

### 3. 40-CPP

Shallow injection well 40-CPP is a dry well located east of the former site of building CPP-702. Figure 4 is a photograph of building CPP-702 prior to demolition, and Figure 5 is a photograph of the actual surveyed location of 40-CPP, which is underneath the asphalt adjacent to building CPP-702. As shown in Figure 5, there is no ground surface penetration of this shallow injection well.

From 1952 to 1994, this shallow injection well received a steam condensate discharge from two radiators used to heat building CPP-702. The piping plans and sections for building CPP-702 are shown in Figure 6 and Figure 7. Although the exact dimensions of 40-CPP were not provided on the referenced drawing, it is estimated that the shallow injection well is 3-feet in diameter and its bottom is located approximately 5-½ ft below grade surface. When it was constructed in 1952, it was filled with gravel and rocks. In the summer of 2004, building CPP-702 was demolished and removed from the site. 40-CPP was not disturbed during this demolition.

Based on the following reasons, no additional environmental protection is expected by filling shallow injection well 40-CPP with an impermeable material (e.g., bentonite grout, cement grout):

- The steam condensate discharge from CPP-702 has been removed
- The shallow injection well is currently filled with gravel and rocks
- Filling 40-CPP with an impermeable material will not prevent transmission of water through the surrounding soils, which are highly permeable at a depth greater than that of the shallow injection well and lack any natural impermeable layers.

Therefore, INL requests IDWR approval to permanently abandon this shallow injection well by leaving it in its present condition.



Figure 4. Photograph of building CPP-702 prior to demolition (from ICP 2005).

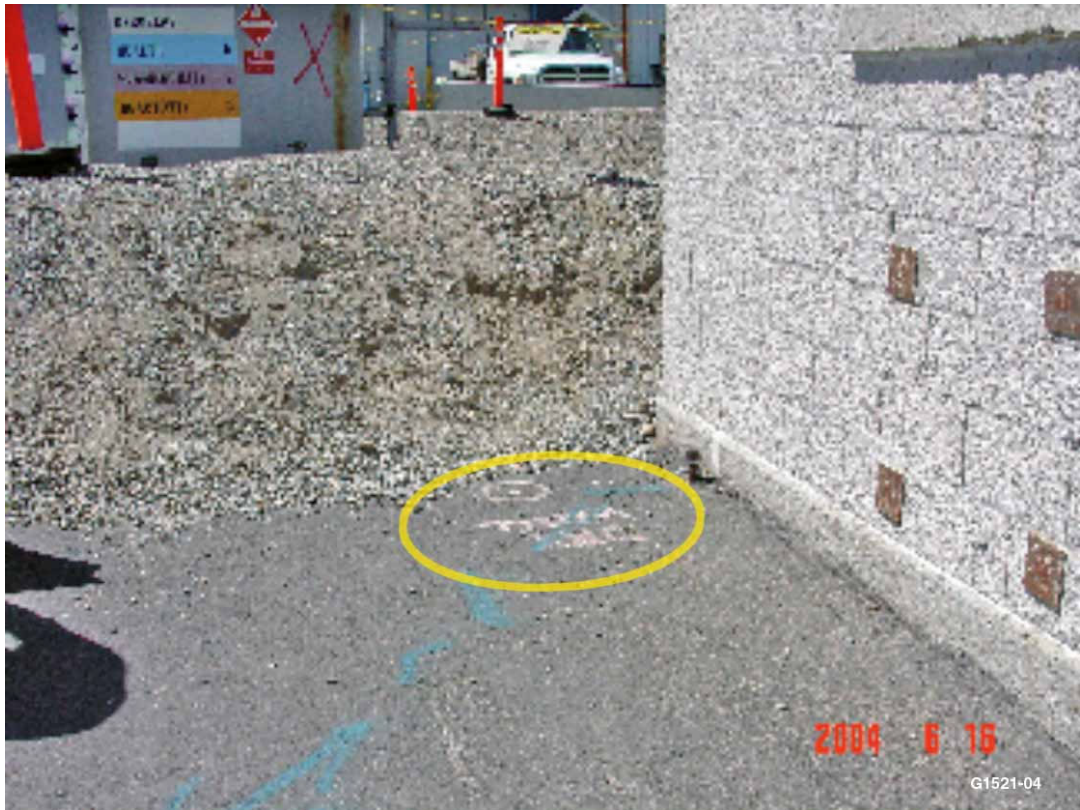


Figure 5. Surveyed location of shallow injection well 40-CPP.

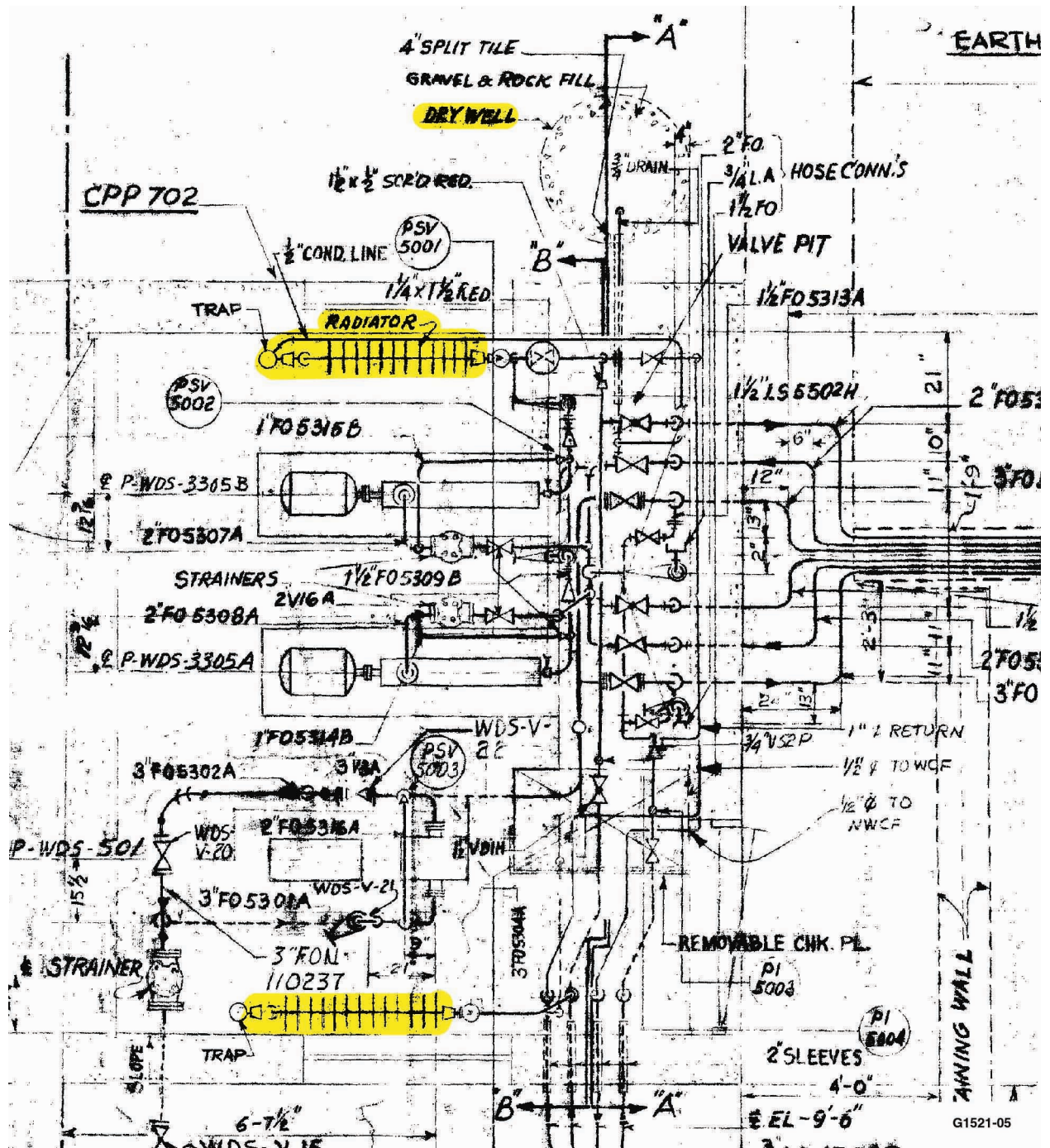


Figure 6. Piping plan for building CPP-702 (from Drawing 103244).

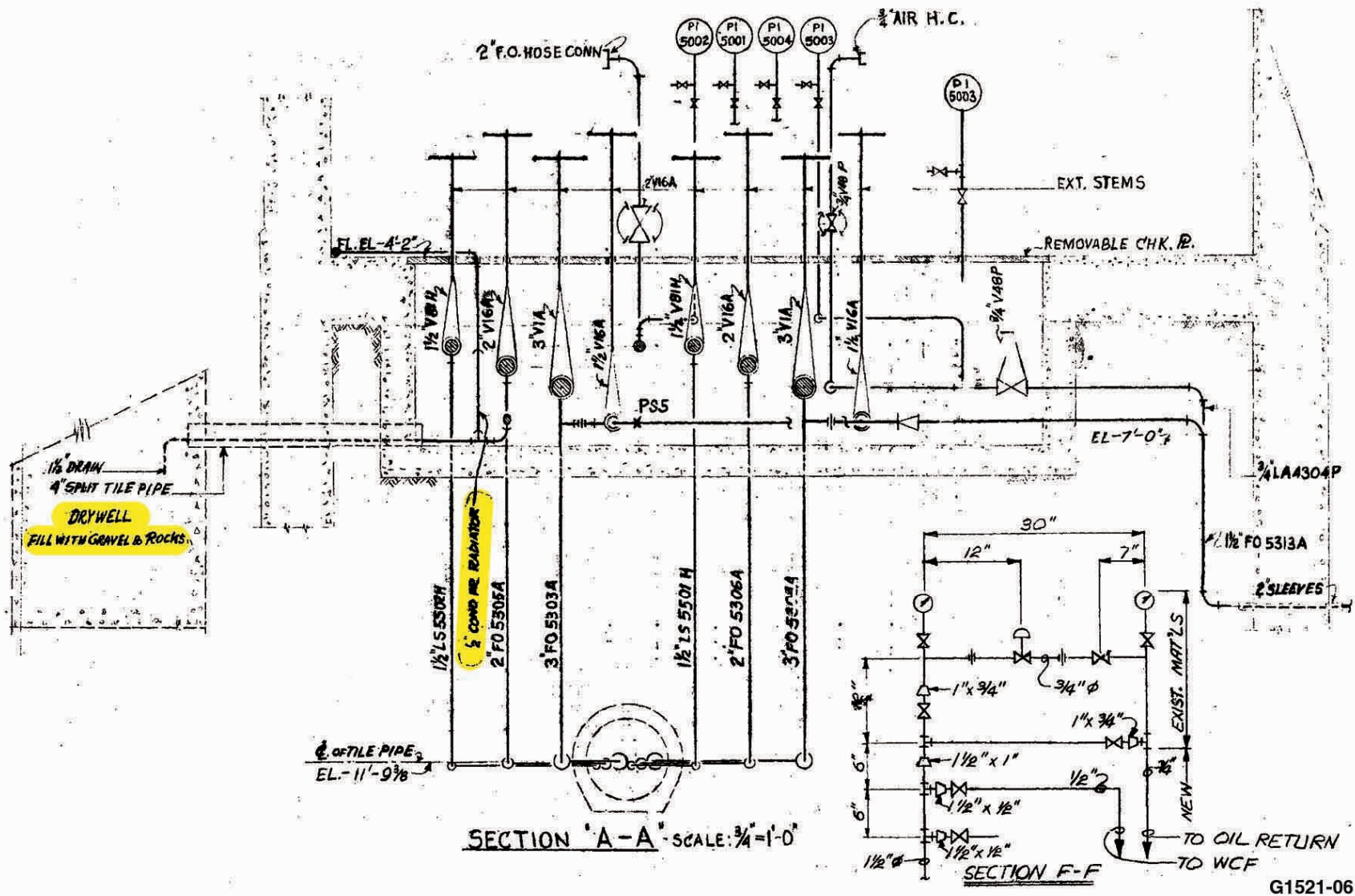


Figure 7. Piping section for building CPP-702 (from Drawing 103244).

## 4. 45-CPP

45-CPP is a shallow injection well that received a steam condensate discharge from steam header 8-in. HSN-101623 located in the Olive Avenue branch of the INTEC utility tunnel near building CPP-659. The INTEC utility tunnel is an underground, reinforced concrete structure that carries piping for the steam system, condensate return system, water distribution systems (potable, treated, demineralized, boiler feed, raw), and air systems (plant, breathing) throughout INTEC. The utility tunnel and the associated shallow injection well were constructed around 1980. The general location of the utility tunnel and its proximity to several buildings at INTEC are shown in Figure 8. 45-CPP is located just outside the utility tunnel wall and is approximately 11 feet below grade.

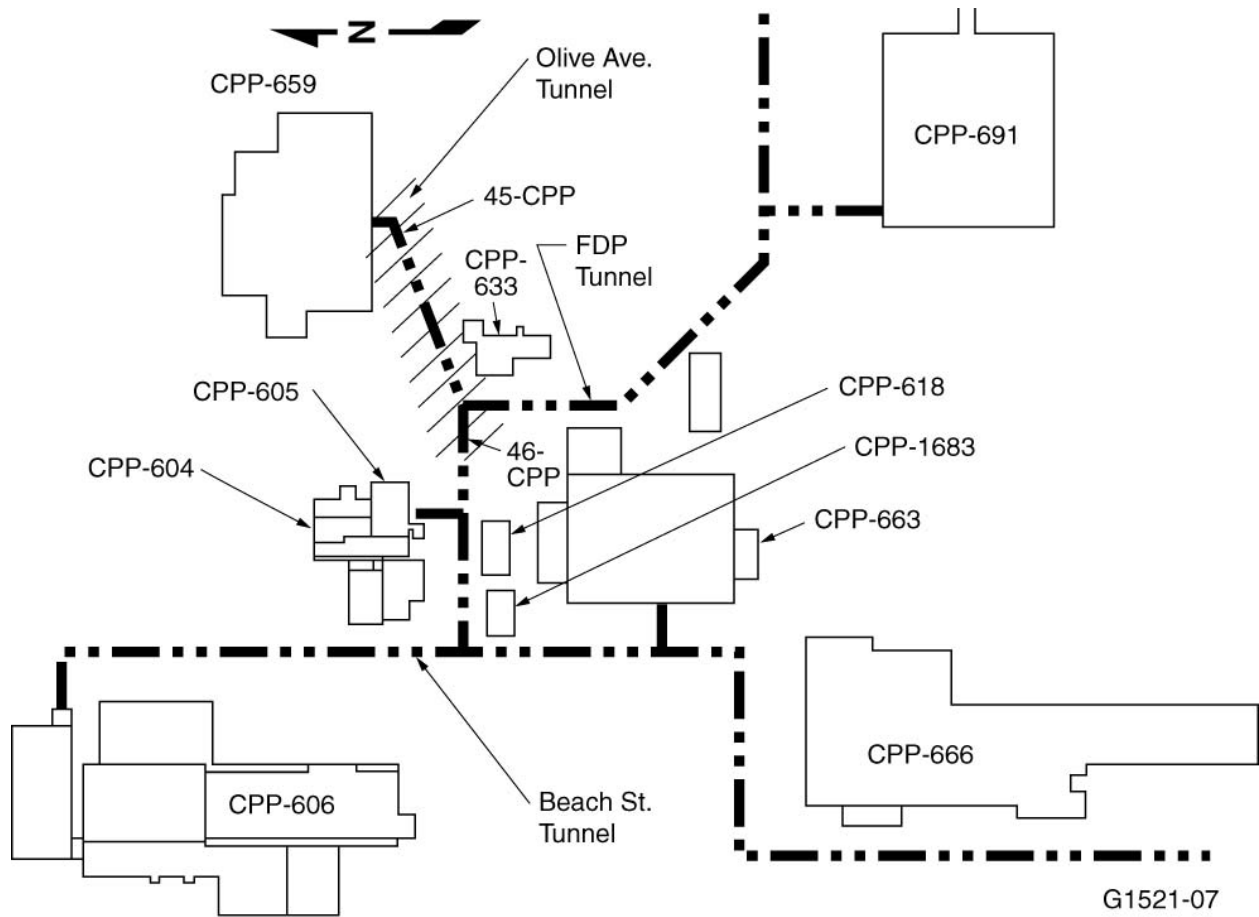
Steam header 8-in. HSN-101623 in the Olive Avenue branch of the INTEC utility tunnel has a steam trap drip leg and associated drain line that penetrated the wall of the utility tunnel through a 2-inch carbon steel pipe sleeve. Figure 9 shows a plan view of the steam line in the utility tunnel, Figure 10 shows a detail of a drip leg, and Figure 11 is a photograph of the drip leg inside the utility tunnel. The drain line for the drip leg is  $\frac{3}{4}$  inches in diameter and extends through the outside wall of the utility tunnel. The drain line is perforated with  $\frac{1}{8}$ -inch holes and discharges into the shallow injection well 45-CPP. The shallow injection well contains 2 cubic feet of medium-sized rock that surrounds the drain line. Figures 12 and 13, respectively, show plan and section views of the utility wall penetration.

The Hazardous Waste Management Act/Resource Conservation and Recovery Act post-closure permit for the Waste Calcining Facility (WCF), CPP-633, required the identification and quantification of all steam vent and other deliberate water discharges to the land or subsurface in the vicinity of CPP-633 (ICP 2004). Under the requirements of the post-closure permit, a Work Plan was created to evaluate each identified discharge and determine if it may influence the WCF monitoring well sampling network. Due to its close proximity to the CPP-633 Closure Cap, it was determined that the discharge to 45-CPP should be eliminated. Figure 14 shows the plot plan of the CPP-633 area. Therefore, the drip leg and drain line were cut, capped, and rerouted to the INTEC condensate return system in December 2004.

Based on the following reasons, no additional environmental protection is expected by filling shallow injection well 45-CPP with an impermeable material (e.g., bentonite grout, cement grout) :

- The condensate discharge from steam header 8-in. HSN-101623 has been rerouted, and the drip leg and drain line into 45-CPP have been cut and capped
- The shallow injection well is currently filled with rocks
- Filling 45-CPP with an impermeable material will not prevent transmission of water through the surrounding soils, which are highly permeable at a depth greater than that of the shallow injection well and lack any natural impermeable layers.

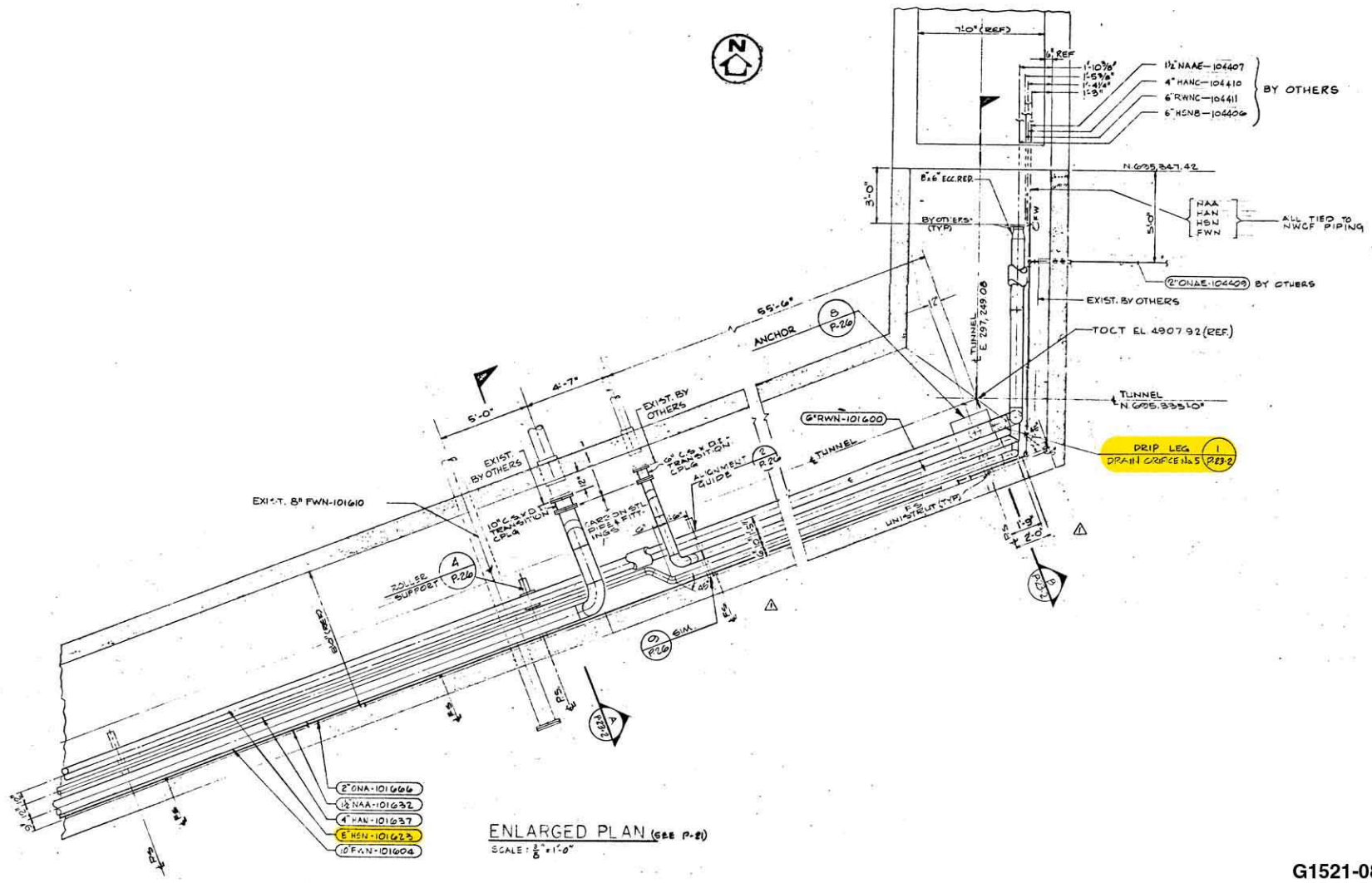
Therefore, INL requests IDWR approval to permanently abandon this shallow injection well by leaving it in its present condition.



# Key Plan

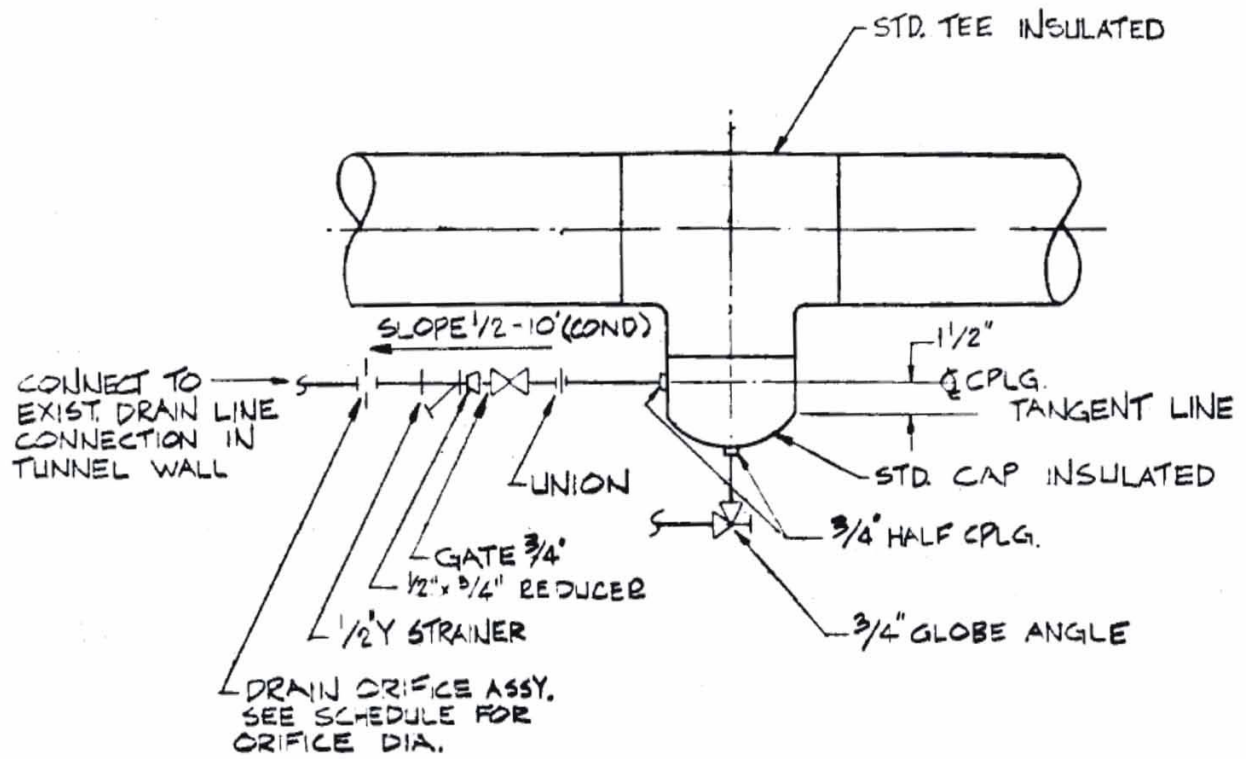
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Figure 8. General location of the utility tunnel at the Idaho Nuclear Technology and Engineering Center.



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Figure 9. Plan view of the steam line in the utility tunnel (from Drawing 135594).



DRIP LEG  
 DETAIL

1	⚠
P.23.2	P.24.2

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Figure 10. Detail of the drip leg (from Drawing 135594).