

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

April 6, 2017

Jean J. Bordenave, PE
PO Box 91194
Albuquerque, NM, 87199

**RE: Lead Ave. SW Condominiums
Grading Plan
Stamp Date: 1/9/17
Hydrology File: K13D075**

Dear Mr. Bordenave:

Based upon the information provided in your submittal received 3/28/2017, the Grading Plan **is not** approved for Building Permit. The following comments need to be addressed for approval of the above referenced project:

1. On Sheet C1-1. Please provide the vicinity map and the FIRM map.
2. On Sheet C1-1. In Keyed Notes #10, 11, & 12, there is a 4" pvc called out. This 4" pvc is not shown on the plans. Please also provide the flow lines of the pipe.
3. On Sheet C1-1. In Keyed Notes #11 & 12, there is a reference to a x" drilled hole to control the flow. Please provide the size of the drilled hole and the calculations that support each of the outfalls. Please show the control rate of flow at each of the outfalls.
4. On Sheet C1-1. Please show the volume of the detention provided and the volume of retention provided for each of the three ponds.
5. On Sheet C1-2. For the existing site drainage calculations, the existing treatment is not all "A" but a mixture of "B", "C", and "D". Please correct the calculations. Also this should be in maybe two different drainage basins. This way it is easier to follow that Basin A (for the existing Condo) is free discharge into Lead Ave.
6. On Sheet C1-2. For the Developed Site, please break the calculation up per drainage basins. This way it is easier to follow that Basin A (for the existing Condo) is free discharge into Lead Ave.

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7. On Sheet C1-2. Please provide drainage arrows for each basin.
8. On Sheet C1-2. Under the First Flush Calculations - the front yard ponding, please label the location on C1-1.
9. On Sheet C1-2. Under the First Flush Calculations – common site ponding, please show where this storage pipe is location on C1-1.
10. On Sheet C1-2. Under the Site Drainage Calculations, there is a capacity of 48" x 130' pipe providing 1633 cf. Please show the location of this 48" pipe on C1-1. Also please provide a detail for this pipe and gravel.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

PO Box 1293

Renee C. Brissette

Albuquerque

Reneé C. Brissette, P.E.
Senior Engineer, Hydrology
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New Mexico 87103

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FEMA FIRM MAP 333

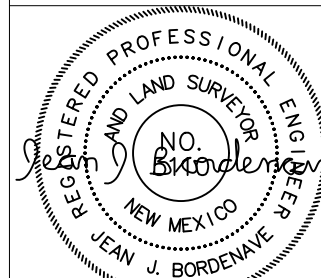
LEGAL DESCRIPTION

LOTS 10-A, 11-A & 12-A, BLOCK 33, RAYNOLDS ADDITION

COA STATION 6-K13 ELEVATION 4959.622 (NAVD 1988)

designed		date	drawn		date
no.	date	remarks			by
REVISIONS					

GRADING AND DRAINAGE
LEAD AVE. SW
CONDOMINIUMS
ALBUQUERQUE, NEW MEXICO



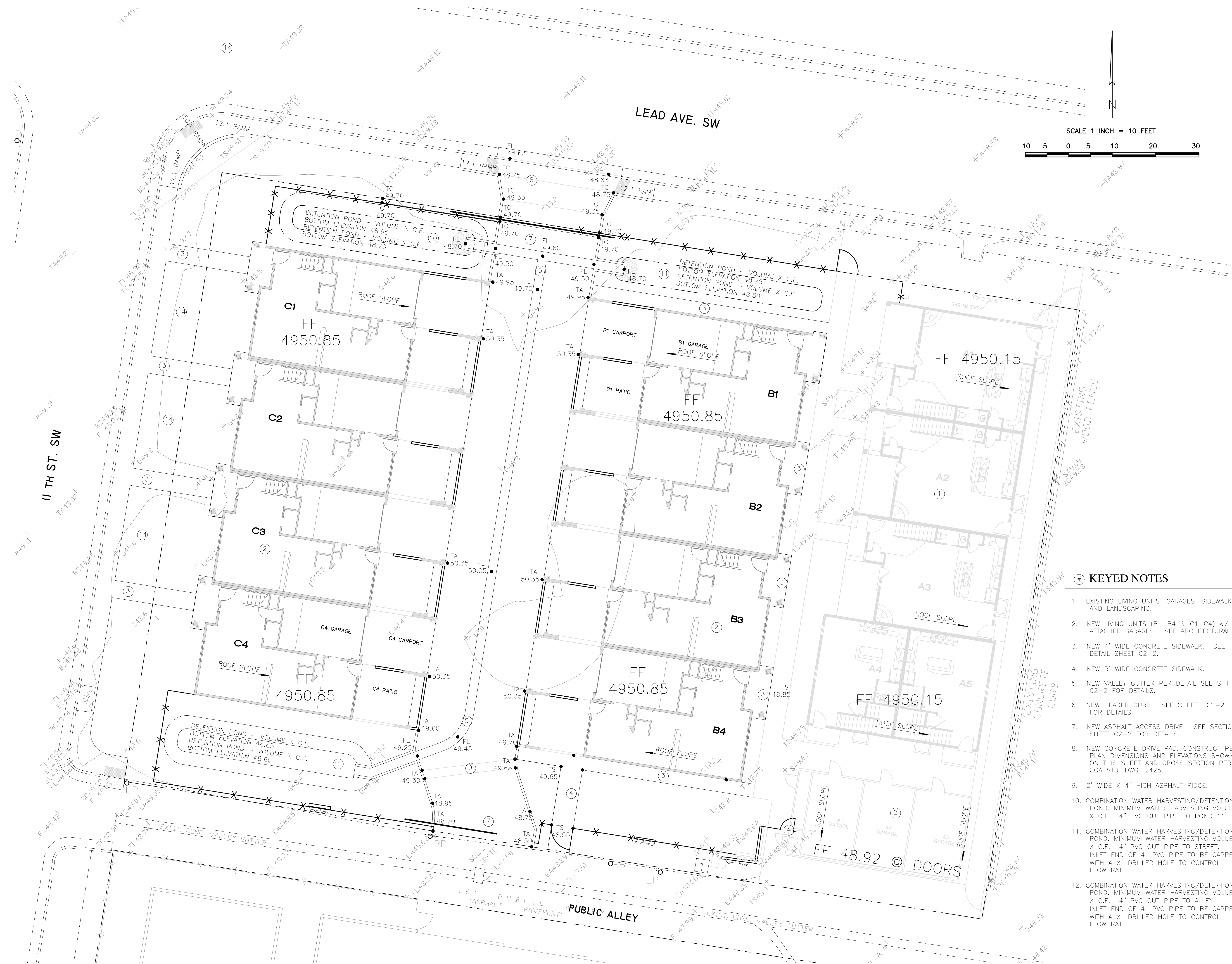
BORDENAVE DESIGNS
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01/09/17	
design	dra
JJB	

drawn

METO

SHEET CI-1



SCALE 1 INCH = 10 FEET

SITE DRAINAGE BASINS

11 TH ST. SW

LEAD AVE. SW

CITY ROW LINE

BASIN 'F'

BASIN 'C'

BASIN 'D'

BASIN 'E'

BASIN 'B'

BASIN 'A'

PUBLIC ALLEY

Legend:

- ROUTE RUNOFF TO CONTROLLED DISCHARGE FACILITY
- DIRECT DISCHARGE RUNOFF TO ADJACENT CITY ROW

SCALE 1 INCH = 30 FEET

30 15 0 15 30 60 90

N

HEADER CURB

6" MIN.

1/2" MIN.

2'-0" MIN.

1'-0" MIN.

FILL SLOPE
(SEE GRADING PLAN)

2-#4 REINFORCING STEEL BARS
PORTLAND CEMENT CURB
SUBGRADE PREPARATION
(95% MODIFIED PROCTOR)
COMPACTED SUBGRADE
(90% MODIFIED PROCTOR)
PAVING SURFACE
(SEE PAVING SECTION)

NOTE:
PROVIDE CONTRACTION JOINTS AT 5 FEET ON CENTER AND EXPANSION JOINTS AT 50 FEET ON CENTER UNLESS OTHERWISE STATED ON SITE PLANS OR IF CURB ABUTS SIDEWALK; WHERE CURB JOINTS SHALL MATCH

The diagram illustrates the cross-section of a valley gutter installation. The gutter opening is 12" wide (minimum) and 2'-0" long. The depth of the gutter is 1 1/2". The gutter is filled with 3000 PSI Portland Cement Concrete. Below the concrete is a 6" layer of Subgrade Preparation (95% Modified Proctor). Below that is a layer of Compacted Subgrade (90% Modified Proctor). The gutter is shown in a cross-section view, with the concrete and subgrade layers clearly defined. The gutter is shown in a cross-section view, with the concrete and subgrade layers clearly defined.

VALLEY GUTTER

12" MIN. 2'-0"

1 1/2"

90°

VALLEY GUTTER (3000 PSI PORTLAND CEMENT CONCRETE)

6" SUBGRADE PREPARATION (95% MODIFIED PROCTOR)

COMPACTED SUBGRADE (90% MODIFIED PROCTOR)

SEE SITE PLAN
FOR WIDTH

6"

SLOPE AT 1/4"
PER FOOT UNLESS
OTHERWISE SHOWN

4" PORTLAND CEMENT CONCRETE SIDEWALK
(4000 PSI CONCRETE)

6" SUBGRADE PREPARATION (95%
MODIFIED PROCTOR)

COMPACTED SUBGRADE (90%
MODIFIED PROCTOR)

ASPHALT PAVEMENT (LIGHT DUTY)

The diagram illustrates the vertical layers of a light-duty asphalt pavement. From top to bottom, the layers are: a 3-inch asphalt surface course (hatched), a 4-inch aggregate base course (stippled), a 6-inch subgrade preparation layer (95% modified proctor) (dotted), and a compacted subgrade layer (90% modified proctor) (cross-hatched). Four vertical lines with dots at the top and bottom of each layer indicate the thickness of each component.

1. ASPHALT MIX DESIGN TO USE CITY OF ALBUQUERQUE AGGREGATE CLASS TYPE 'C' AND HAVE A MARSHALL STABILITY GREATER THAN 1800 LBS.
2. ASPHALT CONCRETE COURSES GREATER THAN 3" IN THICKNESS SHALL BE PLACED WITH MULTIPLE LIFTS. MINIMUM LIFT THICKNESS SHALL BE $1\frac{1}{2}$ ".

EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO PUBLIC RIGHT-OF-WAY OR PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY THE CONSTRUCTION OF TEMPORARY SOIL BERMS OR SILT FENCES AT PROPERTY LINES AND WETTING SOIL TO PREVENT IT FROM BLOWING. IF THE SITE IS CONTROLLED BY A SWPPP PLAN, EROSION CONTROL SHALL BE ACCOMPLISHED ACCORDING TO THE PLAN.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE THE APPROPRIATE BARRICADING, TOP SOIL DISTURBANCE AND EXCAVATION PERMITS FROM THE CITY PRIOR TO BEGINNING CONSTRUCTION.

DRAINAGE NOTES

1. THE SITE WAS PREVIOUSLY DEVELOPED. ALL BUT ONE OF THE EXISTING STRUCTURES WERE RAZED. THE REMAINING STRUCTURE (BUILDING A) HAS BEEN COMPLETELY REMODELED. THE GARAGES SOUTH OF BUILDING A WERE CONSTRUCTED IN THE REMODELING OF BUILDING A. THE BALANCE OF THE SITE IS VACANT.

- THE PRIVATE PROPERTY IS LOCATED IN ZONE 'X' AND THE STREETS (LEAD AVE. AND 11th ST. ARE IN A DESIGNATED FLOOD HAZARD AREA (NO LESS THAN 1 FOOT) PER FEMA FIRM MAP 333H DATED AUGUST, 2012.

2. THE SITE IS LOCATED IN RAINFALL ZONE 2. DUE TO INADEQUATE STORM DRAINAGE FACILITIES IN THE AREA THE SITE HAS AN ALLOWABLE PEAK DISCHARGE RATE OF 2.75 CFS/ACRE. THE EXCESS FLOW WILL BE DETAINED IN SURFACE PONDS WITH DISCHARGES TO PUBLIC RIGHTS-OF-WAY.

- ALL RUNOFF FROM BASINS 'A' AND 'E' WILL BE DIRECTLY DISCHARGED TO THE ALLEY. THE RUNOFF FROM BASINS 'B', 'C' AND 'F' WILL BE ROUTED TO SURFACE PONDS WITH CONTROLLED DISCHARGE OUTLETS. THE OUTLETS WILL BE SET ABOVE THE POND BOTTOMS TO PROVIDE RETENTION OF THE RUNOFF FROM THE 90th PERCENTILE STORM RUNOFF FROM IMPERVIOUS AREAS.

4. TOPO SURVEY DATA SHOWN ON THIS DRAWING WAS OBTAINED BY HARRIS SURVEYING, INC. DATED OCTOBER, 2013.

SITE DRAINAGE CALCULATIONS									
CONDITION	B A I N	STORM RETURN PERIOD	TREATMENT TYPE	TREATMENT AREA	EXCESS PRECIPITATION	PEAK RUNOFF	RUNOFF VOLUME	RUNOFF RATE	
-	-	year	(table 4)	(table 5)	(table 6)	(table 7)	(table 8)	(table 9)	
-	-	-	-	sq. ft.	in.	cfs/acre	cu. ft.	cfs	
EXISTING	S I T E	10	A	28400	0.13	0.38	308	0.25	
			B	0	0.28	0.95	0	0.00	
			C	0	0.52	1.71	0	0.00	
			D	0	1.34	3.14	0	0.00	
			TOTAL	28400			308	0.25	
		100	A	28400	0.53	1.56	1254	1.02	
			B	0	0.78	2.28	0	0.00	
			C	0	1.13	3.14	0	0.00	
			D	0	2.12	4.7	0	0.00	
			TOTAL	28400			1254	1.02	
DEVELOPED	S I T E	10	A	0	0.13	0.38	0	0.00	
			B	4026	0.28	0.95	94	0.09	
			C	0	0.52	1.71	0	0.00	
			D	24374	1.34	3.14	2723	1.76	
			TOTAL	28400			2816	1.84	
		100	A	0	0.53	1.56	0	0.00	
			B	4026	0.78	2.28	262	0.21	
			C	0	1.13	3.14	0	0.00	
			D	24374	2.12	4.7	4306	2.63	
			TOTAL	28400			4568	2.84	
	A	100	A	0	0.53	1.56	0	0.00	
			B	3729	0.78	2.28	242	0.20	
			C	0	1.13	3.14	0	0.00	
			D	7597	2.12	4.7	1342	0.82	
			TOTAL	11326			1585	1.01	
	B C	100	A	0	0.53	1.56	0	0.00	
			B	297	0.78	2.28	19	0.02	
			C	0	1.13	3.14	0	0.00	
			D	16777	2.12	4.7	2964	1.81	
			TOTAL	17074			2963	1.83	

NO FIRST FLUSH STORAGE IS REQUIRED BUILDING A AND THE GARAGES FOR UNITS A-3, A-4 AND A-5.

WATER HARVESTING IS TO BE USED TO MEET FIRST FLUSH VOLUME REQUIREMENTS. THE AREAS OF THE ROOF FOR THE FRONT PORCH AND THE SIDEWALK FROM THE FRONT DOOR TO THE MAIN SIDEWALK WILL BE USED TO SIZE THE FRONT YARD POND. THE ROOF FOR THE BALANCE OF THE HOUSES AND COMMON DRIVEWAY WILL USED TO SIZE THE COMMON POND FOR THE BALANCE OF THE SITE OF DRAINING TO THE COMMON DRIVEWAY.

FRONT YARD PONDING
SIDEWALK + ROOF

4'X10' = 40 s.f. 6'X10' = 60 s.f.
PONDING REQUIRED
 $(0.42 - 0.10)(40 + 60) / 12 = 2.67$, USE 3 c.f.

COMMON DRIVE + ROOF
 $(0.42 \ 0.10)(4164 + 12642)/12 = 448 \text{ c.f.}$

PROVIDE PONDING IN GRAVEL BEDDING UNDER
STORAGE PIPE.

GRAVEL VOLUME REQ'D = $448/0.3 = 1493$ c.f.
USE 110'x12'x1.25' ENCASED IN FILTER
FABRIC

BC SITE AREA
FROM TABLE ABOVE = 0.652 Ac.

ALLOWABLE SITE DISCHARGE
2.75cfs/Ac, Total Allowable Peak Discharge = 1.79 cfs

CAPACITY OF 48" x 130' PIPE = 1633 c.f.

6 HOUR STORM RUNOFF VOLUME = 2983c.f.

PROVIDE DUAL PUMPING SYSTEM TO PREVENT DISCHARGE FROM EXCEEDING ALLOWABLE DISCHARGE RATE.