



Water Management & Drainage System

About Our Client

Our client is an engineering firm of great repute based in North America, which specializes in integrated solutions in engineering & construction from consulting, planning, design, and construction management. It has been offering comprehensive and multi-disciplinary engineering services for projects worldwide and was one of the pioneers of this approach in the United States.

Business Challenges

The scope of the project entails the development of Conceptual & Detailed Design of a Water Management & Drainage System.

This entailed a need to create an effective water management & drainage system, considering hydrology, and hydraulic calculations, which also involves the extensive use of Network Analysis & 3D Modelling of Pipe Network, Substructure, Infiltration Trench/ Soak away, Open Drain Channel, Detention & Retention Pond, Swale & Culverts. The client wanted the solution provider to have the requisite tools and experience for precise modelling and simulation of the drainage system components, which helps to optimize their design and functionality.



Our Solution



The TAAL Tech team started the engagement with a comprehensive analysis of Topographical, Geotechnical, Hydrological, and Utility services data for Catchment area identification and planning.



This was followed by finalizing the Design Criteria viz. Return Period, Rainfall Intensity etc. Hydrology and Hydraulic analysis were carried out next to develop the drainage Plan & Profile based on Road geometry and placing of Inlet structures based on catchment area & Inlet Capacity.



The team proceeded to design of Sustainable Structures viz. Infiltration trench, Detention/ Retention Ponds, Swale and design of Major and Minor Culverts, Swales and other drainage elements based on calculated discharge.



The entire design was analyzed for any form of clash and Clash Detection Report was generated. The team finally generated the 2D Conceptual Drawing and Shop Drawings, Standard Drawings.



Tools such as Civil3D, Storm Cad, Sewer Gems, Flow Master, Culvert Master & Manual calculation Spread Sheets were deployed. Additionally, manual calculations using spreadsheets were performed to ensure accuracy and validate the results obtained from the software tools.

Results Delivered



The team's exceptional domain expertise played a pivotal role in delivering a speedy turnaround of the Water Management System Design, Drainage Design Report, Network Model, and Technical Specifications. This enabled the client to leverage cost savings while receiving high-quality, complex design services. The comprehensive approach to designing and modeling the drainage system proved TAAL Tech's solution to be effective in managing water flow and mitigating the risks of flooding or other related issues.



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About TAAL Tech

TAAL Tech is a niche Engineering and Technology solutions provider serving global corporations in their pursuit for faster innovation. Our vision is to be a leader in providing innovative, high value engineering & technology services to global corporations. Meet our team and learn more about us.

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