

**DETENTION CALCULATIONS**

**Oldcastle Lot Expansion**

Gross Area Drained by System	88,748.00 s.f.		
Pavement & Building Area:	88,748.00 s.f.	Ci =	0.90
Net Pervious Area:	0.00 s.f.	Cp =	0.20
	0.90		

$Q_{allow} = c_i a = C_p * 2.6 * A_t / 43560$

$i_{2/24hour} = 2.6$

$Q_{allow} = 1.06 \text{ cfs}$

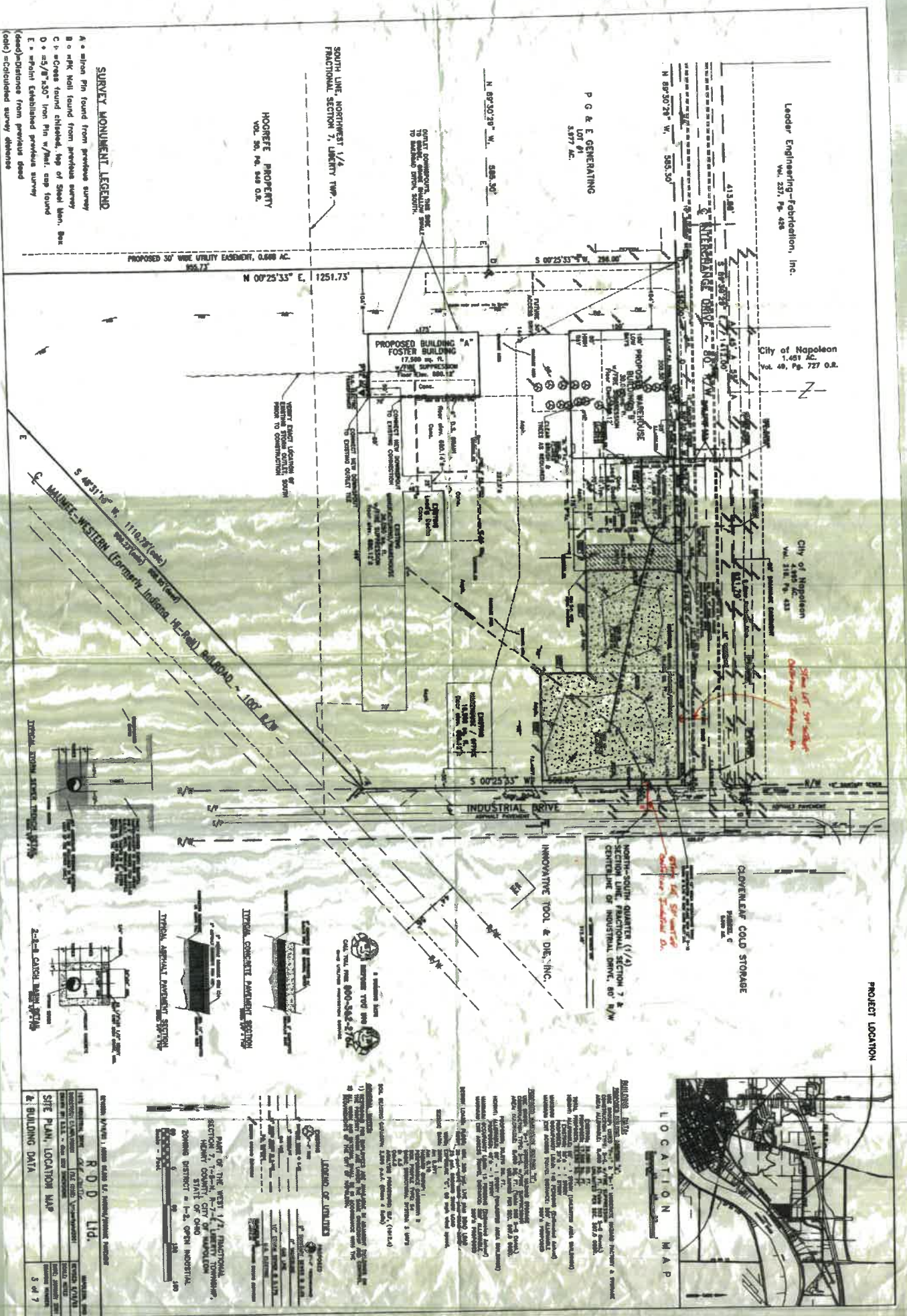
**DETENTION METERING LINE DESIGN (CULVERT ANALYSIS)**

**Oldcastle Lot Expansion**

1. Length of Metering Line	255 ft.	Factor =	$1+K_e+29*(N^2)*L/(R^{4/3})$
2. Slope of Metering Line	0.1 %		12.13
3. Size of Metering Line	6.5 in	Pipe Area =	0.2304
4. Pipe Type and "n" Value	0.010 Hancor	Perimeter =	1.7017
5. Entrance Coefficient (K <sub>e</sub> )	0.5		
6. Assumed Maximum Head	3.50 ft.		
7. Hydraulic Radius (R)	0.135417	R <sup>4/3</sup> =	0.0695

Head	H x 2g	Factor	V <sup>2</sup>	V	Pipe Area	Q
3.50	225.4	12.13	18.58	4.31	0.2304	0.99

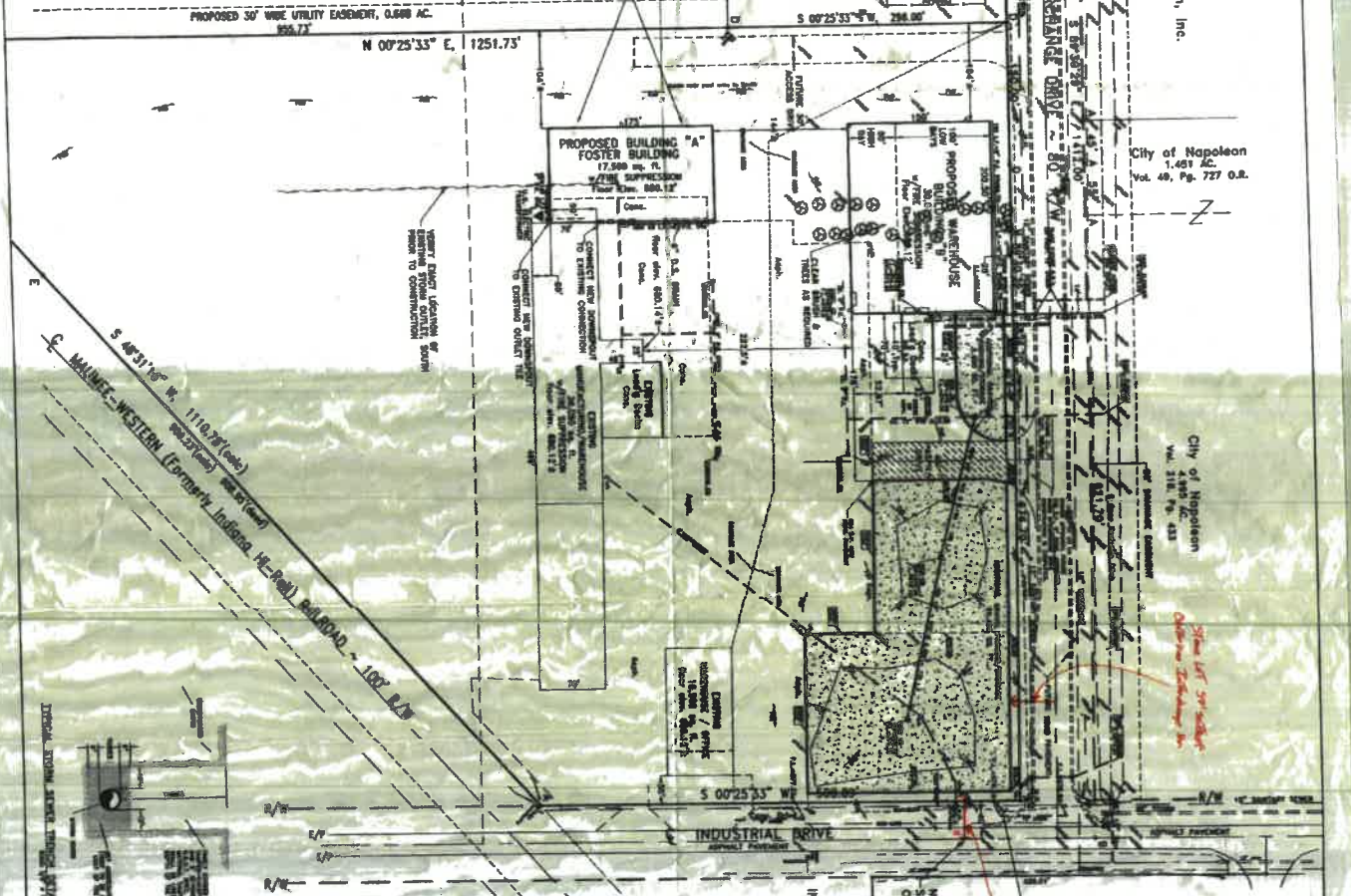
Therefore, a restrictor plate with a 6.5" hole will be required on outlet pipe to allow the 2-year 24 hour storm flow to leave the site.



**SURVEY MONUMENT LEGEND**

- A = Station Pin found from previous survey
- B = Iron Nail found from previous survey
- C = C/area found at stake, top of steel bar, base of stake
- D = 1/2" x 1/2" Iron Pin w/Mark, cap found
- E = 1/2" x 1/2" Iron Pin w/Mark, cap found

(dash) = distance from previous deed  
(dash) = calculated survey distance



**PROJECT LOCATION**

**BUILDING DATA**

1) FOSTER BUILDING: 17,500 sq. ft. (17,500 sq. ft. x 1.00 = 17,500 sq. ft.)

2) WATERHOUSE: 10,000 sq. ft. (10,000 sq. ft. x 1.00 = 10,000 sq. ft.)

3) WAREHOUSE: 10,000 sq. ft. (10,000 sq. ft. x 1.00 = 10,000 sq. ft.)

**LEGEND OF UTILITIES**

1" = 100' (Scale)

**PART OF THE WEST 1/4, FRACTIONAL SECTION 7, TOWNSHIP 14 N., RANGE 10 E., COUNTY OF OHIO**

**SECTION 7, TOWNSHIP 14 N., RANGE 10 E., COUNTY OF OHIO**

**FORMER DISTRICT # 1-2, GREEN INDUSTRIAL**

**OWNER: R O D Ltd.**

**DATE: 10/1/2010**

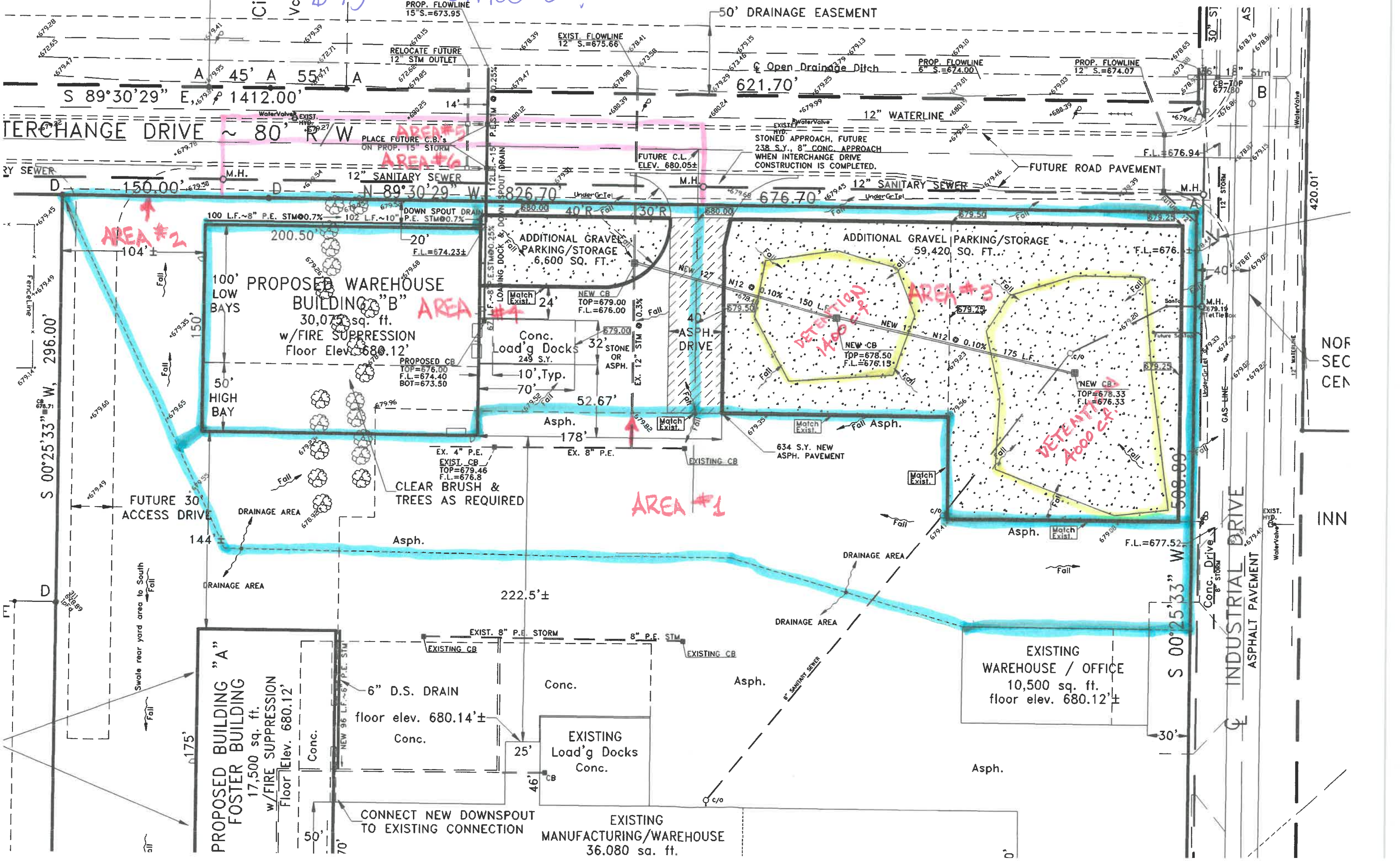
**SCALE: 1" = 100'**

**SITE PLAN, LOCATION MAP & BUILDING DATA**

**3 of 7**



1675 Industrial Dr.



INTERCHANGE DRIVE ~ 80' R/W

50' DRAINAGE EASEMENT

PROPOSED WAREHOUSE BUILDING "B"  
30,075 sq. ft.  
w/FIRE SUPPRESSION  
Floor Elev. 680.12'

PROPOSED BUILDING FOSTER BUILDING  
17,500 sq. ft.  
w/FIRE SUPPRESSION  
Floor Elev. 680.12'

EXISTING MANUFACTURING/WAREHOUSE  
36,080 sa. ft.

EXISTING WAREHOUSE / OFFICE  
10,500 sq. ft.  
floor elev. 680.12'±

DETECTION POND  
1,000 C.F.

CLEAR BRUSH & TREES AS REQUIRED

CONNECT NEW DOWNSPOUT TO EXISTING CONNECTION

Asph.

Asph.

S 00°25'33" W, 508.89'

S 00°25'33" W, 296.00'

NOF SEC CEN

INN

INDUSTRIAL DRIVE ASPHALT PAVEMENT