXISTING

Re-Stripe WB Approach to Provide a Shared Left-Turn/ Thru Lane and a Shared Thru/ Right-Turn Lane

MATCH EXISTING

Coordinate Traffic Signals at Both Intersections

MATCH EXISTING

Approximate R.O.W.

Approximate R.O.W.

Boices Lane

Provide Additional EB Through Lane

MATCH EXISTING

Driveway

Coordinate Traffic Signals at Both Intersections

Provide 4-Lane Cross Section Across Railroad Tracks

Restripe NB Approach to Provide an Exclusive Left-Turn Lane and a Shared Thru/Right-Turn Lane.

Morton Blvd.

NOTE: FOR PLANNING PURPOSES ONLY

PARCEL BOUNDARY AND APPROXIMATE ROW

CME

PROJECT: 09-024d

DATE: 8/09

FIGURE: 4.3

BOICES LANE CONCEPT PLAN
ULSTER TECH CITY
TOWN OF ULSTER, NY

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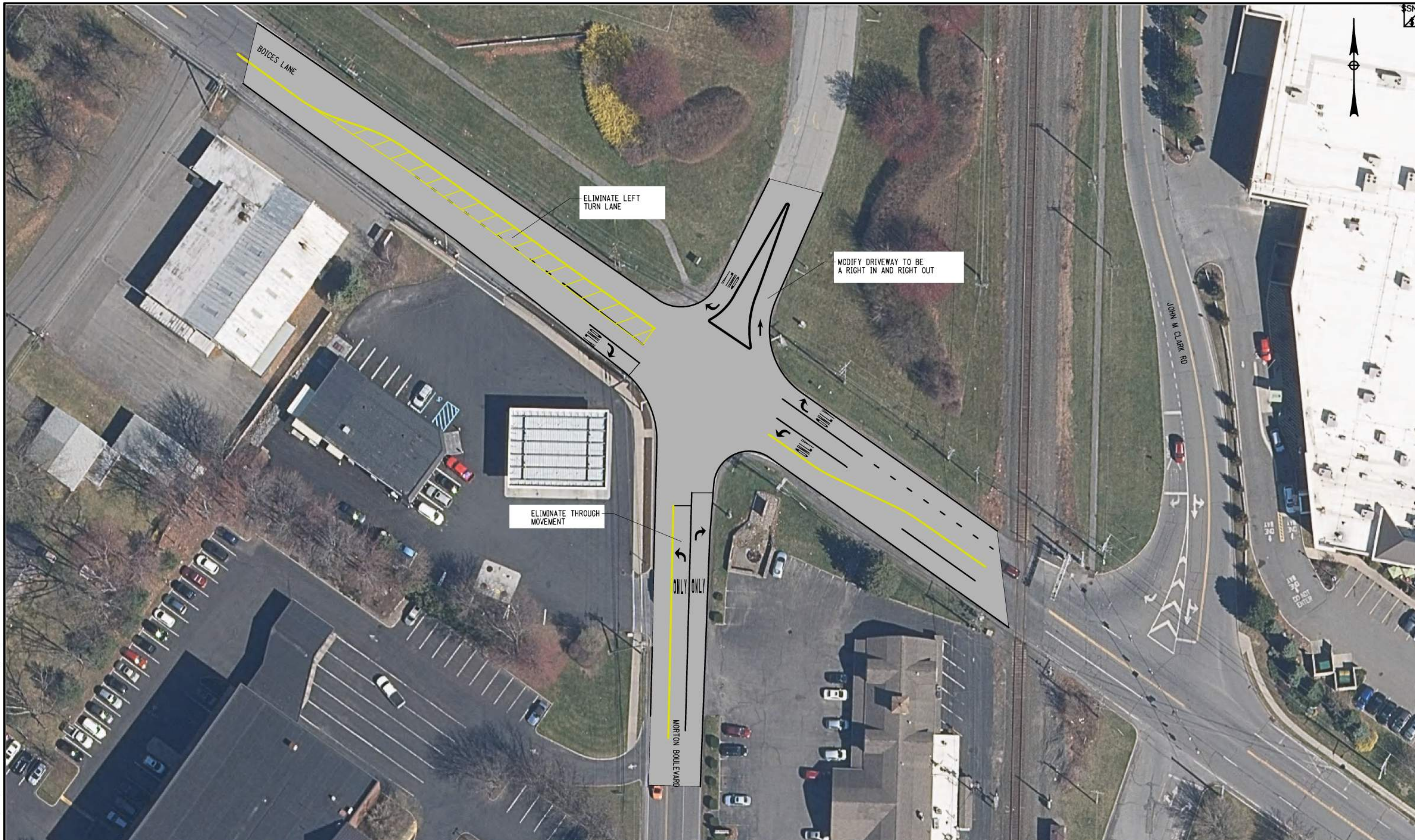
iPark 87

Boices Lane/Morton Blvd/East Driveway Concept



PROJECT MANAGER: T. JOHNSON

ENGINEER: B. WOLFE

DESIGNER: M. HARTWELL

NO.	REVISION	BY	DATE
1			
2			
3			
4			
5			

It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered, the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

LaBella
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PROJECT/CLIENT

iPARK 87
TOWN OF ULSTER, NY

DRAWING TITLE

BOICES LN AND MORTON BLVD/ EAST DRIVEWAY CONCEPT

PROJECT NUMBER: 2222588.01

DATE ISSUED: APRIL, 2023

DRAWING NUMBER: 1

Capacity Analysis Worksheet

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	386	0	255	0	0	7	0	707	347	150	473	66
Future Volume (vph)	386	0	255	0	0	7	0	707	347	150	473	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	12	12	12	12	10	10	11	11	12
Storage Length (ft)	0		0	0		0	0		0	50		0
Storage Lanes	1		1	0		1	0		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.865			0.850			0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1668	0	1561	0	0	1644	0	1773	1478	1745	1818	1615
Flt Permitted	0.950									0.094		
Satd. Flow (perm)	1668	0	1561	0	0	1644	0	1773	1478	173	1818	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			226			352			373			71
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			243			315			302	
Travel Time (s)		5.3			5.5			7.2			6.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	0%	2%	0%	1%	0%
Adj. Flow (vph)	415	0	274	0	0	8	0	760	373	161	509	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	415	0	274	0	0	8	0	760	373	161	509	71
Turn Type	Perm		Perm			Perm		NA	Perm	pm+pt	NA	Perm
Protected Phases								4		3	8	
Permitted Phases	2		2			6			4	8		8
Detector Phase	2		2			6		4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0		5.0			5.0		5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0		24.0			24.0		24.0	24.0	11.0	23.5	23.5
Total Split (s)	32.0		32.0			32.0		47.0	47.0	11.0	58.0	58.0
Total Split (%)	35.6%		35.6%			35.6%		52.2%	52.2%	12.2%	64.4%	64.4%
Maximum Green (s)	26.0		26.0			26.0		41.0	41.0	5.0	52.5	52.5
Yellow Time (s)	4.0		4.0			4.0		4.0	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0		2.0			2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0			0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0			6.0		6.0	6.0	6.0	5.5	5.5
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	3.0		3.0			3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		None			None		None	None	None	None	None
Walk Time (s)	7.0		7.0			7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0			11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0			0		0	0		0	0
Act Effct Green (s)	24.2		24.2			24.2		39.4	39.4	50.5	51.0	51.0
Actuated g/C Ratio	0.28		0.28			0.28		0.45	0.45	0.58	0.59	0.59
v/c Ratio	0.89		0.46			0.01		0.94	0.43	0.84	0.48	0.07
Control Delay	53.7		8.8			0.0		45.3	3.3	49.8	12.4	2.3

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Queue Delay	0.0		0.0			0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	53.7		8.8			0.0		45.3	3.3	49.8	12.4	2.3
LOS	D		A			A		D	A	D	B	A
Approach Delay		35.8						31.5			19.6	
Approach LOS		D						C			B	
Queue Length 50th (ft)	223		20			0		397	0	39	155	0
Queue Length 95th (ft)	#386		82			0		#643	48	#117	232	17
Internal Link Dist (ft)		153			163			235			222	
Turn Bay Length (ft)										50		
Base Capacity (vph)	502		628			741		842	898	191	1106	1010
Starvation Cap Reductn	0		0			0		0	0	0	0	0
Spillback Cap Reductn	0		0			0		0	0	0	0	0
Storage Cap Reductn	0		0			0		0	0	0	0	0
Reduced v/c Ratio	0.83		0.44			0.01		0.90	0.42	0.84	0.46	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 86.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 29.1		Intersection LOS: C	
Intersection Capacity Utilization 80.2%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Morton Blvd/East Drive & Boices