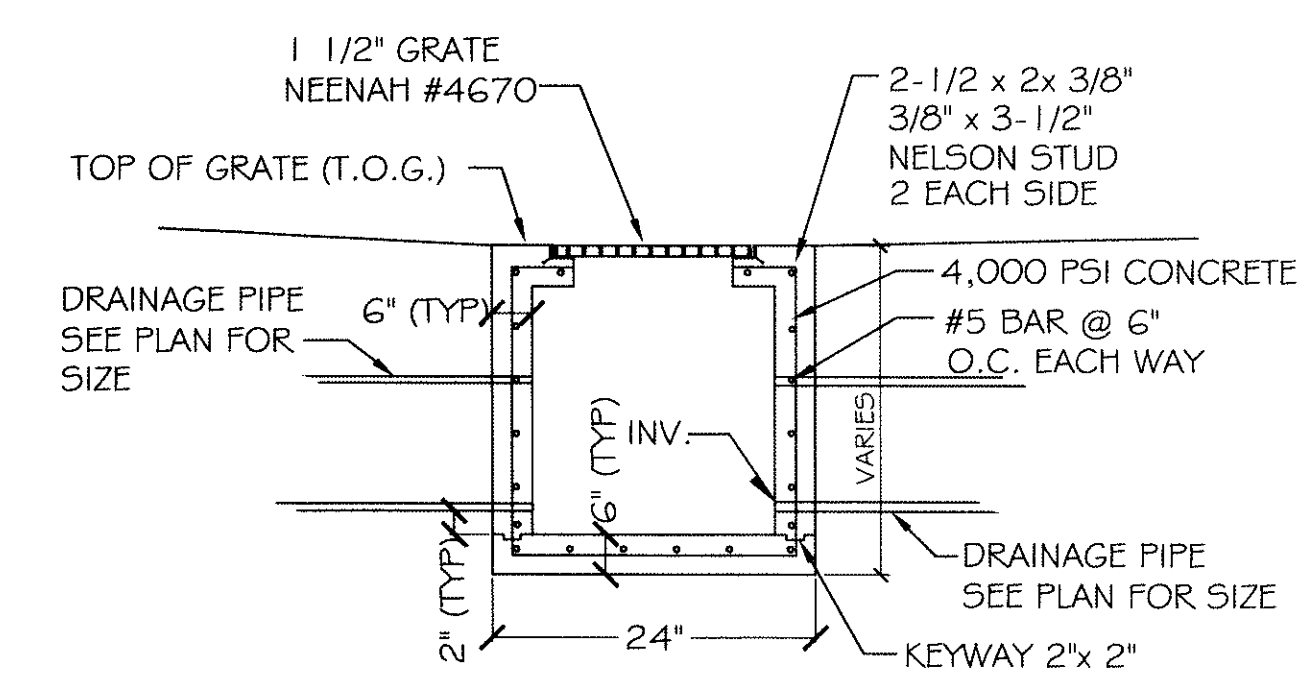


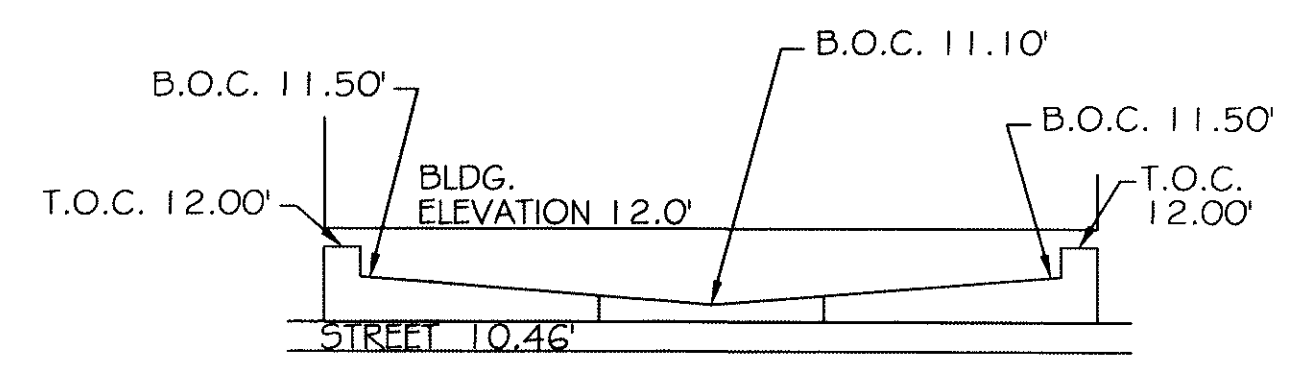
**SITE DRAINAGE PLAN**  
SCALE: 1" = 10'

**LEGEND:**

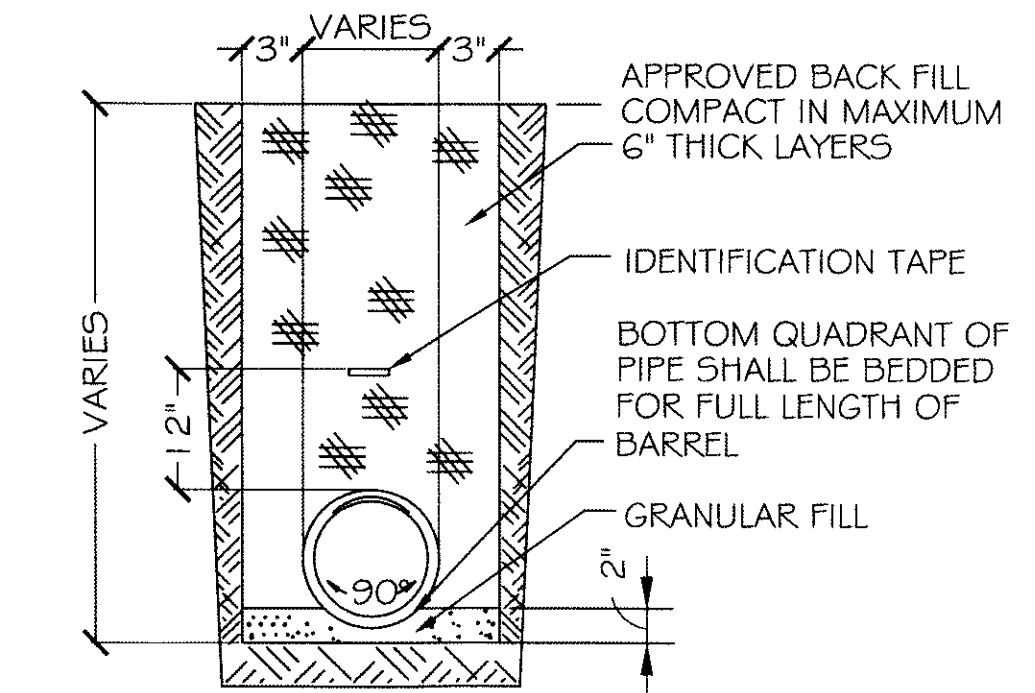
- PROPERTY LINE
- - - UTILITY / EASEMENT LINE
- - - BUILDING SETBACK MINIMUM
- - - LANDSCAPING SETBACK MINIMUM AND BUFFER ZONE LIMITS AT REAR
- NEW BUILDING
- - - NEW DRAIN LINE
- - NEW DROP INLET w/TEMP. SILT FENCING
- # - T.O. GRATE ELEVATION
- ⊕ - INVERT ELEVATION
- ⓪ - NEW ELEVATIONS
- ⓧ - EXISTING ELEVATIONS
- - - TEMPORARY SILT FENCING
- ⊙ - EXISTING SURVEY TOPO POINTS



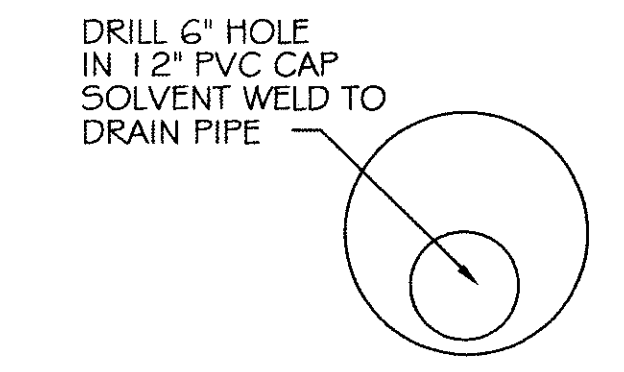
**TYPICAL DROP INLET**  
N.T.S.



**SECTION**  
N.T.S.



**DRAIN PIPE BEDDING**  
N.T.S.



**ORIFICE DETAIL**  
N.T.S.

- NOTES:**
- 1) DRAIN PIPE & FITTINGS WITHIN PROPERTY LINE SHALL BE POLYVINYL CHLORIDE PLASTIC PIPE, MEETING CLASS 100 C-900 PVC.
  - 2) ELEVATIONS SHOWN ARE M.S.L.
  - 3) FIELD VERIFY ALL ELEVATIONS AND DRAINAGE SYSTEM PLACEMENT PRIOR TO START OF WORK.
  - 4) MUCK OUT 24" DEEP FOR FOUNDATION PAD MINIMUM OR TO UNDISTURBED SOIL CAPABLE OF 1500 PSF BEARING.
  - 5) DOWNSPOUTS SHALL FLOW INTO SUB-SURFACE DRAINAGE.
  - 6) THERE IS NO EVIDENCE OF EXISTING OFF-SITE FLOW CROSSING THE PROPERTY. NEW DRAINAGE CALCULATIONS ARE DETERMINED ACCORDINGLY.

**PROJECT:**

**CAR WASH**

**DRAINAGE RUN OFF CALCULATIONS - MODIFIED RATIONAL METHOD**

Q <sub>1</sub> = CIA			
PRIOR DEVELOPMENT 10 Year Frequency			
Watertight Surfaces	c(1) = 0.9	0	sqft = 0.000 Acres
Gravel Surface	c(2) = 0.25	0	sqft = 0.000 Acres
Green Space	c(3) = 0.35	21,262.00	sqft = 0.488 Acres
<b>Summary</b>	<b>c = 0.35</b>	<b>21262</b>	<b>sqft = 0.488 Acres</b>

Duration (D) = Time of concentration (TC)  
 $TC = .7039(L^{.3917})(c^{-.1.1309})(S^{-.1985})$   
 where L = 141 Runoff length ft Elev diff = 0.5  
 c = 0.35 Runoff coef  
 S = 0.3546 Percent Slope  
 therefore TC = D = 19.69 minutes  
 and from Rainfall Intensity Table I = 3.50 in/hr

**Q<sub>1</sub> = 0.598 cfs RUNOFF LIMIT 85% 0.508 cfs**

Q <sub>2</sub> = CIA			
POST DEVELOPMENT 10 Year Frequency			
Watertight Surfaces	c(1) = 0.9	8784	sqft = 0.202 Acres
Gravel Surface	c(2) = 0.25	0	sqft = 0.000 Acres
Green Space	c(3) = 0.35	12478	sqft = 0.286 Acres
<b>Summary</b>	<b>c = 0.58</b>	<b>21262</b>	<b>sqft = 0.488 Acres</b>

D = Time of concentration (TC)  
 $TC = .7039(L^{.3917})(c^{-.1.1309})(S^{-.1985})$   
 where L = 113 Runoff length ft Elev diff = 0.75  
 c = 0.58 Runoff coef  
 S = 0.6637 Percent Slope  
 therefore TC = D = 9.06 minutes or 387276  
 and from Rainfall Intensity Table I = 3.50 in/hr

**Q<sub>2</sub> = 0.986 cfs**

**RESULTS**

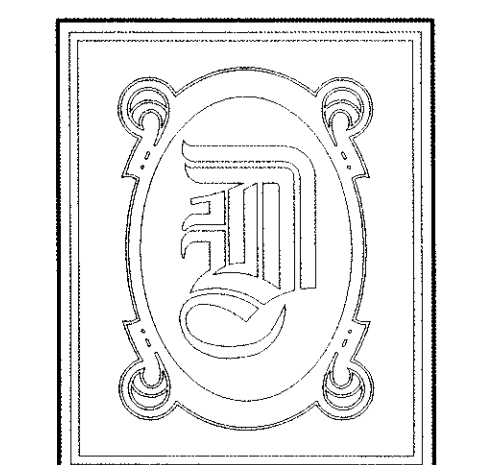
DETENTION REQUIRED Q<sub>2</sub>-Q<sub>1</sub> 0.478 cfs  
 TWO HOUR DETENTION 3440.7 cuft  
 DETENTION DIMENSIONS WIDTH 105 feet LENGTH 113 feet DEPTH 0.29 feet

**DISCHARGE END AREA CALCULATIONS**

where Q is allowable run off

Allowable run off	Q = 0.508 cfs
Friction loss factor	c = 0.98 coefficient
Acceleration	g = 32.2 ft/sec
Height above invert	if H = 2.00 feet
End area	A = 0.05 sqft

**REQUIRED CONDUIT = 4.22 inch diameter**  
 USE 6 inch orifice



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CECIL BOYD'S  
CAR WASH  
LOT 5A  
EAST HALL ST.  
SLIDELL, LA

**DRAINAGE PLAN**

*Robert Wiltse*

SCALE: AS NOTED

JOB#: 2074

DATE: 09-13-10

SHEET 5

**C-4**