ADJUSTED EARTHWORK QUANTITY ESTIMATE

PROJECT: BACARA COMPLETION PHASE **DATE:** 2/5/2009
WORK ORDER: 12336.62 **CALC'D BY:** GGS

PROJECT STATISTICS:

Graded Area (ac)	8	Estimate from site plan
Cut Area (ac)	6	Rough estimate
Fill Area (ac)	2	Rough estimate
Subsidence (ft)	0.1	Engineering estimate (no data in report)
Grubbing (ft)	0.25	Engineering estimate (no data in report)
Shrinkage (%)	10	Engineering estimate (no data in report)
Bldg. Area (ac)	6.0	
Bldg. O/X Depth (ft)	6	soils report recommends 4' below footings
Other Area (ac)	2.0	
Other O/X Depth (ft)	1	

TABULATED EARTHWORK QUANTITIES

	CUT VOL. (YD^3)	FILL VOL. (YD^3)
RAW VALUES	35,100	21,400
SUBSIDENCE/ GRUBBING	-3,388	1,129
SUBTOTAL	31,712	22,529
FILL SHRINKAGE		9,315
PAD O/X	58,080	58,080
REMAINDER O/X	3,227	3,227
TOTALS	**93,019**	**93,151**

IMPORT/EXPORT **-132** **IMPORT**

Notes:

Export values are uncompacted.

Import values are uncompacted and assume the same shrinkage as native soils.

"Raw Values" are quantities to grade site from existing ground to rough grade.

SOURCE: Penfield & Smith 2008.

FIGURE 9
Engineering Calculations

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Bacara Resort and Spa Completion Phase

Not to Scale

SOURCE: Penfield & Smith 2008.

FIGURE 10

Landscape Plan

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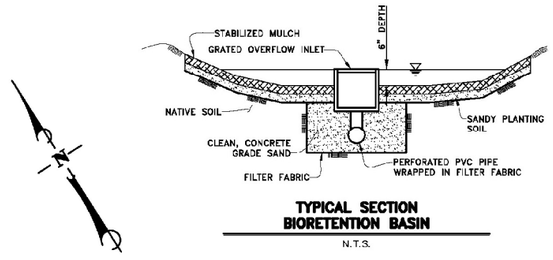
Bacara Resort and Spa Completion Phase



TYPICAL SECTION
BIORETENTION BASIN
N.T.S.

VEGETATED SWALE

VEGETATED SWALE

BIORETENTION BASIN

BIORETENTION BASIN

LEGEND

- ASPHALT PAVING
- BIORETENTION BASIN
- BUILDING
- HARDSCAPE
- LANDSCAPING
- POOL
- TENNIS COURTS
- VEGETATED SWALE

STORMWATER QUALITY SUMMARY FOR THE BACARA COMPLETION PHASE PROJECT

THE PROPOSED PROJECT CONSISTS OF LANDSCAPING, HOTEL BUILDINGS, JITNEY/PEDESTRIAN PATHS, POOL AREA, TENNIS COURTS AND ABOVE AND BELOW GROUND PARKING AREAS. THE MAJORITY OF THE SITE WILL HAVE A LOW POTENTIAL FOR STORMWATER POLLUTION.

THE ONLY SIGNIFICANT SOURCE OF STORMWATER POLLUTION WILL BE THE ABOVE GROUND PARKING LOT FOR PUBLIC BEACH ACCESS. PARKING LOTS MAY CONTRIBUTE HEAVY METALS, TRASH, DEBRIS, OIL AND GREASE TO STORMWATER RUNOFF. WITH THE EXCEPTION OF EMERGENCY VEHICLES, GAS POWERED VEHICLES ARE PROHIBITED FROM USING THE INTERNAL ROADWAY NETWORK.

STORMWATER RUNOFF FROM THE PROJECT SITE WILL BE TREATED USING VEGETATED SWALES AND BIORETENTION FACILITIES AS DESCRIBED BY THE CALIFORNIA STORMWATER QUALITY ASSOCIATION.

- VEGETATED SWALES ARE OPEN, SHALLOW CHANNELS WITH DENSE VEGETATION. THEY TREAT RUNOFF BY FILTERING THROUGH THE VEGETATION AND SUBSOIL.
- BIORETENTION BASINS ARE VEGETATED SUMPS CONSTRUCTED OVER PERMEABLE SOIL BACKFILL WITH A SUBDRAINAGE SYSTEM (SEE TYPICAL SECTION HEREON). BIORETENTION REMOVES STORMWATER POLLUTANTS THROUGH A VARIETY OF PHYSICAL, BIOLOGICAL AND CHEMICAL TREATMENT PROCESSES.
- 100% OF THE RUNOFF FROM THE ABOVE GROUND PARKING LOT WILL BE TREATED PRIOR TO DISCHARGE.
- OF THE REMAINDER OF THE SITE, AS MUCH OF THE RUNOFF AS IS FEASIBLE WILL BE TREATED PRIOR TO DISCHARGE. THIS WILL LIKELY CONSTITUTE AT LEAST 80% OF THE DEVELOPED AREA.

STORMWATER DETENTION IS NOT BEING PROPOSED FOR THIS PROJECT. DETENTION DOES NOT IMPROVE STORMWATER QUALITY, IT IS USED PRIMARILY TO REDUCE PEAK FLOWS IN SITUATIONS WHERE THERE IS CONCERN OF EROSION OR FLOODING OCCURRING DOWNSTREAM. FOR THE PROPOSED PROJECT, STORMWATER DETENTION WOULD PRODUCE NO MEASURABLE BENEFIT.

Not to Scale

SOURCE: Penfield & Smith 2008.

FIGURE 11

Stormwater Quality Plan

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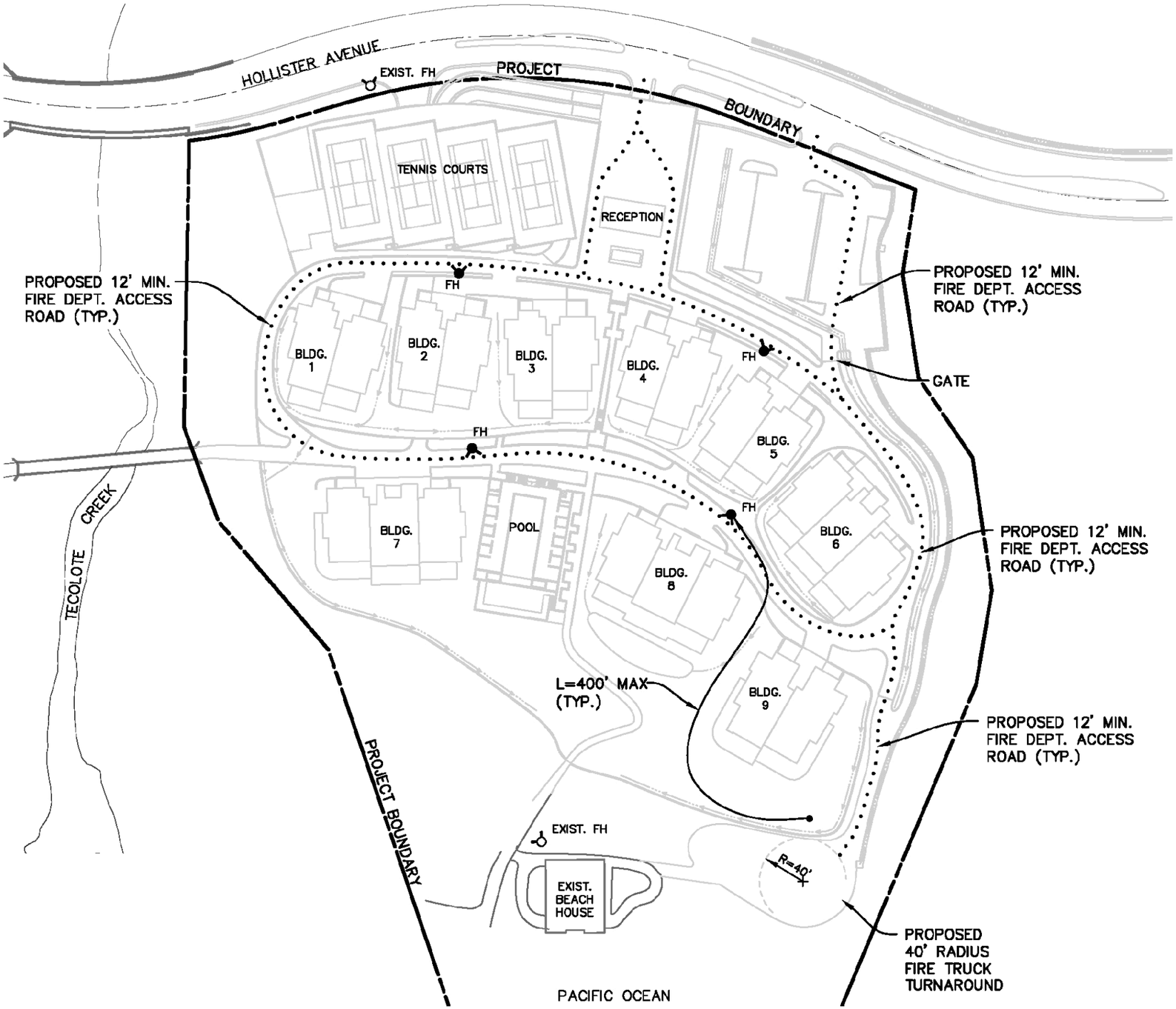
Bacara Resort and Spa Completion Phase



Not to Scale

SOURCE: Penfield & Smith 2008.

FIGURE 12

Fire Protection Plan

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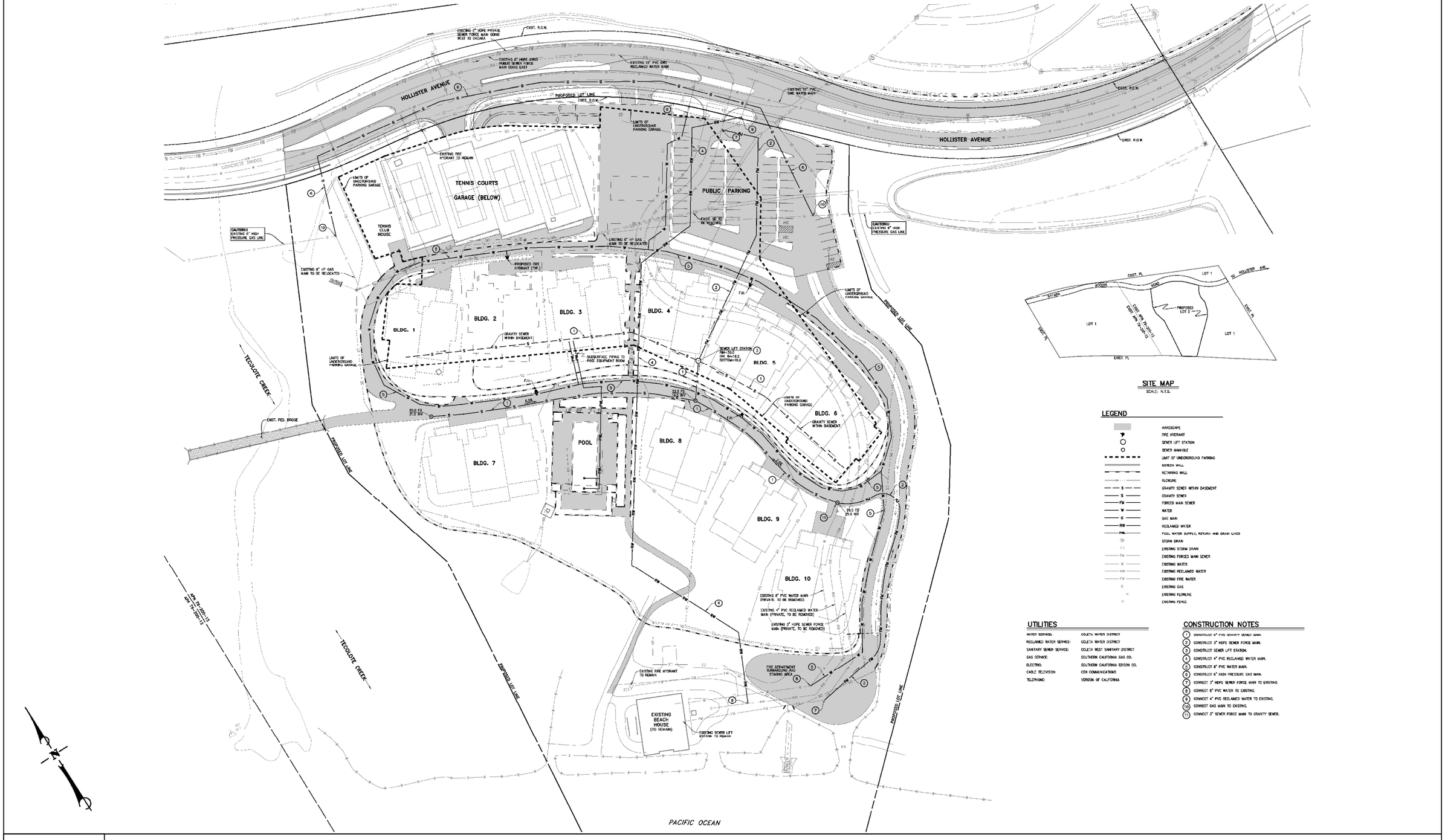
Bacara Resort and Spa Completion Phase



SITE MAP

SCALE: N.T.S.

LEGEND

- HARDSCAPE
- FIRE HYDRANT
- SEWER LIFT STATION
- SEWER MANHOLE
- LIMIT OF UNDERGROUND PARKING
- SCREEN WALL
- RETAINING WALL
- FLOWLINE
- GRAVITY SEWER WITHIN BASEMENT
- GRAVITY SEWER
- FORCED MAIN SEWER
- WATER
- GAS MAIN
- RECLAIMED WATER
- POOL WATER SUPPLY, RETURN AND DRAIN LINES
- STORM DRAIN
- EXISTING STORM DRAIN
- EXISTING FORCED MAIN SEWER
- EXISTING WATER
- EXISTING RECLAIMED WATER
- EXISTING FIRE WATER
- EXISTING GAS
- EXISTING FLOWLINE
- EXISTING FENCE

UTILITIES

WATER SERVICE:	GOLETA WATER DISTRICT
RECLAIMED WATER SERVICE:	GOLETA WATER DISTRICT
SANITARY SEWER SERVICE:	GOLETA WEST SANITARY DISTRICT
GAS SERVICE:	SOUTHERN CALIFORNIA GAS CO.
ELECTRIC:	SOUTHERN CALIFORNIA EDISON CO.
CABLE TELEVISION:	COX COMMUNICATIONS
TELEPHONE:	VERIZON OF CALIFORNIA

CONSTRUCTION NOTES

1. CONSTRUCT 8" PVC GRAVITY SEWER MAIN.
2. CONSTRUCT 3" HDPE SEWER FORCE MAIN.
3. CONSTRUCT SEWER LIFT STATION.
4. CONSTRUCT 4" PVC RECLAIMED WATER MAIN.
5. CONSTRUCT 8" PVC WATER MAIN.
6. CONSTRUCT 6" HIGH PRESSURE GAS MAIN.
7. CONNECT 3" HDPE SEWER FORCE MAIN TO EXISTING.
8. CONNECT 8" PVC WATER TO EXISTING.
9. CONNECT 4" PVC RECLAIMED WATER TO EXISTING.
10. CONNECT GAS MAIN TO EXISTING.
11. CONNECT 3" SEWER FORCE MAIN TO GRAVITY SEWER.

Not to Scale

SOURCE: Penfield & Smith 2008.

FIGURE 13

Utility Plan

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Bacara Resort and Spa Completion Phase