Michael Brandman Associates

ENVIRONMENTAL SERVICES • PLANNING • NATURAL RESOURCES MANAGEMENT

May 22, 2006

Michael Birkland
Nasland Engineering
4740 Ruffner Street
San Diego, CA 92111

SUBJECT: Results of Native Plant Survey for Proposed Wal-Mart Site in the Town of Yucca Valley, California

Dear Mr. Birkland:

At your request, Michael Brandman Associates (MBA) has prepared this letter report to document the results of our native desert plant survey for the proposed Wal-Mart site in Yucca Valley, California.

Project Location and Description

The project site consists of undeveloped land located near the eastern boundary of the Town of Yucca Valley, within the County of San Bernardino, California (Exhibit 1). The project site is bound on the north by Highway 62 (Twentynine Palms Highway) and on the west by Avalon Avenue (Exhibit 2). The site is located in Section 32, Township 1 North, and Range 6 East of the Yucca Valley North 7.5 minute U.S. Geological Survey (USGS) quadrangle map.

It is our understanding that the proposed project would include a Walmart retail store and associated infrastructure (Exhibit 3).

Regulatory Framework

The Town of Yucca Valley General Plan recognizes the Joshua tree as a symbol of the Mojave Desert and Chapter 1, Desert Native Plant Protection, of Town Ordinance No. 140, the Plant Protection and Management Ordinance, aims to preserve and protect native plants unique to Yucca Valley. Plants protected by the Ordinance include all species of mesquites (*Prosopis* spp.), yuccas (*Yucca* spp.), creosote rings (10 feet or greater in diameter), Joshua trees (*Yucca brevifolia*), California juniper (*Juniperus californica*), desert willow (*Chilopsis linearis*), pinon pine (*Pinus monophyll*), Palo Verde (*Cercidium* spp.), and manzanita (*Arctostaphylos* spp.). The Ordinance states that protected desert native plants shall not be removed except under a permit issued by the Community Development Director. Prior to the issuance of a native tree or plant removal permit, a plot plan shall be approved by the Community Development Department indicating exactly which trees or plants are authorized to be removed or relocated. In the event that it is found to be unreasonable to maintain a Joshua tree in its original place, translocation onsite is one option, or the Town has established an adoption program to allow for members of the public to adopt Joshua trees.

Field Survey Methods

MBA biologists conducted a field survey during two visits to the project site: March 16 and April 8, 2006. The entire site was walked on foot, and all protected native desert plants within the project site and in the project impact area were documented. Aerial photographs, as well as GPS units (Magellan Platinum), were used for reference while conducting the survey.

Due to the prevalence of Joshua trees within the project site, the survey focused on documenting the potential for individual Joshua trees to be translocated. Based on accepted protocol[1], the following guidelines were used to assess if a tree was suitable for translocation:

- The tree's fork was 6 feet high or less;
- The tree had less than 6 branches;
- The tree's canopy was less than 4 feet in width;
- The branches were not widely spreading; and
- The trees were not leaning (generally defined as less than a 45 degree angle to the ground).

These guidelines are general and the potential for trees to be translocated was determined based on an individual basis, taking into account the apparent health and shape of each tree. Data recorded included the diameter at breast height (DBH), height to the first fork, overall height of the tree, crown diameter, number of branches, and suitability for translocation. Due to time constraints, not all data fields were recorded for all trees. In general, data was recorded for trees that were determined to not be suitable for translocation in order to document the reason for exclusion. Trees were tagged with round aluminum tags. Tags were numbered from 276 to 377 and were nailed onto the north side of the tree. Young trees could not be tagged due to the lack of bark. A GPS coordinate was taken for these trees and they were named beginning with the letters JT.

Existing Conditions

The proposed project site is a vacant lot with surrounding land uses including undeveloped land to the south, retail to the east and west, and residential development to the north. The site is relatively flat at an elevation of approximately 3,200 feet above mean sea level. It is dominated by Joshua trees and creosote bush (*Larrea tridentata*).

Results

Two species that are present within the project site are protected by the Plant Protection and Management Ordinance—Joshua tree and Mohave Yucca (*Yucca schidigera*). A total of 129 Joshua trees were mapped within the project impact area (Exhibit 4). Of these 129 Joshua trees, 37 were determined to be unlikely to survive after translocation, leaving 92 with a potential to be translocated successfully. Two Mohave yucca were observed and mapped. Both yuccas are expected to be translocated successfully. The Joshua trees range from 1 to 25 feet in height, with an average height of approximately 9 feet. The DBH ranged from less than 6 inches to 14 inches (see Attachment 1, Data).

Recommendations

A Joshua tree salvage plan will be written prior to issuance of a grading permit. The plan will detail methods for removal, storage, transplantation, and maintenance of the Joshua trees. The trees that will be

[1] Personal Communication, Paul Kielhold

used on the project site will be stored separately. The remaining trees that are removed successfully will be made available for adoption pursuant to the Town's Joshua tree adoption program.

Final Conclusions

A native desert plant survey, consistent with the Town's Ordinance No. 140 was conducted for the proposed Wal-Mart Retail Store site in Yucca Valley. There are two species protected by the ordinance present within the project site, Joshua tree and Mohave yucca. A total of 92 Joshua trees and 2 Mohave yucca are suitable for translocation. Any plants not utilized as part of the project's landscaping will be made available for adoption pursuant to the Town's native desert plant adoption program. A conservative approach was taken when determining if a tree could be salvaged and MBA makes no guarantees as to the likelihood of successful translocation for trees marked as salvageable.

Please feel free to call me at 909.884.2255 if you have any questions concerning the information provided in this report. We look forward to continuing to assist you with work on this and other sites.

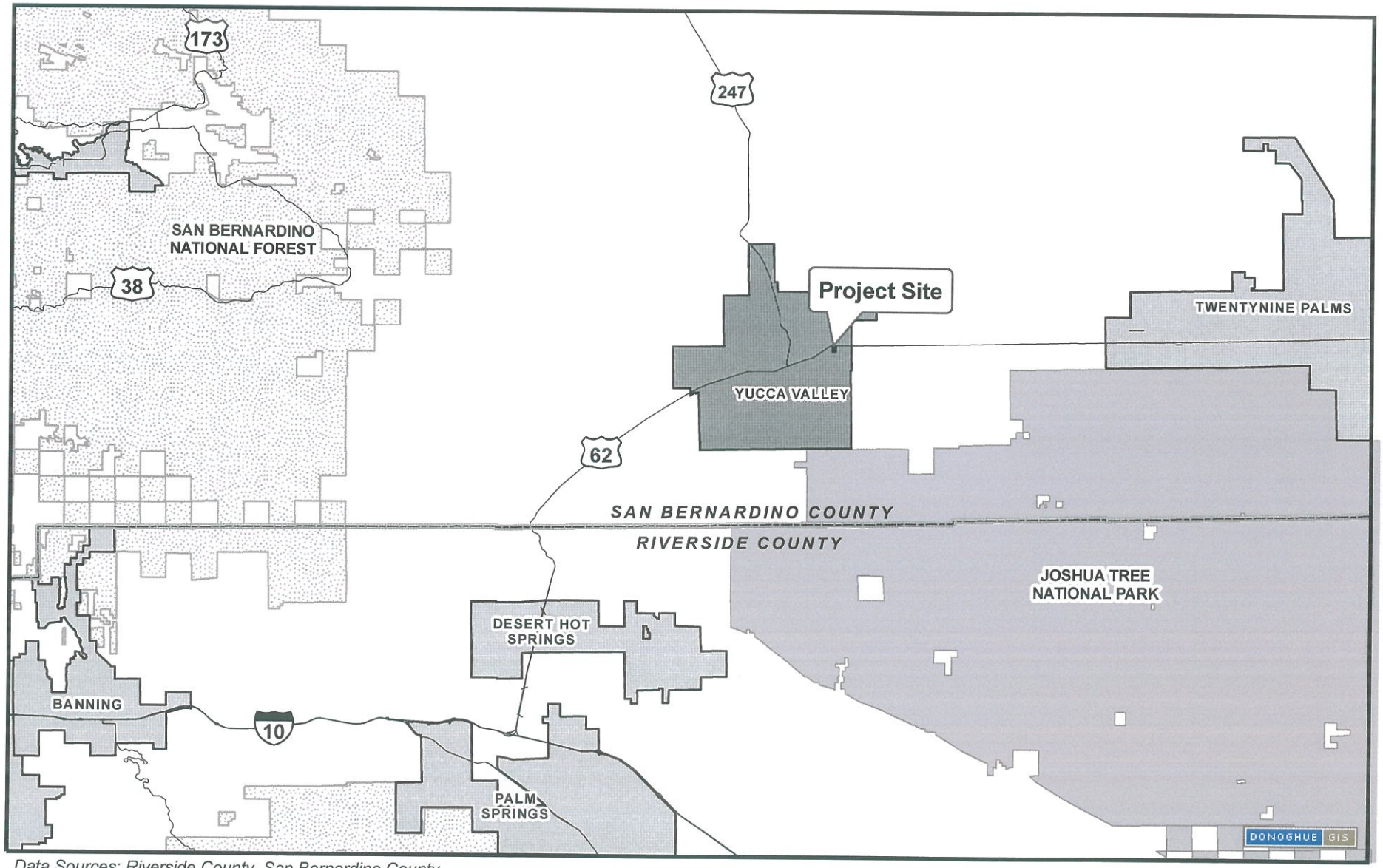
Sincerely,

Linda Archer, Project Manager
Michael Brandman Associates
621 E. Carnegie Drive, Suite 100
San Bernardino, CA 92408

Attachments: Exhibit 1: Regional Vicinity Map
Exhibit 2: Local Vicinity Map
Exhibit 3: Site Plan
Exhibit 4: Native Plant Survey
Attachment 1: Joshua Tree Data
Attachment 2: Site Photos

LMA:sep

cc: Gary Brown, Gresham Savage Nolan & Tilden



Data Sources: Riverside County, San Bernardino County

Michael Brandman Associates

NORTH

0 5 10 Miles

Major Roads
County Line
Project Site
Yucca Valley
City Boundaries
Joshua Tree National Park
San Bernardino National Forest

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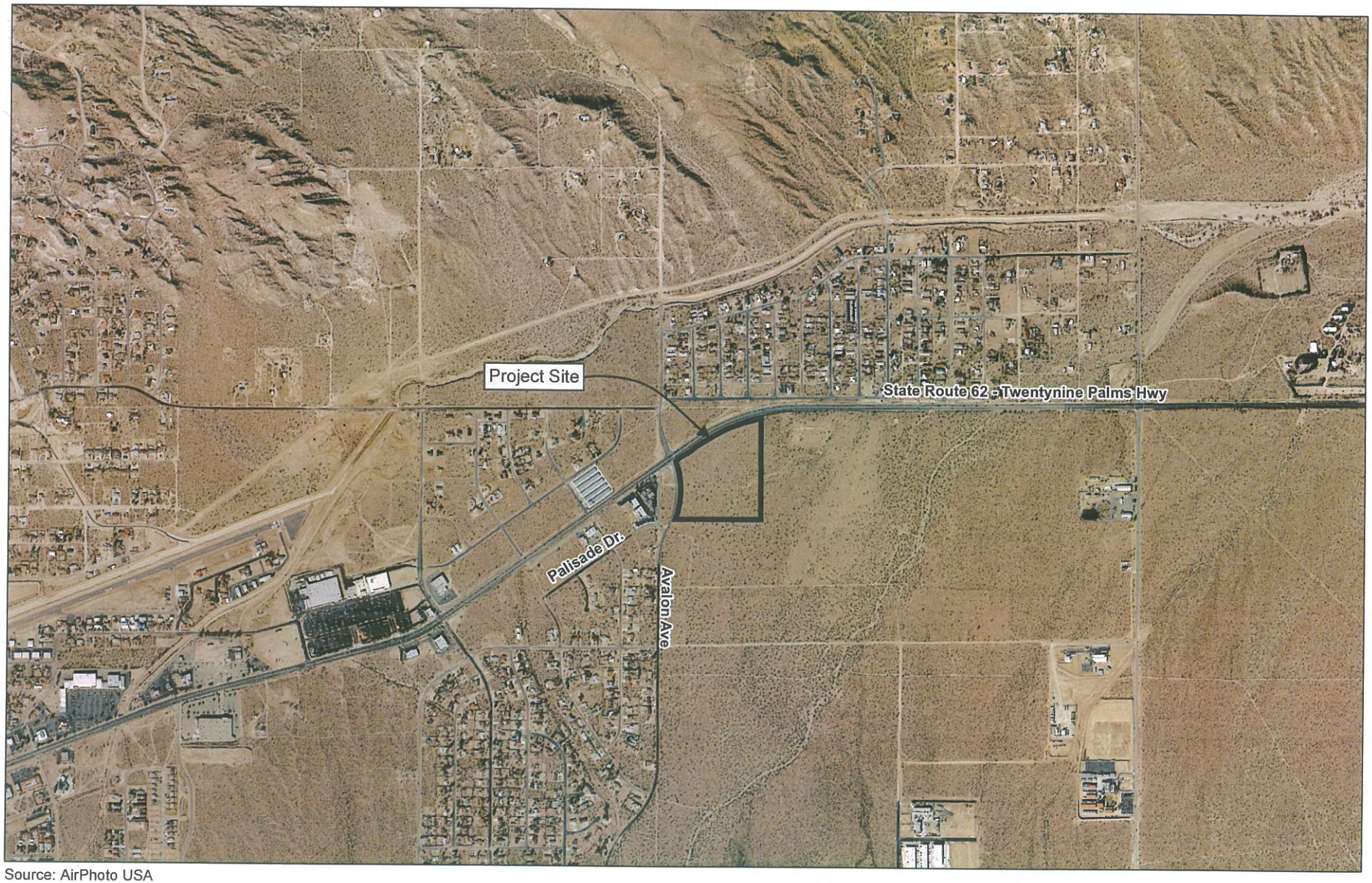
Exhibit 1
Regional Vicinity Map

WAL-MART NATIVE PLANT SURVEY, YUCCA VALLEY, CA



Source: AirPhoto USA

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NORTH

1,500 750 0 1,500 Feet

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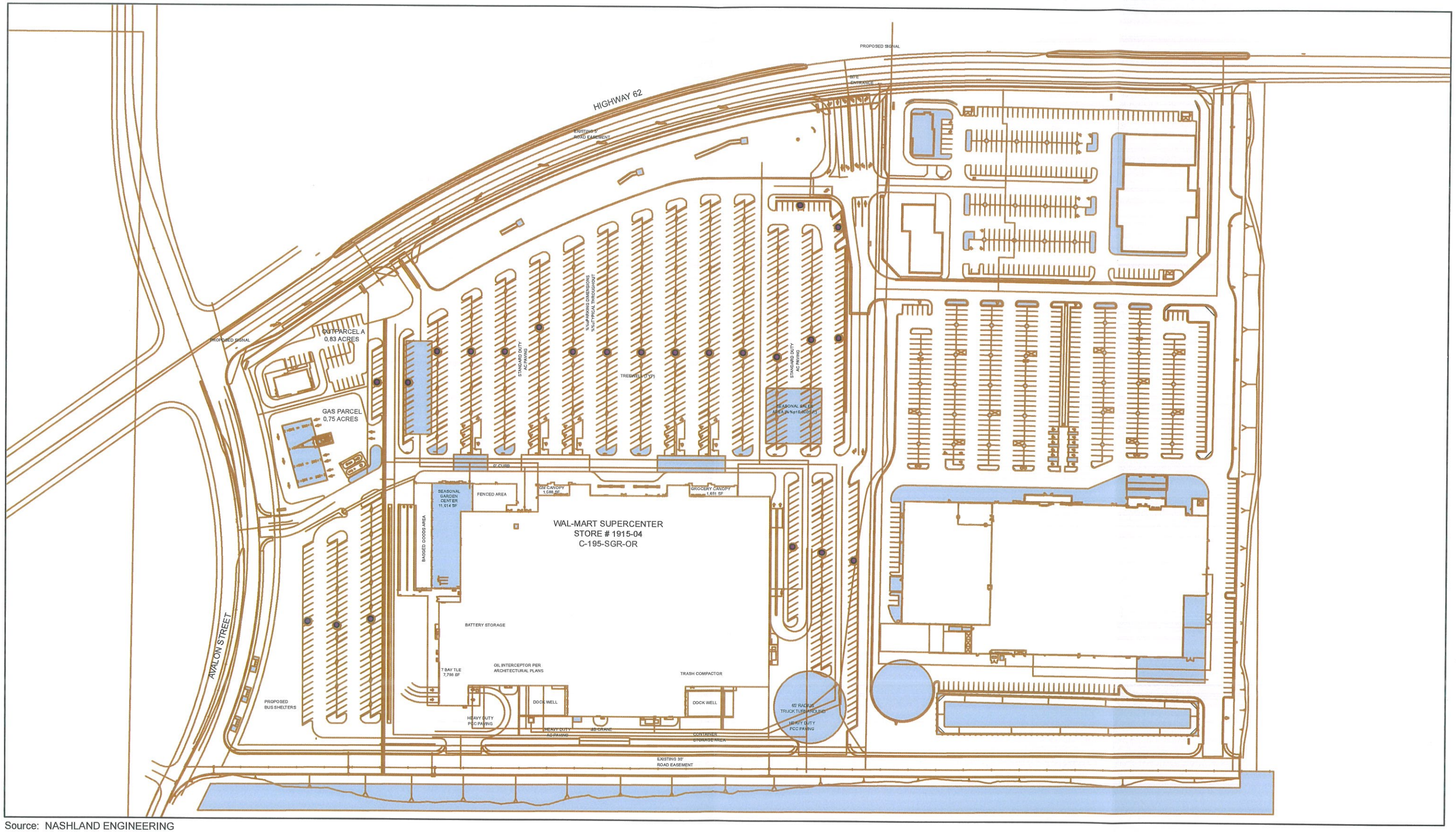
Exhibit 2
Local Vicinity Map

WAL- MART NATIVE PLANT SURVEY, YUCCA VALLEY, CA.



Source: NASHLAND ENGINEERING

NORTH

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Exhibit 3
Site Plan

WAL-MART NATIVE PLANT SURVEY, YUCCA VALLEY, CA.

Source: AirPhoto USA and MBA Field Survey.

NORTH

180 90 0 180
Feet

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Exhibit 4
Native Plant Survey

WAL-MART NATIVE PLANT SURVEY, YUCCA VALLEY, CA.

Attachment 1: Joshua Tree Data

Joshua Tree Data

Tag #	DBH (in)	Est. Height to Fork (ft)	Est. Total Height (ft)	Crown diameter (ft)	# Branches	Translocatable?	Notes
JT1		--	4.00		0	Yes	
276		7	9.80		2	Yes	
JT2		--	7.50		0	Yes	Two Small JT next to each other
JT3		--	4.50		0	No	45° Angle
277		--	7.50		0	Yes	
278	6	7	10.00		3	Yes	
279		7	10.00		2	Yes	
JT4		--	3.50		0	Yes	
MY1		--	2.00	--	--	Yes	Mohave Yucca
JT5		--	4.00		0	Yes	Healthy
JT6		--	2.50		0	Yes	Healthy
280		--	15.00		3	No	Bends over to the ground
281		--	7.50		0	Yes	
JT7		--	1.00		0	Yes	
282		8	11.70		3	Yes	Branches condensed, not spindly—2 young JT at base not Translocatable.
283		6	8.00		2	No	Bends over too far
284		9.4	13.00		3	No	
JT8		--	4.00		0	yes	
285		--	9		0	Yes	
286			8.00		2	No	45 degree angle
287		10	16		2	No	Fork Height too high
288			8.5		0	Yes	
289		8.3	12.5		2	Yes	Compact Branching
290		7.3	12.5		2	Yes	
291		5.5	9		2	Yes	Small non-Tranlocatable JT next to it
292		7.5	13.2	7	2	No	Spindly Branches small non-translocatable JT next to it.
294		--	7.5		0	Yes	Note: 293 tag was missing
295		--	8.5		0	Yes	
JT9			4			Yes	
296		7.5	10		2	Yes	Compact Crown
297		--	8.5		0	Yes	
298		--	9.3		0	Yes	
JT10			4.5		0	Yes	

Joshua Tree Data

Tag #	DBH (in)	Est. Height to Fork (ft)	Est. Total Height (ft)	Crown diameter (ft)	# Branches	Translocatable?	Notes
JT11			5		0	No	Angle to low
JT12			7.5		0	Yes	Two Small JT next to each other
299		7	10.5		3	No	Too Angled
300		8.5	16.2		5	Yes	Compact branches, Healthy
301		7.5	10.5		3	Yes	Nest at top--see photo. Cmpact crown
302			15		2	No	Too angled, Tag underneath
303		4	9		3	No	Too Angled
JT13			4		0	Yes	Next to 30 (1 foot away)
JT14			2		0	No	
304		8	14		3	No	
305		7	8.5		2	Yes	
MY2						Yes	Healthy, See Picture
306		8.5	14.8		3	Yes	Healthy, Tall
307		10	14.5		2	No	Too Tall
308	11.5		14.8	8	4	No	Branches condensed, not spindly—2 young JT at base not Branches too wide
JT15		--	5	--	0	Yes	
309			11		2	No	Too tall
310			9.5		0	Yes	Skinny
311			12		3	No	too angled
312		8	11.5		3	Yes	
313		8.5	11.5		2	Yes	
314			7.5		0	Yes	Sprout at bottom
315			7.5		0	Yes	
316		7.5	9		2	Yes	70 degree angle, small crown
317			6.5		0	Yes	
JT16			5		0	Yes	Near Road
318		8.5	9.5		2	Yes	
JT17			6		0	Yes	
JT18			5		0	Yes	
JT19			3.5		0	Yes	Next to cholla cactus
319		8.8	12.2	3.6	3	Yes	
320		6	10.8		3	Yes	
321		6	10		0	Yes	Thick crown, does not branch

Joshua Tree Data

Tag #	DBH (in)	Est. Height to Fork (ft)	Est. Total Height (ft)	Crown diameter (ft)	# Branches	Translocatable?	Notes
322		5	10		4	Yes	
323			9		2	No	Looks like two, but connected underground
324	13	8.5	17.2	11.4	3	No	
325			8.5		0	Yes	
326			6		0	Yes	
327			8.5		0	Yes	
328		8.2	14.7		2	Yes	
329		9.1	25.6		4	No	Massive, half dead tree
330		9.3	16.4		2	No	Angle too low
331			10		0	Yes	60 degree angle
332		8.5	13.8	4	2	Yes	
333		7.5	14.8	5.5	2	Yes	
334		7.5	8.5		2	Yes	
335		4	7.5		2	No	45 degree angle
336		10	12.2		0	Yes	
337				9	3	No	Branches too spindly
338		10	14		2	No	Looks unhealthy
JT20			1		0	No	Very Small
339			10		13	No	
JT21			3		0	Yes	
JT22			2		0	Yes	
340		10	15		4	Yes	
JT23		0	5.5			Yes	
341	14	10	20			No	large DBH
342		9	15		2	No	Top of the tree touching the ground
343		7.5	9.5			No	Spindly, unhealthy looking, see photo
JT24		--	4			Yes	Healthy
344			7.5			No	
JT25		0	4			Yes	
345		0	8			No	Unhealthy
346		0	7.5			Yes	
347		5	16			No	Large crown, sharp angle, many branches
348		6	8			Yes	
349		8	18		5	No	Too spindly, too tall

Joshua Tree Data

Tag #	DBH (in)	Est. Height to Fork (ft)	Est. Total Height (ft)	Crown diameter (ft)	# Branches	Translocatable?	Notes
350		7.5	14			Yes	
351		8	17			No	45 degree angle
JT26			2.5			Yes	
352		7.5	9.5			Yes	
353		7.5	15		3	Yes	
354		9	5			No	Too tall
355		7.5	13		2	Yes	
356		5.5	13		2	Yes	
357		9	13			Yes	
358		8	10			Yes	
359		9	14			Yes	
360		5	8.5		4	Yes	
361		5	8			Yes	
362		0	7			Yes	
JT27		6	8			No	Unhealthy
363		0	8			Yes	
364		0	6			Yes	
365		7.5	13		2	Yes	
366		0	7			Yes	
JT28		0	2.5			Yes	
367		0	4			Yes	
JT29		0	4			Yes	Large hole in ground around base
368		6.5	10			Yes	
369		9	15			No	Too spindly, too tall
JT30		0	3.5			Yes	
JT31		0	3			Yes	
370		7	12			No	angled
371		0	7			No	
JT32		0	3			Yes	
JT33		2	6			Yes	
JT34		0	1			Yes	
372		7	8			No	Unhealthy
373		8	10			Yes	
JT35		0	1			Yes	

Joshua Tree Data

Tag #	DBH (in)	Est. Height to Fork (ft)	Est. Total Height (ft)	Crown diameter (ft)	# Branches	Translocatable?	Notes
374		8	15			Yes	
JT36		0	6			Yes	
375		0	7.5			Yes	
376		8	14			Yes	
377		10	15.00			No	Too tall

Attachment 2: Site Photographs

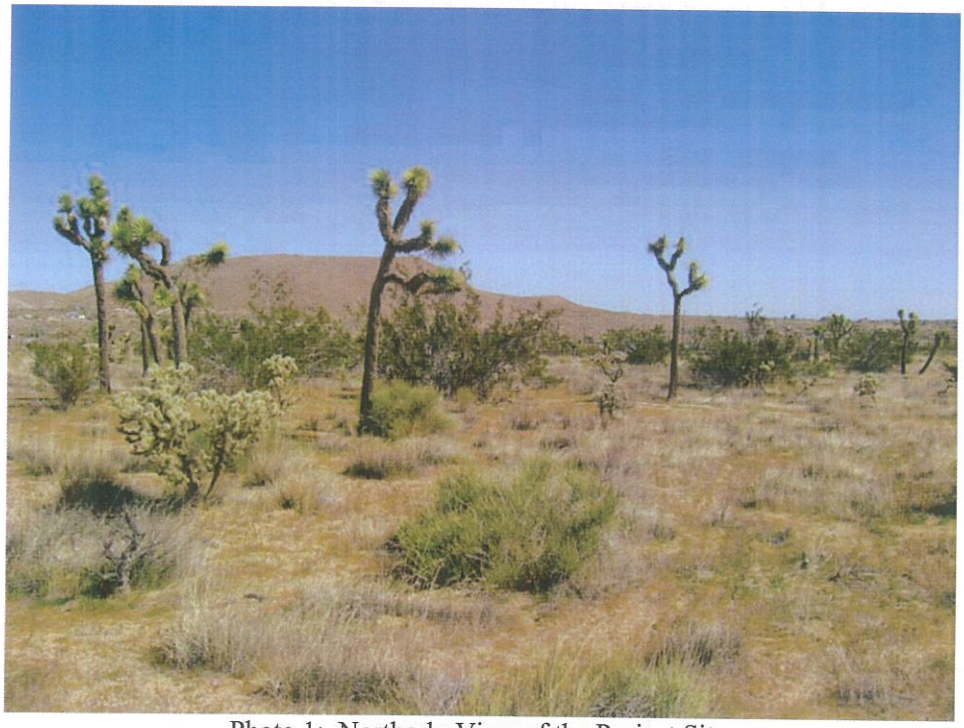

Photo 1: Northerly View of the Project Site

Photo 2: Easterly View of the Project Site

Figure 3: Joshua Tree Tag # 339, Unsalvageable Tree

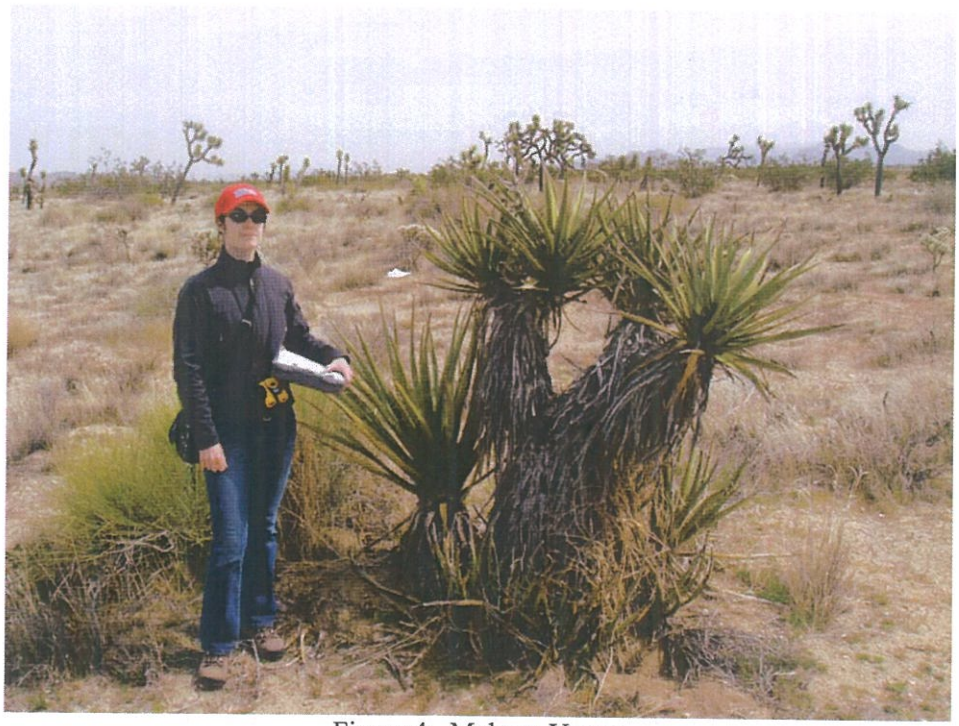

Figure 4: Mohave Yucca