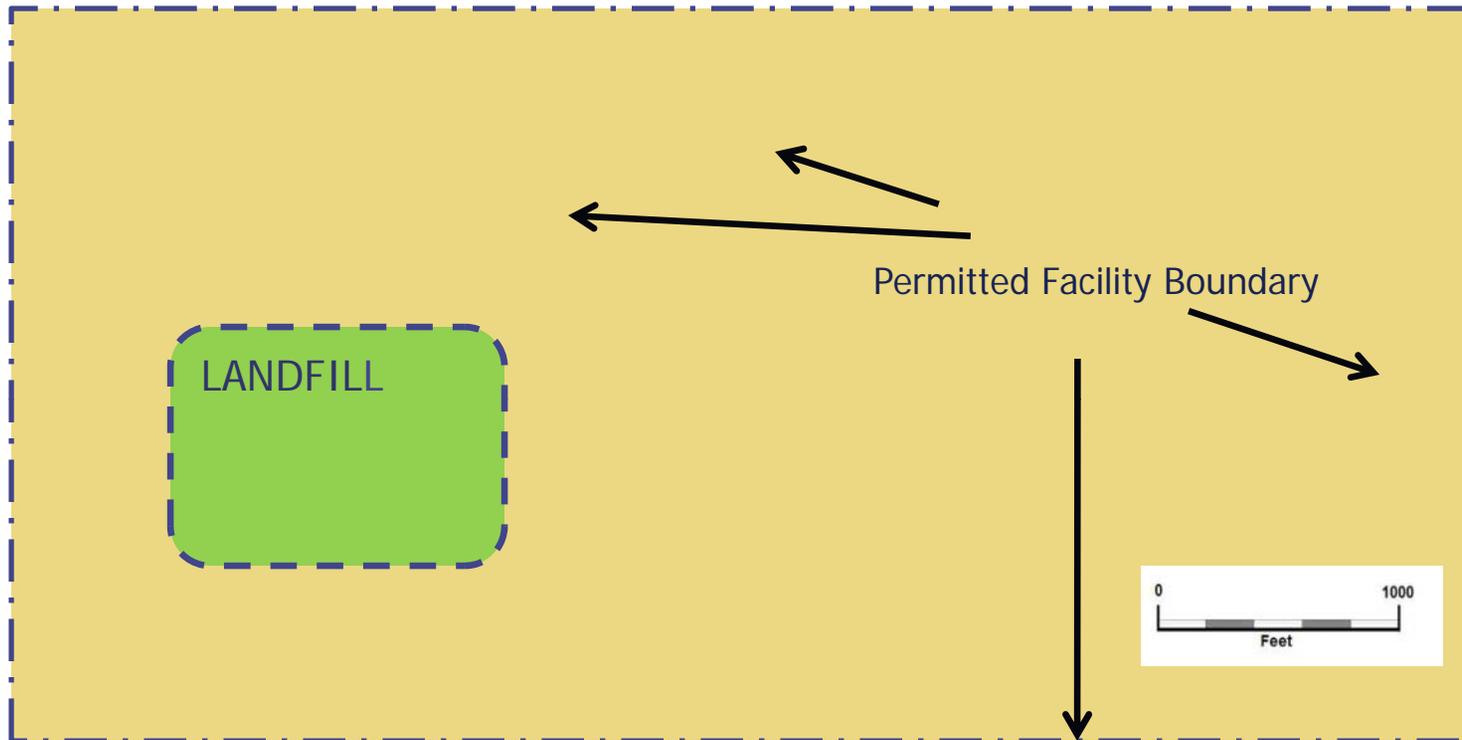


These materials were developed under the auspices of the California Integrated Waste Management Board (CIWMB) for specific classroom presentations and are posted as reference documents for the solid waste facility inspectors and operators who attended this training. They are not intended to stand alone as informational or training materials. If you require assistance in obtaining access to this presentation, please contact the Public Affairs Office at (916) 341-6300 or the contact below.

CIWMB Class Lead:  
Ken Decio  
(916) 341-6313

# Exercise 1A: Well Location--Alternate Compliance Boundary

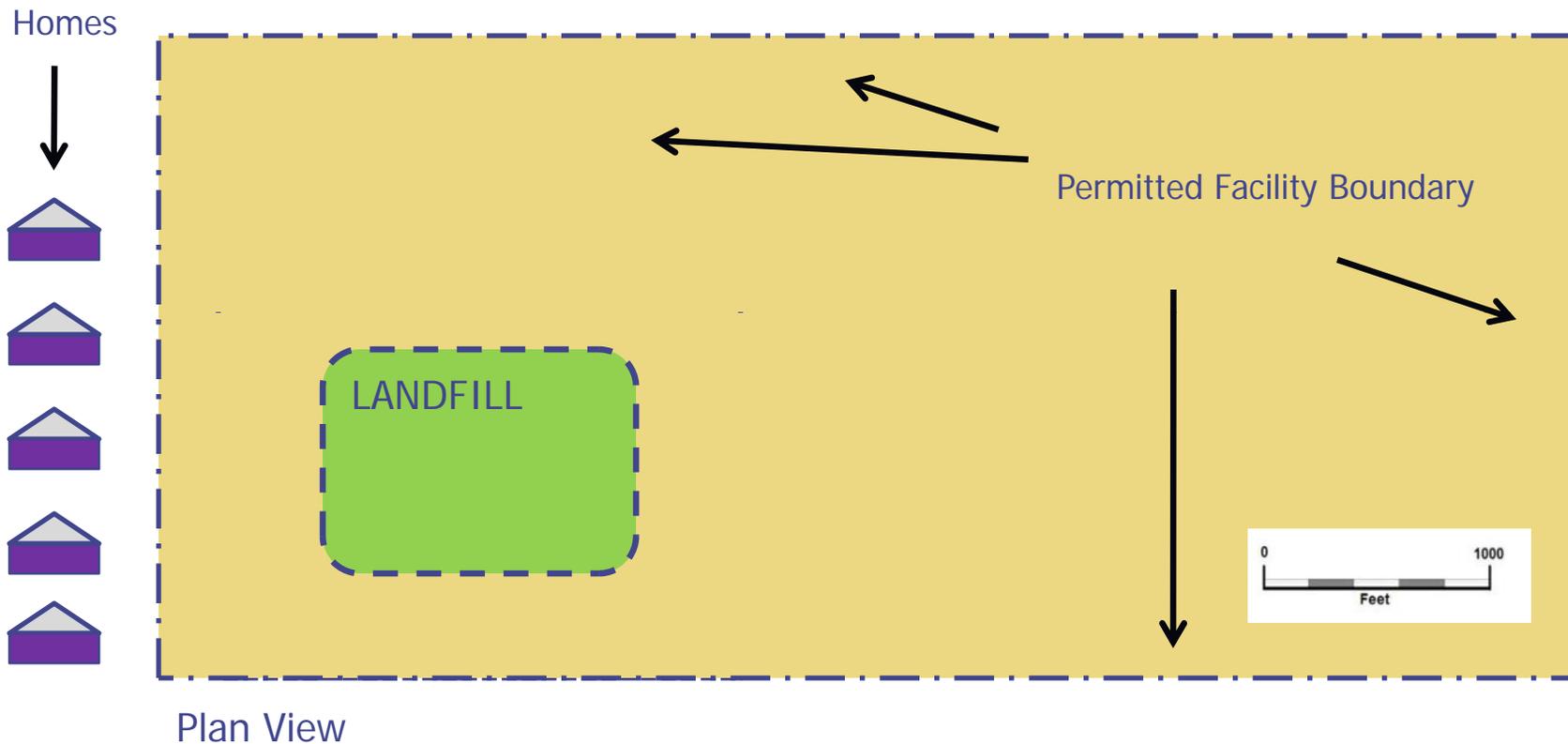


Plan View

EXERCISE: In some situations, the compliance boundary may not need to be at the permitted boundary and a smaller monitoring network may be sufficient. Design a LFG monitoring system using an alternate boundary consistent with state standards. Show locations of monitoring wells. Provide two reasons as to why an operator might chose this approach.

Note: ignore access issues, geographic features, geology and hydrology issues.

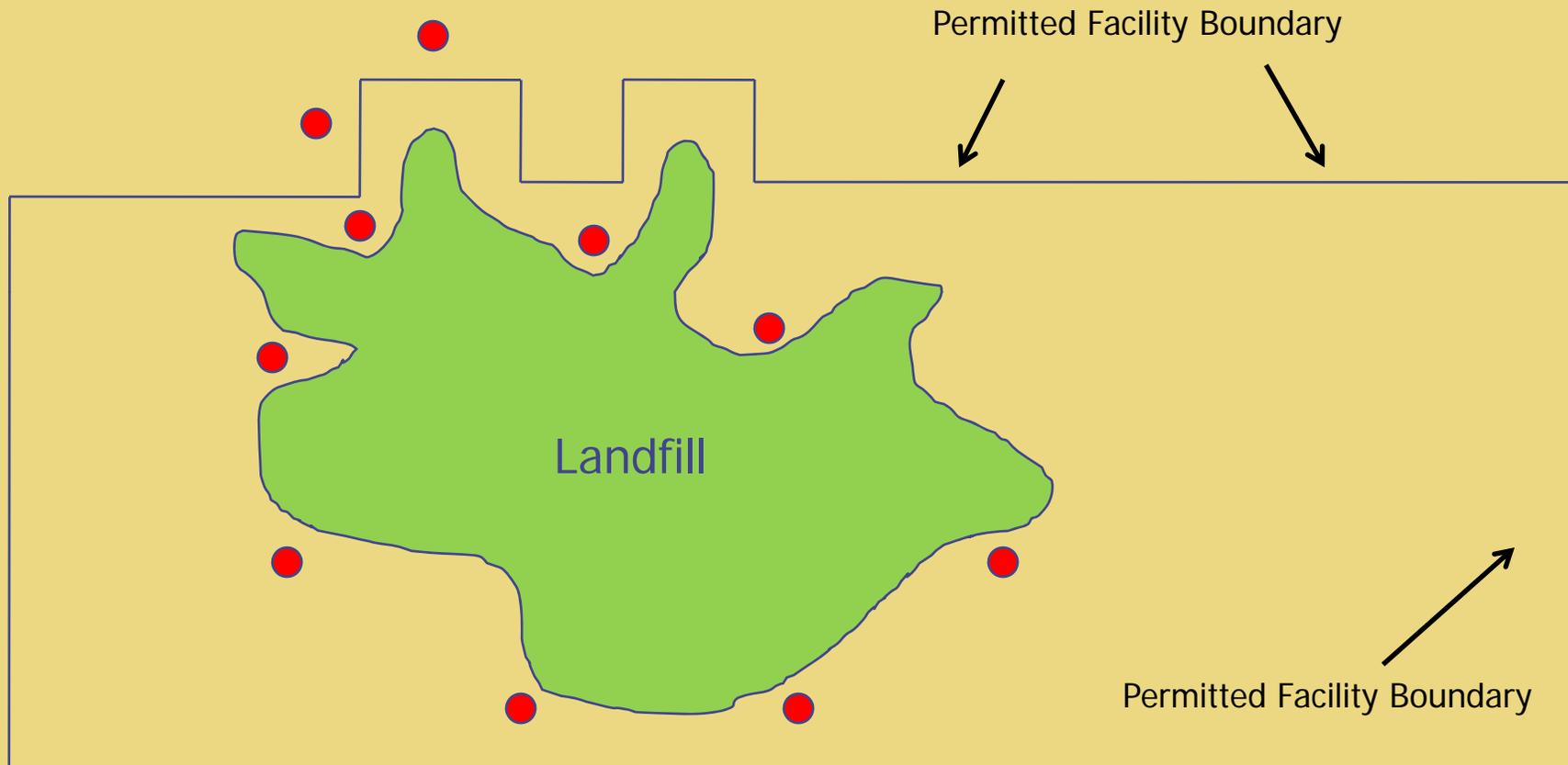
# Exercise 1B: Well Location--Alternate Compliance Boundary with Nearby Structures



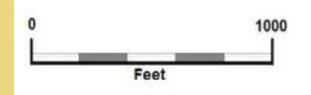
EXERCISE: Same scenario as Exercise 1A, but there are now homes adjacent to the permitted facility boundary. Would the alternate compliance boundary change? Would the number and locations of monitoring wells change? If yes, draw the new monitoring network.

Note: ignore access issues, geographic features, geology and hydrology issues.

## Exercise 2A: WELL SPACING

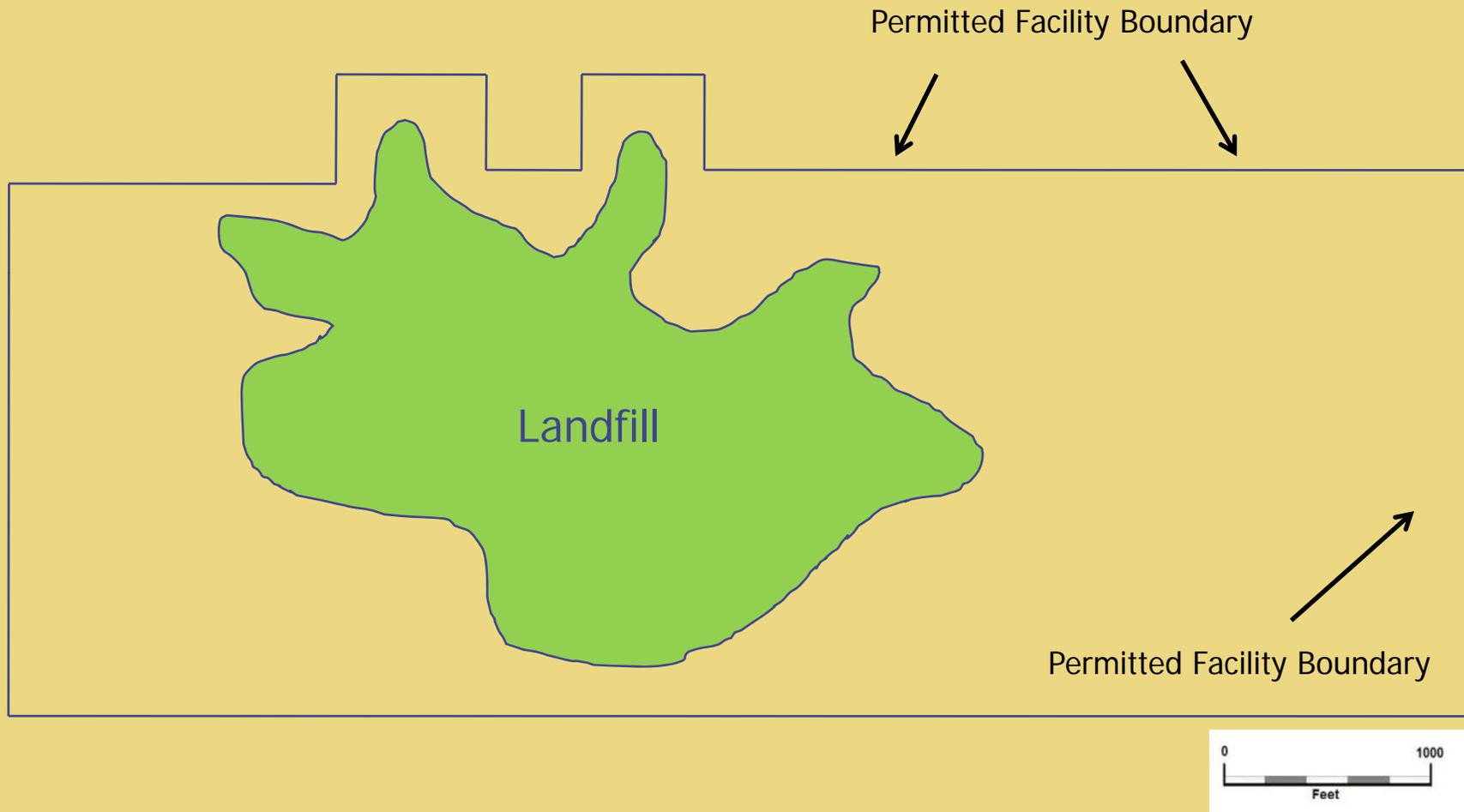


Plan View



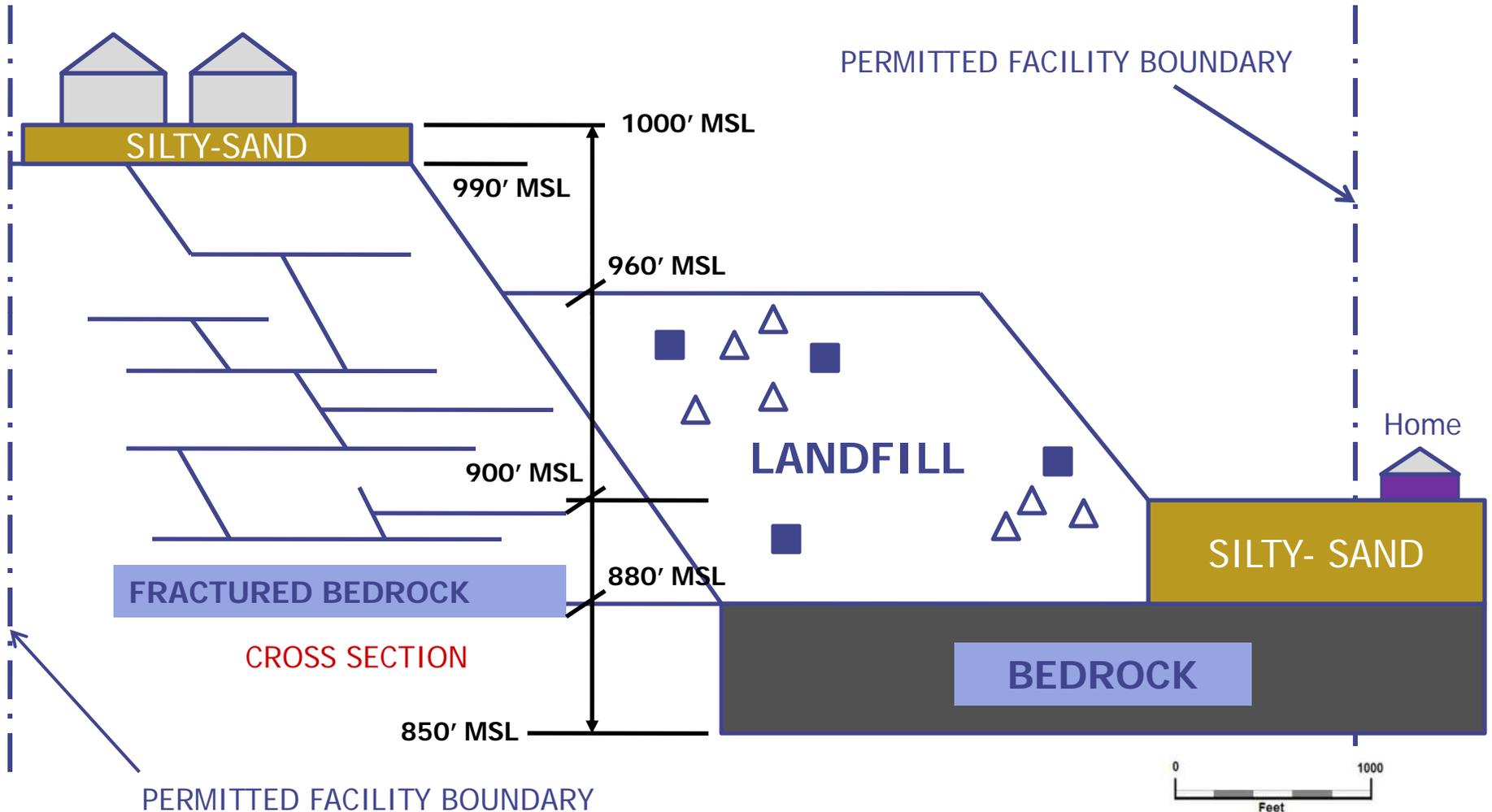
EXERCISE: Do the **red** dots indicate correct spacing? If yes, why? If no, why not?. *Note: Ignore access, geography, geology and hydrology issues.*

## Exercise 2B: WELL SPACING



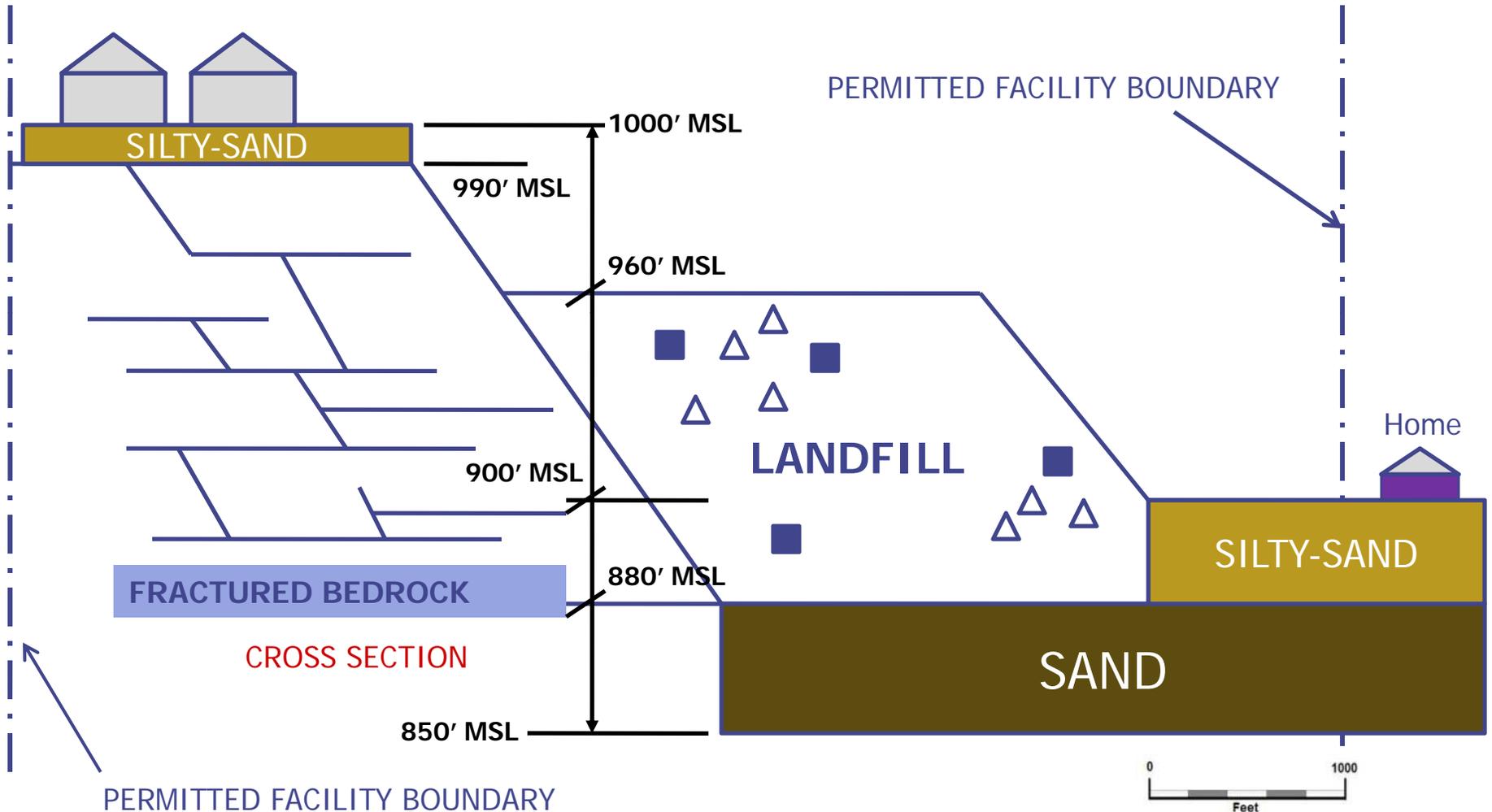
EXERCISE: Show locations and numbers of wells.

# Exercise 3A: Geologic Issues--Well Location (Bedrock and Structures)



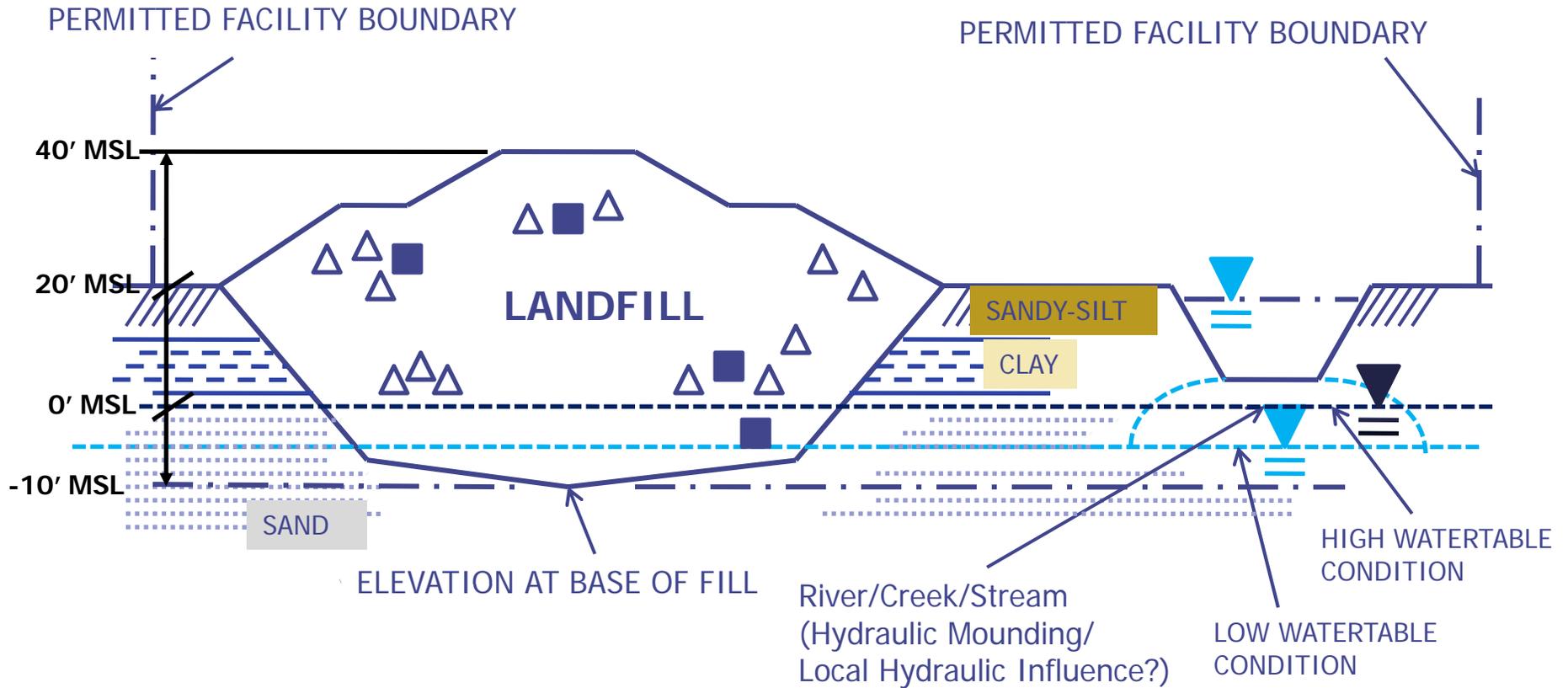
EXERCISE: Show LFG migration routes with arrows. Show locations of monitoring wells and depth of probes considering 1) structures and 2) geologic conditions.

# Exercise 3B: Geologic Issues--Well Location (Sand and Structures)



EXERCISE: Show LFG migration routes with arrows. Show locations of monitoring wells and depth of probes considering 1) structures and 2) geologic conditions.

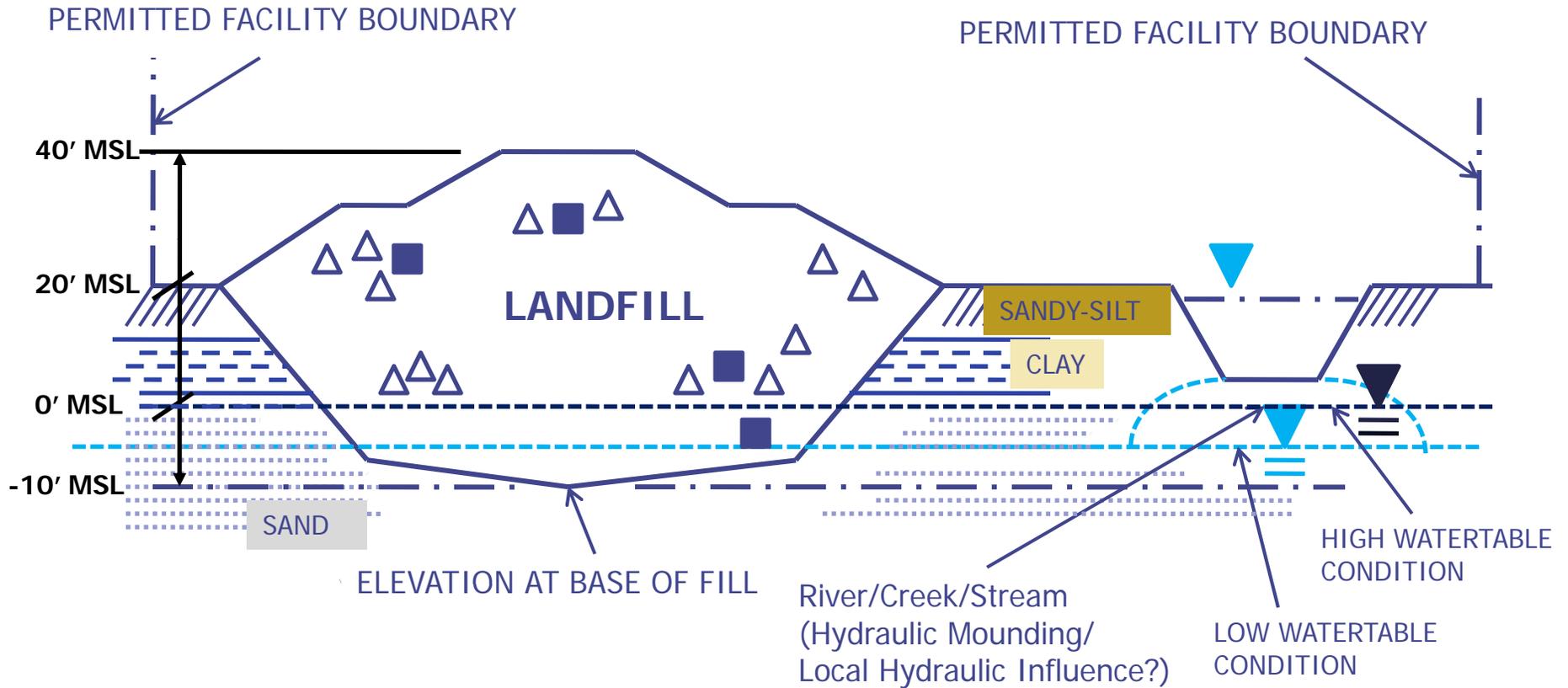
# Exercise 4A: Hydrologic Issues—Seasonal Water Fluctuation (Permanent Stream)



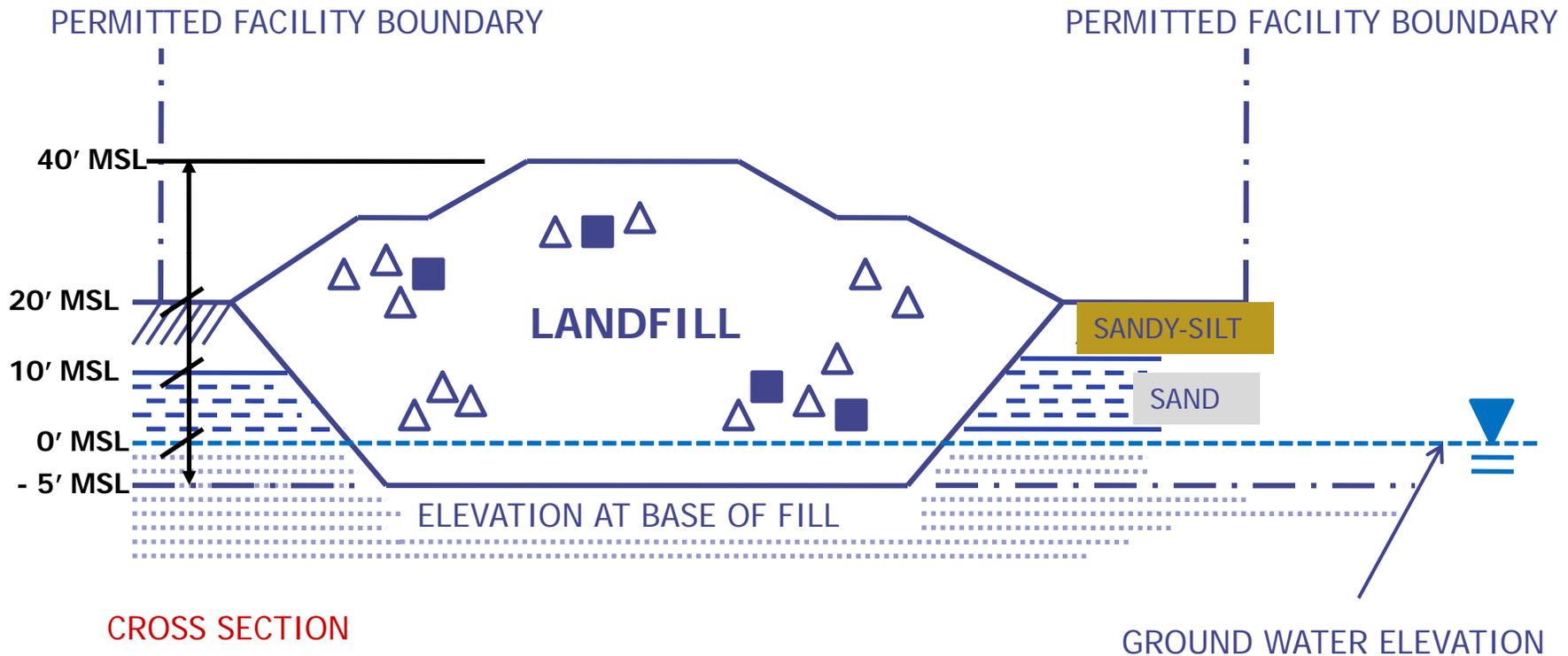
EXERCISE: 1) Show LFG migration route. 2) Design a LFG monitoring system consistent with state standards. Show locations and depth of monitoring wells at both permitted boundaries. How does the water table impact system design? What documentation would be needed?

# Exercise 4B: Hydrologic Issues—Seasonal Water Fluctuation (Intermittent Stream)

Assumption regarding details relative to surface & groundwater relative to barriers.



# Exercise 5: Hydrologic Issues--Depth of Waste vs. Groundwater level



EXERCISE: 1) Show routes of LFG migration with arrows. 2) Design a LFG monitoring system consistent with state standards. Show locations and depth of monitoring wells. Discuss influence of depth of waste and groundwater elevation.