Appendix 3

Project Design Figures
TAP Pipeline Route

Source: ERM (July 2013)
Trans Adriatic Pipeline (TAP)

Source: ENT, Project Basic Design (June 2013)
Example of Side-Boom

Example of Trucks

Example of Excavator

Example of Pay-welder (with welding equipments)
Note:

1. The transition zone is the zone where will be done the pre-dredging works;
2. The x-axis represents the distance from the kp 0,000 (the Italian landfall).
3. The y-axis is the depth.

Source: ENT, Project Basic Design (June 2013)
Note:

1. A pipe string welded will be layed by the pipelay vessel and installed in the microtunnel by a winch (380 tons) placed onshore;
2. When the pipe string arrives at the microtunnel head the pipelay vessel continues to laid the pipe offshore;
3. The transition zone is the zone where will be done the pre-dredging works;
4. The x-axis represents the distance from the kp 0,000 (the Albanian landfall);
5. The y-axis is the depth.

Source: ENT, Project Basic Design (June 2013)
Example of Pipelayng Barge

Example of Dynamic Positioning Lay Vessel

Example of Anchor Handling Tug

Example Fall Pipe Vessel

Source for all photos: Web, 2011
Turfing Preparation

Conteinement of the Turf

Olive Tree Replanting

Source for all photos: Saipem, 2011

Turfing Preparation

Conteinement of the Turf

Olive Tree Replanting

Source for all photos: Saipem, 2011

Turfing Preparation

Conteinement of the Turf

Olive Tree Replanting

Source for all photos: Saipem, 2011
Typical Trench Dimension

Source: ENT, Project Basic Design (June 2013)
**Typical Dry Stone Wall Dimensions**

![Diagram of Typical Dry Stone Wall Dimensions]

**Typical Dry Stone Wall Reinstatement**

![Photo of Typical Dry Stone Wall Reinstatement]

**Source:** ERM, 2011

---

**NOTE:**
- Dry stone walls shall be rebuilt as before demolition, using original (local) stones.
- Dimensions are in meters.

---

Source: Saipem, 2011
Typical Road Crossing with Casing Pipe

**Type I**

- **1.5 x Cover**
- **Hard Surface Roads and Public Roads**
- **Note 1**
- **Note 2**
- **Note 3**
- **Note 4**
- **Note 5**

**Type II**

- **1.5 x Cover**
- **Hard Surface Roads and Public Roads**
- **Note 1**
- **Note 2**
- **Note 3**
- **Note 4**
- **Note 5**

**Headings**

- **General Comments:**
  - All dimensions without units are in meters.
  - All requirements specified in the Client's crossing permit shall be observed.

- **Notes for Type I + II:**
  1. All variables (A, B, C) are site-specific.
  2. After installing the casing pipe, the last isolator to be fitted.
  3. These dimensions are to be used as minimums and shall be field verified by Contractor and adjusted to suit specific crossing profile construction requirements.
  4. Line current / casing pipe test station defined in CIPA-EXT-100-K-001-000.
  5. CP and MP points at suitable location as required.

Source: ENT, Project Basic Design (June 2013)
Pipeline Crossing With Underground Obstacles

Source: ENT, Project Basic Design (June 2013)
Tipycal Road Crossing Open Cut

**GENERAL COMMENTS:**

- All dimensions without units are in meters.
- These dimensions are to be used as minimums and shall be field verified by contractor and adjusted to suit specific crossing profile construction requirements.

**NOTES:**

1. All variables (x, y, z) are site-specific.
2. Unpaved public roads can be both hard surfaced and unsurfaced with the design criteria for the defined traffic loads (present and future).
3. Radius of bends to be taken from the corresponding longitudinal section/into.

Source: ENT, Project Basic Design (June 2013)
Typical Microtunnell

1. COLLAR RING
2. CASING FOR FIBRE-OPTIC CABLE
3. MICROTUNNEL CONCRETE RING
4. PIPELINE
5. TUNNEL GROUTING

Source: Saipem, 2011

Example of Microtunnell Boring Machines (MTBM)

Source: Web, 2011

A MTBM in the Starting Shaft

Source: Web, 2011

Example of Casing

Source: Web, 2011