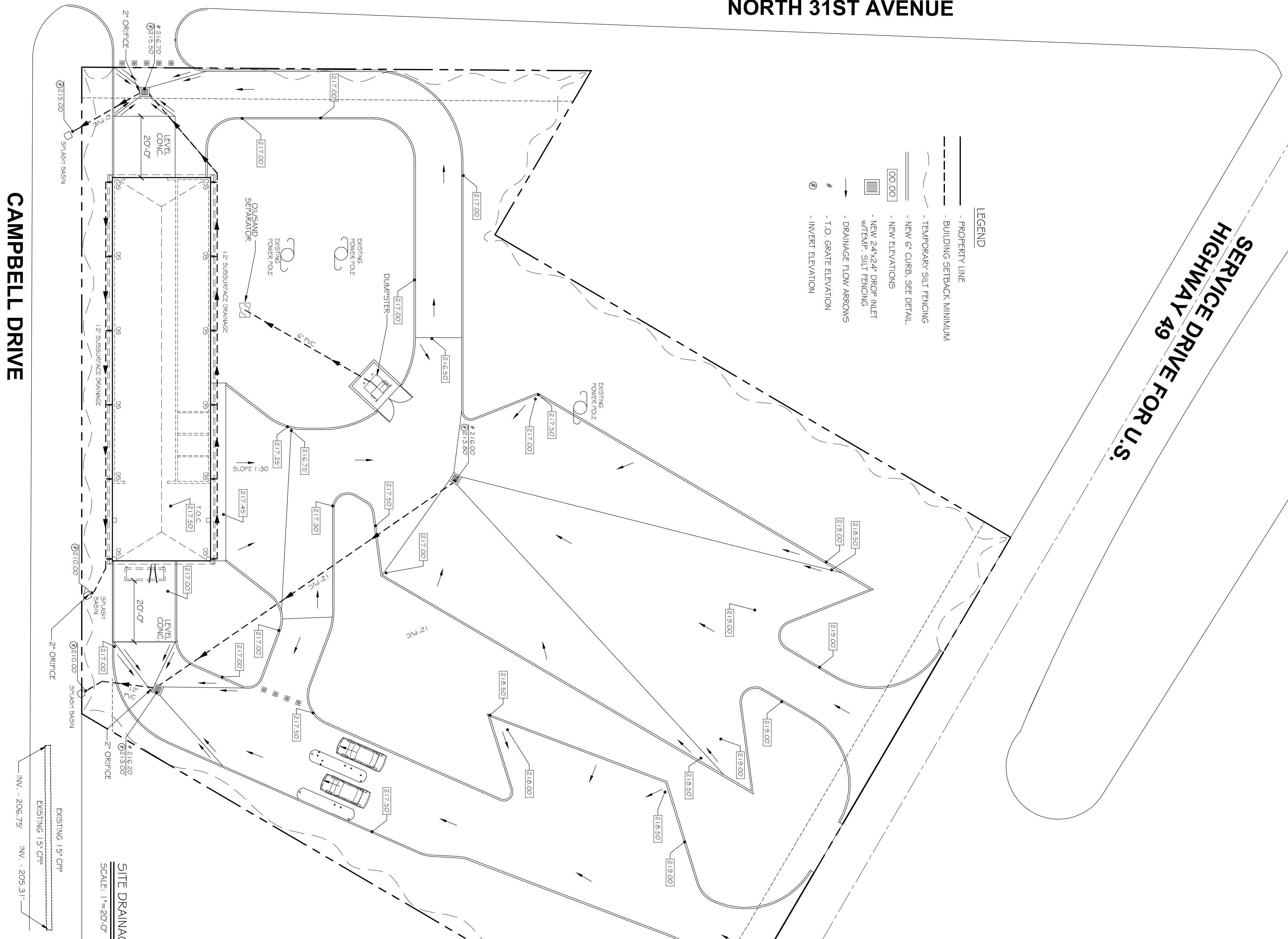


NORTH 31ST AVENUE

SERVICE DRIVE FOR U.S. HIGHWAY 49

CAMPBELL DRIVE



LEGEND

- PROPERTY LINE
- BUILDING SETBACK MINIMUM
- TEMPORARY SILT FENCING
- NEW 6" CURB, SEE DETAIL
- NEW ELEVATIONS
- NEW 24"x24" DROP INLET WITH 1" SLOTTED GRATE
- DRAINAGE FLOW ARROWS
- T.O. GRADE ELEVATION
- INVERT ELEVATION

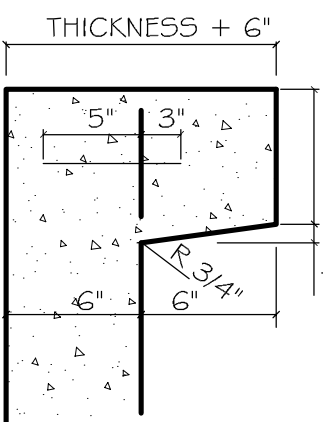
SITE DRAINAGE PLAN
SCALE: 1"=20'-0"

EXISTING 15" CP
INV. - 206.75'
EXISTING 15" CP
INV. - 205.31'

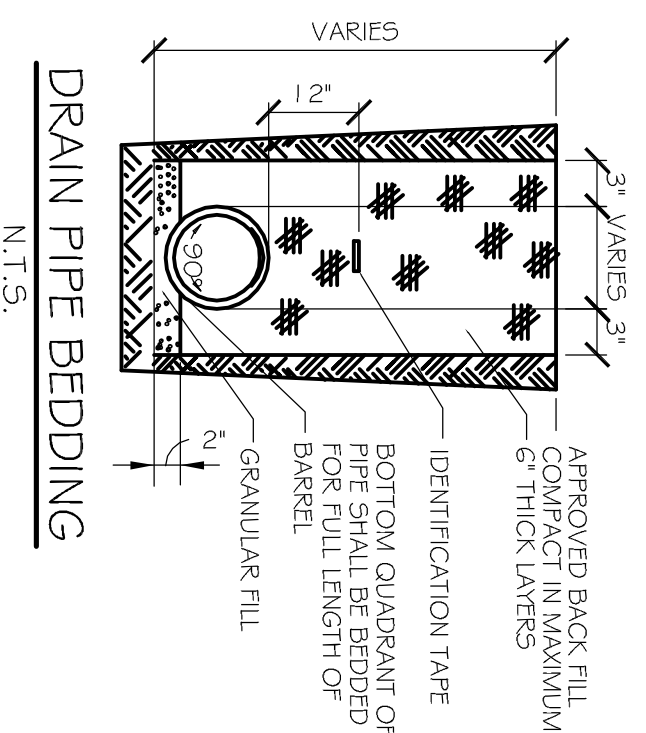
GUTTERS AND DOWN SPOUTS TO BE SEAMLESS ALUMINUM 24 GAUGE, COULDS TO BE SELECTED IN CROSS SECTION, MINIMUM 6" WIDTH.

- NOTES:
- 1) DRAIN PIPE & FITTINGS WITHIN PROPERTY LINE SHALL BE POLYVINYL CHLORIDE PLASTIC PIPE, MEETING CLASS 100 C-900 FC.
 - 2) ELEVATIONS SHOWN ARE M.S.L.
 - 3) FIELD VERIFY ALL ELEVATIONS AND DRAINAGE SYSTEM.
 - 4) DOWN SPOUTS SHALL FLOW INTO SUB-SURFACE DRAINAGE.

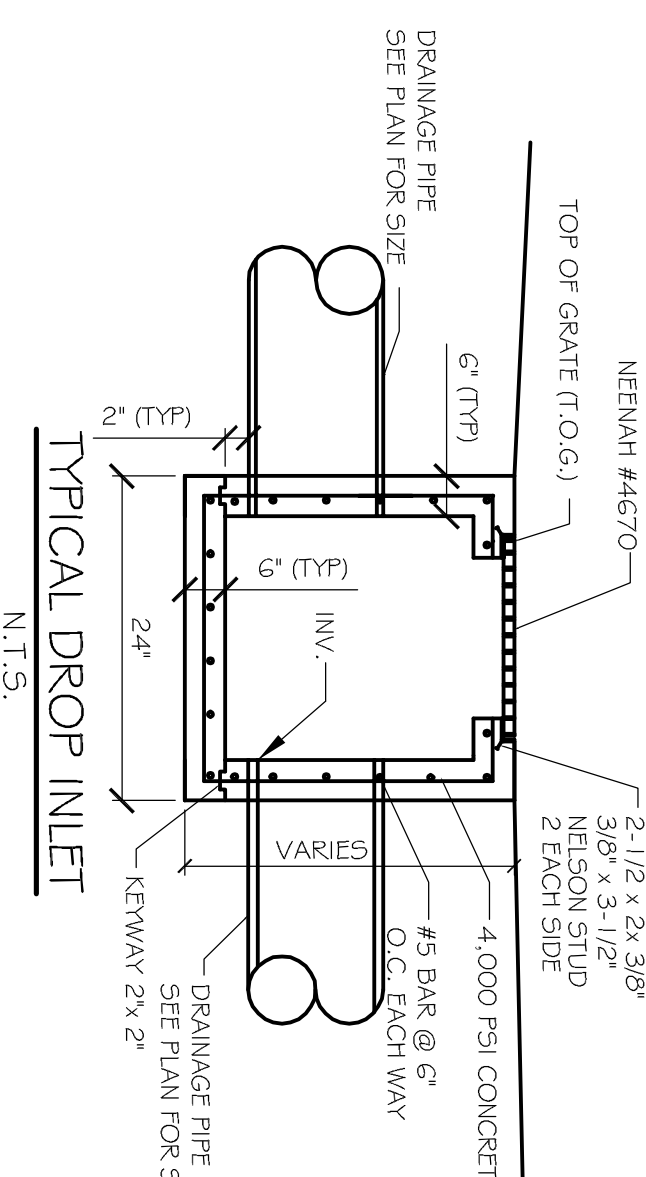
U.S. HIGHWAY 49



6" BARRIER CONCRETE CURB
N.T.S.



DRAIN PIPE BEDDING
N.T.S.



TYPICAL DROP INLET
N.T.S.

PROJECT:		STORMWATER RUNOFF CALCULATIONS		Rainforest Carwash	
Formula used:		[1] RATIONAL METHOD: $Q = Aci$			
where:		Q = Peak discharge of watershed in cubic feet per second (cfs) due to maximum storm runoff from watershed in acres.			
A =	Area of watershed in acres.				
C =	Coefficient of runoff (0-1).				
i =	Intensity of rainfall in inches per hour based on concentration time [3]				
		[4] $TC = \left(\frac{2.48(1000 - 9)^{0.73}}{(1140(0.5))} \right)$			
where:		TC = Time of concentration time required for rain falling at most remote point to reach discharge point.			
c =	Site runoff coefficient based on conditions shown				
s =	Percent slope of watershed				
PRIOR DRAINAGE PLAN					
25 Year Frequency					
Q ₁ = Aci					
Watershed Surface	c(1) = 0.9	1179	sqft = 0.027	Acres	
Gravel Surface	c(2) = 0.35	0	sqft = 0.000	Acres	
Green Space	c(3) = 0.15	60670	sqft = 1.383	Acres	
Summary	c = 0.16	61849	sqft = 1.420	Acres	
Duration (D) = Time of concentration (TC)					
where:					
c =	0.16	run-off length, ft		Elev diff = 3'	
S =	2.0408	run-off coefficient			
TC = D =	45.49	minutes			
Expected rainfall intensity	I = 7.658	in/hr			
Q ₁ =	1187 cfs				
POST DRAINAGE PLAN					
25 Year Frequency					
Q ₂ = Aci					
Watershed Surface	c(1) = 0.9	31948	sqft = 0.733	Acres	
Gravel Surface	c(2) = 0.35	0	sqft = 0.000	Acres	
Green Space	c(3) = 0.15	23901	sqft = 0.568	Acres	
Summary	c = 0.16	61849	sqft = 1.420	Acres	
Duration (D) = Time of concentration (TC)					
where:					
c =	0.16	run-off length, ft		Elev diff = 3'	
S =	2.0000	run-off coefficient			
TC = D =	12.24	minutes			
Expected rainfall intensity	I = 7.658	in/hr			
Q ₂ =	5165 cfs				
DETENTION REQUIREMENTS					
Detention required	Q ₁ -Q ₂	406 cfs			
ONE HOUR DETENTION		14608.9 cfs			
DETENTION DIMENSIONS		LENGTH	108 feet		
		WIDTH	180 feet		
		DEPTH REQUIREMENTS	0.87 feet		
DISCHARGE END OF DETENTION					
10 Year Frequency					
where:					
A =	Discharge Area required				
g =	Discharge coefficient				
h =	Hydraulic head				
Q =	Flow volume from runoff				
Q =	0.179 cfs	h =	2.50 feet		
c =	0.62 coefficient	A =	0.023 sqft		
g =	32.16 discharge				
REQUIRED CONDUIT = 2.64 inch inside diameter					
References:					
1. Chen, W.F. The Civil Engineering Handbook, 1995. Ed # 3.1, pg. 1036					
2. Savely, E.W. The Data Book for Civil Engineers, Vol. 1, 1980. Pg. 8, pg. 18-02					
3. Savely, E.W. The Data Book for Civil Engineers, Vol. 1, 1980. Pg. 8, pg. 18-02					
4. Savely, E.W. The Data Book for Civil Engineers, Vol. 1, 1980. Pg. 8, pg. 18-02					
5. Chen, W.F. The Civil Engineering Handbook, 1995. Ed # 2.13, pg. 959					

RAINFOREST CARWASH #2
6485 U.S. HWY. 49

HATTIESBURG, MISSISSIPPI
JOB No: 2212 DATE: 09-15-2014
DRAWN BY: CKD CHECKED BY: CKD



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SITE DRAINAGE/ GRADING PLAN
SHEET No: 00 OF 00

C4