DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Sawmill Crossing Subdivision, Unit 1 ZAP/DRG. FILE H13/D057
DRB#: 1009046 EPC#: 1009046 WORK ORDER#: 617586

LEGAL DESCRIPTION: Lot B-1-A-2, Duke City Lumber Company Addition
CITY ADDRESS:

ENGINEERING FIRM: Mark Goodwin & Associates, PA CONTACT: John MacKenzie, PE
ADDRESS: PO Box 90606 PHONE: 828-2200
CITY, STATE: Albuquerque, NM ZIP CODE: 87199

OWNER: Sawmill Crossing LLC CONTACT: Keith Cheshire
ADDRESS: 7400 Hancock Court, NE PHONE: 797-1134
CITY, STATE: Albuquerque, NM ZIP CODE: 87109

ARCHITECT: N/A CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

SURVEYOR: Aldrich Land Surveying CONTACT: Tim Aldrich
ADDRESS: PO Box 30701 PHONE: 884-1990
CITY, STATE: Albuquerque,NM ZIP CODE: 87190

CONTRACTOR: N/A CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1st SUBMITTAL
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN (Eng. stamp 5-23-12)
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER/ARCHITECT CERT (TCL)
_____ ENGINEER/ARCHITECT (DRB SITE PLAN)
X_____ OTHER (Percolation Testing

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
_____ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
X_____ OTHER (Construction Plans Approval)

WAS A PRE-DESIGN CONFERENCE ATTENDED:
x_____ YES
_____ NO
_____ COPY PROVIDED

SUBMITTED BY: John MacKenzie, PE DATE: October 18, 2012

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539

PROJECT Sawmill Crossing
SUBJECT Percolation Pond
BY _____ DATE _____
CHECKED _____ DATE _____
SHEET ____ OF ____

From Vinyard & Associates soils report, dated July 9, 2012, the percolation rate at ponding area is 9 minutes/in., or 0.11 in./min. in a saturated bore hole. The rate would be greater at initial storm stage. Bottom of proposed pond is to be at elevation 4953. At this elevation pond area is approximately 3700 square feet. Conversion of the percolation rate is necessary:

$$\text{Rate} = 0.11 \text{ in/min}\left(\frac{1 \text{ ft}}{12 \text{ in}}\right)\left(\frac{60 \text{ min}}{\text{hr}}\right) = 0.56 \frac{\text{ft}}{\text{hr}}$$

Therefore, over each hour the following volume percolates into the clean sand beneath the site (sand begins at elev. 4957)

$$3700 \text{ ft}^2 \left(0.56 \frac{\text{ft}}{\text{hr}}\right) = 2{,}056.6 \frac{\text{ft}^3}{\text{hr}}$$

The runoff volume generated during the 100-yr, 6-hour storm was previously found to be 41,861 ft^3, which would take approximate 20 hours to infiltrate.

$$\text{Inf. Time} = \frac{41{,}861 \text{ ft}^3}{2056.6 \frac{\text{ft}^3}{\text{hr}}} = 20.4 \text{ hrs} < 96 \text{ hrs} \quad \text{OK}$$

Vinyard & Associates, Inc.

8916-A Adams Street, NE
Albuquerque, New Mexico 87113
(505) 797-9743 • Fax: (505) 797-9749
vinyardandassociates@comcast.net

Geotechnical Engineering • Materials Testing • Environmental Engineering

GEOTECHNICAL INVESTIGATION
SAWMILL CROSSING SUBDIVISION

Prepared for:

Sawmill Crossing, LLC

Project No.: 12-1-094

July 9, 2012

3.0 SITE CONDITIONS

The site is bound to the east by a UPS facility and to the west by a railroad siding and a ponding area on the order of 8' deep. The site is bound to the north by Aspen Street and to the south by existing apartments and vacant land.

The site is relatively flat. Vegetation on-site consists of sparse weeds and grass. Based upon a review of historical aerial photographs the site was previously developed with at least two large buildings. The structures have been demolished but the concrete slabs were left in place. Additional historical site development included paved areas and utilities.

4.0 SITE SUBSURFACE CONDITIONS

To explore the site subsurface conditions, seven test holes were drilled at the approximate locations shown on the Site Plan, Figure 1. Logs of the Test Holes are presented on Figures 2 through 8. The soil profile varied significantly both laterally across the site and with depth. Test Holes 2, 3, 5 and 7 encountered sandy clay and clayey sand at the ground surface. The remaining test holes encountered silty sand at the ground surface. The sandy clay was moderately to highly plastic, firm to stiff, and very moist. The silty sand was fine to medium grained, loose, and moist. At greater depths, the test holes encountered clean sands. The clean sands were fine to medium grained, loose to medium dense, and slightly moist. Depth to the clean sands ranged from 5' to 15'.

Neither flowing groundwater nor bedrock was encountered in the test holes to a depth of 26', the maximum depth of exploration. However, groundwater conditions may change with time due to precipitation, variations in groundwater level, seepage from ponding areas, or leaking utilities.

The soils encountered in the test holes exhibit a limited consolidation potential under the anticipated structural loads. Limited to moderate consolidation (collapse) occurs when the granular site soils increase in moisture content. The sandy clay and clayey sand soils are slightly expansive to moderately collapsible upon an increase in moisture content. Refer to Figures 10 through 16.

The existing fill encountered consists of silty and clayey sand. The fill contained a limited amount of rubble, trash, and debris. This fill is not suitable for structure or pavement support. The existing fill appears suitable for reuse as structural fill — provided all

particularly as the exposed soils dry out. Heavy equipment and material stockpiles should be located a minimum of five feet from the top of slope.

14.0 PERMANENT CUT and FILL SLOPES

Permanent cut and fill slopes should be no steeper than 3:1 (horizontal:vertical). Building set backs from slopes should conform to Section R403.1.7 of the 2009 International Building Code.

15.0 PERCOLATION AREA

To determine the percolation rate of the site soils, a percolation test was performed at the approximate location indicated on the Site Plan, Figure 1. The test was performed by augering a six-inch diameter hole to a depth of 6.5'. The percolation hole penetrated approximately 2' into the clean sand layer encountered over the majority of the site. The boring was stabilized by inserting a perforated pipe. The hole was then filled with water and the surrounding soils were allowed to saturate. The hole was then refilled with water and the percolation rate was measured.

The following percolation rate was measured:

Boring	Percolation Rate (minutes/inch)
7	9

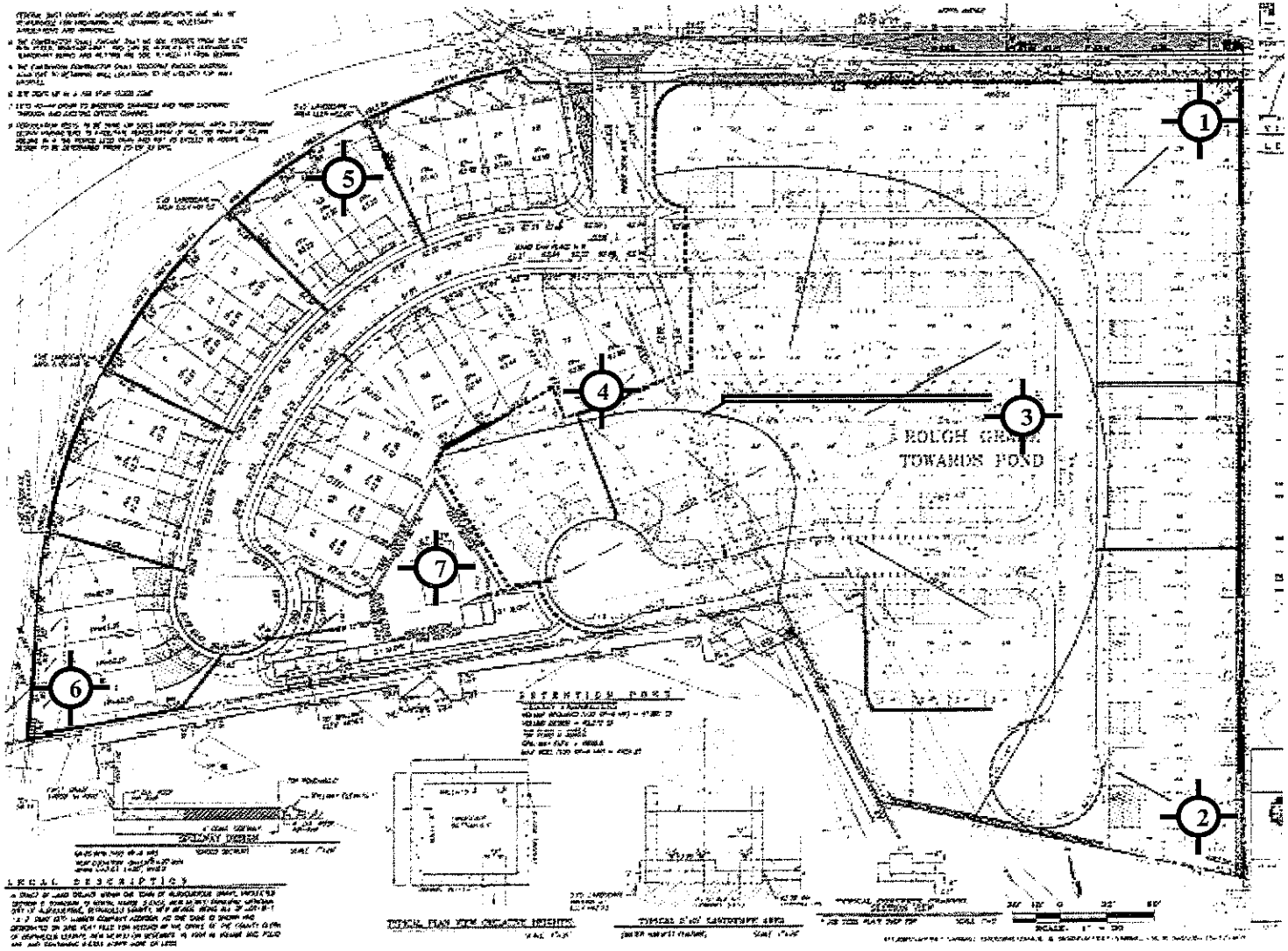
Please note the above percolation rate is applicable only to the clean sand.

16.0 CLOSURE

This report was prepared for the exclusive use of our Client. The recommendations presented in this report are based upon the subsurface conditions disclosed by the test holes. Soil and groundwater conditions may vary between test holes and with time.

V&A Project No.: 12-1-094

SITE PLAN
***Scale Unknown**



(#) **TEST HOLE LOCATION**

FIGURE 1

LOG OF TEST HOLE NO. 7

V & A

Project: Sawmill Crossing Subdivision
Elevation: N/A
Depth to Groundwater: Not Encountered

Project No.: 12-1-094
Date Drilled: 6/21/2012
Drilling Method: 7" H.S.A.

Depth, feet	Blows/Foot	Sample Type	Dry Density pcf	Water Content, %	Additional Testing	Unified Classification	Material Description
5	9	R	82	12.4	1	CL	FILL - CLAY, sandy, firm, slightly moist, brown and black, asphalt
10	18	R	102	2.0	1,2,5	SP	SAND, fine grained, loose, slightly moist, light brown
	8	S		1.5			
15	6	S		1.6	1		
20	11	S		1.9			
25							Bottom of hole at 21½'
30							
35							

ADDITIONAL TESTS: 1= Sieve Analysis 2= Atterberg Limits 3=Direct Shear 4=R-Value 5=Other

Figure: 8

SUMMARY OF LABORATORY TEST DATA

Test Hole	Depth (feet)	Unified Classification	Natural Dry Density (pcf)	Natural Moisture Content (%)	Atterberg Limits		SIEVE ANALYSIS-% PASSING BY WEIGHT										Description
					LL	PI	1 1/2"	3/4"	3/8"	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200	
4	15			2.2													
4	20			3.9													
5	2	CL	77	13.7							100	99	99	97	92	87.4	CLAY, sandy
5	5	SM	97	2.2	NV	NP				100	99	98	97	92	62	26.1	SAND, silty
5	10			1.4													
5	15	SP		1.6					100	98	93	84	59	13	1	0.4	SAND
5	20			1.4													
6	2	SM	107	2.6	NV	NP						100	98	88	51	22.5	SAND, silty
6	5	SP	103	0.8						100	99	98	93	62	5	1.0	SAND
6	10	SP		2.6				100	97	97	95	92	80	44	7	1.1	SAND
6	15			2.4													
6	20			6.7													
7	2	CL	82	12.4							100	99	97	91	68	51.5	CLAY, very sandy
7	5	SM	102	2.0	NV	NP						100	99	91	41	15.6	SAND, silty
7	10			1.5													
7	15	SP		1.6					100	99	97	89	78	43	3	1.0	SAND
7	20			1.9													

V & A Project No.: 12-1-094
Project: Sawmill Crossing Subdivision

Table No.: 1