



Appendix F

NYSDOT Arterial Access Management Report for NYS Route 7 Lake Avenue to Route 142 dated September 2000

ARTERIAL ACCESS MANAGEMENT REPORT

for

NYS ROUTE 7
LAKE AVENUE TO ROUTE 142

TOWN OF BRUNSWICK & CITY OF TROY
RENSSELAER COUNTY

P.I.N. 1306.53.101

FINAL

SEPTEMBER 2000

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
Region One, Albany

prepared by:



III Winners Circle
Albany, New York 12205

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1.0 INTRODUCTION

Studies conducted by the Capital District Transportation Committee (CDTC) have identified the critical status of the Capital District's arterial system in terms of mobility and safety. These studies have also shown that the region's transportation system is inadequate in terms of the number and spacing of arterial facilities.¹ This condition has resulted in a significant burden being placed on the existing arterial system as it serves the functions of providing mobility for through traffic and access to adjacent land uses. These studies also underscore the importance of formulating comprehensive arterial management plans for the region's arterial corridors to restore and/or preserve the functionality of the arterial system as well as the economic viability of these major corridors.

As described in *Best Practices in Arterial Management*, an effective arterial management plan includes the coordinated application of various transportation and land-use tools.² These tools include construction of medians, turn lanes, and traffic signal improvements, as well as impact mitigation, land-use planning, zoning and access management.

Access management can be defined as the process that provides access to land development while simultaneously preserving the quality of flow of traffic on the surrounding road system in terms of safety, capacity and speed.³ Among the objectives of an access management plan are to:

- Limit the number of conflict points
- Separate basic conflict areas
- Limit speed adjustment problems
- Remove turning vehicles from through travel lanes

The New York State Department of Transportation (NYSDOT) presently has a project in the design process for improvements to NYS Route 7, in the City of Troy and the Town of Brunswick, Rensselaer County. The limits of this project are from Lake Avenue to N.Y.S. Route 142, shown on Figure 1-1. The scope of the project includes geometric improvements, construction of a center turn lane/median, pavement reconstruction/ rehabilitation, construction of sidewalks, improved drainage systems,

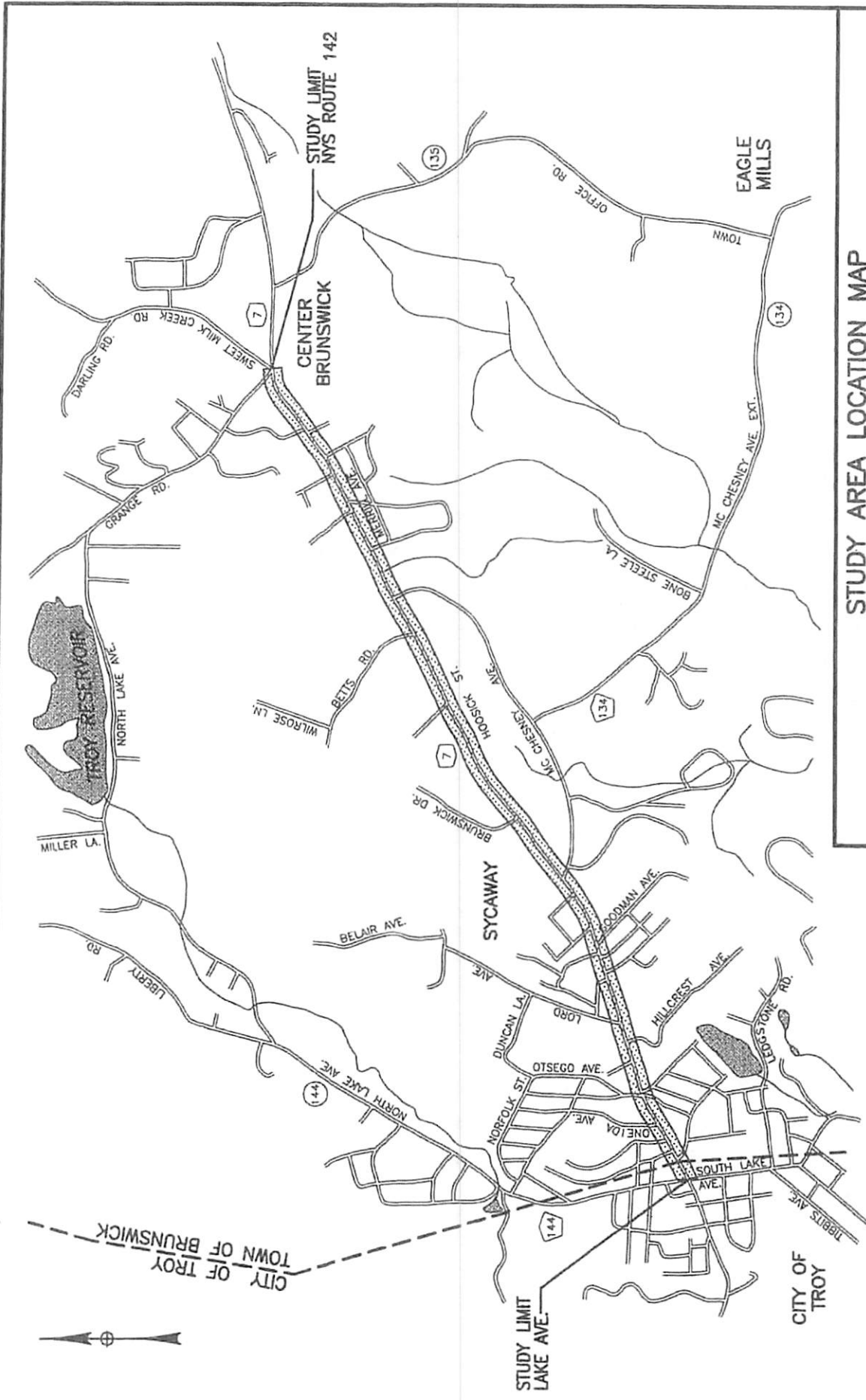
intersection capacity improvements, traffic signal upgrades, and public and private utility relocations. This reconstruction project, in and of itself, can be viewed as a component of the arterial management plan. The project accomplishes one of the basic management objectives by the proposed construction of a center median which removes left turning traffic from the through travel lanes. The reconstruction project also includes the following access management strategies:

- driveway access improvements and consolidations
- intersection spacing improvements
- expansion of pedestrian facilities
- parking access improvements

This study has been prepared to examine the existing land use and access patterns within the corridor with the goal of applying access management principles to preserve the utility of the arterial. This study presents recommendations for long-term improvements to meet this objective. The long-term improvements include applications of transportation and land-use tools that may be implemented to further enhance traffic operations in the corridor and to reduce the dependence on Route 7 for direct access to adjacent land uses. These long-term strategies include recommendations for future signal placement, new collector/service roads, consolidation of access and shared parking. Examples of the types of strategies that were considered in this study are as follows:

- new collector roadways
- new access/service road connections
- future development access
- zoning and development review
- policies for placement of future signals
- local road alignments/connections
- cohesion/connectivity of pedestrian facilities

The benefits of an implemented access management plan include: (1) preservation of highway capacity, (2) providing access to surrounding activity centers, and (3) improved highway safety. These benefits also serve to enhance the economic viability and livability of the communities where arterial management policies are applied.

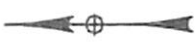


STUDY AREA LOCATION MAP

ARTERIAL ACCESS MANAGEMENT STUDY
 NYS ROUTE 7 (HOOSICK ST.)
 CITY OF TROY/TOWN OF BRUNSWICK
 RENSSELAER COUNTY

CHA CLOUGH, HARBOUR & ASSOCIATES LLP
 ENGINEERS, SURVEYORS, PLANNERS
 & LANDSCAPE ARCHITECTS
 11 WINNERS CIRCLE ALBANY, NEW YORK, 12205

FIGURE NO. 1-1 NOT TO SCALE



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2.0 EXISTING CONDITIONS

In the development of the access management plan for the NYS Route 7 corridor, existing features of the roadway system affecting mobility and access were reviewed and inventoried. These features include identification of driveway locations and dimensions, parking capacities, pedestrian facilities, intersection spacings and locations of traffic signals. These conditions were evaluated for conformance to applicable criteria/standards that are consistent with access management strategies. Non-standard or deficient features within the corridor were identified with respect to these access management criteria and recommended actions were identified to address them.

2.1 ACCESS CLASSIFICATION

The process of classifying roadway facilities forms the basis of access management by defining where and to what extent access can or should be provided. This process correlates these access considerations with the roadway's functional characteristics and importance within the hierarchy of a region's transportation system. NYS Route 7 is functionally classified as an Urban Principal Arterial within the study area. This classification reflects the priority of Route 7 to service commuter and commercial travel within the Capital District urban area as well as inter-regional travel between New York State and Vermont. This classification serves as the basis for evaluating existing access conditions along the Route 7 arterial and for formulating criteria and guidelines for regulating future requests for access in the corridor.

2.2 EXISTING NON-STANDARD PROPERTY ACCESS (Driveway)

Access to properties abutting State highways are governed by the State of New York, as administered by the Department of Transportation. The technical and procedural requirements for access onto State highways are documented in *Policy and Standards for Entrances to State Highways*.⁴ As access design is a fundamental element of a comprehensive arterial management plan, the existing configuration and locations of driveways to properties along NYS Route 7 within the study area were evaluated for conformance to these policies and standards. This review identified several properties where the number

of curb cuts and/or the driveway width exceeded recommended criteria. The affected properties are listed in Table 2-1 and are shown on Figures 2-1 through 2-12:

**Table 2-1
Non-Standard Property Access Locations**

<u>PROPERTY</u>	<u>NON-STANDARD FEATURE</u>	<u>REFERENCE</u>
➤ Mr. Subb	Excess access width/undefined access	Figure 2-1 #1
➤ King Foods	Excess driveway widths	Figure 2-1 #2
➤ No. 555 Hoosick Street	Corner Lot – undefined access	Figure 2-1 #3
➤ Highway Oil	Open Lot – undefined access	Figure 2-1 #4
➤ Mobil Service Station	Corner Lot – undefined access	Figure 2-2 #5
➤ Roxy Cleaners	Excess access width	Figure 2-2 #6
➤ No. 617-619 Hoosick Street	Excess driveway width	Figure 2-3 #7
➤ M&J's Auto Center	Undefined access	Figure 2-4 #8
➤ Hoffman's Car Wash/ Rotelli's Garden Center	Open Lot – undefined access	Figure 2-5 #9
➤ Plum Blossom Restaurant	Corner Lot – undefined access/ Excess access width	Figure 2-5 #10
➤ Sycaway Body & Fender	Open access at corner of public intersection	Figure 2-5 #11
➤ Hairways	Excess driveway width	Figure 2-6 #12
➤ Ted's Fish Fry	Corner Lot – undefined access	Figure 2-6 #13
➤ No. 714 Hoosick Street	Excess driveway width	Figure 2-6 #14
➤ Clemente Brothers Construction & Hauling Co./Feather's Furniture	Excess access widths	Figure 2-7 #15
➤ Want Ad Digest/ Brunswick Electronics/ U.S. Post Office	Excess driveway width	Figure 2-8 #16
➤ Duncan's Restaurant	Excess driveway width	Figure 2-9 #17
➤ No. 901 Hoosick Street	Corner Lot – access at corner of public intersection	Figure 2-10 #18
➤ No. 909 Hoosick Street	Corner Lot – access at corner of public intersection	Figure 2-10 #19
➤ Lori Schindler Realty	Corner Lot – access at corner of public intersection	Figure 2-10 #20
➤ No. 910 Hoosick Street	Corner Lot – access at corner of public intersection	Figure 2-10 #21

Vehicles entering and exiting an arterial have a negative impact on the operations and safety of the facility even if the configuration of the driveway access conforms to New York State policy. Studies of these conditions indicate a direct correlation exists between the frequency of driveways within a highway section and reductions in capacity and safety.⁵ The following existing conforming driveway configurations have been identified in Table 2-2 where access management principles could be applied to reduce the number of curb cuts. These locations are also shown on Figures 2-1 through 2-12.

**Table 2-2
Access Management Improvement Locations**

<u>PROPERTY</u>	<u>ACCESS IMPROVEMENT LOCATION</u>	<u>REFERENCE</u>
‣ Mr. Subb	South Lake Avenue access	Figure 2-1 A
‣ King Foods	Sycaway Avenue access	Figure 2-1 B
‣ No. 705 Hoosick Street	Eastern access to NYS Route 7	Figure 2-6 C
‣ Duncan's Restaurant	Rose Lane access	Figure 2-9 D
‣ No. 923/ 925 Hoosick Street	Adjacent driveways to NYS Route 7	Figure 2-10 E
‣ No. 950/ 952 Hoosick Street	Adjacent driveways to NYS Route 7	Figure 2-11 F
‣ Brunswick Dental Arts	Driveway within corner radius	Figure 2-11 G
‣ Bel! Atlantic	Access within corner radius	Figure 2-11 H
‣ No. 979 Hoosick St./ Stewarts	Shared access to NYS Route 7.	Figure 2-12 I

2.3 EXISTING INTERSECTION SPACING DEFICIENCIES

When properly located and designed, unsignalized access from public streets can be provided to arterial roadways without seriously interfering with the function of traffic movement. However, the frequency of conflicting turning paths of traffic entering and exiting the arterial at intersecting public streets can reduce the capacity and safety of the arterial. Short spacing between unsignalized access locations and offset intersection conditions complicate the task of driving by increasing the amount of information that a driver must simultaneously acquire, process and react to. It is generally recommended that unsignalized intersections be spaced as far apart as practicable to minimize the conflicts created by vehicles turning in and out of adjacent intersections. Intersection spacings suggested by the Institute of Transportation Engineers range from 185 feet (at a 30 mph speed) to 350 feet (at a 45 mph speed).⁶ These distances represent a measure of the effects of slowing vehicles due to turning maneuvers. NCHRP Report 348⁷ presents guidelines for unsignalized intersection spacing that considers the traffic volume characteristics of the intersecting side street, in addition to the characteristics of the arterial. Based on these guidelines, recommended minimum distances have been developed for the spacing of unsignalized public intersections on NYS Route 7 within the project limits, which are shown in Table 2-3. A review of existing conditions along NYS Route 7 shows several locations where the spacing between intersections are less than the recommended distances. These locations are identified in Table 2-4.

**Table 2-3
Recommended Unsignalized Intersection Spacing**

Section	Speed Limit		Minimum Spacing			
			Minor Street ¹		Major Street ²	
Lake Ave to Hillcrest Ave	50 km/h	30 mph	55 meters	180 feet	75 meters	250 feet
Hillcrest Ave to Grand Union Plaza	60 km/h	40 mph	75 meters	250 feet	95 meters	310 feet
Grand Union Plaza to Route 142	70 km/h	45 mph	80 meters	260 feet	110 meters	360 feet

¹ A Minor Street refers to a public side street with traffic volumes that are less than 5,000 vehicles per day or less than 500 vehicles in the peak hour (total, both directions).

² A Major Street refers to a public side street with traffic volumes that exceed 5,000 vehicles per day or exceeding 500 vehicles in the peak hour (total, both directions).

**Table 2-4
Existing Substandard Intersection Spacing (Unsignalized Public Intersections)**

Intersections	Existing Intersection Spacing	
Mount Pleasant Avenue to Sycaway Avenue	10 meters	36 feet
Sycaway Avenue to Wayne Street	35 meters	120 feet
Otsego Avenue to Coolidge Avenue	20 meters	70 feet
Derrick Avenue to Woodward Avenue	45 meters	150 feet
Woodward Avenue to Killoch Avenue	60 meters	185 feet
Killoch Avenue to Tarbell Avenue	15 meters	50 feet
Tarbell Avenue to Goodman Avenue	50 meters	160 feet
Wyman Lane to Freeman Avenue	60 meters	210 feet
Evergreen Road to Crescent Lane	45 meters	150 feet
NYS Route 142 to Sweetmilk Creek Road	35 meters	120 feet

These locations where existing intersections spacings are less than the recommended minimum include offset intersections as well as consecutive streets intersecting the same side of Route 7, and are illustrated on Figure 2-13.

2.4 EXISTING SIGNAL SPACING DEFICIENCIES

There are five existing signalized intersections on NYS Route 7 within the project area. These signals are located at: (1) Lake Avenue, (2) Brunswick Plaza/Roosevelt Street, (3) McChesney Avenue - West, (4) Walmart Plaza/Brunswick Drive, and (5) N.Y.S. Route 142. The locations of these signalized intersections are shown on Figure 2-14. The spacing of these signals is not uniform, and varies from 235 meters to 2,270 meters. The distance between these signalized intersections is shown in Table 2-5.

**Table 2-5
Existing Signalized Intersection Spacing**

From	To	Distance	
Lake Avenue	Brunswick Plaza/Roosevelt St	1,195 meters	3,920 feet
Brunswick Plaza/Roosevelt St	McChesney Avenue-West	235 meters	770 feet
McChesney Avenue-West	Walmart/Brunswick Drive	357 meters	1,170 feet
Walmart/Brunswick Drive	N.Y.S. Route 142	2,270 meters	7,450 feet

Traffic signals are among the tools used by state and local transportation agencies to manage access and to address congestion and/or safety problems on uncontrolled access arterials.⁸ While there are established benefits of signal controlled intersections, the location and operation of traffic signals can also have negative effects on safety and on the progression of traffic flow along an arterial. As noted in NCHRP Report 348, "preserving the quality of traffic movement requires spacing of traffic signals at intervals that are conducive to continuous, progressive movement. This normally entails: (1) uniform spacing of signals, and (2) sufficient distance between signals to allow vehicles to travel at reasonable speed."⁹ To this end, guidelines for signalized intersection spacing have been developed for various combinations of cycle lengths and operating speeds, which are described in the NCHRP report. This uniform signal spacing represents ideal conditions where half the cycle length is allocated to traffic moving along the arterial (i.e., Route 7) and which permits a bandwidth equal to the greentime. In this context, bandwidth is a measure of the amount of traffic that can travel progressively through a series of traffic signals during the green phase.

A comparison of the existing signal locations to the NCHRP report shows that none of the signals are spaced to provide optimal progression. However, when evaluating existing or proposed signal locations,

the NCHRP report also suggests minimum acceptable bandwidths for corridors where the optimum conditions are not possible or practical. In the case of the Route 7 arterial, the minimum recommended bandwidth is 40-45 percent of the cycle length. The distance between signals from Lake Avenue to Roosevelt Street/ Brunswick Plaza and from Brunswick Drive/ Wal-Mart Plaza to NYS Route 142 are spaced in excess of the optimal distance but still provide good progression and bandwidth. However, the spacing between the Brunswick Plaza signal and the Wal-Mart Plaza signal are significantly below the recommended spacing. The spacing of these signals inhibit the progressive movement of vehicular traffic along Route 7, which is a primary function of the arterial.

2.5 EXISTING PEDESTRIAN FACILITIES

Existing pedestrian facilities in the study area consist of 1.5 m (5 ft.) wide sidewalks along both sides of NYS Route 7 in the City of Troy , from 8th Street to Mount Pleasant Avenue. There is also a sidewalk along the south side of NYS Route 7 between Goodman Avenue and Brunswick Drive/Walmart Plaza. These sidewalk facilities are approximately 1,020 meters (3,350 feet) apart. Two task force committees that were formed under the auspices of the CDTC's *New Visions* planning effort considered the role of pedestrian systems in the regional transportation system. The Arterial Management Task Force and the Bicycle and Pedestrian Issues Task Force each developed recommendations for guiding principles to enhance pedestrian accessibility and to integrate pedestrian facilities into the overall transportation system.¹⁰ These principles include:

- Routine consideration of sidewalks as part of the transportation infrastructure.
- Facilitate expansion of the pedestrian system through project development.
- Consider pedestrian improvements from the perspective of developing a system rather than reacting to present use.

Improvements to the pedestrian system have been incorporated into the project design of the planned reconstruction of NYS Route 7, consistent with these principles. These improvements are illustrated on Figure 2-15.

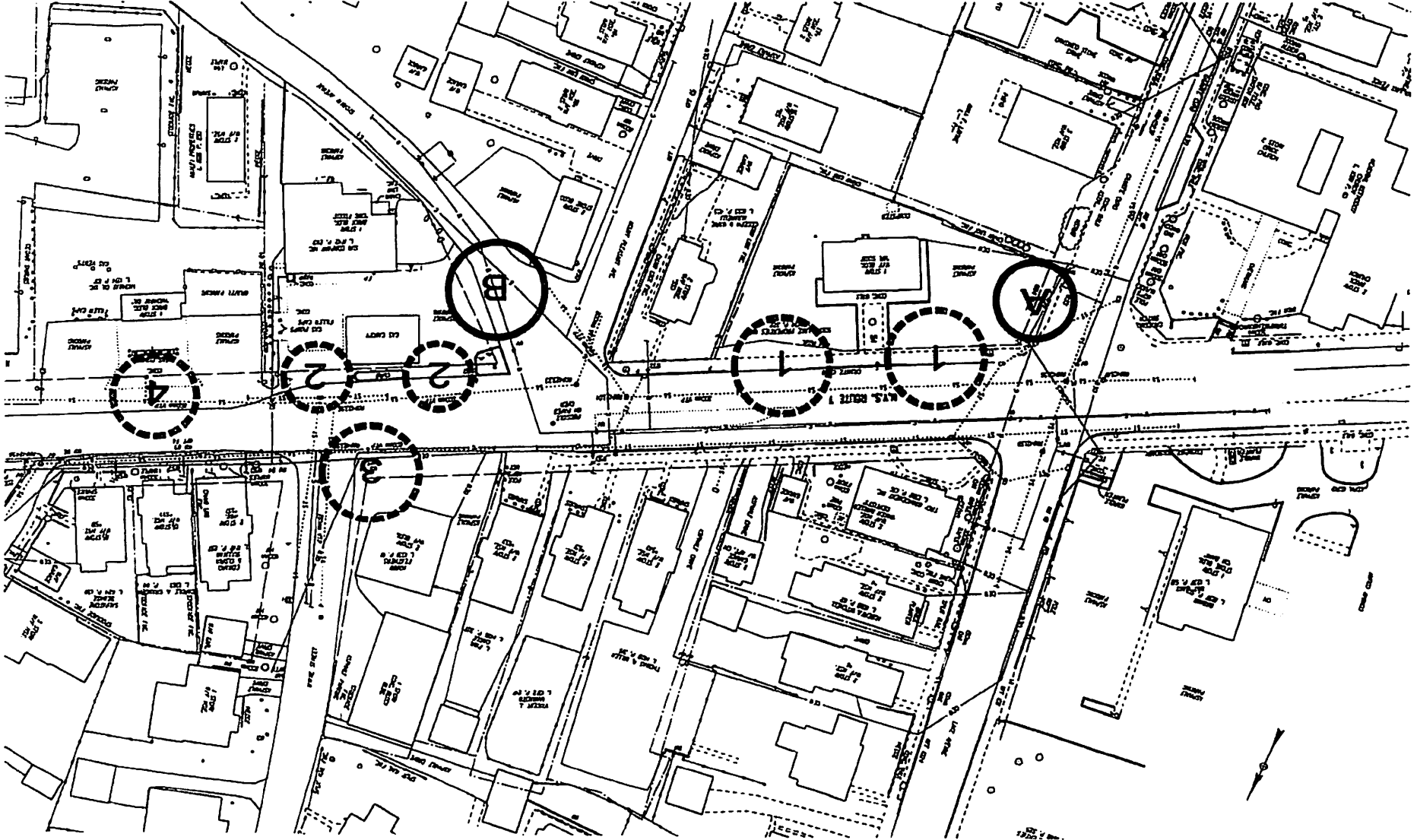
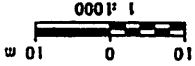
ARTERIAL/ACCESS MANAGEMENT STUDY
NYS ROUTE 7 GOODICK STJ
CITY OF TROY/TOWN OF BRUNSWICK
RENSSELAER COUNTY

CH2M
HILL
HARRISON
ASSOCIATES
LLP
ENGINEERING ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS
1100 WEST WASHINGTON ST. SUITE 1100
ALBANY, NY 12203
SCALE: AS SHOWN
FIGURE NO. 2-1

ACCESS MANAGEMENT
IMPROVEMENT
LOCATIONS
SEE TABLE 2-21



NON CONFORMING
LOCATIONS
DRIVEWAY ACCESS
SEE TABLE 2-11



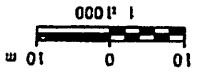
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NON CONFORMING
DRIVEWAY ACCESS
IMPROVEMENT
LOCATIONS
SEE TABLE 2-11



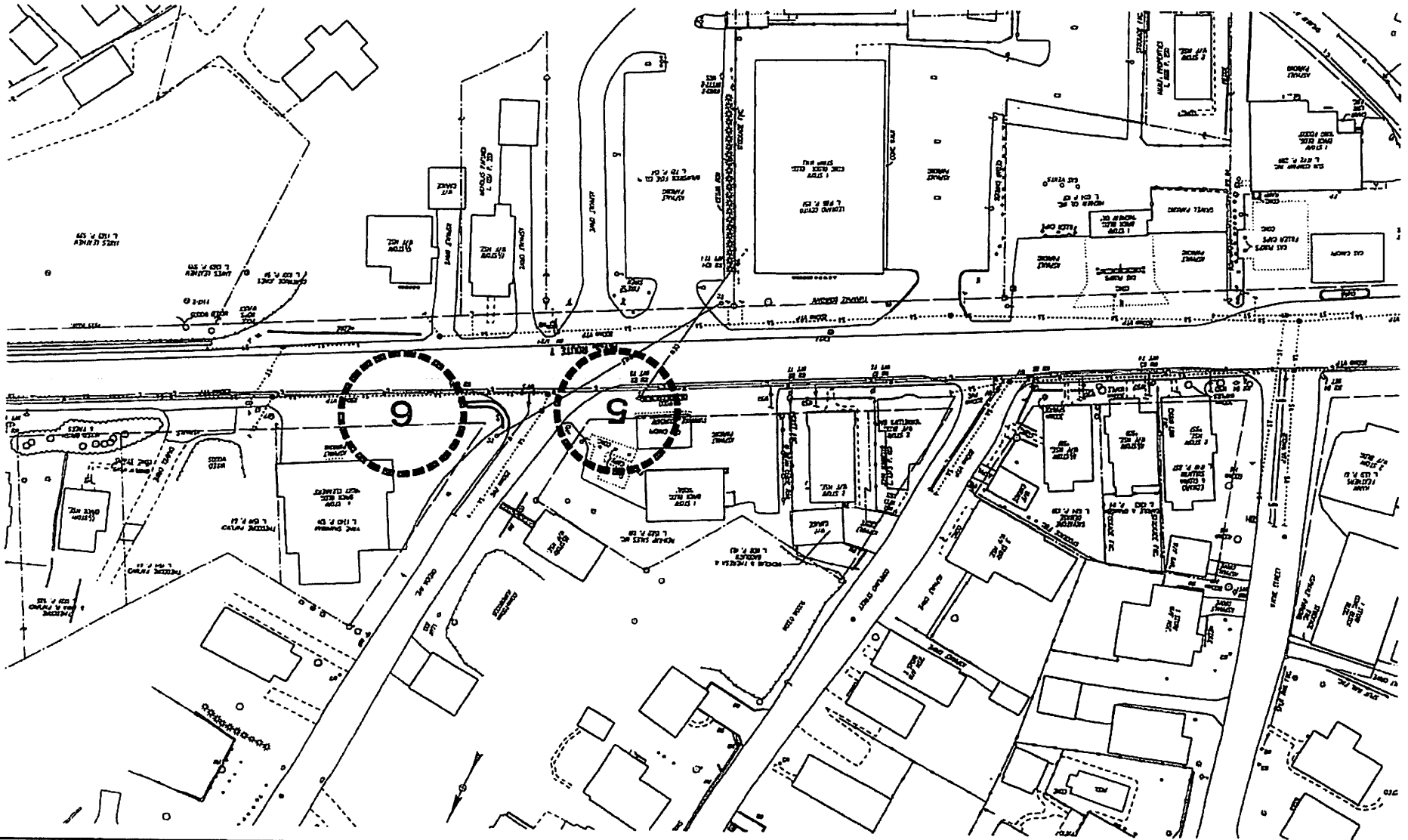
ACCESS MANAGEMENT
IMPROVEMENT
LOCATIONS
SEE TABLE 2-21

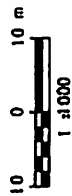
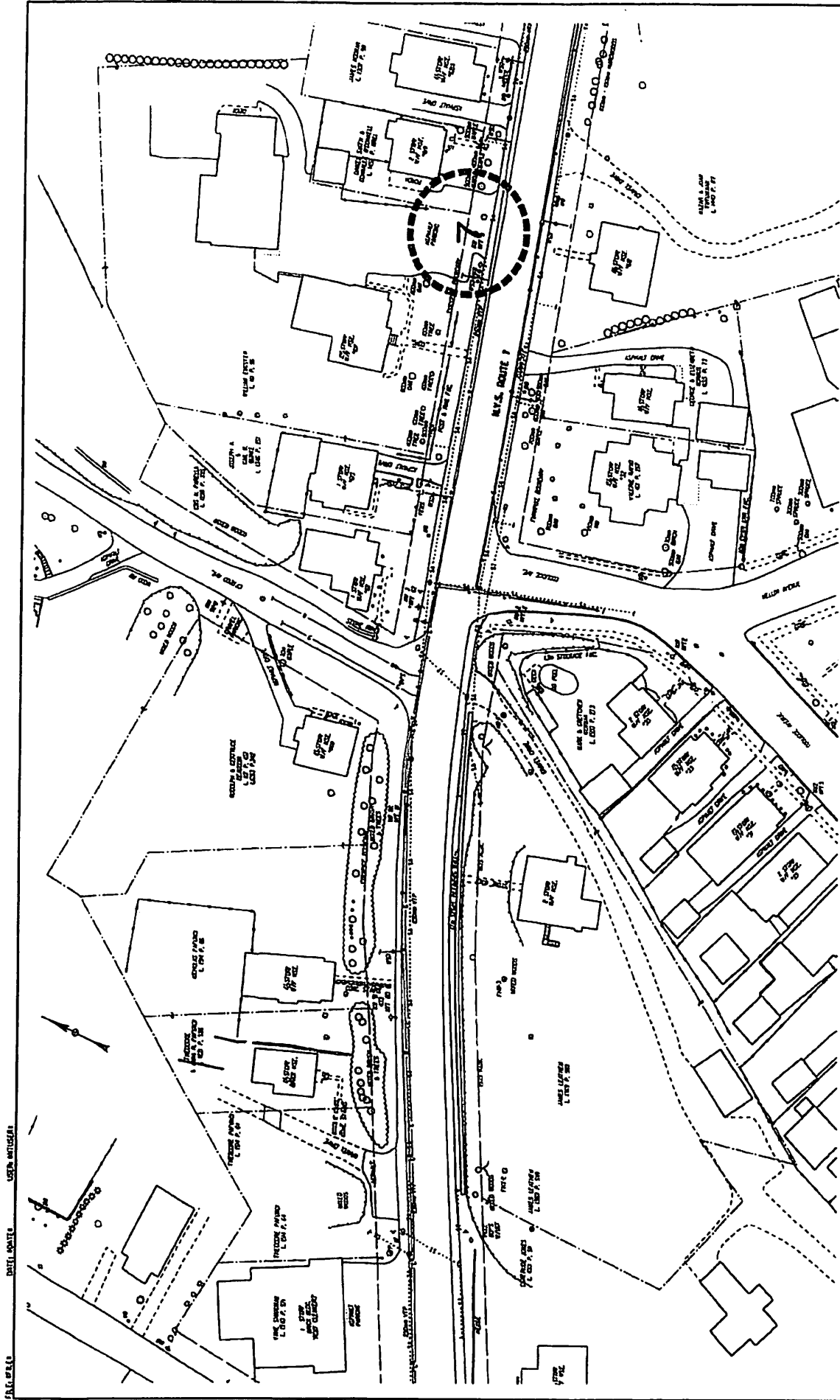


DRIVEWAY ACCESS IMPROVEMENT LOCATIONS

ARTERIAL/ACCESS MANAGEMENT STUDY
ANS ROUTE 7 GOODSICK ST.
CITY OF TROY/TOWN OF QUINCY
REMSSELAER V

CH2M HILL
CLOUGH, HARBOUR
& ASSOCIATES LLP
300 WEST WASHINGTON
ANN ARBOR, MI 48106-1500
SCALE: AS SHOWN
FIGURE NO. 2-2





HOW CONFORMING
DRIVEWAY ACCESS
LOCATIONS
SEE TABLE 2-11



ACCESS MANAGEMENT
LOCATION
SEE TABLE 2-21

DRIVEWAY ACCESS IMPROVEMENT LOCATIONS

ARTERIAL/ACCESS MANAGEMENT STUDY
 NYS ROUTE 7 CROSSICK ST.J
 CITY OF TROY/TOWN OF BRUNSWICK
 RENSSELAER COUNTY

CHA CLOUGH, HARBOUR
 & ASSOCIATES LLP
 CONSULTING PLANNERS
 111 WILMINGTON STREET, SUITE 200, ALBANY, NY 12206
 TEL: 518-869-1111 FAX: 518-869-1112

FIGURE NO. 2-3 SCALE: AS SHOWN

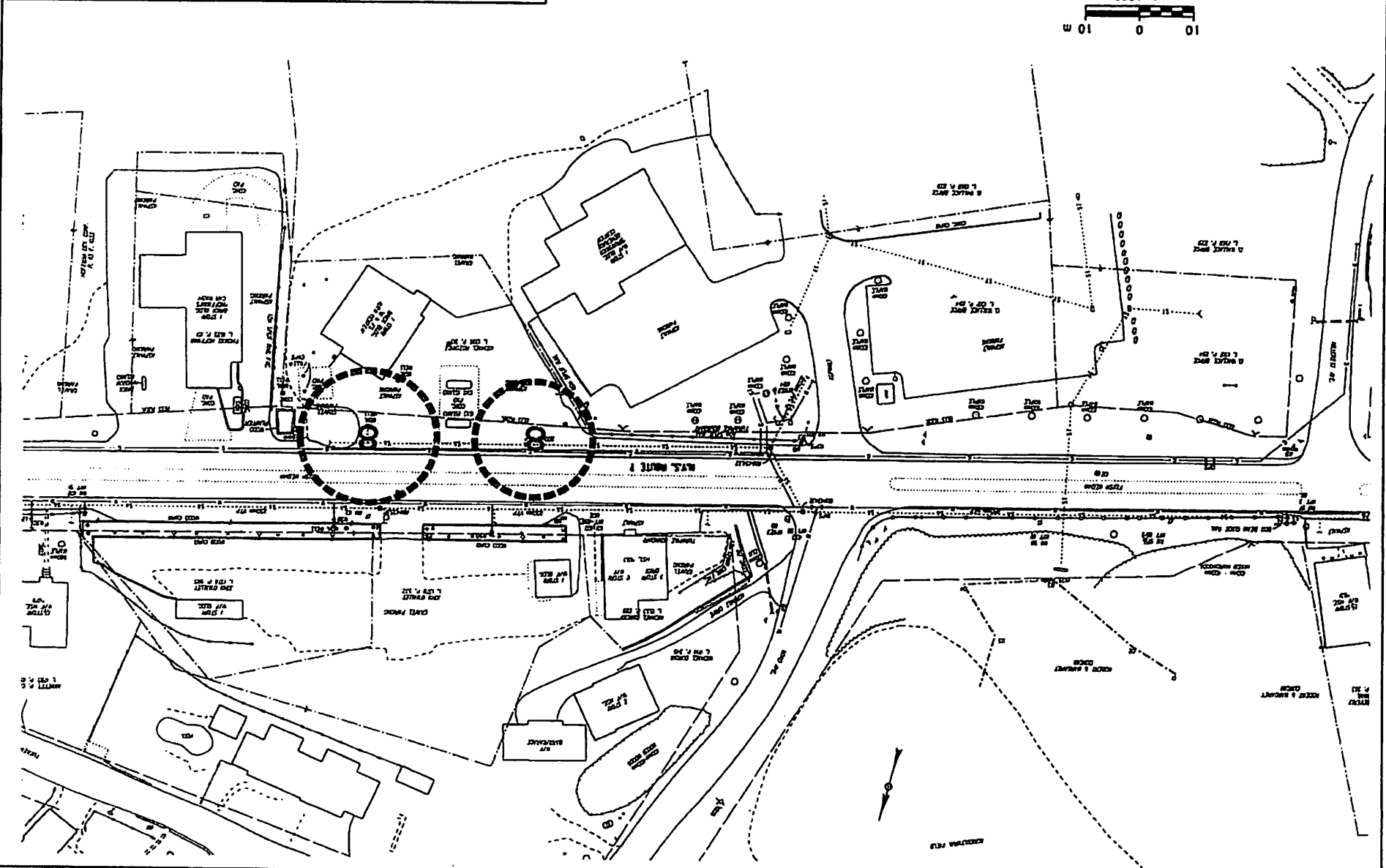
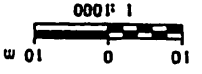
ARTERIAL/ACCESS MANAGEMENT STUDY
 NYS ROUTE 7 GOOD ST.
 CITY OF ROY/TOWN C. HSWICK
 RENSSELAER CO.

CH2M HILL
 CH2M HILL ASSOCIATES LLP
 SCALE: AS SHOWN
 FIGURE NO. 2-4

ACCESS MANAGEMENT
 LOCATION
 SEE TABLE 2-21



NON CONFORMING
 GENERAL ACCESS
 SEE TABLE 2-11

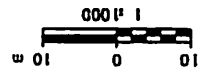




FOR CONFORMING
DRIVEWAY ACCESS
LOCATIONS
SEE TABLE 2-11



ACCESS MANAGEMENT
LOCATIONS
SEE TABLE 2-2



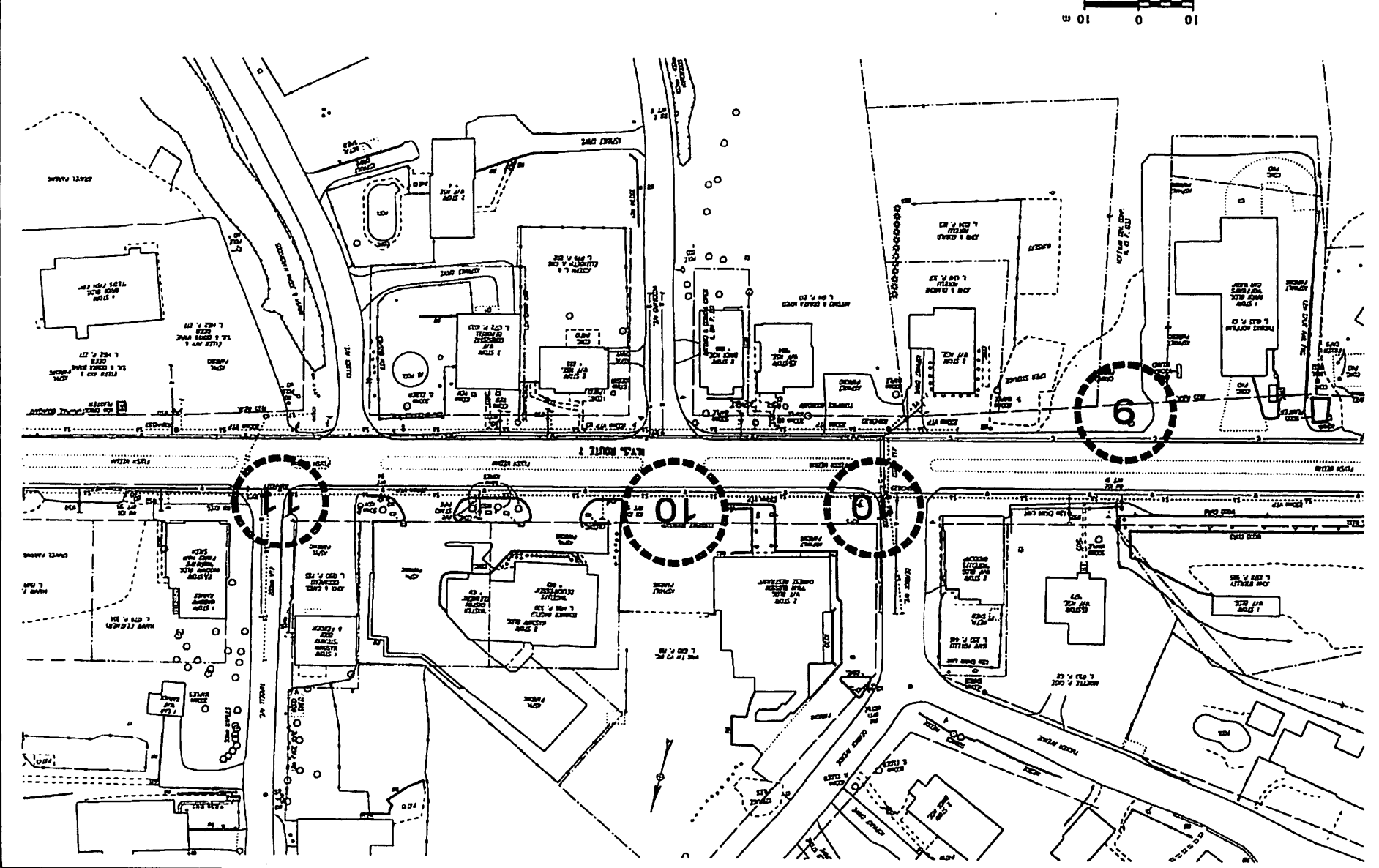
CH2
CLOUGH, HARBOUR
& ASSOCIATES LTD
CONSULTING ENGINEERS
1111 SANDHILL DRIVE
VANCOUVER, BC V6L 2R9

SCALE: AS SHOWN

FIGURE NO. 2-5

ARTERIAL/ACCESS MANAGEMENT STUDY
NWS ROUTE 7 GOODICK ST J
CITY OF TROY/TOWN OF BRUNSWICK
REMSELAER COUNTY

DRIVEWAY ACCESS IMPROVEMENT LOCATIONS



ARTRIAL/ACCESS MANAGEMENT STUDY
NHS ROUTE 7 CROSSING STJ
CITY OF TROY/TOWN OF LANSWICK
RENSSELAER L

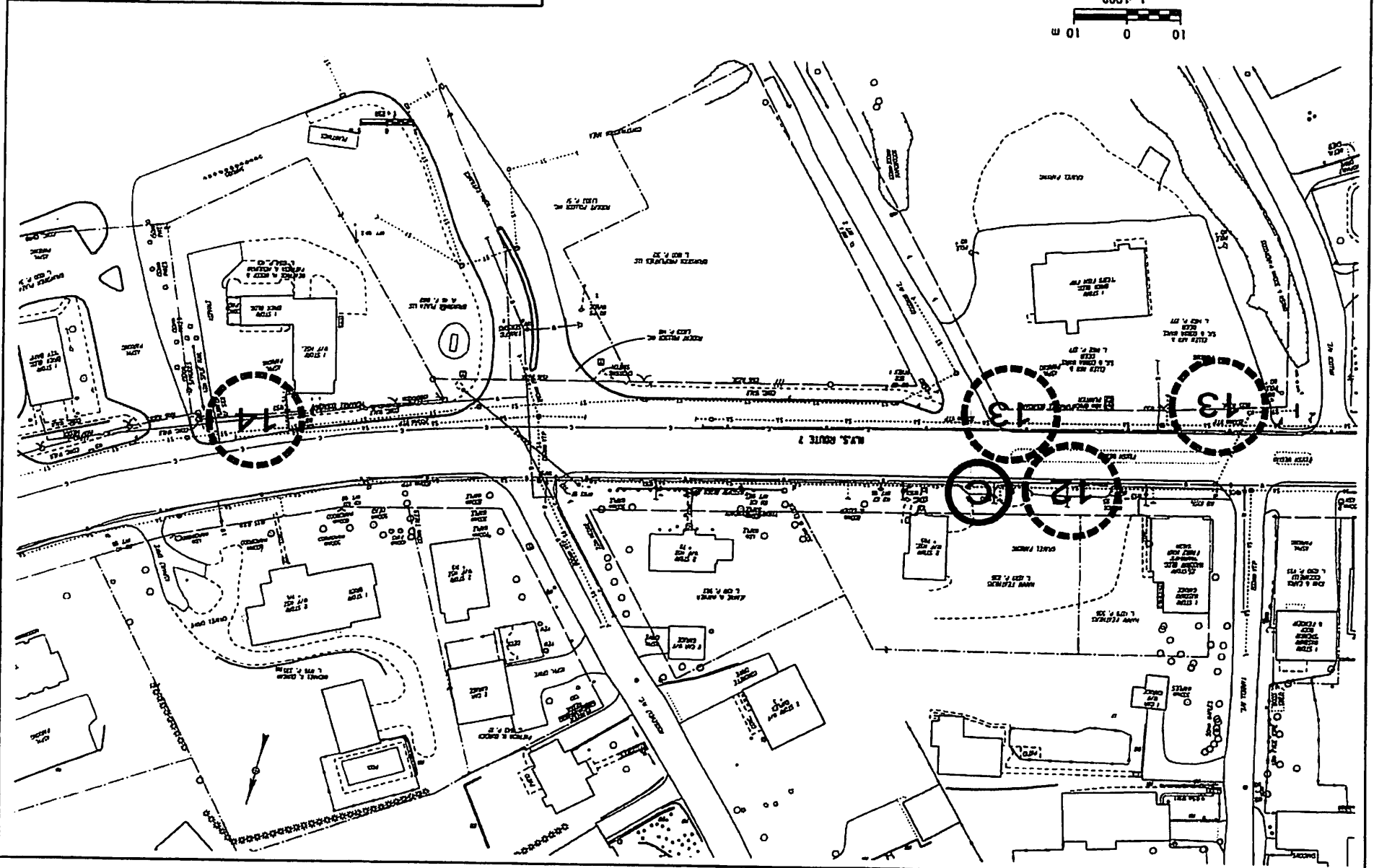
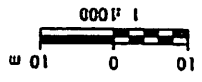
CH2M HILL
CLOUGH HARBOUR & ASSOCIATES LTD
PLANNING & DESIGN SERVICES
111 BRADLEY STREET, SUITE 200, TROY, NY 12180

SCALE: AS SHOWN
FIGURE NO. 2-6

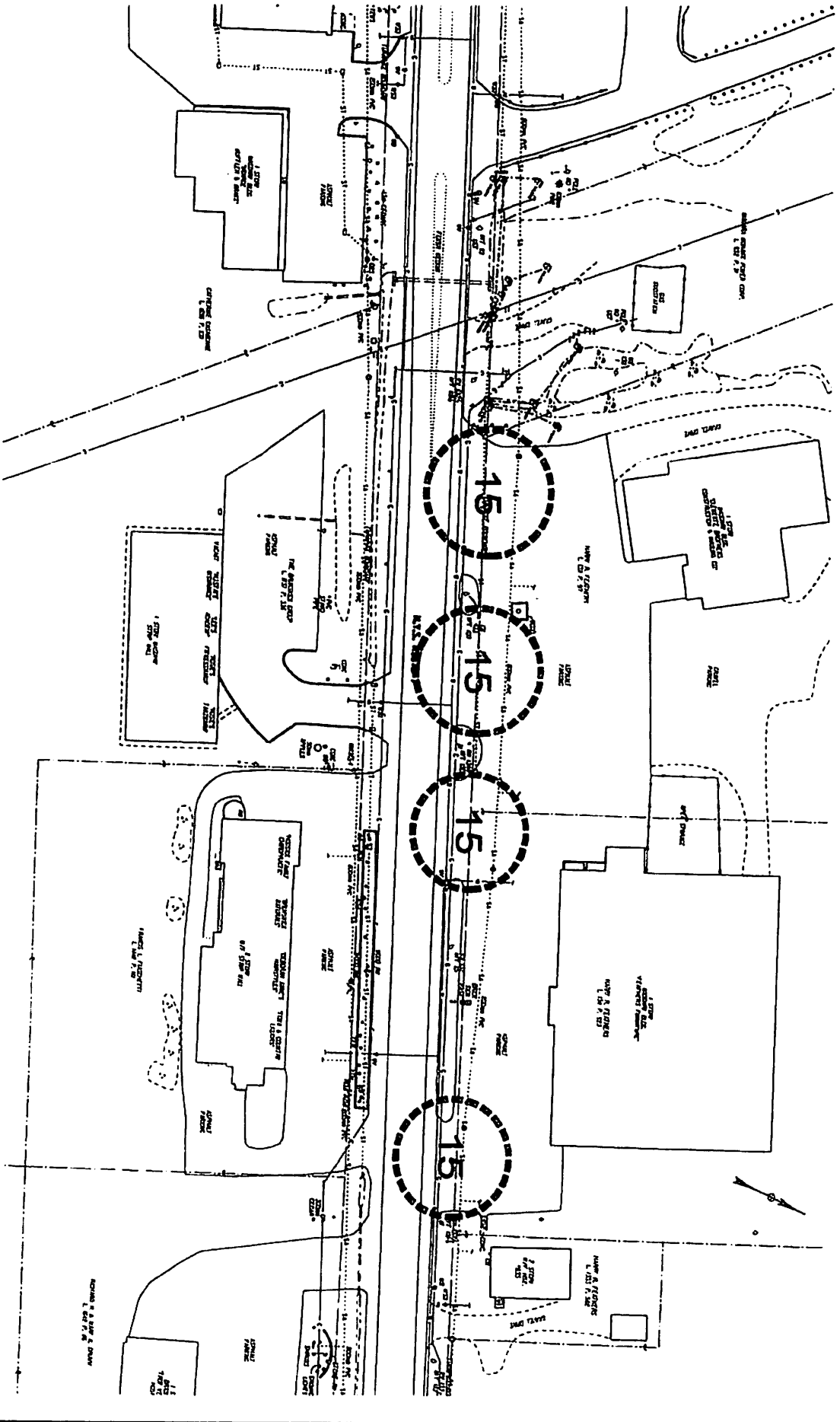
ACCESS MANAGEMENT
DEPARTMENT
SEE TABLE 2-21



NON CONFORMING
DRIVEWAY ACCESS
LOCATIONS
SEE TABLE 2-11



DATE: 08/11/10
UPON: 08/11/10



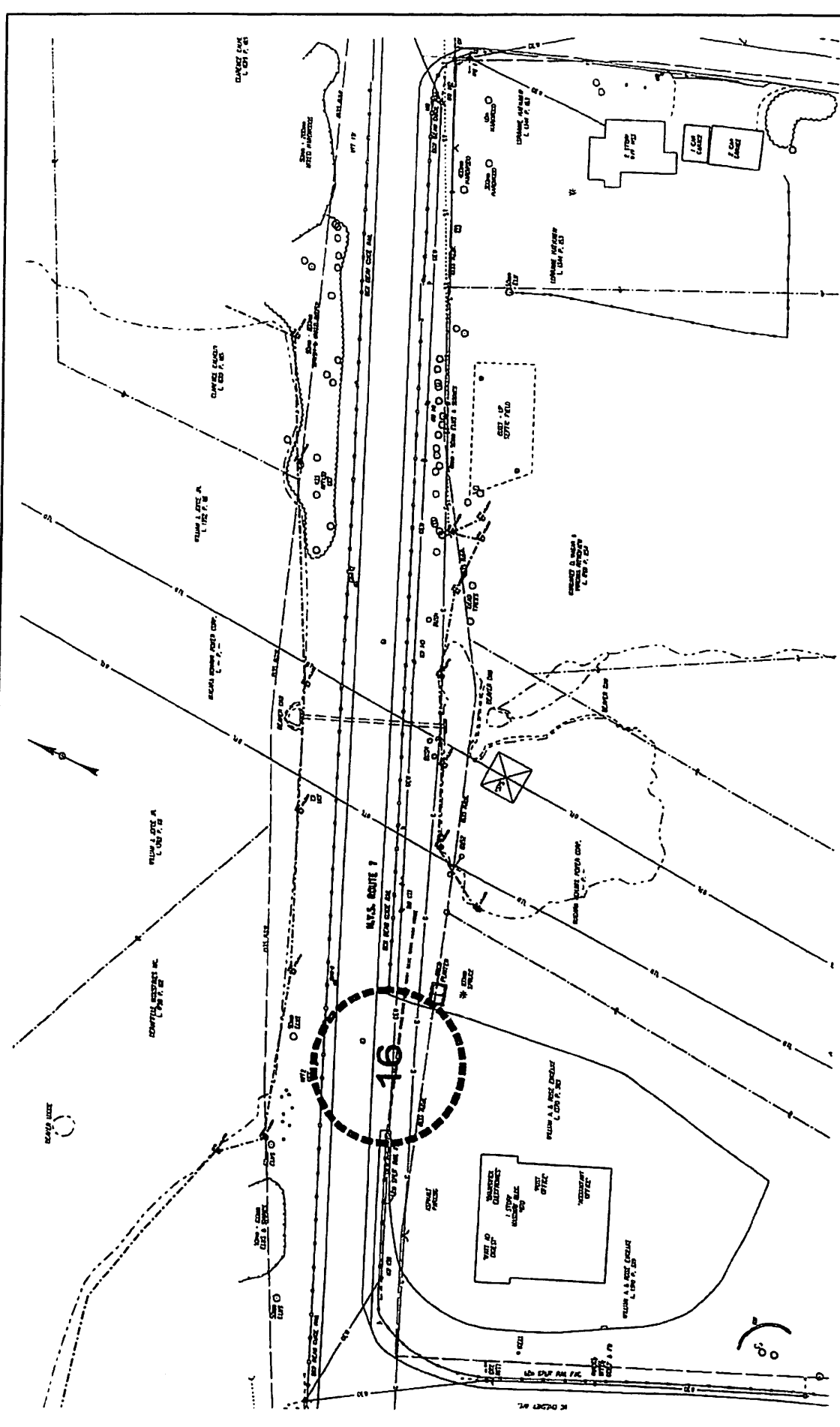
NON-CORPORATE
DRIVEWAY ACCESS
LOCATIONS
SEE TABLE 2-11



ACCESS MANAGEMENT
REQUIREMENT
LOCATIONS
SEE TABLE 2-20

<p>DRIVEWAY ACCESS IMPROVEMENT LOCATIONS</p>	
<p>CHA CLOUGH, HARBOUR S ASSOCIATES LLP CORPORATE PLANNING & LANDSCAPE ARCHITECTS 111 WASHINGTON STREET, SUITE 1200 NEW YORK, NY 10038</p>	<p>ARTERIAL/ACCESS MANAGEMENT STUDY NYS ROUTE 7 GOODICK ST. CITY OF TROY/TOWN OF BRUNSWICK RENSSELAER COUNTY</p>
FIGURE NO. 2-7	SCALE: AS SHOWN

DATE: 07/11/00 USER: RTH/SS/SL



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1:1000

DRIVEWAY ACCESS IMPROVEMENT LOCATIONS

CHA CLOUGH, HARBOUR & ASSOCIATES LLP
 CLARENCE HARBOUR, NEW YORK
 111 BRIDGE STREET, SUITE 200, NEW YORK, NY 10038

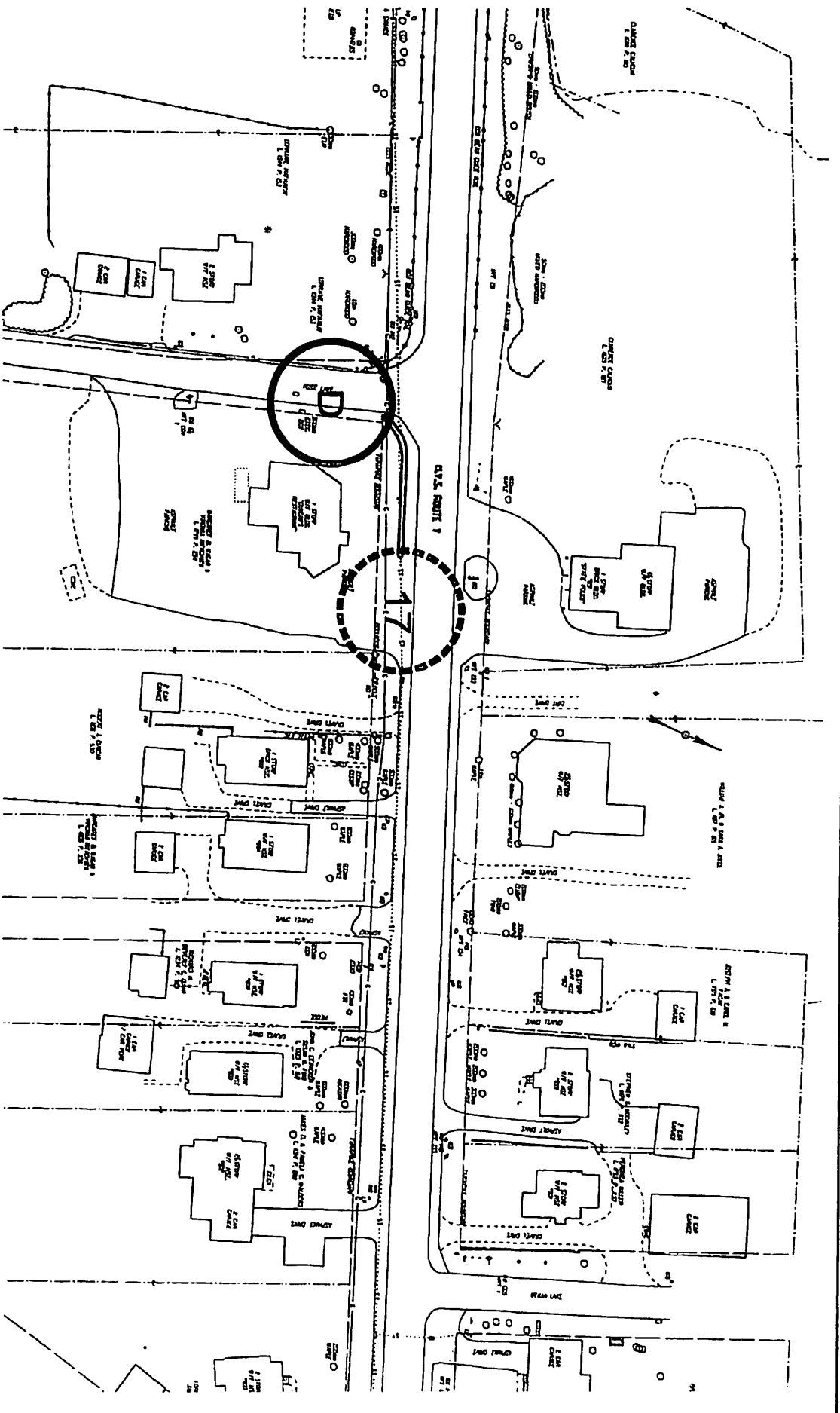
ARTERIAL/ACCESS MANAGEMENT STUDY
 NYS ROUTE 7 GOODRICK ST. J
 CITY OF TROY/TOWN OF UNSWICK
 RENSSELAER L.

FIGURE NO. 2-9 SCALE: AS SHOWN

1

NON CONFORMING DRIVEWAY ACCESS LOCATIONS (SEE TABLE 2-11)

(A) ACCESS MANAGEMENT IMPROVEMENT LOCATIONS (SEE TABLE 2-21)



NON-COMPLING
PRIVATELY ACCESS
LOCATIONS
SEE TABLE 2-11



ACCESS MANAGEMENT
IMPROVEMENT
LOCATIONS
SEE TABLE 2-21

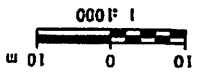
<p>CHA CLOUGH, HARBOUR & ASSOCIATES LLP CONSULTING ENGINEERS, PLANNERS & ARCHITECTS</p>	<p>DRIVEWAY ACCESS IMPROVEMENT LOCATIONS</p>	
	<p>ARTERIAL/ACCESS MANAGEMENT STUDY NYS ROUTE 7 HOOSICK ST J CITY OF TROY/TOWN OF BRUNSWICK RENSSELAER COUNTY</p>	
<p>FIGURE NO. 2-9</p>	<p>SCALE: AS SHOWN</p>	



NON CONGRUOUS
DRIVEWAY ACCESS
LOCATIONS
SEE TABLE 2-11



ACCESS MANAGEMENT
DEPARTMENT
LOCATIONS
SEE TABLE 2-21



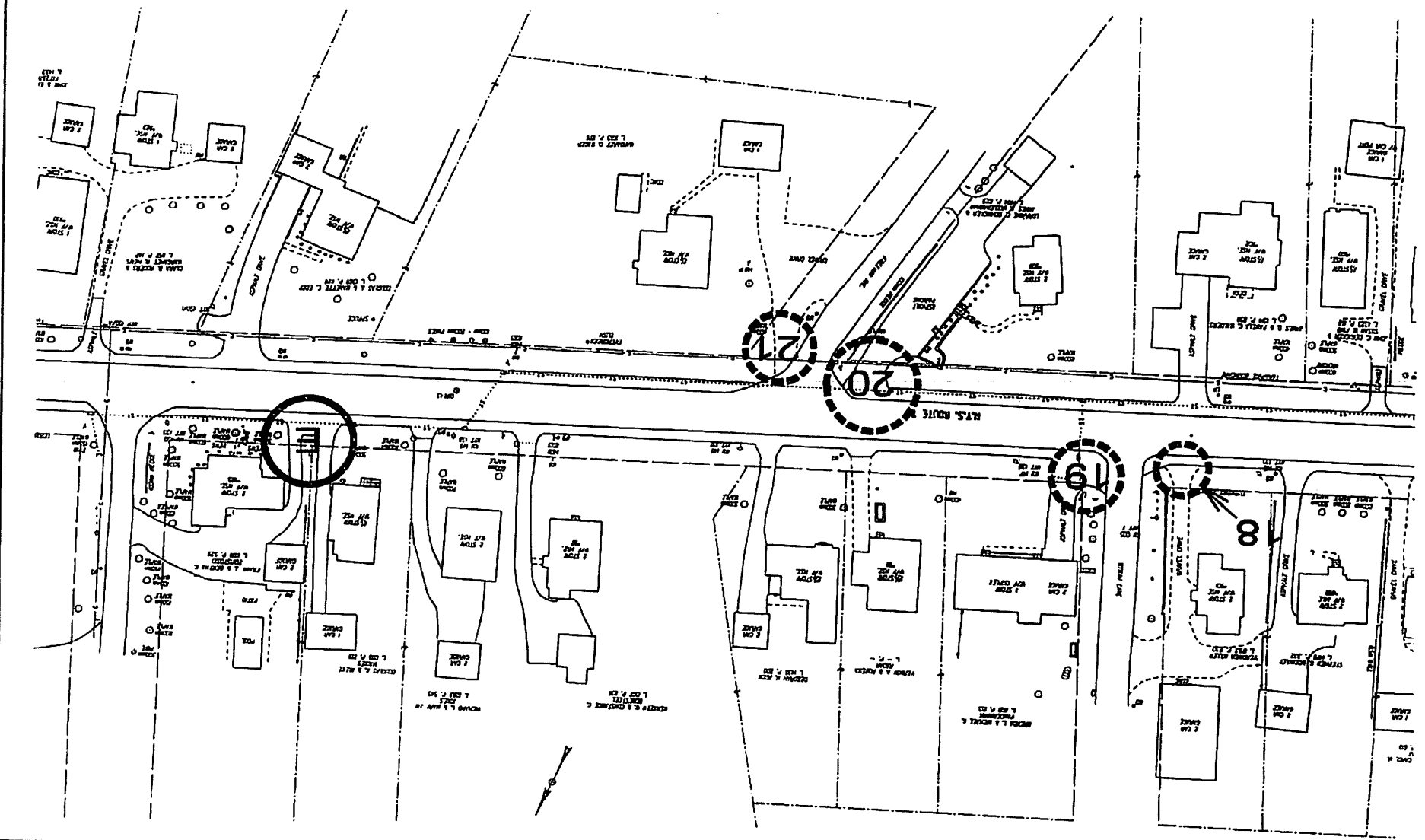
DRIVEWAY ACCESS IMPROVEMENT LOCATIONS

CH2
CROUCH, HARBOUR
& ASSOCIATES LLP
CONSULTING ENGINEERS AND ARCHITECTS
1111 SANDHILL DRIVE, SUITE 100, SAN FRANCISCO, CA 94133
SCALE: AS SHOWN

ARTERIAL/ACCESS MANAGEMENT STUDY
NWS ROUTE 7 OGDONICK ST.
CITY OF TROY/TOWN OF
RENSSELAER, NY

FIGURE NO. 2-10

SCALE: AS SHOWN

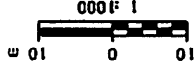




NON CONFORMING
DRIVEWAY ACCESS
LOCATIONS
SEE TABLE 2-1)



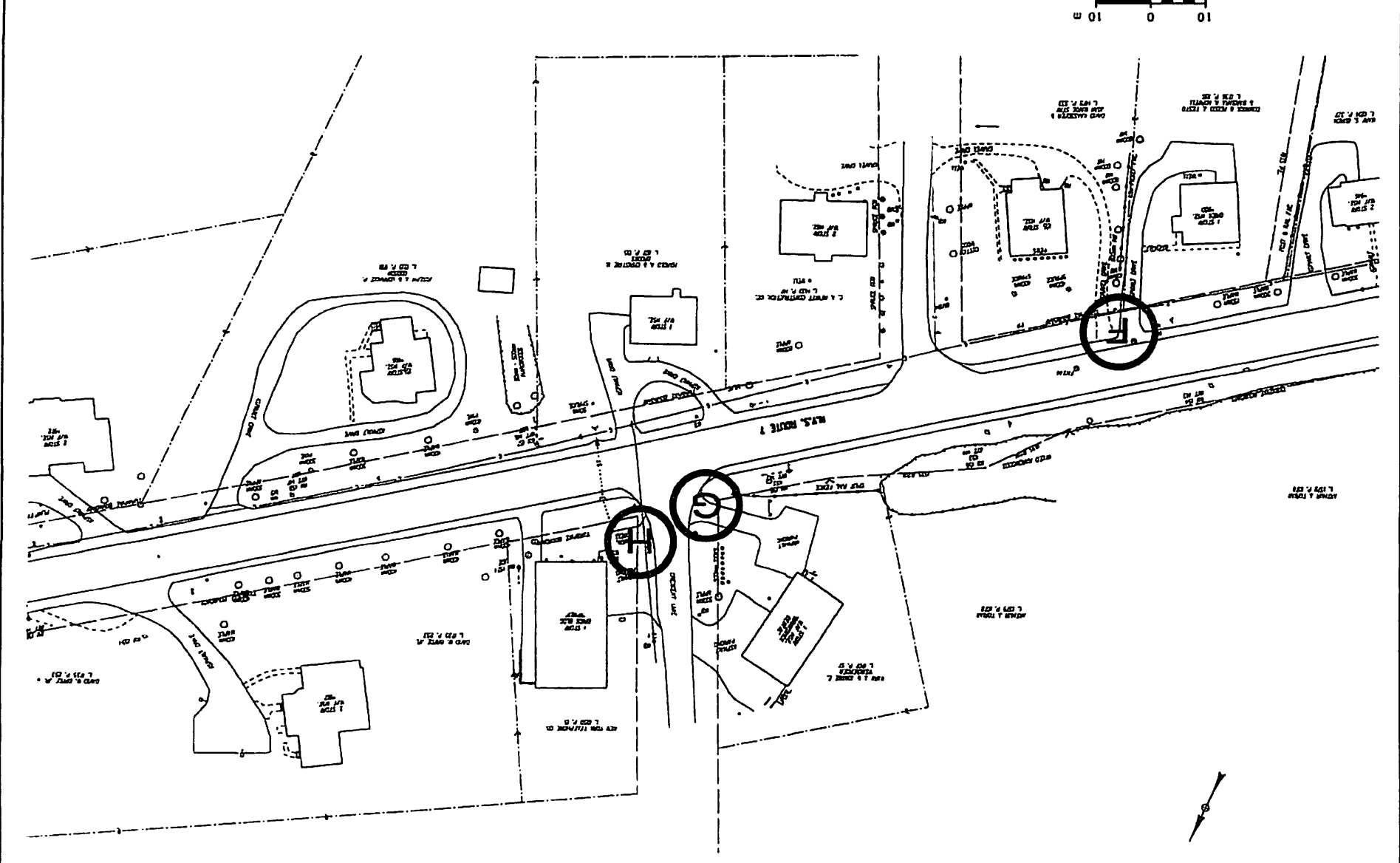
ACCESS MANAGEMENT
IMPROVEMENT
LOCATIONS
SEE TABLE 2-2)



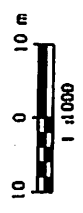
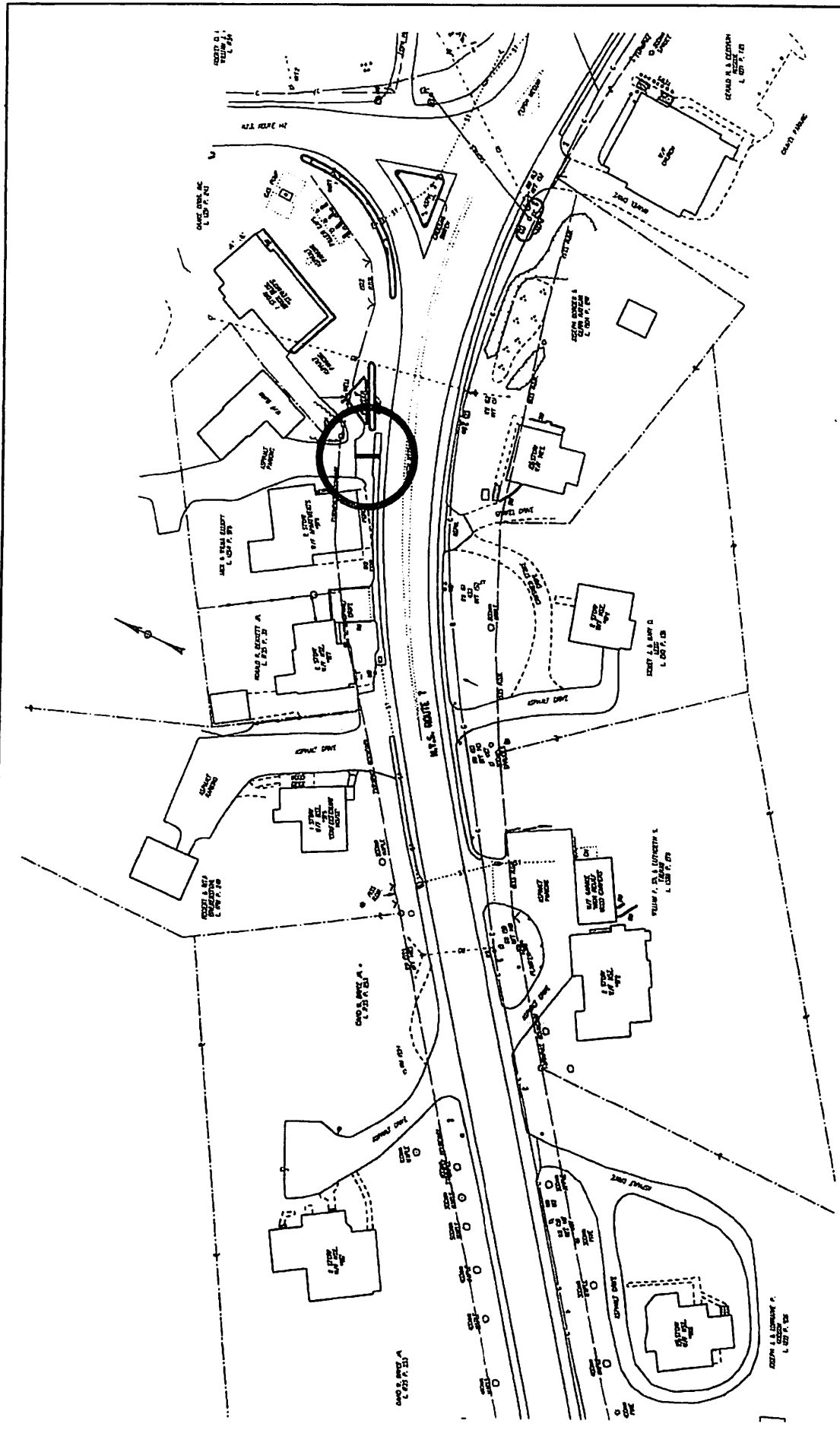
DRIVEWAY ACCESS IMPROVEMENT LOCATIONS

ARTERIAL/ACCESS MANAGEMENT STUDY
NYS ROUTE 7 GOOSICK ST.
CITY OF TROY/TOWN OF BRUNSWICK
RENSSELAER COUNTY

CH2M HILL
HARBOR ASSOCIATES LLP
ENGINEERING, ARCHITECTURE
& LANDSCAPE ARCHITECTURE
300 WEST WASHINGTON ST., SUITE 200
ALBANY, NY 12202
SCALE: AS SHOWN
FIGURE NO. 2-11



PLAN SHEET
DRIVEWAY ACCESS
GENERAL NOTES



NON CONFORMING
DRIVEWAY ACCESS
LOCATIONS
SEE TABLE 2-11



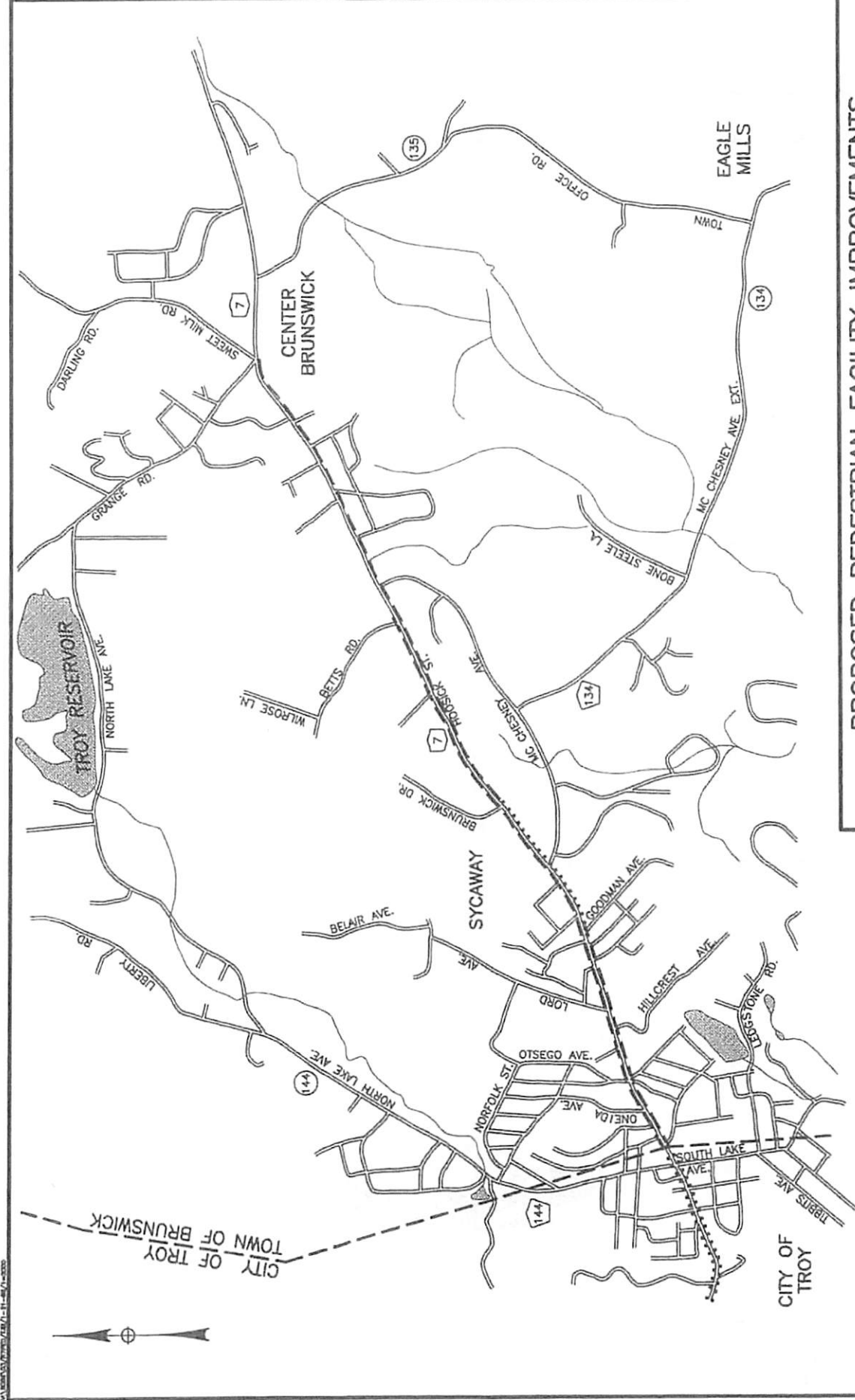
ACCESS MANAGEMENT
LOCATIONS
SEE TABLE 2-12

DRIVEWAY ACCESS IMPROVEMENT LOCATIONS

CHA
GLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, ARCHITECTS, PLANNERS
& LANDSCAPE ARCHITECTS
100 MARKET STREET
ALBANY, NEW YORK, 12242

ARTERIAL/ACCESS MANAGEMENT STUDY
NYS ROUTE 7 HOOSICK ST. J
CITY OF TROY/TOWN OF
RENSSELAER C

FIGURE NO. 2-17 SCALE: AS SHOWN



PROPOSED PEDESTRIAN FACILITY IMPROVEMENTS

ARTERIAL ACCESS MANAGEMENT STUDY
 NYS ROUTE 7 (HOOSICK RD.)
 CITY OF TROY/TOWN OF BRUNSWICK
 RENSSELAER COUNTY

CHA CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
 111 WINNERS CHIRCLE ALBANY, NEW YORK, 12208

FIGURE NO. 2-15 NOT TO SCALE

LEGEND
 EXISTING SIDEWALKS
 - - - - - PROPOSED SIDEWALKS

1/4" = 100' (VERTICAL SCALE)

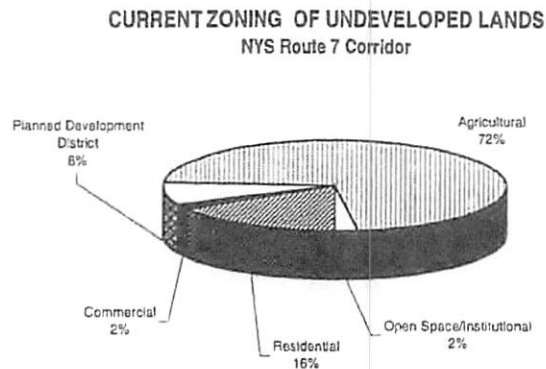
3.0 FUTURE DEVELOPMENT IMPACTS

Local zoning and land-use controls are fundamental to the implementation of an access management plan for the NYS Route 7 corridor. Policies and strategies to guide future development of undeveloped and/or redeveloped areas to integrate their access and circulation into the overall access management plan are key to maintaining the long-range viability of the corridor.

3.1 EXISTING ZONING

While the parcels directly abutting NYS Route 7 within the project limits are mostly developed, a significant land area remains undeveloped in the project area. Current zoning of the project area consists of residential, business and agricultural classifications. These zones are illustrated on Figure 3-1. The developed areas within the project area are illustrated on Figure 3-2, and include religious institutions, shopping centers, franchised and privately owned businesses, residential properties and agricultural use.

There are approximately 1,673 acres of undeveloped land within the general area of influence of the NYS Route 7 corridor. The primary zoning of the undeveloped lands is Agricultural (A-40), which constitutes approximately 72 percent of the total undeveloped lands in the area. The remaining 28 percent of the undeveloped parcels are comprised of Residential (R-40, R-25, R-15, R-9), Planned Development District (PDD), Open Space/Institutional (OSI) and Commercial (B-15) zones. The composition of these zoning districts are shown below.



It is noted that residential developments with minimum lot sizes of 40,000 square feet are permitted principal uses within the Town's current zoning regulations for Agricultural districts (A-40). This could potentially result in the development of more than 1,100 additional residential units in the project area beyond those that could be developed in the residential zoning districts. The combined potential for new residential development in the project area exceeds 1,700 units. This potential further highlights the need for developing a comprehensive access management plan to establish an appropriate secondary roadway system to accommodate this traffic and to manage the connection of this secondary system with the Route 7 arterial.

3.2 REGIONAL CORRIDOR MANAGEMENT STRATEGY

It is noted in CDTC's Regional Transportation Plan Report that the region's arterial roadway system has not been expanded to respond to the level of development that has occurred in the past several decades, which has resulted in inadequate arterial spacing.¹¹ This limitation of the regional transportation system also places conflicting demand on those arterial roadways that exist to service local access needs as well as their primary function, which is to serve through traffic. A study was undertaken by the CDTC to assess the general quality of the Capital District area's arterial system through an inventory of the driveway characteristics abutting the region's arterials.¹²

A product of this study was the development of performance measures relating to the functionality of the arterials within the system. One of these measures is a *Conflict Index* rating that reflects the extent of conflict within the traffic stream as related to the frequency of driveways and the volume of traffic. A second index was also developed that reflects the relative compatibility between arterial function and the adjacent land uses. These Level of Compatibility (LOC) thresholds correlate generally to the familiar "A" to "F" *Level of Service* (LOS) concept for evaluating and rating facility operating conditions. An LOC rating of "A" represents a facility where the function of the arterial is not affected by access to adjacent land uses, whereas an LOC rating of "F" represents an arterial where through movement along the arterial and/or access to adjacent uses are not functional. These Traffic Conflict Index and Level of Compatibility (LOC) thresholds for residential and commercial corridors are described in Table 3-1.

**Table 3-1
Traffic Conflict Index and Level of Compatibility Threshold Descriptions**

Residential Use / Traffic Conflict	Conflict Index **	Level of Compatibility Rating
No conflict: no residential use or no traffic	0 – 4.9	A
Little residential use or modest traffic	5 – 9.9	B
Both traffic and residential use noticeable; a concern	10 – 24.9	C
Significant conflict between traffic and residential use	25 – 49.9	D
Continued residential use may be unsatisfactory	50 – 99.9	E
Continued residential use may not be possible	100 +	F
<i>** Conflict Index = Average Annual Daily Traffic (AADT) ÷ Average Distance (feet) between Driveways</i>		
Arterial / Land Access Conflict	Conflict Index **	Level of Compatibility Rating
Arterial function not affected by access	0 – 9.9	A
Aware of turning traffic, but not an issue	10 – 19.9	B
Access traffic noticeable; a concern	20 – 44.9	C
Frequent conflict between access and through traffic	50 – 99.9	D
Persistent conflict between access and through traffic	100 – 199.9	E
Either access or through movement not functional	200 +	F
<i>** Conflict Index = Average Annual Daily Traffic (AADT) ÷ Average Distance (feet) between Driveways</i>		

Source: *Development of an Arterial Corridor Management Strategy for the Capital District*, CDTC, 1995

The Conflict Index reflects the relationship between traffic volume on an arterial segment and the number of driveways (either residential or commercial) within the same segment. This relationship is expressed as the Annual Average Daily Traffic (AADT) divided by the average distance (in Feet) between driveways (either residential or commercial) per mile. The CDTC report identifies a LOC "D" as the threshold of acceptable conflict between arterial function and adjacent commercial or residential land uses.

The NYS Route 7 corridor was included in the CDTC study of the region's arterial roadways. Table 3-2 summarizes the Conflict Index and LOC ratings of the arterial segments within the project area.

**Table 3-2
Conflict Index & Level of Conflict Ratings**

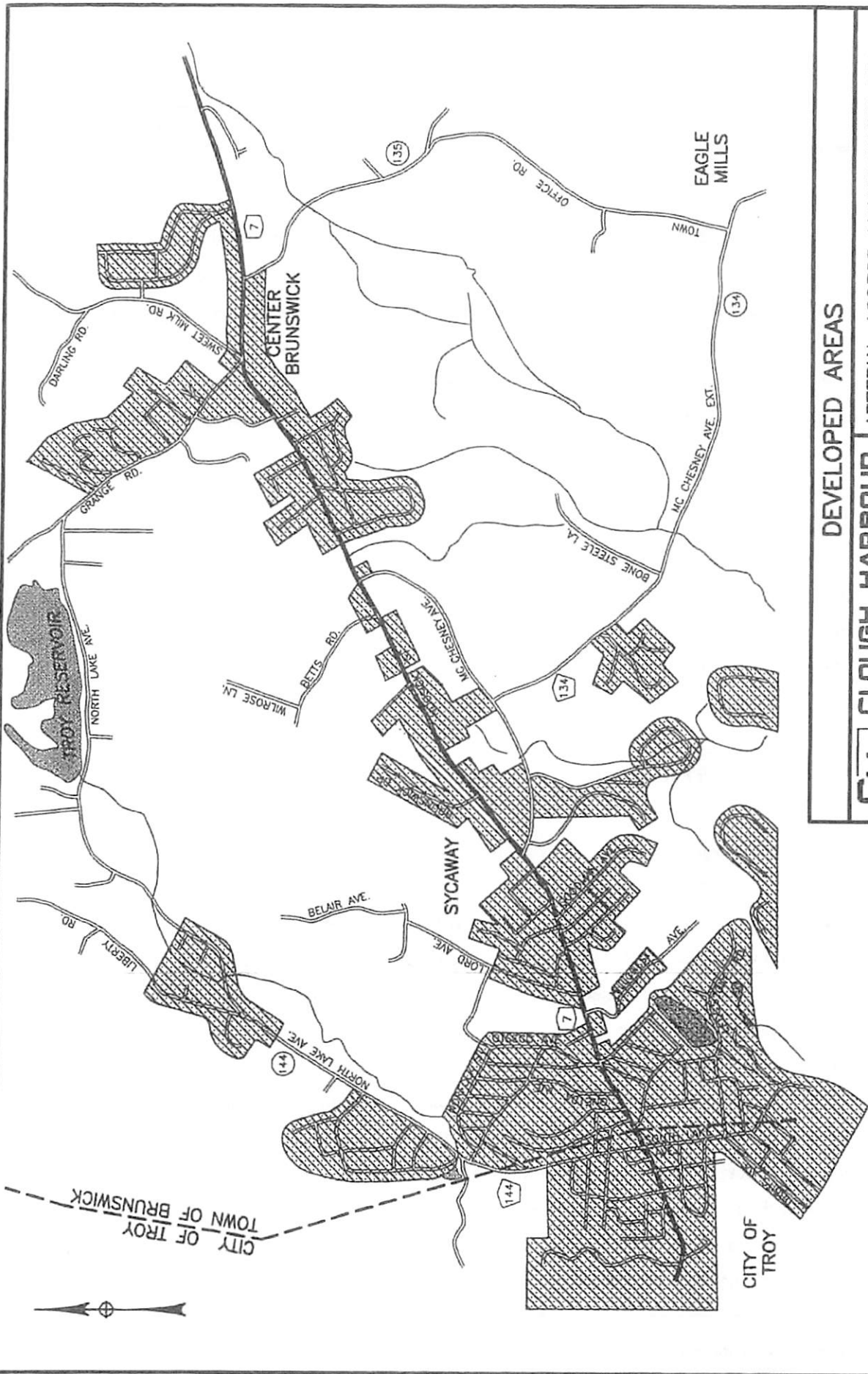
Arterial Section	1995 Existing Conditions				2015 Estimated Conditions			
	Residential		Commercial		Residential		Commercial	
	Index	LOC	Index	LOC	Index	LOC	Index	LOC
Lake Ave to McChesney Ave	46	D	69	D	22	C	184	E
McChesney Ave to NYS Route 142	65	E	51	D	33	D	134	E

Source: *Land Use/Traffic Conflict Inventory and Measurement*, CDTC, December 1995

It is noted that the assumptions of the CDTC study include a future decrease in the number of residential driveways in the NYS Route 7 corridor, reflecting a transition from rural-residential to suburban-commercial uses. The improved LOC indicated for year 2015 Residential conditions is therefore indicative of an anticipated decrease in residential use abutting the corridor rather than representing the corridor as becoming more compatible for adjacent residential use. However, these indices also demonstrate the effect of increasing densities of commercial driveways on the quality of the arterial.

These indices suggest that the conflict between mobility through the corridor and access to adjacent uses will become persistent if access management strategies are not implemented. As noted in *Best Practices in Arterial Management*, the inability of an arterial to adequately serve the functions of land access and through traffic may result in negative economic impact to the area.

W:\MVA\27054\787\1-21-08\71-2026



LEGEND
 [Hatched Box] EXISTING DEVELOPED AREAS

DEVELOPED AREAS

CHA
 CONSULTING ENGINEERS & ARCHITECTS
 110 WEST 42ND STREET
 10TH FLOOR
 NEW YORK, NY 10018
 TEL: 212-512-2000
 FAX: 212-512-2001
 WWW.CHACONLINE.COM

ARTERIAL ACCESS MANAGEMENT STUDY
 NYS ROUTE 7 (HOOSICK ST.)
 CITY OF TROY/TOWN OF BRUNSWICK
 RENSSELAER COUNTY.

FIGURE NO. 3-- NOT TO SCALE

4.0 RECOMMENDED ACCESS MANAGEMENT STRATEGIES

The analyses of existing and projected future conditions demonstrate the need and opportunities for application of access management strategies in the NYS Route 7 corridor. Where applicable, these strategies are included in the NYSDOT highway reconstruction project. These short-term access management initiatives include improvements to property access, intersection alignments and pedestrian facilities. Recommended strategies have also been developed to address long-term management of access in the corridor. These long-term strategies include recommendations for future improvements such as new collector roads, consolidation of access, shared parking and policies dealing with planning/justification for future signals.

As noted at a local Transportation Planning Workshop sponsored by CDTC ¹³, the benefits of an implemented access management plan include: (1) preservation of highway capacity, (2) providing access to surrounding activity centers, and (3) improved highway safety. These benefits also serve to enhance the economic viability and livability of the communities where arterial management policies are applied.

4.1 LONG-TERM ACCESS MANAGEMENT INITIATIVES

Long-term management initiatives for the NYS Route 7 corridor include actions that will require cooperation and consensus building among the affected property owners, the Town and the NYSDOT. To some extent, the implementation of these initiatives will be dependent on specific development proposals as they occur. Included in the long-term plan are recommendations for: (1) future traffic signal placement, (2) service road interconnections between properties, (2) develop shared parking areas and consolidated driveways, and (3) local road alignments and connections. These initiatives also involve guiding principles for incorporating future development into the plan, such as: (1) zoning and project review, (2) future collector/distributor roadways, and (3) pedestrian connections between the various activity centers in the corridor. A concept plan for long-term access management along the NYS Route 7 corridor is presented on Figures 4-1 through 4-5. This concept plan illustrates the basic structure envisioned for future access and circulation through the project area. It is noted that many options are available within this plan concept for future refinement of the design details as the plan is implemented. Elements of this long-term plan are discussed in the following sections.

4.1.1 Future Traffic Signal Locations

The locations and operations of traffic signals have significant impact on the progressive movement of traffic along NYS Route 7. The locations of future signalized intersections therefore constitute a primary element of the long-term plan. This element also guides other recommendations for access/service road connections and for future collector roadways.

As discussed previously, a primary factor relating to traffic signal placement is travel speed, as it relates to progression of traffic platoons in a coordinated signal system. It is noted that the recommended signal locations are predicated on the premise that, as development occurs in the area over time, there will be a natural tendency for traffic speeds in the corridor to moderate. For planning purposes, it is assumed that the existing 45 mph speed limit in the easterly section of the study area (*Gregory Chrysler & Jeep* to Route 142) will be lowered in the future to provide a uniform 40 mph speed limit from Hillcrest Avenue to NYS Route 142. The existing 30 mph limit from Hillcrest Avenue west through the City of Troy is assumed to remain.

As noted in Section 2.0, the locations of existing traffic signals in the project area do not provide optimum bandwidth utilization for traffic progression on Route 7. Furthermore, it is determined that providing traffic signals in the corridor that would be optimally placed would not be compatible with the locations of existing intersecting roadways within the corridor. Recognizing the expense and community disruption associated with an effort to relocate these roadways, this option was discounted for further consideration. Therefore, considerations for potential future signalized access in the corridor have been evaluated to preserve the minimum bandwidth for progression of traffic (i.e., 40-45 percent of the cycle length).

In reviewing the existing signal placements, it is evident that the existing cluster of signals at the intersections of Brunswick Plaza/Roosevelt Street, McChesney Avenue (west) and Walmart Plaza/Brunswick Drive impair the ability to provide the minimum recommended bandwidth for efficient traffic progression on Route 7. Based on a review of these conditions, the future removal of the signal at McChesney Avenue (west) is recommended.

Another criteria that was considered in identifying locations for future traffic signals was the potential for providing public access to the signal from both sides of Route 7. Based on these evaluations, it is recommended that future signal control be provided at the following intersections:

- NYS Route 7 & Lord Avenue
- NYS Route 7 & Betts Road
- NYS Route 7 & Keyes Lane
- NYS Route 7 & Town Office Road

The recommended future signal locations are illustrated on Figure 4-6. It is noted that the installation of any future traffic signals is contingent on conditions meeting the minimum warrants of the New York State Manual of Uniform Traffic Control Devices. It is also noted that this recommended signal location plan does not necessarily preclude signals at additional locations along the arterial. However, any additional signals should be considered/permitted only upon demonstration of an engineering study that their operation will maintain the progression bandwidth on Route 7 and that providing vehicle access to a signal location identified in this plan is not feasible.

4.1.2 Local Road Realignment

The NYSDOT highway reconstruction project includes the realignment of the intersection of Otsego Avenue, Coolidge Avenue and NYS Route 7 to remove the existing offset condition. This improvement will promote traffic flow along the corridor by consolidating access locations and reducing overlapping conflicts of turning traffic. Another location where operations could be benefited by a similar realignment is the intersection of Mount Pleasant Avenue, Sycaway Avenue and Route 7. This intersection currently has an undesirable multi-leg configuration in which Sycaway Avenue and Mount Pleasant Avenue intersect Route 7 at essentially the same point. This geometry allows numerous conflict points among vehicles traveling through the intersection. A potential improvement at this intersection involves the realignment of Mount Pleasant Avenue to create a separate 3-leg intersection with Sycaway Avenue, south of Route 7. This improvement had been previously proposed for inclusion in NYSDOT's reconstruction project, but has been deferred in response to community concerns. However, opportunities for future improvements at this location should be considered if safety problems become evident and/or when conditions are conducive to their implementation.

Other streets have been identified on Figures 4-1 through 4-5 where future realignments are recommended to expand the utilization of the controlled access to Route 7 at the proposed signalized intersections. These realignments will improve accessibility to the arterial from existing residential districts and will also improve traffic flow along Route 7 by consolidating the points of conflict with turning vehicles. Locations where future road connections/realignments could be implemented include: a) Hillcrest Avenue, b) McChesney Avenue, c) Betts Road, d) Keyes Lane, and e) Sweet Milk Creek Road.

a) Hillcrest Avenue

The proposed traffic signal plan for the corridor includes locating a future traffic signal at the intersection of NYS Route 7 and Lord Avenue. This intersection is approximately 95 meters east of Hillcrest Avenue. In order to provide access to the signal at Lord Avenue from the residential developments on the south side of Route 7, it is recommended that a connection be provided from Hillcrest Avenue to Route 7 opposite Lord Avenue. A suggested alignment for this connection is illustrated on Figure 4-1.

b) McChesney Avenue

The intersection of McChesney Avenue (west) and NYS Route 7 has been identified as a location where the existing traffic signal control should be removed in order to improve the traffic signal spacing along Route 7. However, the removal of this signal will affect the access to Route 7 from residential developments along McChesney Avenue and McChesney Avenue Extension. In order to continue to provide a signal controlled access from these residential areas to Route 7 it is recommended that a collector road/realigned McChesney Avenue be constructed to connect to the Brunswick Plaza development. It is noted that the traffic volume patterns on McChesney Avenue and Brunswick Plaza are complimentary to each other in that the highest volume exiting McChesney Avenue (west) onto Route 7 is during the weekday a.m. peak hour. This is a time when little traffic is generated by the Brunswick Plaza retail site. This situation will improve the utilization of the signalized access to Route 7 while also improving the spacing of signals on Route 7. A suggested alignment of this road is illustrated on Figures 4-1 and 4-2.

c) Betts Road

The intersection of Betts Road and NYS Route 7 has been identified as a location for a future traffic signal, when conditions meet the signal warrant criteria. The current alignment of Betts Road intersects NYS Route 7 at an angle of approximately 65 degrees. This alignment is generally undesirable in that it reduces the efficiency of turning movements at the intersection. Angled intersections can also reduce visibility at the intersection, particularly for trucks. To improve the efficiency of operations at this intersection, particularly when controlled by a traffic signal, it is recommended that Betts Road be realigned to provide a perpendicular intersection with NYS Route 7. A possible realignment is illustrated on Figure 4-3.

The realignment of Betts Road, and future signalization of this intersection also presents an opportunity to extend Betts Road to the south, forming a fourth leg to the intersection. This extension of Betts Road, in conjunction with service road and access connections described in subsequent sections of this report, would provide signalized access to Route 7 from the commercial properties along Route 7 and land uses in the McChesney Road area. A concept for this extension of Betts Road is shown on Figure 4-3.

d) *Keyes Lane*

The proposed future installation of a traffic signal at the intersection of Keyes Lane and NYS Route 7 will provide a mechanism for signal-controlled access from land uses on the south side of the corridor. With the implementation of access connections between existing residential developments, this signalized intersection could assist in providing access to Route 7 from properties abutting Rose Lane, Freeman Avenue, Keyes Lane and Evergreen Road.

The installation of a traffic signal at Keyes Lane also presents the possibility of providing signalized access to Route 7 from properties on the north side of the arterial. The extension of Keyes Lane to form a fourth leg to the intersection can provide connections to a future service road that, in turn would provide alternative, signalized access for properties along Arminghall Drive and Crescent Lane. A suggested alignment of this extension of Keyes Lane is shown on Figure 4-4.

e) *Sweet Milk Creek Road*

The existing layout of Sweet Milk Road intersects NYS Route 7 approximately 35 meters east of the signalized intersection of NYS Route 7 and NYS Route 142. This short intersection spacing is below the recommended minimum distance, and places the intersection within the area influenced by the signal control. As noted in the Route 7 Design Report/Environmental Assessment, the area including the intersections of Route 7, Route 142 and Sweet Milk Creek Road has been identified by NYSDOT as a Safety Deficiency Location (SDL). This designation indicates that the accident history is statistically significantly higher than expected for comparable facilities on the State highway system. Especially when considering the effects of future traffic volume increases on NYS Route 7, the proximity of Sweet Milk Creek Road to the signalized intersection may contribute to future safety concerns. The recommended closure of the existing Sweet Milk Creek Road access to NYS Route 7 will improve conditions in this area by eliminating the additional turning conflicts near the signalized intersection at NYS Route 142. To accommodate the closure of this access, it is recommended that a collector road be constructed from Sweet Milk Creek Road to NYS Route 7 opposite Town Office Road. This intersection of NYS Route 7, Town Office Road, and the proposed collector road is recommended to be signalized, once the warrant criteria for signal control are met. This improvement will not only address the substandard intersection spacing, but will also provide the opportunity for controlled access to Route 7 from residential properties north of the arterial. A conceptual alignment for this collector road and closure of the Sweet Milk Creek Road access to Route 7 is illustrated on Figure 4-5.

4.1.3 Service Road Connections

The development of service roads within the NYS Route 7 corridor provides a means for secondary access between activity centers within the corridor. This access management tool enhances the mobility and safety along the arterial by reducing the reliance on the arterial directly for access to properties, thereby reducing the frequency of turning maneuvers on the arterial. These service road/access connections also expand the accessibility to signalized intersections for controlled access onto Route 7. One recommended service road corridor is located between Route 7 and McChesney Avenue, that would provide connections to the existing Walmart Plaza and to the proposed traffic signal at Betts Road. A suggested alignment for this corridor is illustrated on Figures 4-2 and 4-3. The construction of a service road in this area would enable the commercial properties along Route 7 to have access to Route 7 at intersections controlled by traffic signals. This service road also provides for travel between these commercial properties without entering Route 7. Other locations where service road/access connections are recommended are as follows:

- a) Hillcrest Avenue to Woodward Avenue
- b) Goodman Avenue to Brunswick Plaza
- c) McChesney Avenue connections to proposed collector road
- d) McChesney Avenue to Rose Lane
- e) Merrill Avenue: Extension from Rose Lane to Keyes Lane
- f) Arminghall Drive to Crescent Lane
- g) Keyes Lane Extension from Route 7 to (f)
- h) Keyes Lane to Evergreen Road
- i) Action Chevrolet to Betts Road
- j) Brunswick Drive connection to commercial properties on Route 7

These service road/access connections are illustrated on Figures 4-1 through 4-5. In the context of the long-term access management plan, the function of the service roads are to accommodate direct access to abutting properties and also to circulate traffic between activity centers. These service roads also channel traffic to the signalized intersections. The access connections identified in the plan are differentiated from service roads, in that their role is to provide local connections between existing local streets and the proposed service roads. These connections expand the local access to the proposed signalized and also improve access between local subdivisions. Design elements such as pavement width and alignment of the access connections would discourage movement of through-traffic.

4.1.4 Local Road/Access Closure

The recommended connection between Goodman Avenue and Brunswick Plaza provides the benefit of a controlled access from this residential area via the existing signal at Brunswick Plaza. Because this could also have the undesired effect of increased traffic on Goodman Avenue, it is recommended that the access from Goodman Avenue to Route 7 be closed. This recommended closure is illustrated on Figure 4-1.

4.1.5 Driveway Access Improvements

There are several locations within the study area where access improvements to existing developments have been identified, but where short-term implementation is not feasible within the context of the NYSDOT highway project. These locations are illustrated on Figures 4-7 and 4-8. The recommended improvements shown on these figures should be considered by the Town for future implementation when practicable, such as during review of redevelopment proposals.

4.1.6 Land-Use Management Tools

The successful implementation of the long-term access management plan is contingent on land-use planning and control decisions of local officials. Specifically, the Town's Zoning and Site Plan review processes provide a means by which the service roads and access connections can be achieved as part of the approval of new development or the redevelopment of existing parcels. Other land-use management tools that are recommended in the long-term plan involve developing shared access drives to service multiple parcels and developing cross-access parking and circulation systems to interconnect adjacent facilities. The benefits of these initiatives are to reduce the number of direct access points to Route 7 and decrease the reliance on Route 7 for vehicle access between adjacent activity centers. These initiatives can also foster the expansion of pedestrian and bicycle facilities through the corridor to connect land uses to the sidewalks being constructed as part of the roadway improvement project.

Land-use management tools that are not specifically identified in the long-term plan, but may have application in preserving the utility of Route 7 as well as Town roadways, include the following:

- a) eliminate or restrict the approvals of "flag" lots
- b) limit full vehicular access to the lowest classification of road serving the property.

Provisions for these land-use management initiatives are most effective and uniformly applied if enacted by local law and implemented as part of a subdivision or site plan approval. Lands comprising the shared or cross access drives can be dedicated as a permanent easement and joint maintenance agreements can also be incorporated to the property deed.

4.1.7 Future Collector/ Distributor Roads

It is recommended that a secondary road system be incorporated in future development plans to collect and distribute traffic from local subdivision streets to the arterial system. These collector roads are distinguished from the service road infrastructure in that their function is to provide land access service and traffic circulation within residential neighborhoods and commercial areas. These roads also collect traffic and channel it to the arterial system. A conceptual roadway layout to provide access to new development and to improve the connectivity of these areas to the existing roadway infrastructure is illustrated on Figure 4-9. Access management principles should also be applied to these proposed collector roadways to maintain their functional integrity and to ensure their compatibility with adjacent land development. For example, boulevard-style streets with access limited to local subdivision streets (i.e., no direct driveway access) could be considered to reduce conflicts between through traffic and turning traffic. This type of design would also distinguish these roadways from the local subdivision street system.

4.1.8 Future Widening

The proposed NYSDOT road reconstruction project on Route 7 includes widening sections of the arterial to provide a uniform 3-lane cross-section. This project also includes construction of a 5-lane cross-section in the vicinity of Lake Avenue. These improvements provide the arterial capacity on Route 7 to accommodate the projected traffic volume conditions through the 20-year design period of the project. However, the Design Report/Environmental Assessment for this project also notes that long-range

forecasts of traffic flow suggest that future conditions (i.e., beyond the project's 20-year design period) may require additional improvements. These future improvements may include further widening of Route 7 to provide a 5-lane facility. Anticipating this need, it is recommended that the Town consider the requirements for additional Right-of-Way (R.O.W.) along the arterial, during the process of reviewing future development projects, to allow for future widening without imposing significant impacts on parking or access. A total R.O.W. width of 100 feet should be reserved to accommodate a 5-lane roadway including provisions for shoulders, sidewalks, utilities and maintenance.

4.1.9 Future Pedestrian Facilities

The proposed sidewalks to be constructed along NYS Route 7 as an element of the widening project will establish the beginnings of a cohesive pedestrian circulation system within the corridor. Long-term strategies to enhance the pedestrian system include removing the barriers between this sidewalk and access to the abutting properties. Presently, pedestrians are confronted with expanses of parking and paved areas that are generally an impediment to pedestrian access. As applications for developments are submitted for review, it is recommended that agencies responsible for approvals consider the feasibility for including clearly defined pedestrian access from the arterial frontage. Pedestrian facilities should also be incorporated into the design of the recommended service/access road and collector road systems.

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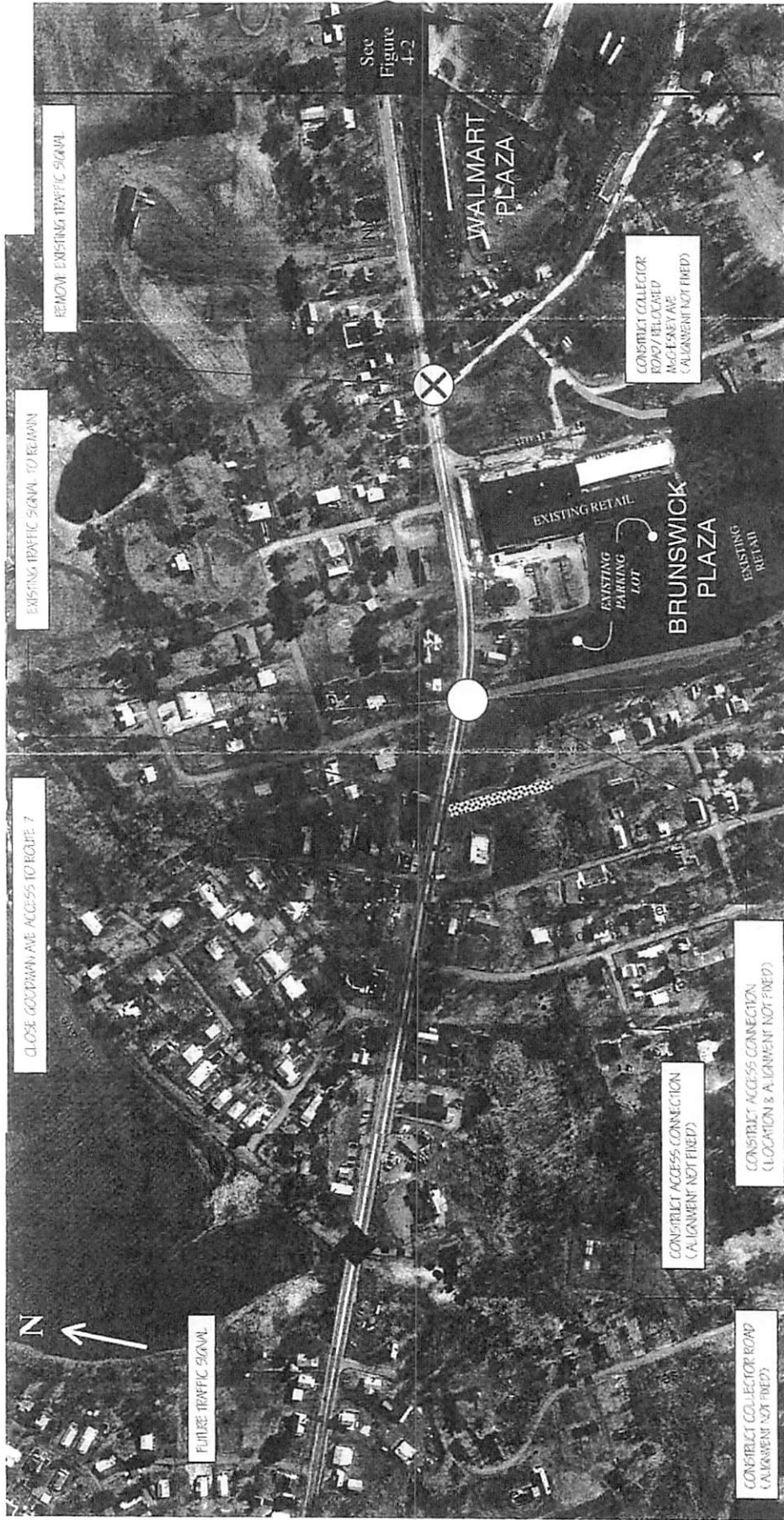


Photo Source: NYS DOT, P.I.N. 1306.53, April 1996
 Not to Scale

Route 7 Access Management Report
 Clough, Harbour & Associates, LLP

Concept Plan
 Long-Term Access Management

Figure 4-1

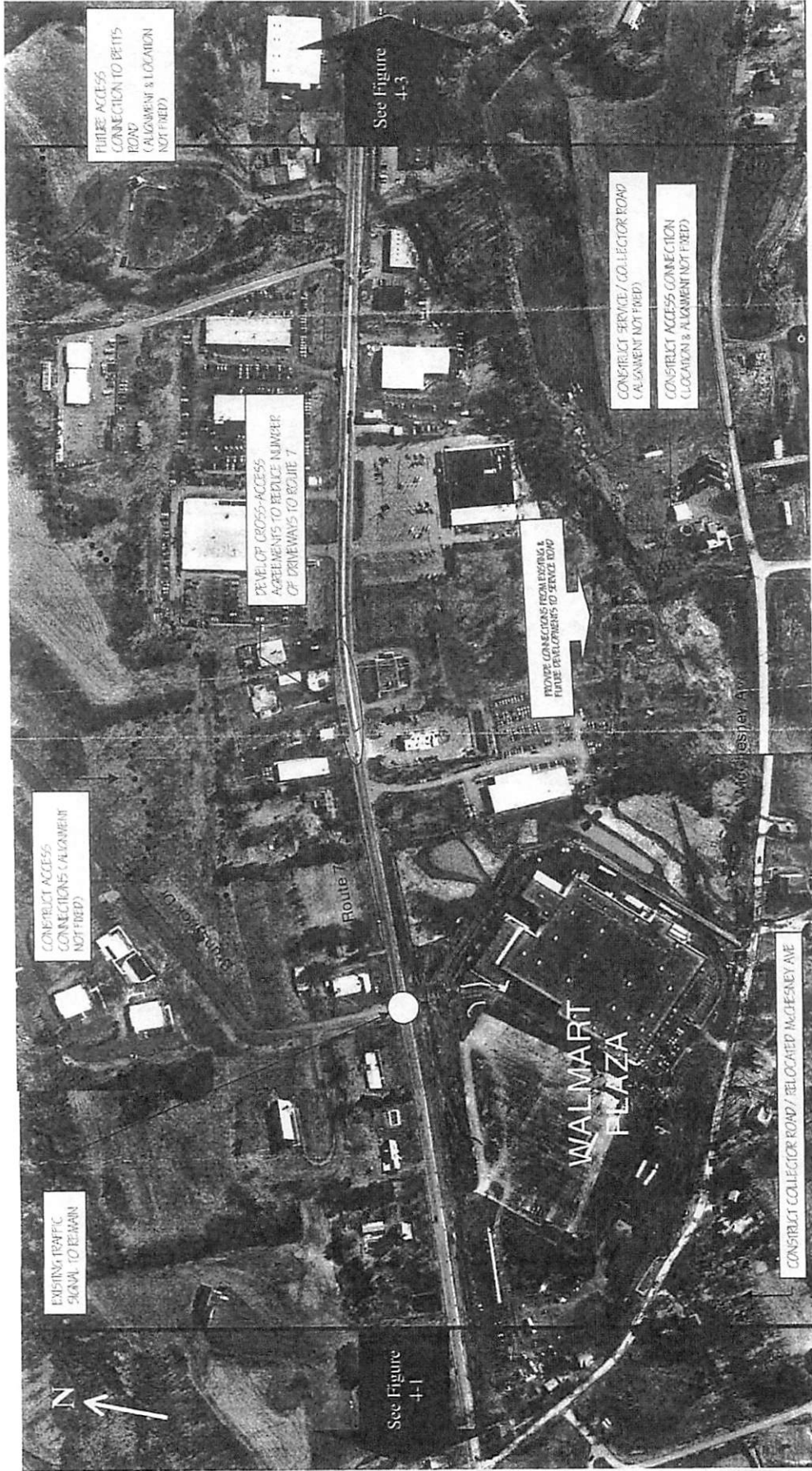


Photo Source: NYS DOT, P.I.N. 130653, April 1996
 Not to Scale

Concept Plan
 Long-Term Access Management
 Figure 4-2

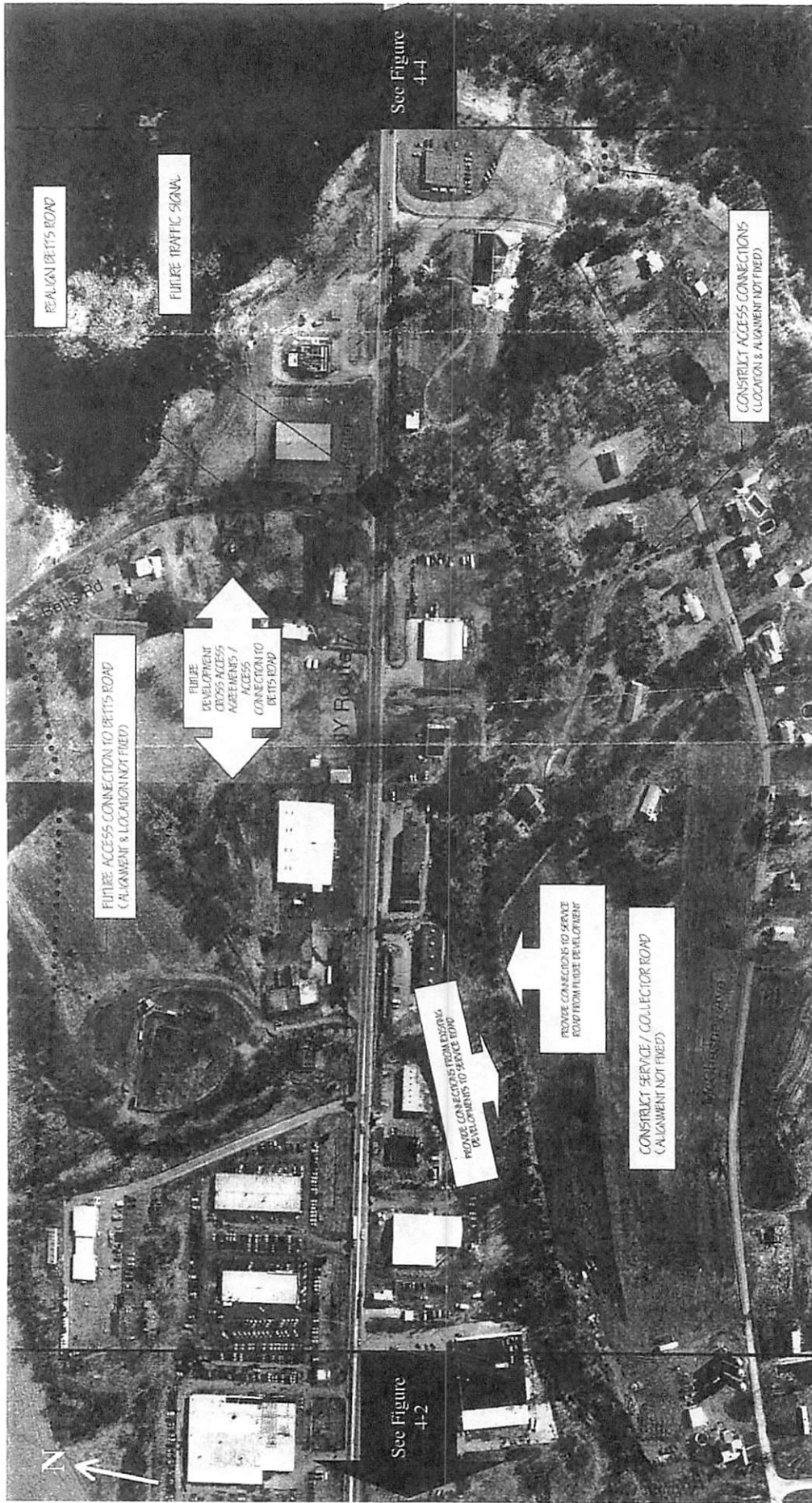


Photo Source: NYS DOT, P.L.M. 1306.53, April 1996
 Not to Scale

Route 7 Access Management Report
 Clough, Harbour & Associates, LLP

Concept Plan
 Long-Term Access Management
 Figure 4-3

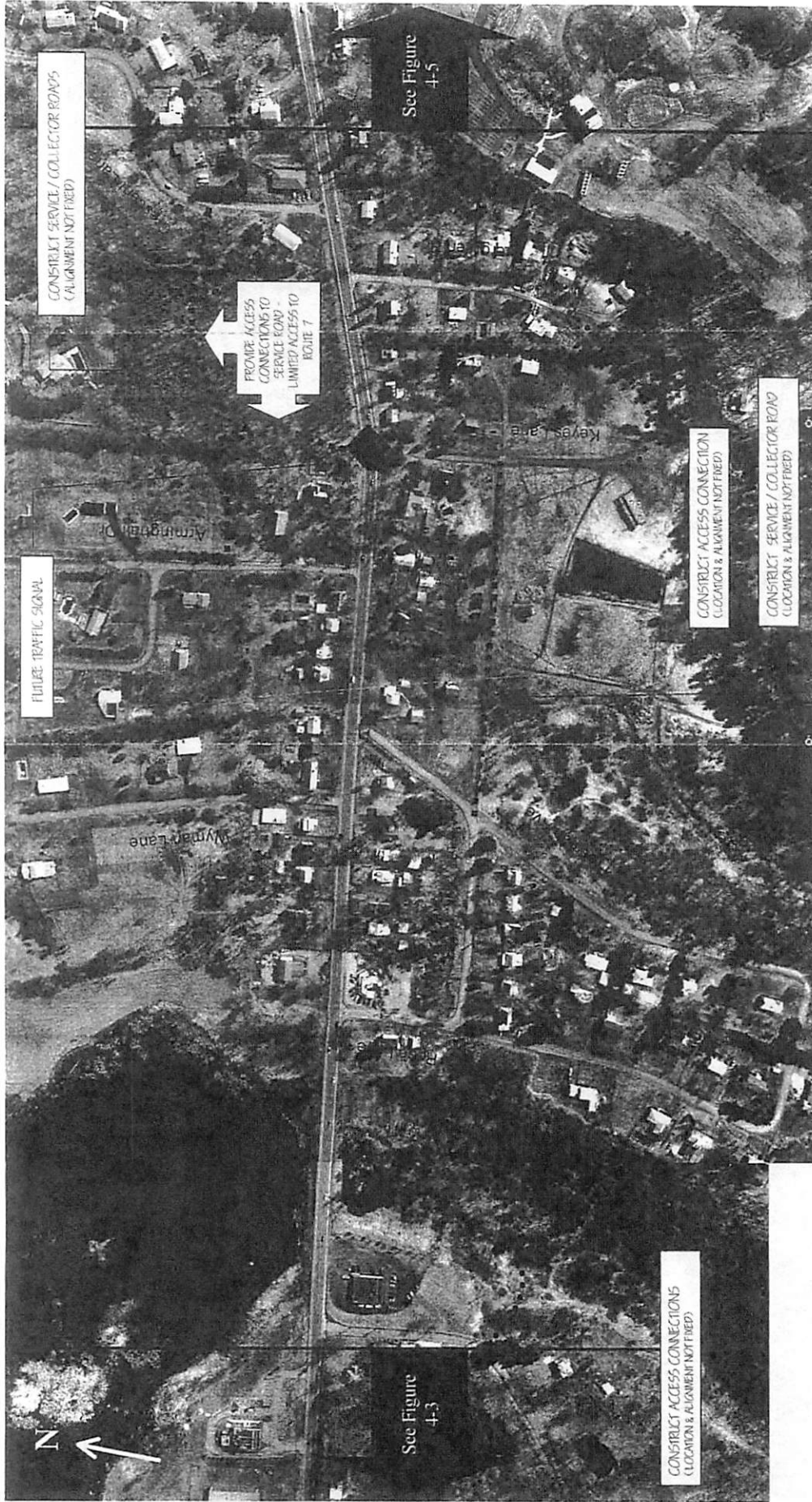
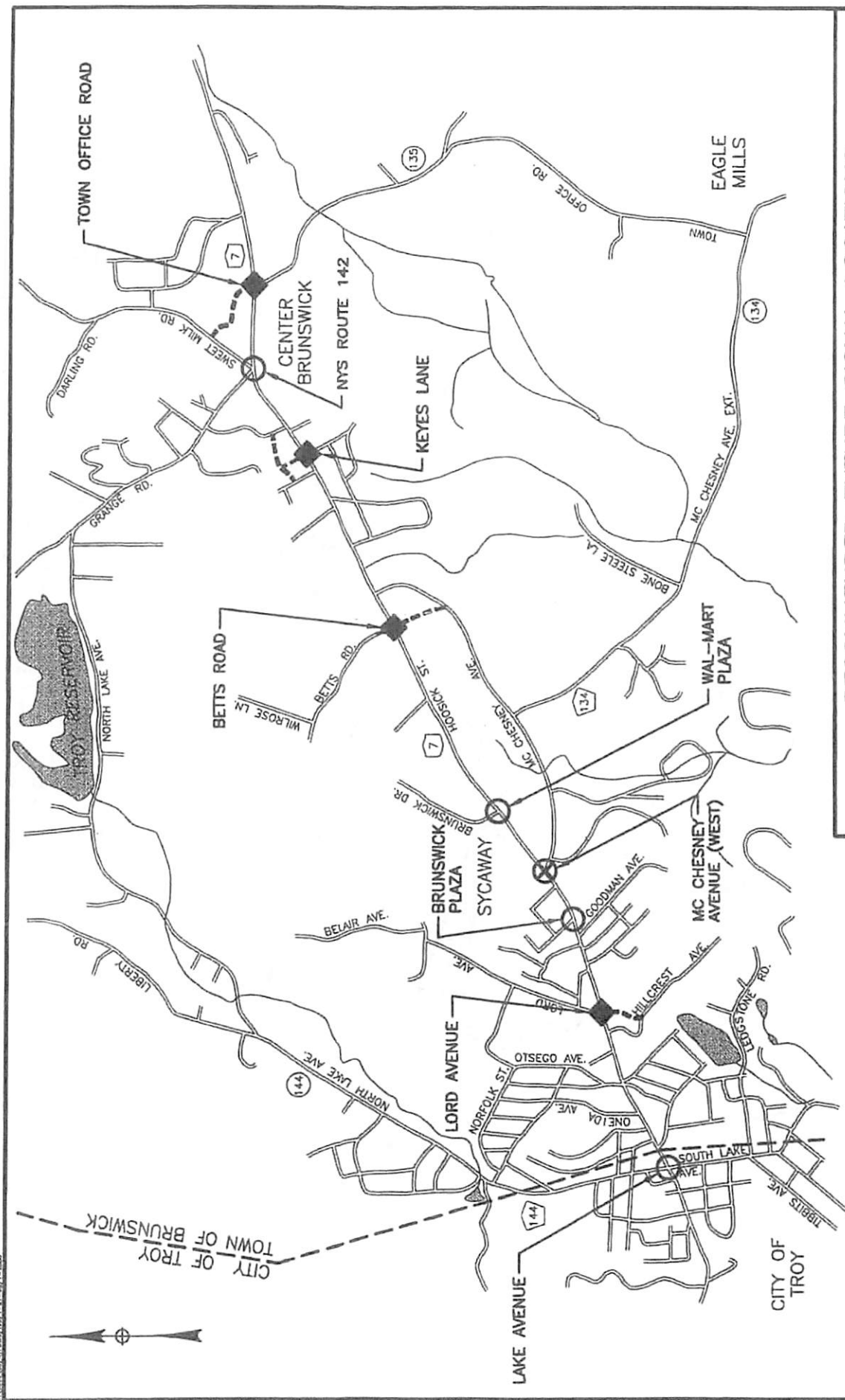


Photo Source: NYSDDOT, P.L.N. 1306-53, April 1996
 Not to Scale

Concept Plan
 Long-Term Access Management
 Figure 4-4

Route 7 Access Management Report
 Clough, Harbour & Associates, LLP



- LEGEND**
- EXISTING SIGNAL TO REMAIN
 - ⊗ SIGNAL TO BE REMOVED
 - ◆ PROPOSED FUTURE SIGNAL

RECOMMENDED FUTURE SIGNAL LOCATIONS

CHA
 CONSULTING ENGINEERS
 111 WINNERS CIRCLE ALBANY, NEW YORK, 12205

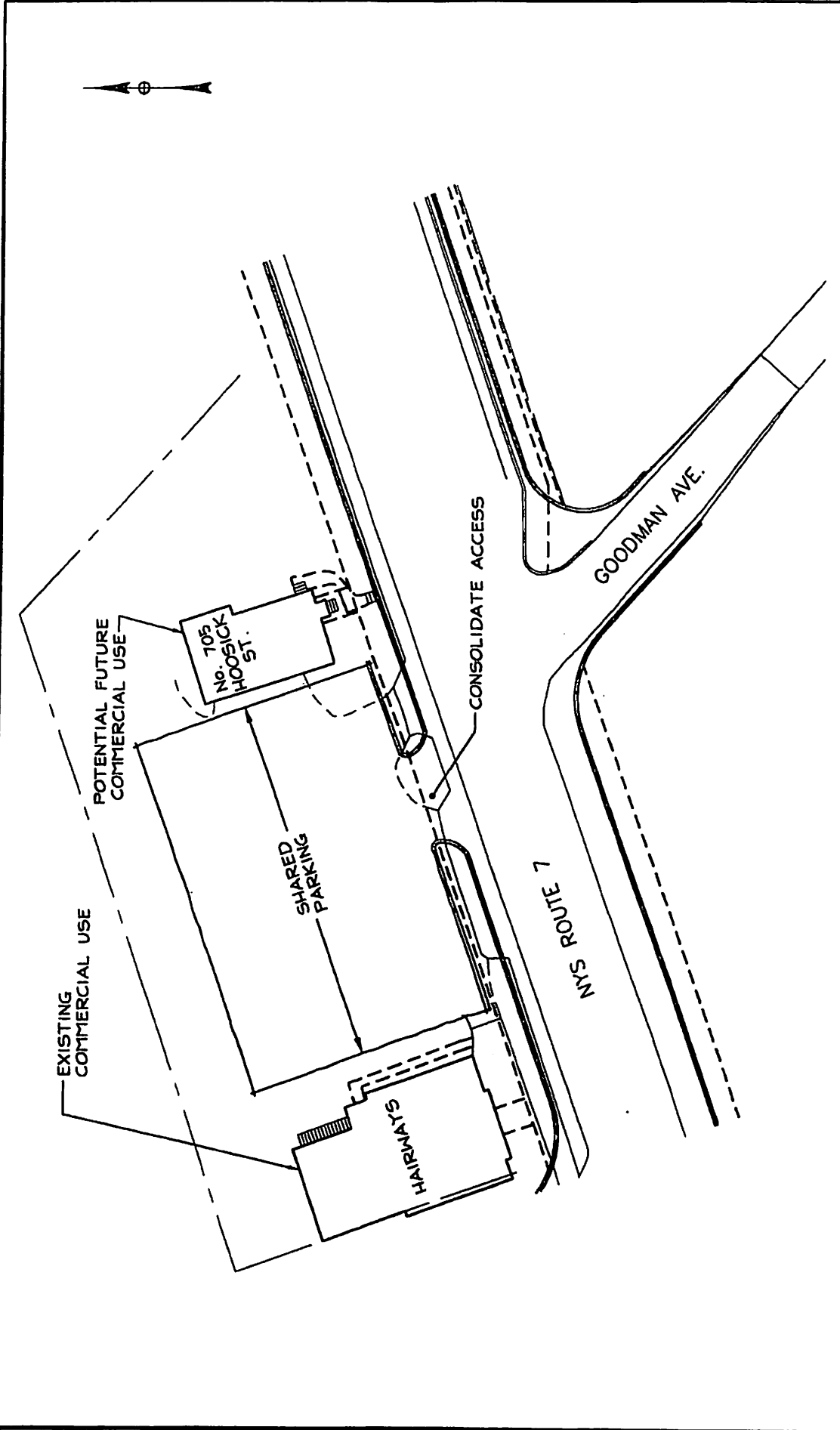
CLOUGH, HARBOUR & ASSOCIATES LLP
 ENGINEERS, SURVEYORS, PLANNERS
 & LANDSCAPE ARCHITECTS
 111 WINNERS CIRCLE ALBANY, NEW YORK, 12205


ARTERIAL ACCESS MANAGEMENT STUDY
 NYS ROUTE 7 (HOOSICK ST.)
 CITY OF TROY/TOWN OF BRUNSWICK
 RENSSELAER COUNTY

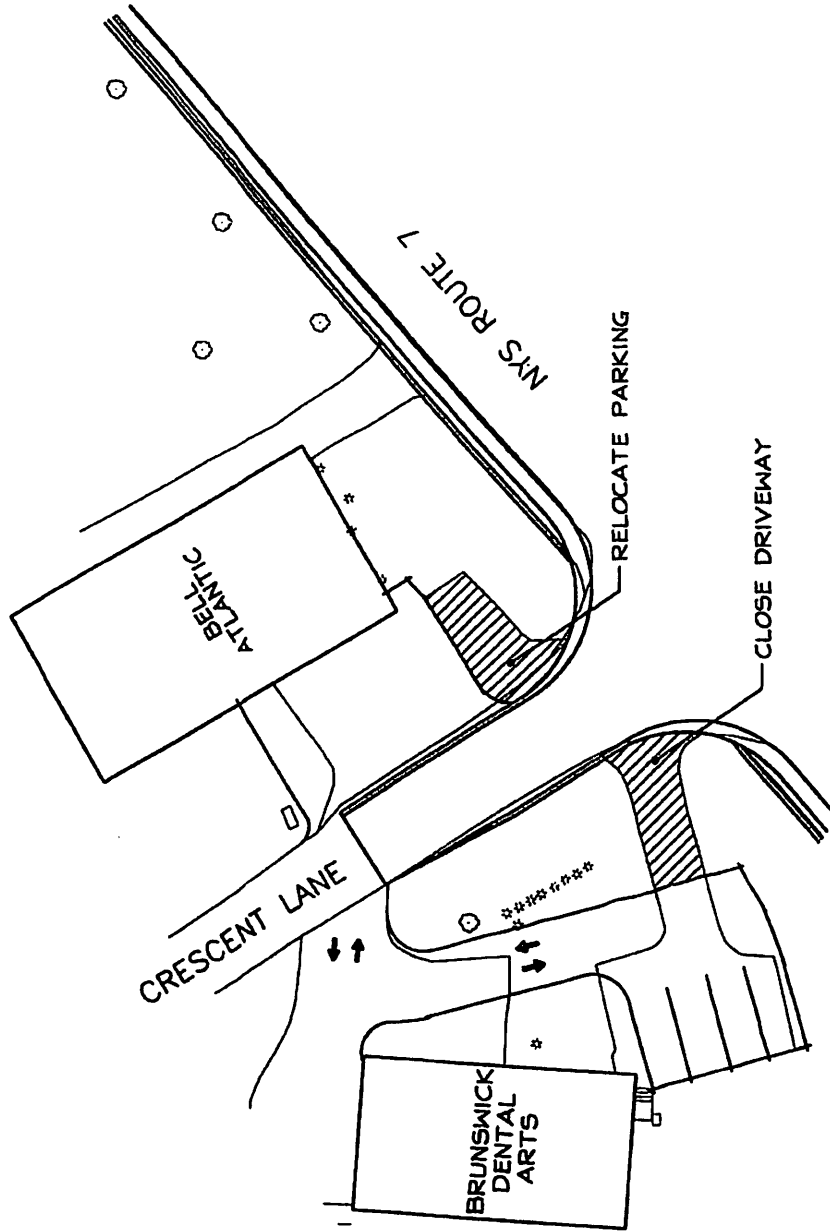
FIGURE NO. 4- 6 NOT TO SCALE



DATE: 11/15/05



LONG TERM PARKING AND ACCESS IMPROVEMENTS	
ARTERIAL ACCESS MANAGEMENT STUDY NYS ROUTE 7 (HOOSICK ST.) CITY OF TROY/TOWN OF BRUNSWICK RENSELAER COUNTY	
 CHA <small>CLOUGH, HARBOUR & ASSOCIATES LLP</small> <small>ENGINEERS SURVEYORS PLANNERS</small> <small>& LANDSCAPE ARCHITECTS</small> <small>111 WINNERS CIRCLE ALBANY, NEW YORK, 12203</small>	FIGURE NO. 4- 7 NOT TO SCALE



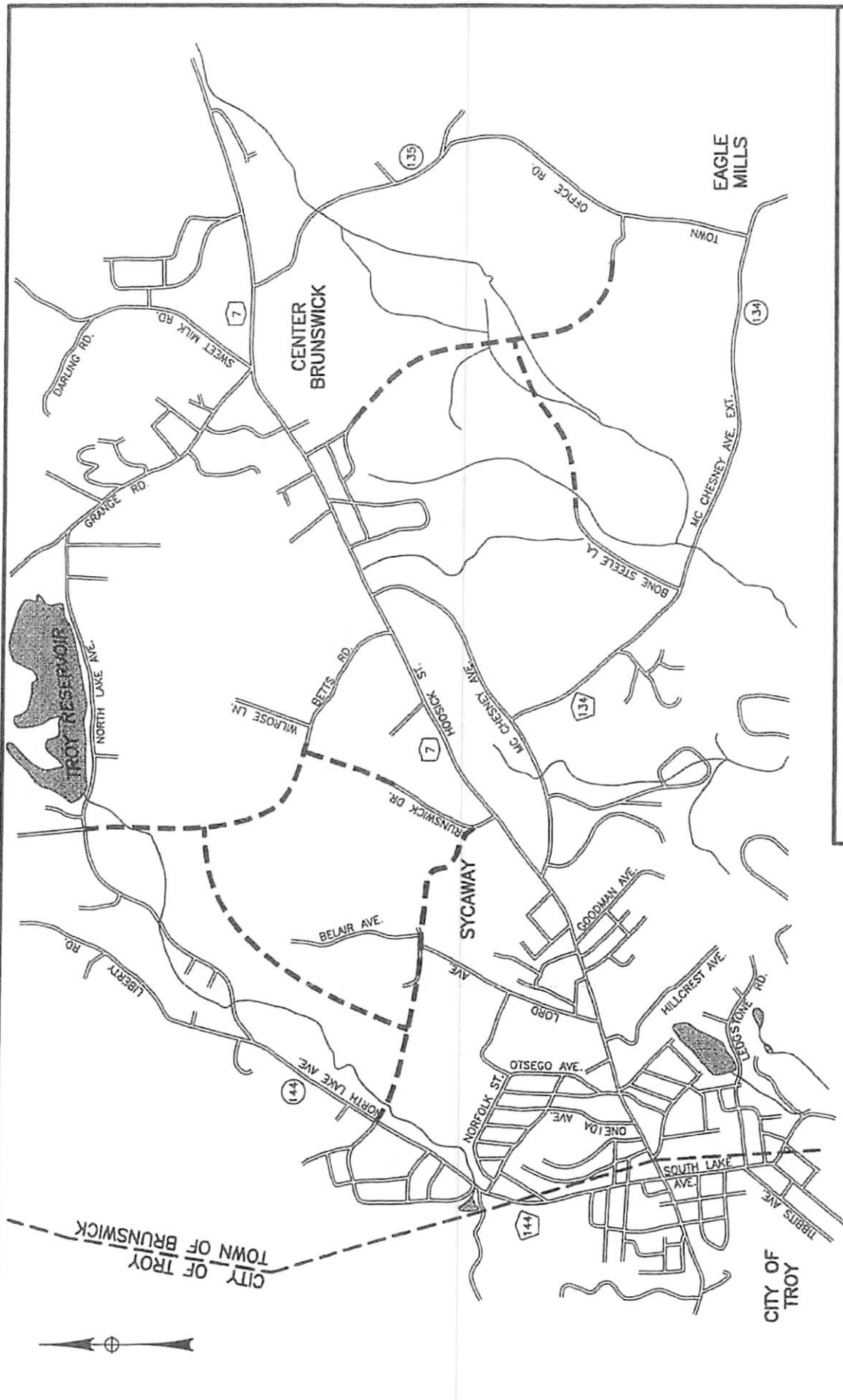
LONG TERM PARKING AND ACCESS IMPROVEMENTS

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 18 WINNERS CIRCLE ALBANY, NEW YORK, 12205

ARTERIAL ACCESS MANAGEMENT STUDY
 NYS ROUTE 7 (HOOSICK ST.)
 CITY OF TROY/TOWN OF BRUNSWICK
 RENSSELAER COUNTY

FIGURE NO. 4- 8 NOT TO SCALE

Map No. 57, Troy, N.Y., 1977



LEGEND

--- COLLECTOR ROADS (ALIGNMENT NOT FIXED)

CONCEPTUAL COLLECTOR ROAD LAYOUT

CHA
CLOUGH, HARBOUR & ASSOCIATES LLP
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 111 WINNERS CIRCLE ALBANY, NEW YORK, 12203

ARTERIAL ACCESS MANAGEMENT STUDY
 NYS ROUTE 7 (HOOSICK ST.)
 CITY OF TROY/TOWN OF BRUNSWICK
 RENSSELAER COUNTY

FIGURE NO. 4-

NOT TO SCALE

5.0 SUMMARY AND CONCLUSIONS

Arterial management involves the combination of transportation and land-use tools to preserve roadway capacity and safety, while simultaneously providing convenient access to adjacent properties. The current NYSDOT project to widen NYS Route 7 is an element of the arterial management plan in that it serves to separate left-turn conflict areas by construction of a center median. The widening project also includes additional short-term access management strategies such as driveway access improvements, driveway consolidations, improving intersection alignments and expanding the existing pedestrian facilities.

The access management plan for the section of NYS Route 7 between Lake Avenue and NYS Route 142 provides recommendations for long-term strategies that would further preserve the arterial utility and function while accommodating future growth and development in the Town. These recommended strategies include recommendations for future traffic signal locations and the development of service roads and shared parking facilities to further reduce the number of conflict points along NYS Route 7. These recommendations also include a network of future Town roadways and existing roadway realignments to optimize accessibility to signalized intersections along NYS Route 7. An overview of the recommended actions is illustrated on Figure 5-1.

Successful implementation of the access management plan involves continuing collaboration of state and local agencies involved in planning and regulation. It will also require the cooperation of the private sector, especially where joint access agreements will be needed. However, a well-implemented access management plan can preserve highway capacity while providing planned access to support continued growth within the community. The implementation of the arterial management plan also provides a forum for shaping the transportation infrastructure to balance local as well as regional land-use and transportation objectives.

ENDNOTES

1. *Arterial Corridor Management Task Force Report*, Capital District Transportation Committee (CDTC) Arterial Corridor Management Task Force & CDTC Staff, Albany, New York, 1993
2. *Best Practices in Arterial Management*, Corridor Management Group, New York State Department of Transportation, Albany, New York, November 1996.
3. *Access Management Guidelines for Activity Centers*, National Cooperative Highway Research Program (NCHRP) Report 348, Transportation Research Board, Washington, D.C., 1992
4. *Policy and Standards for Entrances to State Highways*, New York State Department of Transportation, Albany, New York, February 1998.
5. NCHRP Report 348.
6. *Transportation and Land Development*, Institute of Transportation Engineers (ITE), Washington, D.C., 1988
7. NCHRP Report 348.
8. *Best Practices in Arterial Management*, NYSDOT.
9. NCHRP Report 348.
10. *New Visions for Capital District Transportation - Workbook*, Capital District Transportation Committee (CDTC) Task Forces & CDTC Staff, Albany, New York, December 1995.
11. *Regional Transportation Plan Report*, Capital District Transportation Committee (CDTC), Albany, New York, December 1993.
12. *Development of an Arterial Corridor Management Strategy for the Capital District - Land Use/ Traffic Conflict Index*, Capital District Transportation Committee (CDTC) Arterial Corridor Management Task Force & CDTC Staff, Albany, New York, December 1995.
13. *Transportation Planning Workshop - Access Management Issues, Tools and Techniques*, CDTC(in cooperation with the Capital District Chapter of the American Planning Association, New York State Department of Transportation & the City of Saratoga Springs, NY); Latham, New York, May 31, 1995



Appendix G

Intersection Capacity Analysis Worksheets