
CHAPTER 8

TRANSPORTATION

8.1 Existing Road Condition

The Spanish Lookout Area is serviced by a myriad of roads, most of which are dirt roads that also service the neighboring communities of Los Tambos, San Marcos, and many others. The Spanish Lookout Area has several entrances, with the main entrance being just off the Highway at Blackman Eddie. This is the only surface seal road entrance of the Spanish Lookout Area which ends in the SLO Community. Once in the area, dirt roads service the rest of the communities including those of the proposed sites. Maintenance is made feasible by the Mennonite community.

San Marcos Village consists of mainly dirt roads and tracks trafficable by just a few vehicles and grazing animals. The entrance to the village is via the SLO main entrance road (See Plate C) which extends and branches off northwards passing over several dry and running creeks and tributaries. The SLO sites are more accessible through the community roads or internal road network. Specific access to the site will be gotten by the construction of an access road from one of the road network.

8.2 Access Road

Each new well will require an adequate access road to accommodate the large, heavy equipment needed to drill the well. Adequate access can be provided by:

- Using existing roads, some of which may need upgrading
- Constructing a new road
- A combination of both.

For analysis purposes, it will be assumed that an average of 1000 feet of new access road will be constructed for each new well drilled. Road construction will require clearing a width of 24 feet to provide a “running” surface of 16 feet. If the involved well is completed for production, disturbance beyond the “running” surface will be re-vegetated leaving 0.38 acres of net surface disturbance for the average road. The access road remains in place to provide all weather access to the well and its facilities for the life of the well.

San Marcos

The San Marcos road commences at its intersection with the Spanish Lookout main road entrance and veers northwards towards the Yalbac Hills. The village can also be accessed via Spanish Lookout Community and is transited mainly by workers who migrate to work in the said area. Several branches of the Iguana Creek pass through the road and as such

the community has installed culverts and wooden bridges to overcome this obstacle. The road consists of a dirt road which is typical of the area. Further in northwards the San Marcos entrance road divides in a northwest direction and other in a northeasterly direction with this road finally dividing up as seen in figure 8.1.

Belize Natural Energy Limited has identified two wells north of the village and intends to upgrade the entire entrance road benefiting the villagers and BNE. Presently, there is single access to the well sites. This access, however, is not feasible as it leads to a cluster of houses. BNE has been diligent in exploring other options and has identified a solution. This solution involves extending the road eastwards, as seen in figure 8.1. This process will involve the construction of 1.36 km of access road that will be utilized to access its two wells.

The new access road and the upgrading of the road network which includes the installation of appropriate culverts and bridges will be done in accordance with the Ministry of Works specification. Presently, 5 km of the entrance road has already been upgraded (See Plate C) with 8 new culverts and a small concrete bridge already being installed.

Spanish Lookout

The Spanish Lookout area is serviced by a myriad of internal roads, of which the proposed sites, Mike Usher # 7 and # 8, will be located. BNE will, obtain concessions and permissions from the relevant authorities to construct access roads to the site from the existing internal road network. Presently, the road is made up of a typical dirt road and maintained by the community itself. The new sites, once in operation will consist of a single access road as described in figure 8.2.

Like the San Marcos wells, BNE will utilize the new roads to transport their drilling equipment and others needed to conduct a successful drill. Also, BNE will construct a road map to these sites for company and safety reasons and not to interfere with the regular traffic of the area. In addition, this road map will be important in emergency situations.

8.3 Road Provision

The road for the proposed well projects will be designed to allow for free flow of traffic while at the same time creating the least amount of disturbance. Access to and from the site areas could be accomplished with the least amount of inconvenience to neighboring residents. To accomplish this, a properly designed access road (gravel packed) will be constructed for the San Marcos area and the Spanish Lookout sites. All the roads constructed by BNE will meet the Ministry of Works specifications and as such will be supervised by personnel of the Ministry. Plate C illustrates the different types of roads found in the Spanish Lookout area.

Material will be sourced from the existing Spanish Lookout quarry and the volumes are unknown as such. Machinery to be incorporated into the road construction consists of dozers, graders, rollers, water and dump trucks.

Upper right, Typical Roads in the village of San Marcos. **Center left,** Track leading to the end point where the new access road will be constructed. **Center right,** Junction where the San Marcos road intersects with the Spanish Lookout Road. **Lower left,** Typical Spanish Lookout dirt road. **Lower right,** Constructed road access road to the individual well sites around the Spanish Lookout Area



Plate C: Typical Road Conditions in Spanish Lookout and San Marcos

This equipment will either be sourced by BNE or supplied by the Ministry. This equipment will also construct the access site where the drilling pad will be placed as well as any clearing required by BNE for the drilling operation. Traffic on the access road to the drill site will be limited to government representatives, service companies and BNE Ltd vehicles during the seven week period of operations.

8.4 Equipment Transportation

Once the access roads have been constructed and viable for operation, BNE will mobilize its drilling equipment to the well sites. This includes both the wells in San Marcos and the wells in SLO Community. The drilling equipment consists of the rotary drilling rig and platform that is utilized by BNE to conduct their drilling operation. Included also is

its ancillary equipment such as drilling pipe, safety valves and fitting that are assembled on site and used as drilling progresses.

A portable generator and water truck will also be transported to the site. The generator will remain on site throughout the operation whilst the water truck will traffic the road on a need basis.

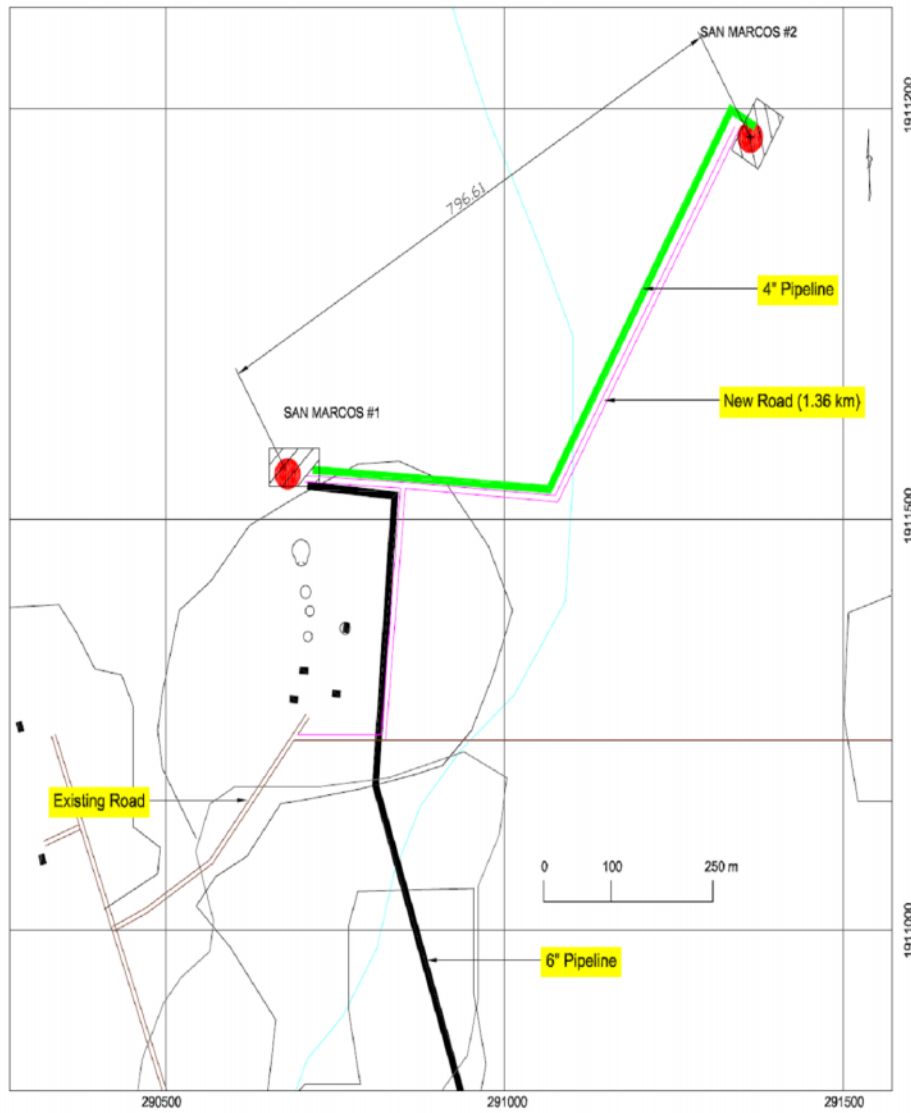
8.4.1 Related Potential Impacts

Potential transportation impacts include degradation of remote areas (Flora and Fauna) through improved access and increased use of both the upgraded and constructed roads. Inclusive, traffic increase can lead to road damage, erosion, accidents and even traffic delays. Other direct impact includes fugitive dust emissions and increase vehicular emissions during the construction of the road and transportation of the equipment (Air and Noise). Indirect impacts would include hydrocarbon spills (Contingency Plan).

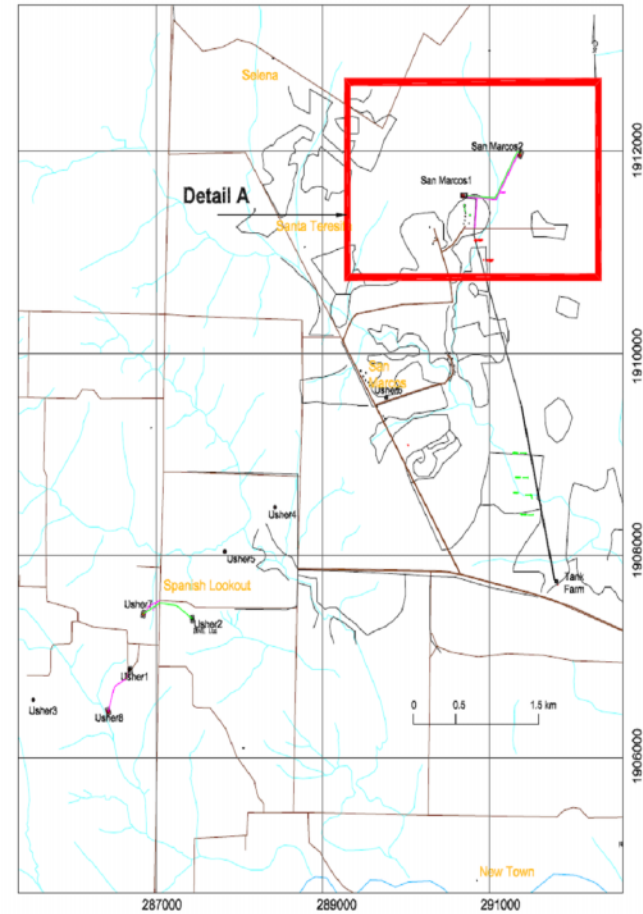
8.4.2 Associated Mitigation Measures

Mitigation measures related to the construction of access roads and transportation of equipment to the sites include: assessing remote areas by air during early developmental stage; restrict use of access roads; remove and reclaim any access roads at the end of production; minimize need for community development by rotating work crews and precluding local residents. Moreover the damage caused by increase traffic during the transportation of equipment can be mitigated by observing the road limits, designing the roads for adequate capacity and visibility, ensuring that the roads are properly signed and that the vehicles are well maintained. Other mitigation measures include the training of drivers of proper safety measures.

Maintenance of the road will be carried out by BNE in conjunction with the Ministry of Works, especially during the rainy season as the access roads can be prone to severe erosion. This is important in considering the San Marcos up graded road since and access road.



Detail A: Proposed San Marcos Well # 1 & # 2
 Scale= 1":160m

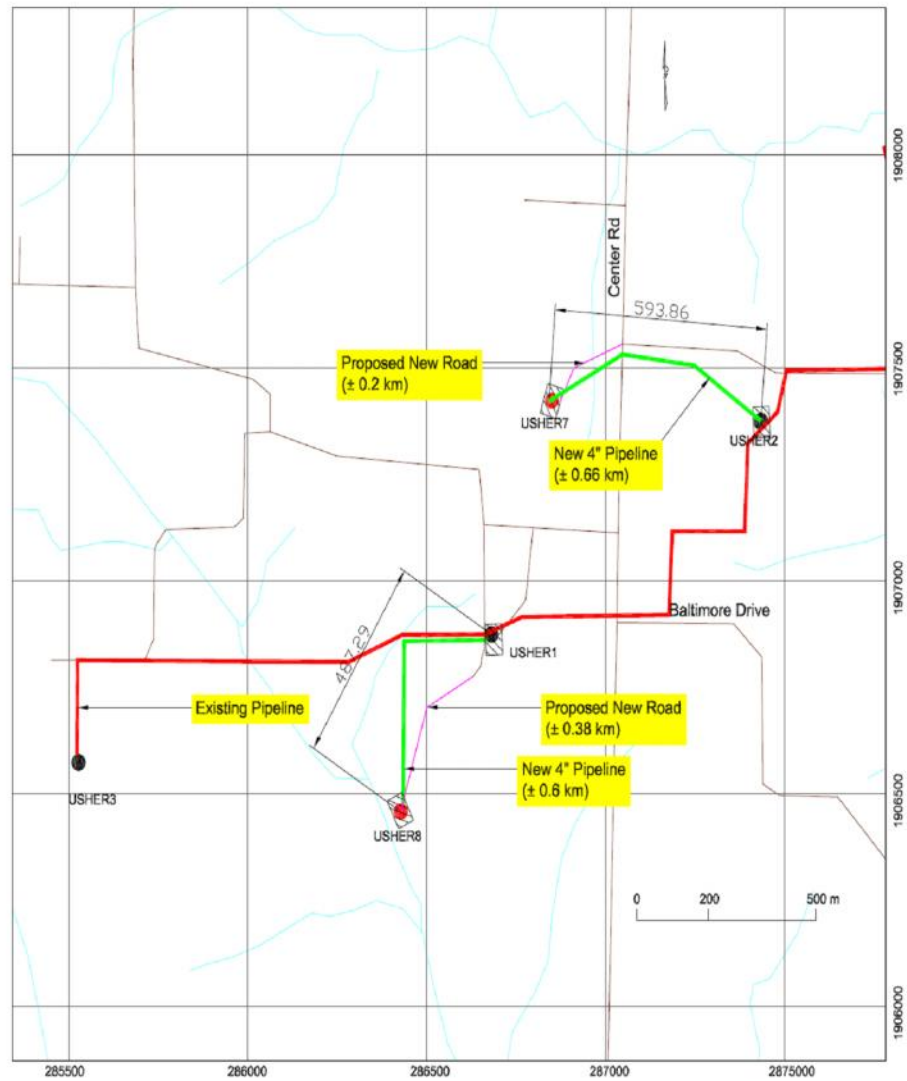


Project Location
 Scale= 1":1.3 Km

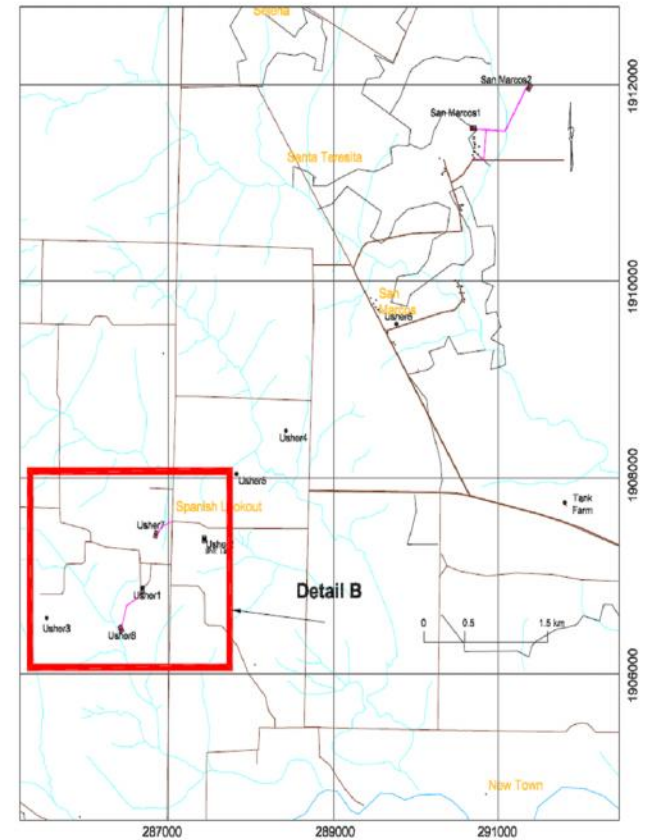
- LEGEND**
- Roads
 - Proposed New Road
 - Creeks & Tributaries
 - New wells

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Fig. 8.1 Proposed Access for the San Marcos Wells



Detail B: Proposed Micheal Usher Well # 7 & # 8
 Scale= 1":300m



Project Location
 Scale= 1":1.3 Km

- LEGEND**
- Roads
 - Creeks & Tributaries
 - New wells
 - Existing wells

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Fig. 8.2 Proposed access road for the new Spanish Lookout wells