

Pebbly Beach Landfill Site Life Optimization Project Description

Background

The project site is located in the unincorporated Los Angeles County, approximately 2.3 miles south of the City of Avalon on the island of Santa Catalina (Appendix A, Figure 1). The project area is relatively isolated and visually secluded from public view by the surrounding mountainous terrain. PBL and areas within 1,000-feet of the disposal site are zoned as Utility and Industrial and include a municipal sewer treatment plant and a Southern California Edison power plant and desalinization facility (Figure 2). The project site is approximately 7.7 acres in size, with 5.6 acres consisting of the PBL waste disposal footprint (Figure 3). Other structures on site include a Materials and Recovery Facility (MRF), a truck and equipment maintenance building, and above-ground water storage tank, located on the east side of the landfill. The PBL is a Class III landfill and is permitted alongside the MRF to accept non-hazardous mixed municipal solid waste (MSW). The site can be accessed from the north through Pebbly Beach Road, which traverses along the east side of the disposal site.

The property is owned by the City of Avalon (City) and operated by CR&R, Inc., doing business as Avalon Environmental Services (AES). Primary regulatory oversight of the site is by CalRecycle, as delegated to the local enforcement agency (LEA), the Los Angeles County Department of Public Health (LACDPH). These agencies were involved in the approval of the Pebbly Beach CUP 96-162-4, Coastal Development Permit (CDP 96-162-4), and Variance (VAR 96-162-4), which were issued by the Los Angeles County Regional Planning Board in 1998.

The approved project CUP granted vertical access to increase the height of the landfill from 230-feet above mean sea level (MSL) to 260-feet MSL, as well as increase the permitted acreage from 6.2 acres to 7.7 acres (Figure 4). Approval of CUP 96-162-4 included a Mitigated Negative Declaration confirming that the project would not have a significant effect on the environment. Mitigation Measures were made a condition of approval of the project as a result.

PBL is permitted to receive a maximum of 49 tons per day (tpd) of MSW under the existing permit and typically receives an annual average of 20 tpd. Based on this receiving number, the project closing date was anticipated to be within the second quarter of 2028. As such, the CUP is set to terminate on July 29, 2028.

An annual flyover of the landfill occurred on December 2, 2019, and determined that the total remaining gross site capacity was approximately 75,461 cubic yards. The 2020 Report of Disposal Site Information (RDSI) utilized this data and projected the remaining useful site life to be approximately eight years with capacity being reached in the second quarter of 2028. The most recent flyover was performed September 29, 2021, and determined that 47,640 cubic yards (cy) of total airspace remain or 6.2 years of useful remaining site life. The recent calculations were made based on the annual daily average of waste received (approximately 20 tpd), and other factors. These calculations corroborate previous calculations that determined the projected second quarter of 2028 landfill closure date.

Proposed Project

The proposed project consists of the construction of an average 18-foot tall Mechanically Stabilized Earth (MSE) retaining wall placed at the toe of the waste slope on the eastern most boundary of the limit of waste. Approximately 2,000 cy of cut would be required for the MSE wall foundation, and 10,000 cy of replacement fill over the MSE wall foundation. Approximately 10,000 cy of clean fill material will be imported for the MSE from the nearby quarry. Approximately 1,500 cy of export will be used onsite for waste cover material. 3-ft deep by 12-ft wide by 1000-ft long for a total of 1,333 cy of over excavation is expected, as well as 650 cy of remedial regrade in front of the proposed retaining wall (Figure 5). As such, approximately 20,000 square feet of new impervious surface associated with the front face of the MSE wall is expected. The project cost is estimated to be 1 to 2 million dollars total.

Incoming waste would be filled against the retaining wall and projected back to the top deck at an average grade of 2:1 H:V, similar to the current average grade under VAR 96-162-4. This would allow sufficient space to construct a final cover system that will tie into a concrete v-ditch installed along the top of the wall. The resulting final elevation would be 305 above mean sea level (amsl), an increase of 45 feet over the currently permitted maximum final elevation of 260 amsl and 60 feet higher than the current elevation of 245 amsl (Figure 6).

The proposed project also includes the extension of the landfill's closure date. A proposed grading plan was created to incorporate the proposed retaining wall and was compared to site topography recorded on September 29, 2021 to calculate the net increase in available airspace. Based on the annual daily average of 20 tpd of waste placed (documented in the 2020 Annual Report to CIWMP), two specific airspace volumes were calculated based on potential final cover systems.

Remaining airspace was calculated accounting for a 3-foot-thick evapotranspirative final cover, resulting in approximately 183,000 cy remaining space. At 20 tpd, the landfill closure date would extend to 2045, optimizing the landfill lifespan by 24 years. Remaining airspace was also calculated using a geosynthetic cover of negligible thickness, resulting in approximately 210,450 remaining cy. Using this geosynthetic cover, the landfill closure date would extend to 2048, assuming that existing waste disposal and soil usage rates remain the same during this period, optimizing the landfill lifespan by 27.5 years.

The objective of the proposed project is to optimize the lifespan of the landfill and utilize PBL to its full extent rather than closing prematurely. As such, construction of the proposed retaining wall would achieve this objective in conformance with the existing project Conditions of Approval.

Project Conditions

The proposed project will continue to follow the CUP 96-162-4 Conditions of Approval requiring PBL to only accept non-hazardous solid waste and not exceed the maximum received tonnage of 49 tpd.

Optimizing the existing landfill's lifespan would also satisfy the existing Condition of Approval No. 19, in which the PBL shall assist the County in waste diversion efforts through public awareness and education program implementation. PBL collaborates with the City of Avalon to divert waste from the landfill through [Reduce Reuse Recycle](#), a program educating residents and visitors on separating waste from recyclable materials to ensure proper recycling. The City has also adopted a [Preferable Purchasing Practices and Policy](#), which requires the City to purchase and use materials, products and services which are fiscally responsible, reduce resource consumption and waste, promote opportunities to lesser advantaged segments of the community, perform satisfactorily, and promote human and environmental health and well-being. Implementation of the proposed plan would allow such programs to continue providing educational resources for the public. Additionally, the City and CR&R have recently deployed recycling containers for residential and commercial customers to further source separate recyclable materials in the diversion efforts.

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Appendix A

Figures

Figure 1 Vicinity Map



Figure 2 Site Map



Figure 3 Current Design Condition

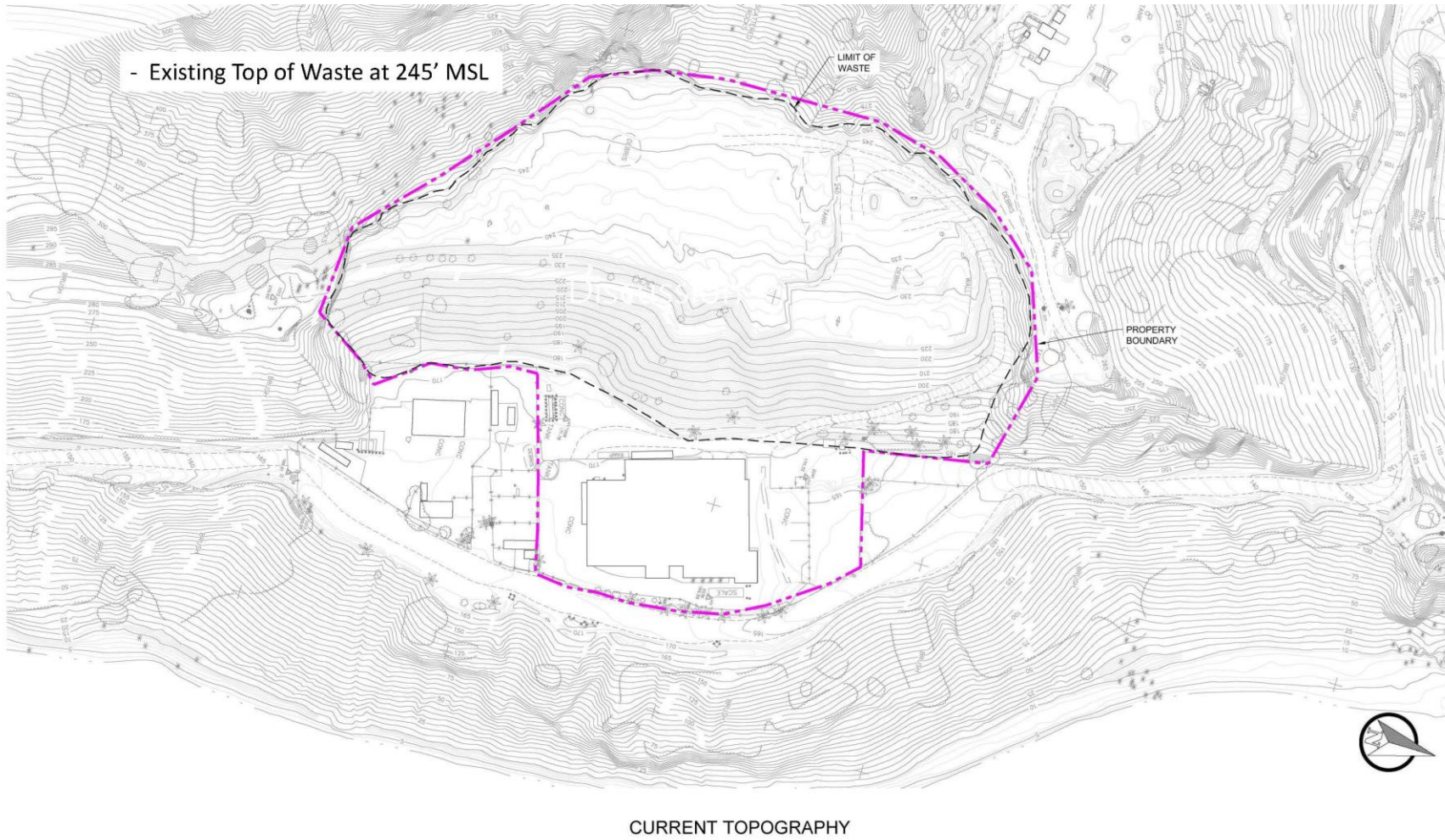


Figure 4 Current Financial Design – Closure 2028

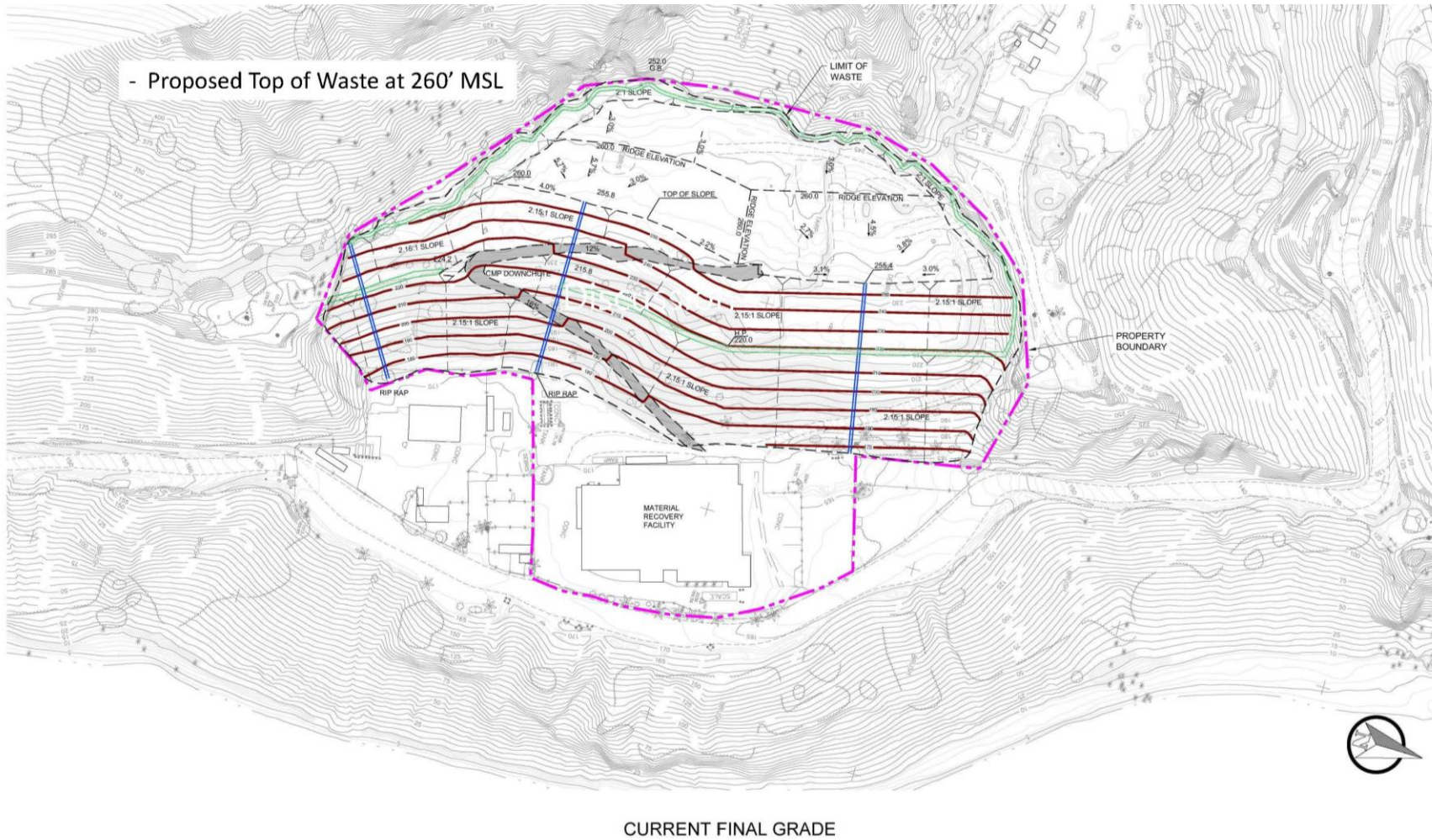


Figure 5 Proposed Final Design – Closure 2045-2048

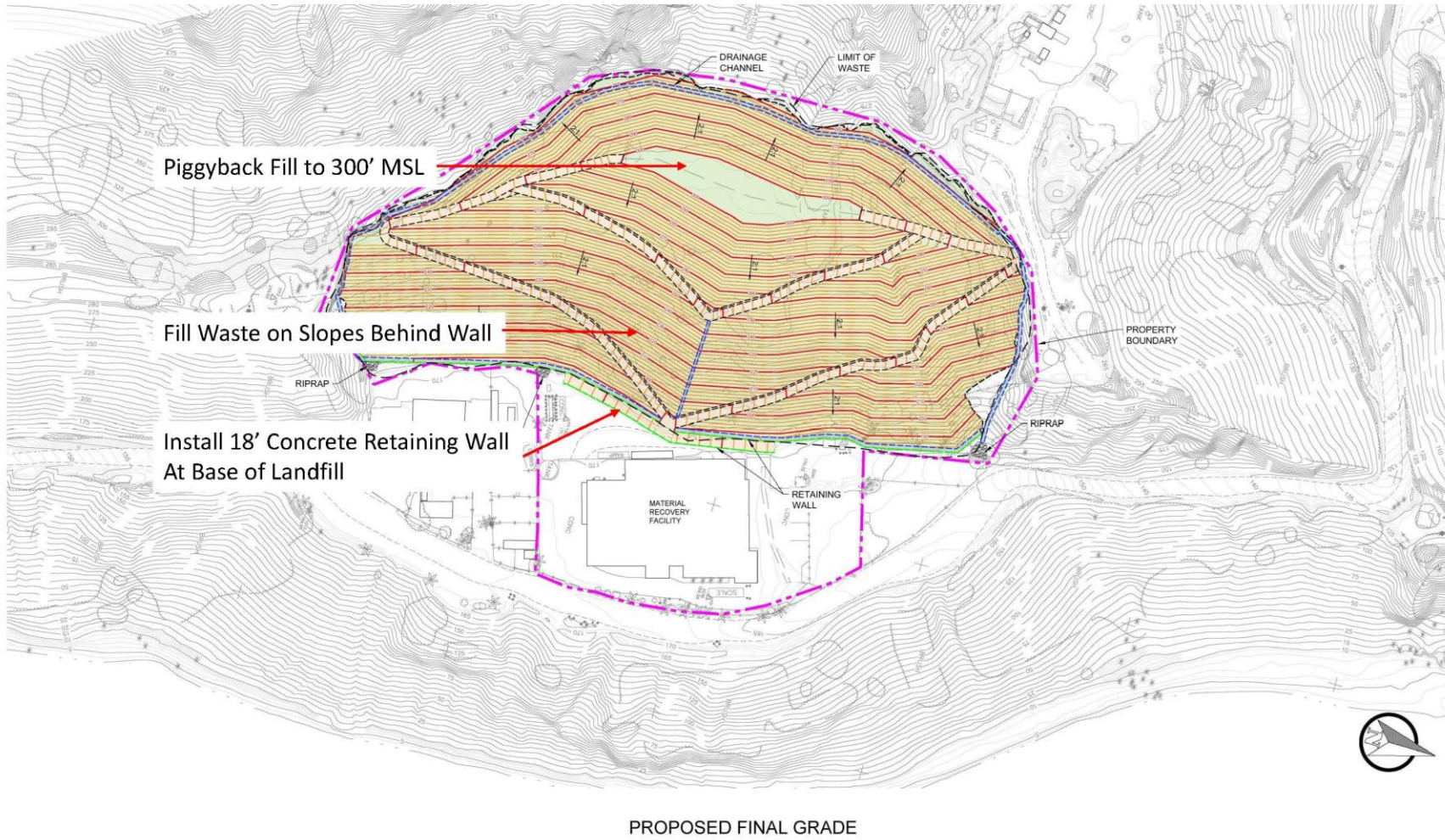
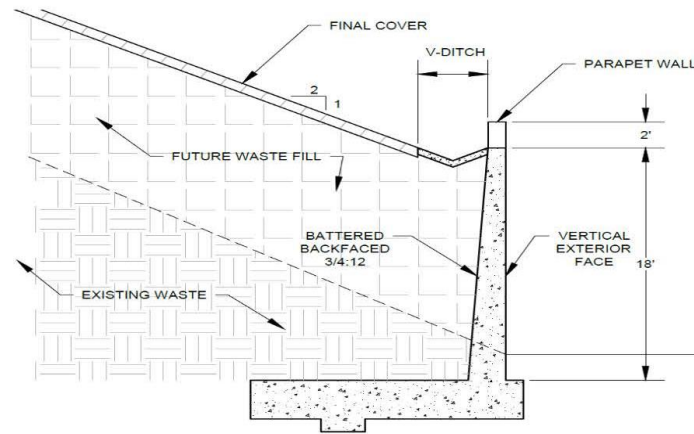
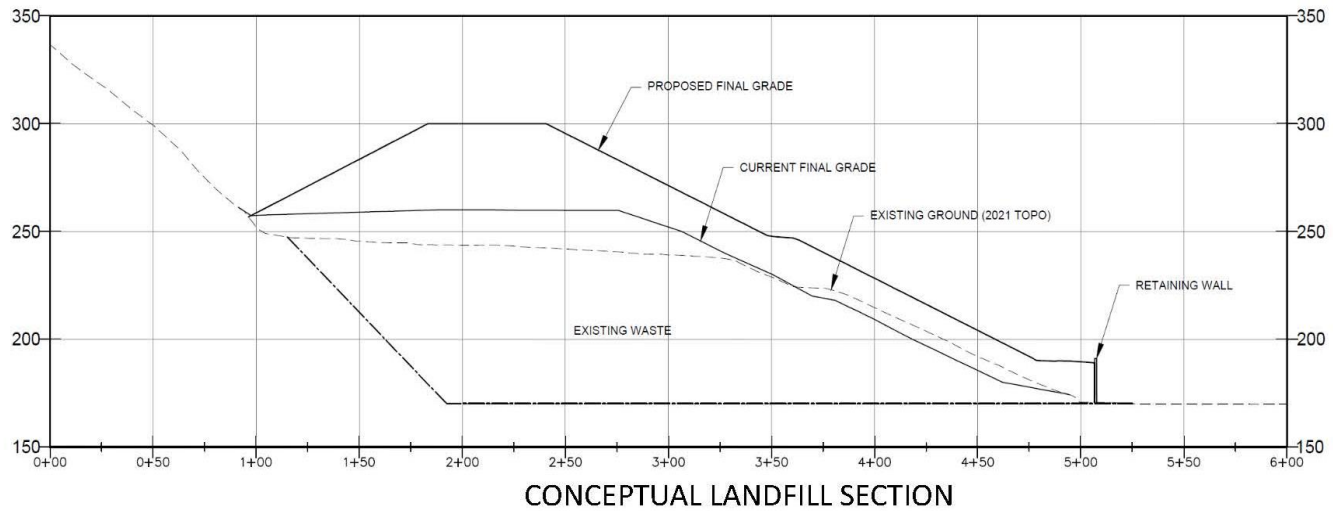


Figure 6 Proposed Design Section



PROPOSED RETAINING WALL