**Report of Achievement**

**Outline**

Name: Venancio Mendez Levy

Position: Site Engineer

Period: July 2020 – May 2022

**About**

Throughout the last two years working for Webber LLC (Ferrovial Group) at the I-10 San Bernard project I have been able to learn the ins and out of a heavy civil construction project. Including but not limited to site management, equipment and crews’ management, production planning and production tracking, project finance evaluation and cost control (daily/weekly cost and production allocation), material orders and yields tracking, subcontractors’ coordination, contract/client management, design management and coordination, safety supervision and site safety improvement planning, project scheduling and resource allocation, etc. In addition to my growth in technical and managerial skills I have significantly improved my team working skills and communication at all levels of the organization. I also, developed an in-depth vision of construction sequencing, steps, risks and opportunities.

**Location**

Sealy, Texas.

**Project**

The I-10 San Bernard is a 154 million dollars, 7-mile highway expansion project that consist of removing existing 2 lane asphalt layered cross section and rebuilding it to a 3 lane CRCP double shoulder highway. The base and subbase of the road of are made of recycled material/aggregate coming from the existing asphalt and concrete removal of the old road.

The project includes 445 CY of embankment, 270 CY of excavation, and more than 900,000 SY of concrete paving. On the project scope, it’s also included the removal and installation of more than 9 box culvert drainage structures and +100 RCPs, mostly done in 4-6 phases.

On the structures side, we removed and rebuilt 2 overpasses and 11 phase bridges over creeks, 4 of them being a 9-span bridge over the San Bernard River. Majority of the bridges consists of reinforced concrete beams simply supported on bents and rounded columns.

**Achievements**

* General
  + Planned, managed, supervised, and tracked the execution of the following scopes of work:
    - Cement Subgrade Stabilization
    - Cement Treated Base
    - Embankment and Excavation
    - Drill Shafts
    - Substructure and Superstructure
    - SWP3
    - Traffic Control management
    - Flatwork
* Trucking coordination improvement
  + Re-organized the project’s trucking management process to facilitate cost allocation, data entry and data management. Resulting in staff time savings of 3-4 hours per week.
* Scheduling
  + Managed project overall schedule to coordinate milestones, activities to be completed, delay impacts, and resources allocation.
  + Forecasted potential scenarios considering impacts to cost, schedule, and resources to improve the decision-making process based on cost/benefits analysis.
* ***Finance*** ***Forecast Tool***
  + Utilized the project schedule on Primavera 6 software to generate an estimated earn budget forecast of the project based on unit costs and quantities to be executed.
* Aggregate Analysis
  + Estimated project’s total aggregate used for treatment subbase, based on total project’s paving surface area.
  + Measured and quantified total removal to be produced and recycled based on project’s plans and drawings.
  + Used drone technology to quantify material stockpiles levels and control inputs, outputs, and waste.
  + Generated a monthly and to-date forecast of aggregate balance and calculated total quantity of material needed to be paid for to be recycled. Resulting in potential savings of +100 thousand dollars.
* Design
  + Collected and documented design errors in the field and communicated them to client’s design representatives through RFI’s.
  + Lead and managed field driven design changes to improve project efficiency, safety, and management of traffic.
  + Generated design ideas along with the design team to decrease waste and better handle project resources. Resulting in savings of +50 thousand dollars.
* Safety
  + Completed The ***“SAFETY LEADERSHIP FOR SUPERVISORS AND MANAGERS”*** training. Intended to teach medium level supervisors about the most effective psychology proven techniques to manage site safety in a proactive way. While, embracing pre and post planning discussions with crew members about site hazards and plans of action.
* Earthwork Analysis
  + Participated in pre implementation meeting with Webber’s CIO and Israeli Startup ***“DatuBim”*** to assess the risk, challenges, and opportunities of adopting drone measurement technologies to track earthwork quantities. Improving both operations and bidding processes.
  + Constructed a system to effectively track the production and quantification of CY of embankment and excavation performed monthly.
  + Used surveyed project topography, Agtek model and truck load counts to estimate amount of embankment and excavation done by area code monthly. Resulting in a significant reduction of the production claiming process from 12 hours to 2 hours.
  + Kept track of existing concrete left in place and variabilities in earthwork quantities.
  + Managed the modification of a plan quantity with the client in the basis of changes in revenue, margin and in the field needs.
* Go-Further
  + Completed The ***“Go-Further training program”*** intended to teach new engineers the most relevant concepts involved in a global construction company, included but not limited to:
    - Global Procurement
    - Public, Private Partnerships
    - Project Finance
    - Self-perform vs Subcontracted work
    - Safety and Environment Assessment
    - Scheduling
    - Resource Management
* Finance
  + Learned key construction finance concepts such as:
    - Revenue
    - Profit
    - Direct Cost
    - Indirect Cost
    - Negative markup Items
    - To date and pending quantities
    - EBIT
    - Cash Flow
  + Reconciled production quantities with the client and the subcontractor to issue payments.
  + Managed and executed Progress Payment Certificates (PPC).
  + Evaluated budgeted unit cost against executed unit cost to analyze deficiencies or improvements in the operations.
  + Participated in the quarterly budget revision to re-forecast quantities, unit cost and pending quantities to be performed.
  + Contributed to generate the Actual Cost Report (ACR), which compiled KPIs and actual vs budged performance.

**Conclusion**

Within these scopes of work, I learned that it’s imperative to have an accurate estimate of project’s quantities, materials needed, and subcontractors timing. It is crucial to coordinate the work in a basis of areas available, labor and equipment constraints and client’s objectives. The overall result of a project will depend on early on planning, design reliability, and efficient team collaboration. As a site engineer, I put a lot of energy into constructing trustable relationships with the crews and planning the work collaboratively with the foreman and superintends. In addition, I gave a lot of attention to asset management (Equipment), material coordination and labor planning. In these two years, I learned that the bottom-line goal for any project should be to have all your resources being used on a productive and safely manner having the minimum amount of material waste and mitigating the amount of negative environmental and cultural impact.

**LINKED IN VERSION**

As a site engineer, I put a lot of energy into constructing trustable relationships with the crews in order to plan the work collaboratively. It is crucial to coordinate the work on the basis of areas available, labor and equipment constraints, and the client’s objectives. The overall result of a project will depend on early-on planning, design reliability, and efficient team collaboration. The bottom-line goal for any project should be to have all your resources being used in a productive and safe manner having the minimum amount of material waste and mitigating the amount of negative environmental and cultural impact.