GROUP MACKENZIE

September 10, 1998

City of Oregon City
Attention: Bob Cullison
320 Warner Milne Road
Oregon City, OR 97045

Re: Revised Traffic Analysis
USPS - Oregon City
Group Mackenzie Project #297247.03

Dear Bob:

At the City's request, Group Mackenzie has re-analyzed traffic impacts for the proposed post office on Molalla with several Fir Avenue access scenarios. The original May 1998 Traffic Impact Analysis was based on a site plan showing two accesses to Molalla Avenue and a single employee and delivery access to Fir Street. The north access to Molalla would serve as the main site access with a single ingress lane and two egress lanes. The "snorkel" lane for the drop boxes would exit directly to Molalla Avenue, as the south access. In addition to the original proposal, three scenarios with access to Fir Street for customers are included in this analysis. The access scenarios are listed below:

Original -	Full movement access to Molalla Avenue, snorkel lane exiting to Molalla Avenue, and employee access to Fir Street.
Stage I -	Full movement access to Molalla Avenue, snorkel lane exiting to Molalla Avenue, and access to Fir Street for employees and customers.
Stage II -	Ingress access from Molalla Avenue, snorkel lane exiting to Molalla Avenue, and access to Fir Street for employees and customers.
Stage III -	Ingress access from Molalla Avenue, and access to Fir Street for employees and customers.

The trip generation and distribution used in this analysis are from the May 1998 Traffic Impact Analysis. Figures indicating the trip assignment and future volumes for each scenario are enclosed. Neither the 1999 nor 2018 trip assignments assume an extension of Fir Street north to Beavercreek Road.

CAPACITY CALCULATIONS

Capacity and level of service calculations were prepared based upon the revised trip assignments for each scenario. As in the original study, for unsignalized intersections, the reserve capacity, delay and corresponding level of service are presented for the critical approach. Signalized calculations are also

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Group Mackenzie, Incorporated
Architecture
Interior Design
Land Use Planning

Group Mackenzie Engineering, Incorporated
Civil/Structural Engineering
Transportation Planning

The tradition of Mackenzie Engineering and Mackenzie/Saito continues.

presented for the intersection of Molalla Avenue with Fir Street for the 2018 analysis year. The table below presents a level of service comparison. Although the volumes for the original access scenario (Option 1) are the same as presented in the original study, there is a small difference in the reserve capacity and delay due to updates in the Highway Capacity Software.

Intersection Level of Service Summary
1999 and **2018**

Intersection	Time	Options			
		Original	Stage I	Stage II	Stage III
Molalla Ave/ Fir Street *Signalized	AM	325-11.1-C **328-11.0-C** **0.37-2.4-A***	323-11.1-C **329-10.9-C** **0.37-2.7-A***	322-11.2-C **324-11.1-C** **0.38-3.4-A***	318-11.3-C **310-11.6-C** **0.39-4.1-A***
	PM	88-40.1-E **1-221-F** **0.65-4.4-A***	86-40.8-E **-12-298-F** **0.67-5.0-A***	64->45-F **-35-467-F** **0.70-5.8-B***	43->45-F **-64-690-F** **0.73-6.9-B***
Molalla Ave/ North Access	AM	273-13.2-C **268-13.4-C**	275-13.1-C **270-13.3-C**	907-4.0-A **900-4.0-A**	928-3.9-A **919-3.9-A**
	PM	128-28.1-D **72-49.9-F**	131-27.5-D **77-46.7-F**	790-4.6-A **655-5.5-B**	812-4.4-A **676-5.3-B**
Molalla Ave/ South Access	AM	491-7.3-B **489-7.4-B**	491-7.3-B **489-7.4-B**	491-7.3-B **489-7.4-B**	N/A
	PM	287-12.5-C **186-19.3-C**	287-12.5-C **186-19.3-C**	287-12.5-C **186-19.3-C**	N/A

Unsignalized - Reserve Capacity-Delay-Level of Service
* Signalized - Volume/Capacity-Delay-Level of Service

The intersection of Molalla Avenue and Fir Street will operate at a level of service "C" in the 1999 and 2018 AM peak hours. A level of service "F" is anticipated in the 2018 PM peak hour for all scenarios, however, either scenario 1 or 2 will provide a level of service "E" in 1999. Limiting access to Molalla Avenue in scenarios 3 and 4, increases the traffic volumes at Fir Street, resulting in a level of service "F" in 1999. With a signal, this intersection would operate at a level of service "B" or better for all scenarios and analysis years, however, the close proximity to the existing signal at Gaffney Lane will require an interconnect between the signals and may result in some queue spill back.

The north access to Molalla Avenue will operate at a level of service "D" or better in 1999 for all scenarios. In the PM peak hour of 2018, left turns to Molalla would experience a level of service "F". Shifting these left turns to Fir Street would result in even longer delays for turns to Molalla Avenue.

The snorkel lane exit at the south access to Molalla Avenue will operate at a level of service "C" or better for peak hours of all scenarios in both the 1999 and 2018 analysis years.

SIGNAL WARRANTS

Peak hour signal warrants were reviewed for the intersection of Molalla Avenue and Fir Street. With the original proposal (option 1) in 1999, the PM peak hour volumes just meet minimum signal warrant volumes for a roadway above 40 mph. With the addition of customer traffic to Fir Street, the peak hour signal warrants are clearly met in 1999. In 2018, regardless of the post office traffic, peak hour signal warrants are expected to be met at the intersection of Molalla Avenue and Fir Street. Copies of the signal warrant nomographs are enclosed with this letter.

SITE TRAFFIC IMPACT

A comparison of total projected traffic volumes versus the site added volumes at the intersection of Molalla Avenue and Fir Street is presented below:

Site Traffic Percentages at Molalla Avenue/Fir Street				
Time Period	Options			
	Original	Stage I	Stage II	Stage III
AM	15.1% 150/996	15.6% 156/1000	16.7% 169/1010	18.0% 183/1019
PM	5.8% 105/1820	6.0% 109/1826	6.5% 119/1839	7.0% 129/1853

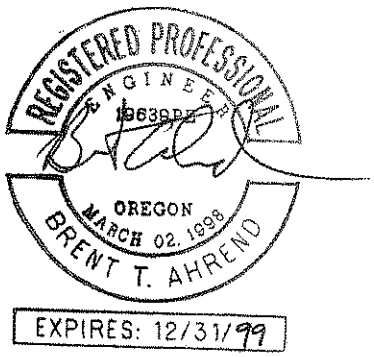
If you have any questions, please feel free to call me or Elizabeth Busby.

Sincerely,

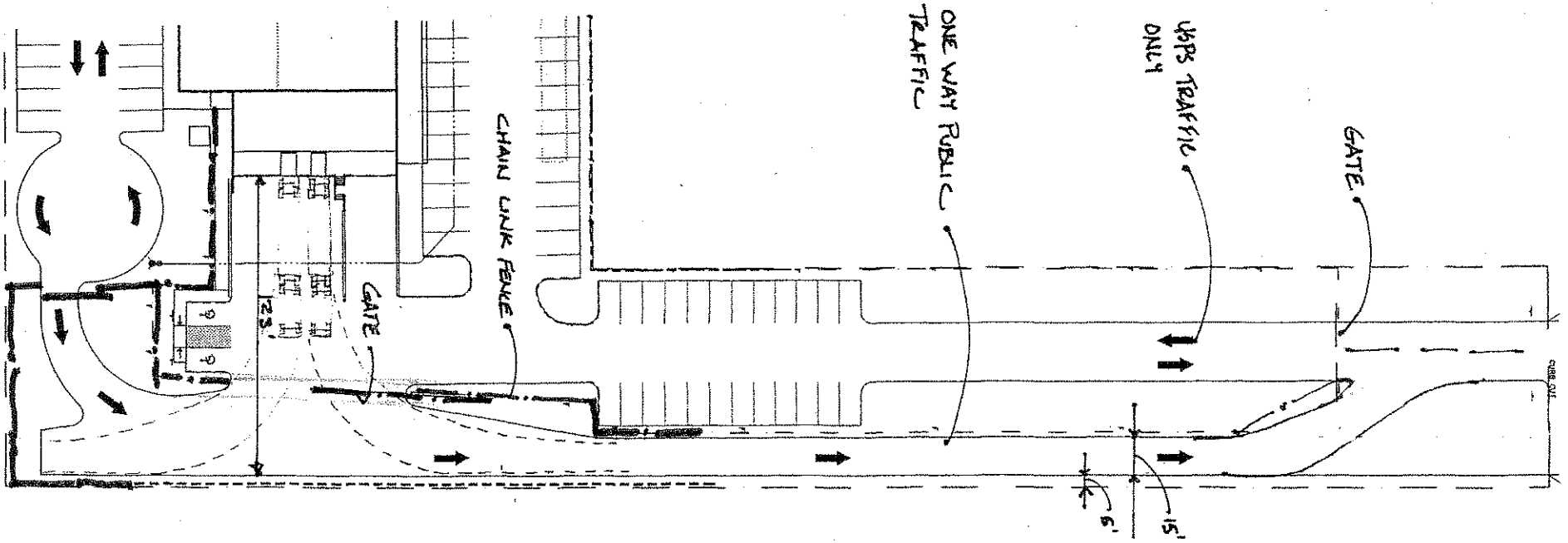
Brent Ahrend, PE
Traffic Engineer

/BTA/kc

Enclosures



c:
Jay Toll, Tamara DeRidder - City of Oregon City
Hugh Roche - USPS
Greg Hranac - Group Mackenzie



PROPOSED DRIVE THROUGH TO FIR STREET. STAGE I

SCALE - 1" = 50'-0"

297247

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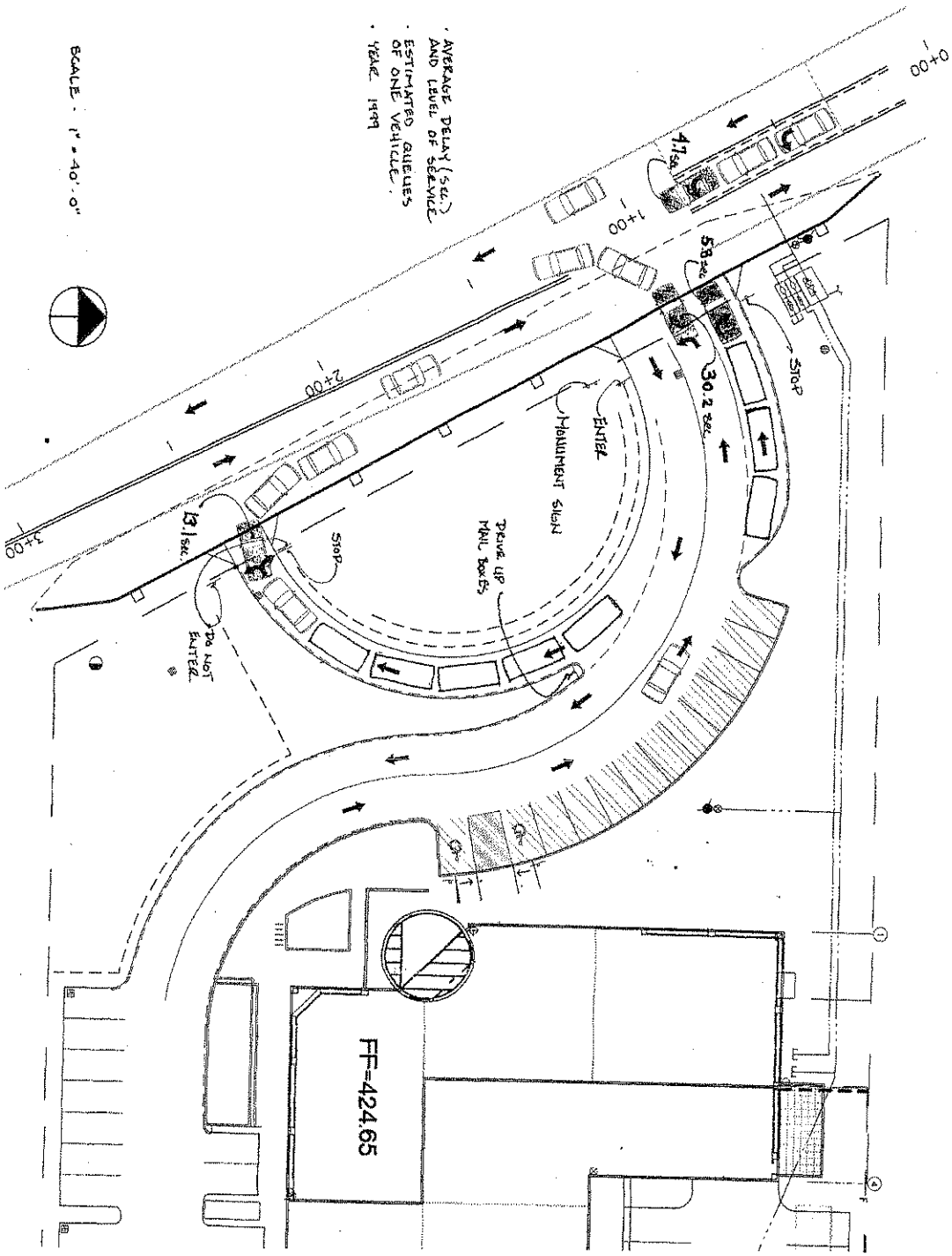

CURRENT ACCESS BUILD-OUT STAGE I 8.24.98

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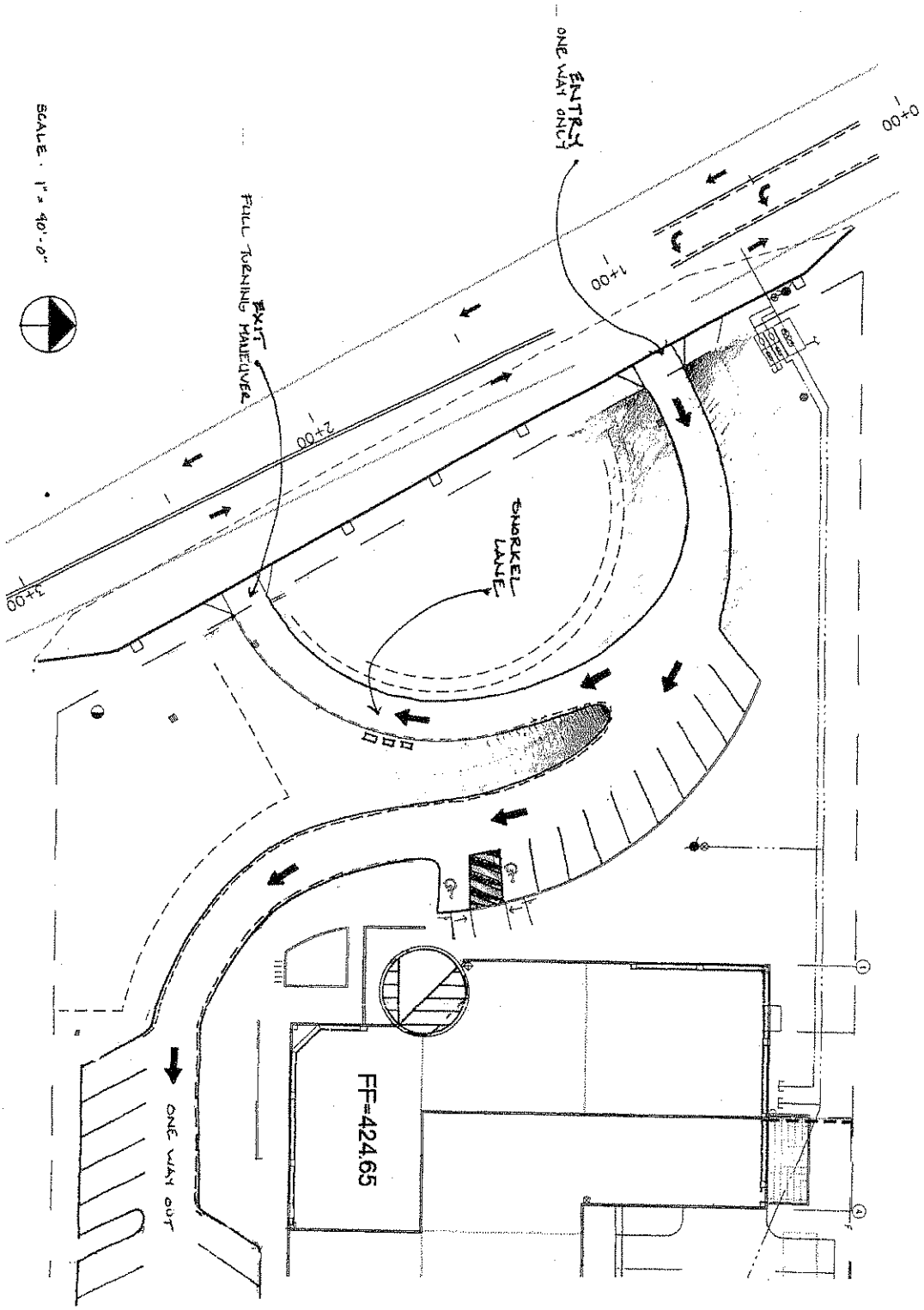

ACCESS STAGE II

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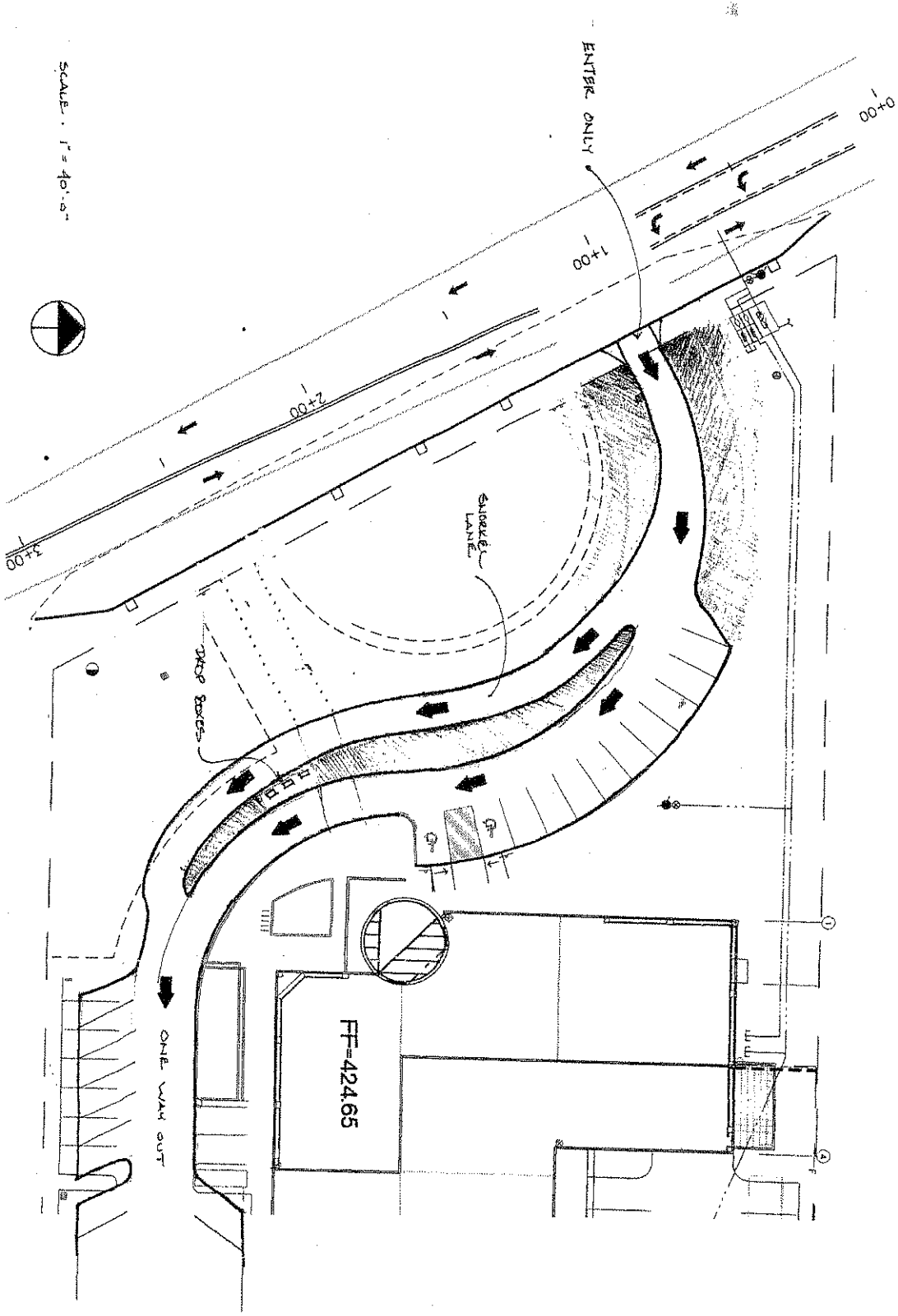

ACCESS · STAGE III

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