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by

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**Reorganization of a Government's Engineering Division to Model
Civilian Organization for Success**

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Civilian Organization for Success**

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Report

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Abstract

Reorganization of a Government's Engineering Division to Model Civilian Organization for Success

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The University of Texas at Austin, 2009

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The Directorate Public of Works Engineering Service Branch is responsible new designs, renovations of existing construction, and general supervision of new construction. Over the years (especially in the last two or three years), the Design Branch has been perceived as providing a low quality product. The quality can be directly related to personnel issues within the organization such as heavy workloads, low morale, lack of respect for management, and lack of leadership which is required to improve the quality of work. As a result of the evaluation of the current organizational structure and how it contributes to the personnel aspects of its staff I have recommended that the organization transitions from an operational structure to a matrix structure.

I have furthermore, identifying the strengths of the recommended structure and how it will contribute to the improvement in the quality of the design. I have also

identified weaknesses of the recommended structure and sought to identify solutions to minimize negative impacts on the organization. The roles and responsibilities are also identified in the recommended matrix organizational structure.

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FORT HOOD'S DIRECTORATE OF PUBLIC WORKS

Chapter 1: Executive Summary

Since August of 2007, I have been employed by the DPW as a civilian employee in the Engineering Division. Within this time I have observed less than desirable employee work practices and management effectiveness. I have developed and reinforced a reasonably solid platform to speak for the interest of senior management and from the point of view of the employee.

The Engineering Division has a unique mission to the DPW, in that it is paramount in providing adequate work space and living quarters for Army soldiers (veterans and current), as well as their families. The DPW is consistently tasked to renovate existing facilities and construct new facilities with limited monetary thresholds (defined by Congress), and extremely tight schedules that are difficult to manage. The Engineering Division has proved successful over the years in demonstrating its ability to handle heavy workloads; however the ratio of projects to staff is continuously increasing.

Throughout this year, the Engineering Division has shown low morale as the work load has increased. The overwhelming feeling is that there is no end in sight and this is magnified by the current workload with the knowledge that more and more work demands are coming down the line. With each year comes additional effort. Each year the demand is met; however, the number of people necessary to fulfill the additional demand appears to not increase at the same rate as the demand.

The expectations and demands of the Engineering Division, combined with the low morale of the staff, prompted management to conduct an employee satisfaction survey in 2008. Management also realized that productivity needed to remain high since

overtime could not be mandated. The survey was performed to identify areas of change desired by the employees. The main purpose of the survey concentrated on those issues that were causing employees distress or contributing to low morale.

Management selected key organizational topics (for survey concentration), that they felt were questionable in the organization. These metrics were leadership roles and responsibilities, internal communication, and effective training programs and their availability to the staff.

A matrix organizational structure is a recommended change to the Design Branch. The roles and responsibilities of the personnel in the new organizational structure are identified. The disadvantages are identified and how to overcome them. The structure will help to improve the quality of the designs produced by the branch and is likely a staging point in which management can induce effective change.

Chapter 2: Current Organization

BACKGROUND

Fort Hood is the largest active military post in the United States encompassing more than 340 square miles (217, 337 acres). Due to the size of the Installation, and the Army and civilian personnel it supports, the Garrison can be modeled as a mid-sized American city. As with any city, Fort Hood requires a centralized body of people to remain focused on the business of maintaining and upgrading the infrastructure of the people it serves. For a military installation, this body of people is collectively known as the Directorate of Public Works (DPW).

The DPW is a large and complex business organization, in much the same way as a municipality's department of public works. From an Army perspective, the DPW is responsible for the engineering, management, and operation of all public works and critical infrastructure for the Garrison. Fort Hood's DPW is composed of several discipline-specific divisions that are crucial to the success of the military installation as shown in Figure 1, below.

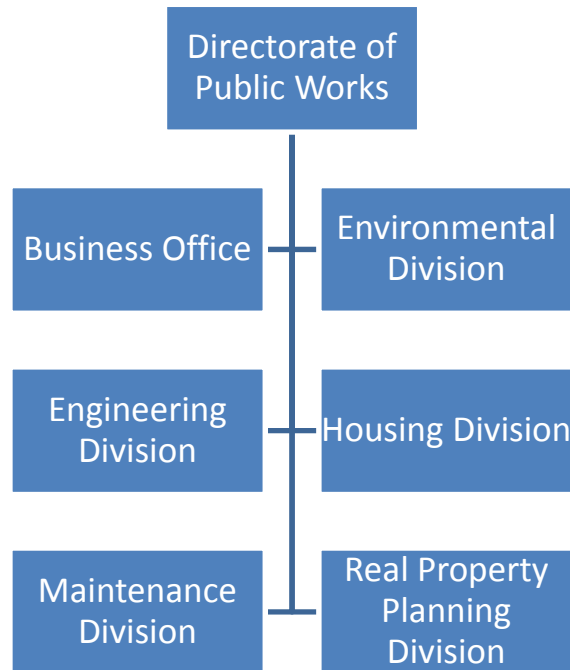


Figure 1: Fort Hood's Directorate of Public Works Organizational Chart

Each division of the directorate has a defined role in supporting the DPW. The Business Office provides directorate resources, organizational and strategic planning, as well as financial planning and analysis. The Environmental Division is responsible for managing the conservation of natural resources, the restoration of those resources, and enhancement of the environment of the installation as a function of new and rehabilitation construction. The Maintenance Division is responsible for repairs and maintenance of buildings and other infrastructure (electric, water, gas and waste water. The Real Property and Housing Divisions are responsible for managing facilities on Fort Hood. Real Property manages facilities that support the Army mission such as Army headquarters, motor pools, and admin facilities. The Housing Division manages all military owned and operated family housing on the installation. The Engineering Division is responsible for designing and executing contracts for the construction of new

facilities and renovations of existing facilities. The Engineering Division is also responsible for transportation and traffic infrastructure and utilities.

It is relatively easy to compare and contrast the organizational chart of the Fort Hood DPW and to that of another mid-sized American city. Although much larger in magnitude, the City of Austin's organization chart correlates very well with the organization of Fort Hood's DPW (see figure 2). The City of Austin has a Financial and Environmental division which complements the Business Office and the Environmental Divisions of the DPW. The other divisions of DPW correlate quite well with the development and capitol development branches for the City of Austin. Organizational branches within the City of Austin's organizational chart that are not identified in the DPW organization are supported by the ARMY's community service, local community, and military organization.

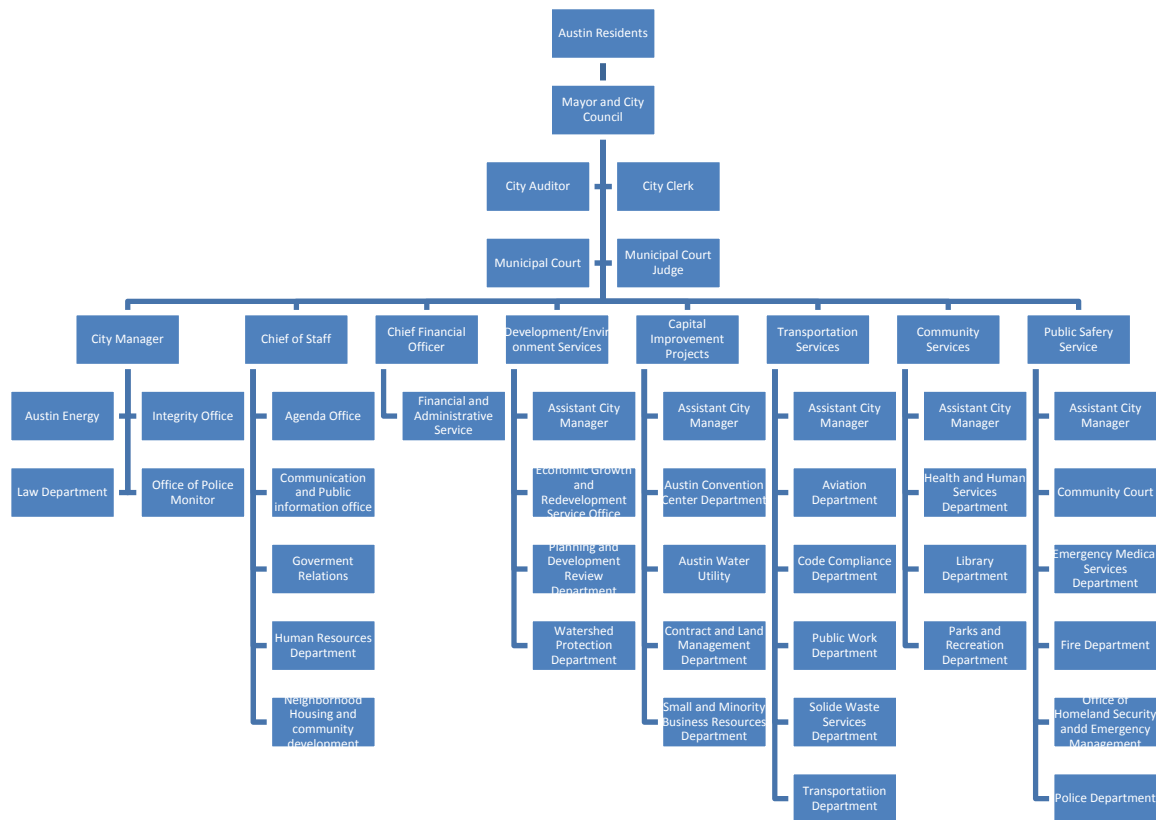


Figure 2: City of Austin (Texas) Organizational Chart dated 10-2009

Since August of 2007, I have been employed by the DPW as a civilian employee in the Engineering Division. Within this time I have observed less than desirable employee work practices and management effectiveness. I have developed solid personal and professional relationships in various divisions of the DPW, many of which are associated with the Engineering Division. The relationships that I have developed have allowed me the opportunity to communicate candidly with various levels of management and work trades, as I have sought to determine the patterns associated with employee and management discontent within the organization. In so doing, I have developed and reinforced a reasonably solid platform to speak for the interest of senior management and from the point of view of the employee.

The Engineering Division has a unique mission to the DPW, in that it is paramount to providing for adequate work space and living quarters for Army soldiers (veterans and current), as well as their families. The DPW is consistently tasked to renovate existing facilities and construct new facilities with limited monetary thresholds (defined by Congress), and extremely tight schedules that are difficult to manage. These schedules put undue stress on the employees as well as on the contractors who are contracted to build the new facilities or renovate the existing facilities. The Engineering Division is also responsible for administering the contracts from project development to project closeout. The Engineering Division has proved successful over the years in demonstrating its ability to handle heavy workloads; however the ratio of projects to staff is continuously increasing.

Throughout this year, the Engineering Division has shown low morale as the work load has increased. This trend (according to discussion with tenured employees) appears to be increasing. The attitude of the personnel is not that they have no pride in their work, but rather "why should I?" The overwhelming feeling is that there is no end in sight and this is magnified by the current workload with the knowledge that more and more work demands are coming down the line. With each year comes additional effort. Each year the demand is met; however, the number of people necessary to fulfill the additional demand appears to not increase at the same rate as the demand. This is especially true during wartime or economic downturn. The obligation of monies has also increased as new legislation is passed, or as a result of change in the Presidential office.

The expectations and demands of the Engineering Division combined with the low morale of the staff, prompted management to conduct an employee satisfaction survey in 2008. Management recognized the current work load of the division and realized that the number of personnel available to accomplish the workload was too small

and large amounts of overtime would likely be required to meet demand. Management also realized that productivity needed to remain high since overtime could not be mandated. The survey was performed to identify areas of change desired by the employees. The main purpose of the survey concentrated on those issues that were causing employees distress or contributing to low morale.

Management selected key organizational topics (for survey concentration), that they felt were questionable in the organization. These metrics were leadership roles and responsibilities, internal communication, and effective training programs (and their availability to the staff). For more information on how the staff reported to the survey and questionnaire, please refer to appendix A. The need for changes to the organization are recognized by leadership. However, leadership wants to ensure that the issues that are exposed in the survey are addressed.

INTRODUCTION

Considering the challenges faced by the Engineering Division's senior management concerning the metrics in quality of work and low morale within the organization, change is warranted. Currently the organization has a desire to address these issues in order to improve the quality of work produced by the employees and increase job satisfaction. The organization has typically functioned in a reactive mode, and now wants to move toward a more proactive role. The organization changes will help to identify how senior management and personnel will maintain the work environment. The changes should be in place to rectify the issues identified by current employees and management.

The Engineering Service Division Organization is currently organized as shown in figure 3, below.

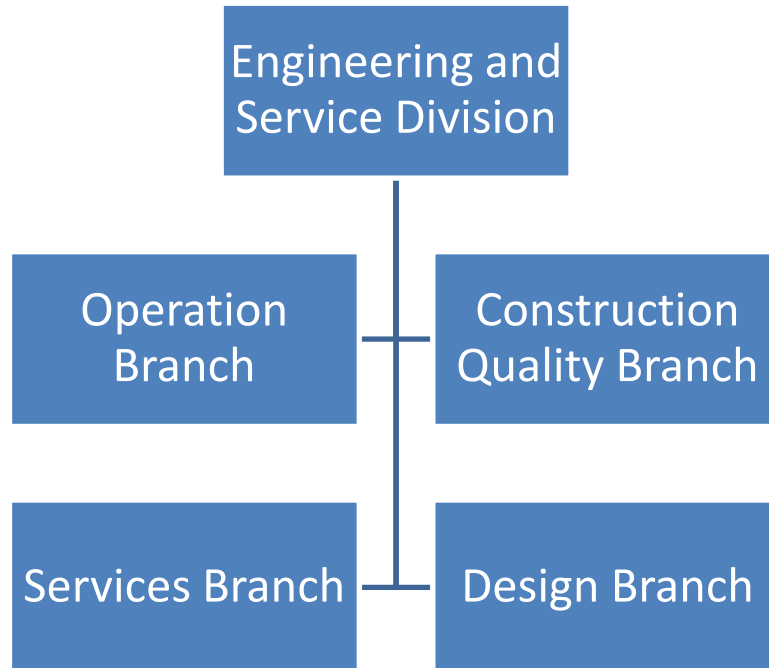


Figure 3: Engineering and Services Branch

Changes that were recommended as a result of the survey were directed at the Design Branch and its personnel. The new organizational structure will allow for the new and existing policy to be implemented and continued for success in engineering projects. The new organizational structure is likely to show how the issues of the employees are addressed and how the organization will develop into a more streamlined professional organization.

The current organizational structure of the Design Branch will be analyzed and organizational pitfalls will be expressed concerning the current responsibilities to the employees and managers. The new proposed organization will help identify the roles and responsibility of the staff and enable management to promote a long-term solution for the employees.

CURRENT ORGANIZATION

The Design Branch is responsible for designing large-scale, long-term engineering construction projects to include the development of scopes of work, producing engineering construction drawings, and providing independent Government Estimates. The scopes of projects vary from new facility design to renovation of administration and living quarters. With the Design Branch having these responsibilities will in turn affect the quality of the construction.

The large-scale projects and the obligations of funds for these projects will continue to increase. The current organization (see figure 4) has adopted the organizational structure of the ARMY.

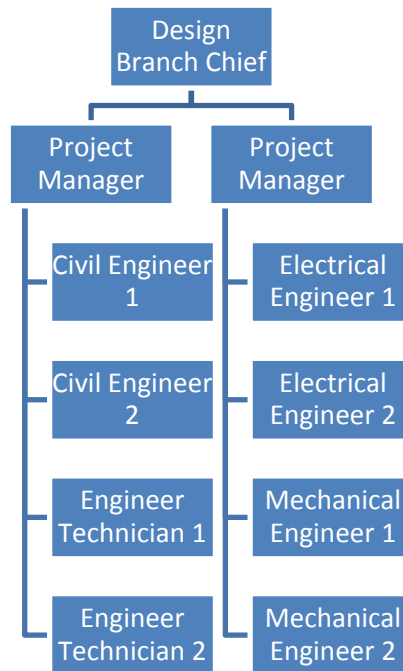


Figure 4: Design Branch Organizational Chart

Figure 4 shows a functional organizational structure. The project manager is responsible for his/her project and limited to the technicians and engineers reporting to

the project. The functional basic is probably the most widely utilized scheme because of its commonsense appeal. (Gibson, Ivancevich, & Donnelly, 1979) Responses to the survey exploited the weakness of this organizational structure, due primarily to the “dredge ahead mentality” of this project management style.

The key personnel identified in figure 4 have responsibilities to the project and success in the execution phase. The Project Manager is the lead on the project and has been assigned the overall responsibility for the project. The Project Manager will also make all design decisions and budget expectations for the project and will only utilize the personnel under his chain of command to execute the project as he sees fit.

The other key personnel within the organization are the engineers and technicians. The engineers are responsible for their specific discipline within the project. The engineer will ensure the design meets code and is of sound design in accordance with Installation Design Guide requirements. The engineer, if required, will also have a cost savings plan for the project manager. The engineering technicians are a wealth of practical and applicable knowledge based on best industry practice within their specific trade. Most technicians have been associated with their trade for many years and, although do not have the formal education in the science of their trade, understand all facets associated with their trade. The technicians assist with, or often times produce, the design for the project. The technician will perform field verification of existing conditions and develop record drawings for the project after it has been constructed. The technician will also assist in the development of the independent government estimate for the project.

PROS WITH THE CURRENT FUNCTIONAL ORGANIZATION

There are several pros to the current functional organizational structure. The first is that a project of a certain concentration will go to one specific, discipline inclined project manager. The project's efficiency will constantly improve as more designs are executed through this project manager. Knowledge will be captured by the project's key personnel for future projects of the same general scope. As projects of the same nature come to the project manager, the issues identified in previous contracts will be easily resolved and will not hinder the current project. For example, DPW has received several projects for repairs to substations owned by Fort Hood. The same project manager working the same projects will have the institutional knowledge of what is required for the project and will be able to foresee potential issues before they delay project development or completion.

The constant teamwork with the same personnel on each project will develop team cohesion. They will know how each one will work and the quality of each other's design. Should a certain employee produce non-quality work or not produce as they should, adjustments can be made for forthcoming projects. The team will be very open with the flow of information between members under the project manager. Cohesion will solidify and strengthen as there is no change to the team and the team members' responsibilities. The team will learn from each other as projects change and continue to develop.

The Project Manager knows the necessary quality of the design and what the design will lack from his or her team. In turn, the team will understand the level of design that is needed to meet the project manager's expectations. The expected quality will remain consistent from project to project. The quality from the team will increase as

the issues arise from project to project. Future projects of the same nature will easily address all issues the team has seen in previous designs.

CONS WITH THE CURRENT FUNCTIONAL

With the current functional organizational structure has several key disadvantages. Figure 4 showed that, in the current functional organization, all engineers of the same discipline are placed under one discipline-specific project manager. Current projects received by the Design Branch do not require just one discipline; rather, many disciplines are needed to produce quality work. The need for a project manager to utilize other disciplines not within their team will hinder the final design under the current organizational structure. The project manager will fill in the void with their own knowledge of the discipline; however, inexperience and lack of expertise will show in the design.

The communication between members reporting to other project managers is hindered. The problems seen in the execution phase of the project will not be shared by the various project managers. Deficiencies being identified from project to project will only pertain to specific project managers and to the engineer requiring the information. The deficiencies repeated on various and similar projects are being repeated by different project managers. The organization will have to repeat the lack in the design for every project manager to ensure deficiencies are identified. The organization does not need to repeat the deficiencies if communication across the various project managers and designers is effective. The resolution is constant between projects and can be avoided if information is passed from project manager to project manager.

With projects with the same type of requirement being executed by the same project manager will not for new growth of the personnel. The teams will be one

dimensional and no additional experienced will be gained. If a new project with different requirements arises there will be a challenge to ensure the design is sufficient for the execution phase of the contract. Also, if work load from one project is transferred to another program manager, the experience required will not be available. Currently there are engineers and technicians that will not take on new projects because they are lacking experience in a particular type of project. The member will only take on a project that they have experience with and will succeed in.

CURRENT ORGANIZATIONAL ANALYSIS

The current structure is good for projects that are of the same effort or nature. The projects that are assigned to the engineering division vary based on the ARMY's need. The design branch may have a mission varying from designing a new building to renovating military facilities. At some level, all designs will require the expertise of multiple disciplines. A final design for the same project is received from two project managers will have complete different standards. The issues identified will only be resolved by the team that provided the design. Communication within the current organizational travels only down the chain and not laterally. Repeated errors may continue until they are identified by each of the project managers. The issues will vary based on who is executing the contract and what is considered to be within the agreed upon scope of work. Interpretation of the contract will also be varied from the government and the contractor.

The employees feel the frustration from the key items identified. Some of the responses in the survey (see appendix A), reinforce the weaknesses of the current organizational structure. Lack of communication or lack of quality communication was one area that was identified by the employees of the design branch. The flow of

information was not being transmitted down to the proper personnel in a timely fashion. Currently issues on how drawing should be package together is not being communicated to all personnel. Project managers packages will keep getting kicked because a change has been initiated but the information has not been dissipated to everyone.

According to the survey results, specific discipline training was another area that the employees feel that the government does not adequately provide for. The project managers do not have the experience or the skills to know what training is required and needed for their team members. The diversity of project will also help to identify the training that will be required for the technicians and engineers.

The direct management of the resources falls on the project managers. The comments made by the employees refer to inexperience of management and the in effective flow of information. Project managers will not utilize the engineers in the most effective way possible. Projects seen as easy to complete the project manager will execute the contract compared to giving to the engineer to learn from the experience. The training required for the project managers is also lacking. Project managers are given training on how to effectively execute project but no on how organize the resources available to them. Managing the personnel is the key to an effective leader.

Chapter 3: Recommend a New Organization Structure

INTRODUCTION OF A NEW PROPOSED STRUCTURE

An organizational structure implements the control measures and outlines the division of labor in a division or company. The personnel in the organization should know their responsibilities and the extent of management's control. The suggested changes in the organization will not address the individual issues but will ensure that responsibilities are clearly identified. The new organizational structure will also be well defined on areas of expertise.

The suggested change to the organization is to move from a functional organizational structure to a matrix style organization. This style of organization is a movement from the clannish type organization to a more productive and transparent structure. The matrix organizational structure will keep the strengths of the current structure and minimize the weakness of the functional structure.

MATRIX STRUCTURE

The new proposed matrix structure is shown in figure 5. The organization should be effective in increasing the quality of the product and maintaining personnel satisfaction. The matrix organizational structure is organized by the disciplines within the organization and the support staff of each respective division.

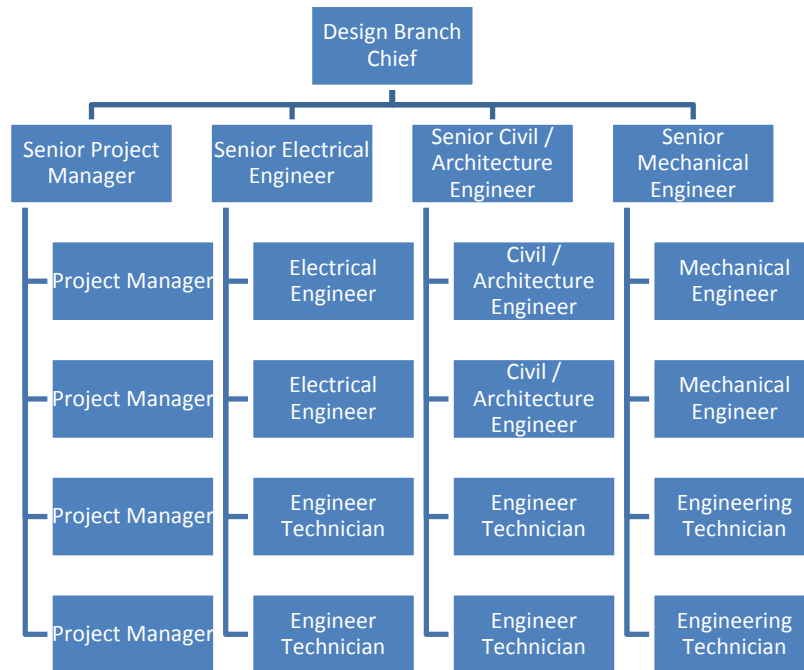


Figure 5: Matrix Organizational Chart

Within the organization the design branch chief will have 4 senior professional engineers - one for each respective discipline to lead the engineers and technicians and one to lead a project manager branch that is incorporated into the structure, which is independent from the engineering disciplines. The project managers can also be engineers, but their focus shall be more on project delivery versus project development. Responsibilities and roles of the personnel will not vary within the organization. The senior personnel will add another dimension to the organization as a technical senior representative of the trade. The senior personnel will be the voice of the design branch for expertise in their discipline. All technical issues start and end with the senior discipline leaders.

ROLES AND RESPONSIBILITIES

The overall roles and responsibilities of the engineers and technicians remain the same as in the functional structure. Each employee will have a defined role required to

ensure the success of the project in the design phase of the project. Their roles will be at the discretion of the senior staff, based on the technical difficulty of the project and the capabilities of the staff.

Senior Project Manager

The role of the senior project manager is to maintain and delegate all projects given to the Engineering Design Branch. The senior project manager will issue and delegate projects based on the complexity and emphasis of the project. The senior project manager will ensure he/she knows the strength and weakness of his personnel. He will also ensure that the growth of the program managers will be a function of the increase in complexity, size and number of projects they may handle. The senior project manager will also be responsible for the staff's individual training based on the need of the mission and his staff's individual interest. Senior project managers will also establish standards required for each project to meet prior to award.

This standardization will help to ensure that all items required for contracting are complete and up to date. The senior project manager will also make a determination on how each respective project should be executed. Standards will also allow the senior project manager to estimate costs and times for projects. He will also be able to gage time lines required for projects of different magnitude.

Project Manager

A project manager's sole responsibility is to develop projects and ensure all documents are compiled and checked prior to submittal to the contracting office. The project manager is in charge of the team that is required to complete the project and will have all interaction with the customer

A project manager will determine the scope and extent of a project based on the input of the customers and senior project manager. The project manager will also determine the budget for the project based on the inputs from the customer and senior project manager. The project manager will determine the extent of the renovation for the engineers and technicians and timelines for the design package that are considered ready for contracting. His final responsibility will be to perform an internal review of the final design package.

Senior Discipline Engineer

The senior discipline engineers will be responsible for all the engineers and technicians within their respective discipline. The senior discipline engineer will direct which engineer or technician will be assigned to the project, based on the complexity of the project. They will ensure the workload is distributed across all members of the team.

Senior discipline engineers will also direct training for each of their discipline's members. The training will be discipline-specific to each of the members. They will ensure each of the members vary in training but are specific to the discipline. The senior discipline engineers shall also organize and develop training throughout the year to ensure all technicians and engineers stay abreast of their skills.

Senior discipline engineers will also be responsible for the standard for their discipline. They will develop and edit all master specifications that the engineers and technicians will utilize for the projects. Standardizing the specifications will allow for the quality to be predictable. Senior discipline engineers will also set the standards for drawings being produced by the engineers and technicians.

Engineers and Technicians

Engineers and technicians are responsible for developing individual projects assigned by the senior engineers. Engineers will transmit actual timelines and effort required for each of their assigned projects. The engineer and technician will interact with program managers and other disciplines to ensure requirements are met. Once requirements have been established, the engineer or technician will develop all plans needed for the project.

The engineer or the technician shall gather all record drawings that will be required for the project. The site investigation for the project will be performed by the assigned engineer or technician. The condition assessment of the current utilities and structure will be incorporated into the design.

The engineer and technician will also be responsible for developing an independent government estimate on cost for the discipline's portion of the project. The estimate shall reflect the total effort of the design. The estimate will be retained by the engineer or technician for future use or reference.

The design shall meet the program manager's expectations and maintain the quality expected from the senior discipline engineer. The designed that is produced from the engineer and technician should reflect the same design in nature to include the detail required for the project. The product seen from the engineer or technician will be of the same quality.

EXECUTION OF A PROJECT

The projects will be executed much differently as compared to previous practices. Previously, and at the time of the writing of this document, project development and execution may or may not be developed by a person disciplined in the trade or science required by a given project scope. As seen in figure 6, below, a team requiring all aspect

of the discipline shall be developed laterally across the organization in the new recommended structure.

The project manager shall develop the team based on scope of the project and budget assigned for the project. The program manager shall talk to the senior engineer to get a team member that can handle the design requirements and has the time to develop the project. The program manager is in charge of the project and all personnel assigned to the project. The project manager is responsible for the start of the project to contract award.

The project manager will get the personnel required to complete the project and to maintain the integrity of the project. They will ensure all personnel on the project stay abreast on all changes to the project so everyone can adjust accordingly. The program manager will not necessarily perform any design work, rather will generally review the work that has been assigned to the engineer or technician. The program manager will review the drawings being produced to ensure accuracy for the project.

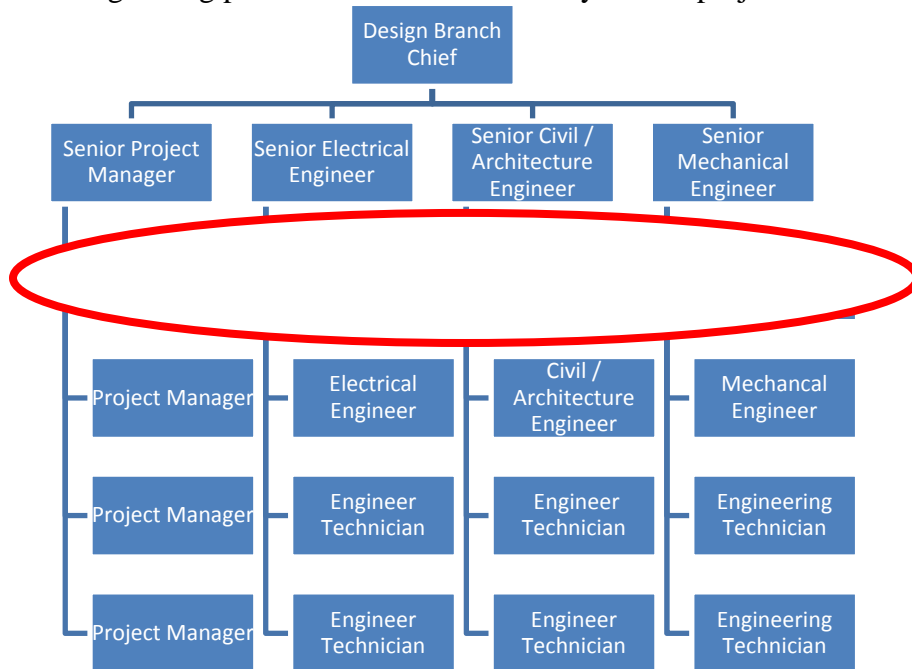


Figure 6: Project Execution

Once the drawings are complete the project managers will then package the documents required for award. Based on the combined estimates from each of the disciplines the project will go to negotiations with the contractors. The engineers or technician shall accompany the program manager as the technical expert. They must allow for the program managers to control all aspect of the drawings. If changes are made the engineer or technician will ensure the changes will not affect the design. The engineer and technician shall also give support for the estimate and verify all aspect of the contractor's cost. The project manager will finalize all aspects of the drawings, scope of work, and specifications for contract award.

MATRIX ORGANIZATIONAL STRUCTURE ADVANTAGES

The matrix organizational structure will help the design branch to take on new challenges. The senior design engineer will assign the best engineer to the project and/or add additional personnel to meet the design requirements. The flexibility of assigning the right personnel with the right skill sets will help get the project complete in the most effective and practical way.

Decisions can be made quickly, instead of the typical delays which can be reported as part of the functional organization structure. The project team members will have complete control of their design and in their areas of expertise. The project manager will be able to influence the design but will have the support of technical experts on the project.

Interdepartmental communication will improve because the disciplines will be in constant communication with each other. Each of the disciplines will have others to depend on and will be able to communicate design ideas more proactively. The need for

communication will improve in the design seen by the discipline and the expected quality will be standardized with all products.

The flexibility of the matrix structure is very versatile. The Design Branch has always had to react to the need of the installation and the ARMY. The senior engineer can be flexible in that he/she can add personnel to the team to ensure that requirements are met in a timely manner. The resources for the project manager will always be available through the Senior Engineers.

Design issues identified by responsible persons shall be addressed by all engineers and technicians. The issues will be identified to all members of the discipline so as to avoid repetition. The resolution will also be identified by all members of the discipline so the issue does not continue unchecked.

MATRIX ORGANIZATIONAL STRUCTURE DISADVANTAGES

The matrix organization will not allow for long working relationships. The team assigned to the project will develop each of their disciplines as required. The communication across the disciplines will be very limited and hinder certain aspect to the development of the project. Design changes will always have a trickledown effect. If these change are not identified by the discipline this will cause conflict or error within the project.

The roles and responsibilities of the members may be difficult to maintain. The idea of who is the lead and subordinate role will be difficult to maintain. The conflict will be on how much influence each of the disciplines will have on the overall design. The conflict on how the design should be and the extent of the design will be determined by the program manager. The conflict will also arise on design standard set by the senior engineer and project manager.

Another conflict that may arise is an employee feeling that he or she has two managers. Senior managers may have a different priority as compared to the project manager. With an organization wanting to go to a standardized quality of design this may be counterproductive. Quality of the design is set by the senior engineer and project manager. The engineer or technician will have conflict on what is expected on the project.

AVOIDING PITFALLS

The issues that have been identified can be resolved simply by communication. The project managers can maintain small meetings with the members of the project. This will allow for changes within the project to be identified and all members are aware of the changes. This will also allow for the engineers to develop relationships with the other disciplines and project managers.

Relationships not being developed during the interface will hinder the project. The project manager must ensure the teammates interact on the development of the project. Another way to develop the relationship is to have repeated assignment of the individual. Trying to keep the same engineer or technician with the same project engineer will allow relationship on the teams to develop in the short period. This will also allow for relationships to develop between the disciplines.

Roles and responsibilities will be very difficult to maintain. Within this structure there are several inputs to projects. Senior project manager and engineers must set boundaries on control of drawing and reviews. Senior management will assess the issues that may arise and make determinations on who will make the decision. Senior management of the division will transmit and support the boundaries set. The information being presented by the senior management will enforce the roles and

boundaries set by the new organizational structure. This will allow for no misinterpretation of the boundaries and roles.

CONCLUSION

An organizational change is very difficult for any organization. The change in responsibilities and roles will be stressful for everyone until the limits are set by the Senior Leadership, those limits are managed, and are managed by a system of metrics. The current organizational structure has allowed for one person to control both the project and the personnel. The interest of the disciplines are overlooked based on the projects' needs.

Quality products require quality personnel. The personnel will only improve when they become the main concentration of interest. The matrix organization allows for the responsibility to be divided up between the area of disciplines. Ownership and standards will develop within the new structure. This will allow for the product to improve as the discipline addresses issues identified during the construction phase.

The matrix organizational structure will help to stress the importance of the individual to the project and to their discipline. Having ownership of the drawings, scopes, specifications. will develop the individual as projects get more difficult. A support structure based on the individual's discipline will allow for the support of the quality of the drawing and scope. It will also develop a support structure for the discipline to turn to for support and design criteria.

Developing a structure that will support the individuals and projects is needed for the organization. Investing time and energy in a matrix organization will fulfill that requirement. Developing the individual will be reflected in the quality of the project.

Communication is also the key to avoiding the pitfalls in the organizational structure. Leadership is the last element that is needed to make the organizational structure work. Leaders recognize the strengths of the organizational structure and avoid the pitfalls seen. As the adjustments are made by personnel the quality of the product will improve as more and more projects are executed. The quality of design will determine the final quality of the building. This organizational structure will allow for the quality of the design to improve through time.

Appendix A

DISSATISFACTION EXPLANATION

Data below is unedited responses from the survey

Employee Job Satisfaction

1. Inexperience of some managers
2. Too many chiefs and not enough Indians
3. Very satisfied with the type of work and challenges

Employee Level of Responsibility

1. Too many young people in charge with not enough experience. They do not have the maturity to successfully manage personally and were moved up the ladder too fast.
2. Allowed to make own decisions on projects but changes are made not aware of by the team leaders

Quality of Supervision of First Line Supervision

1. Not enough experience to supervisor, no respect in way they talk to fellow employees, not open to fellow employees design or suggestions
2. Supervisors are over worked and have difficulty completing tasks at a high level of quality. Often with the rush a lot of issues do not get addressed until they become major problems.
3. The supervisor needs to take the responsibility for their people, too much responsibility is passed to junior supervisors and have no maturity to handle people, They need to do projects not control people that are working.
4. Always provides support and allows me to make mistakes to learn from
5. Lack of managerial experience of the first line supervisors. Always disorganized, unfocused and poor follow up techniques

6. Not knowing what is expected of you.
7. Now I am very satisfied..
8. new branch Chief, not yet able to determine

Quality of Supervision of Second Line Supervision

1. Very hard to talk to too
2. We are in a change of the second line supervisor and so far Robert Erwin is doing an excellent job.
3. The anticipated changes have me stressed
4. Lack of interaction/communication
5. new Division Chief, not yet able to determine

Quality of Supervision of Third Line Supervision

1. new to section will have to see
2. Barely knew him other than he sit in the big office. No interaction may be with few people only that graduated from his Alma Mata A&M. They need to get away from this unless you are an A&M you are nobody.
3. Lack of interaction/communication
4. Brad is the first, second and third and he's a great Supervisor
5. n/a, no dealing with third line supv

Quality of Supervision of Third Line Supervision

1. Very stressful during end of year a lot of projects give with not enough time
2. Is high, to much work not enough time, Supervisor has to many leads and not enough workers, Junior supervisors need to be put back on projects of there own and not worrying about other people, Supervisors needs to pick up the supervision
3. At times, workload can be very stressful. Deadlines are enforced without much prior notification although supervisors knew that the information needed to be submitted at that specific time in advance.
4. Too many under currents

5. Only stress is caused by extreme deadlines due to numerous vacancies
6. Depends on the time of year...always more stressful at the end.
7. High pace (more so at year end) + high expectations with a lack of direction

Employee's Workplace Environment

1. people are great to work with
2. Junior environments have open arguments and it makes the work place very unpleasant. Senior management let this go on and made these to what they are
3. The person that works next to me is not very clean, neat or organized
4. Honest, intelligent, good people

Supervisor Feedback on performance

1. feeling that certain people take the credit of work by other people
2. Very few comments are made on the work being performed by the employees whether good or bad.
3. No experienced supervisors. May be they are technically but they are not ready for managerial positions.
4. Supervisor too busy to see who does what. Favoritism plays a role on who gets promoted
5. Hasn't been rated as yet, but previous ratings were ok

Communication Up Supervisory Chain

1. not all things is transmitted to right people
2. Often things must be taken to second line supervisor to get answers or solutions to problems.
3. When you communicate issues they take it as you don't want to do what they want. You just want to do what you want. This is due to insecurities created by their lack of managerial experience even though their technical skill is not what's in question here.

Information Down Supervisory Chain

1. need for more team meeting
2. If supervisors have a problem with an employee, then they should speak with that employee instead of the entire group of employees.
3. Sometimes information gets lost.
4. Need improvement. There is no technique to follow up and ensure guidance is understood or at least on track, instead the first line supervisor goes to micro manage instead of clarifying guidance or follow up. Again this is due to lack of managerial experience

Amount of Training Employees Receive

1. new to field have yet to receive any training
2. Very little training. Supervisors should desire to have employees updated on current practices and better themselves as professionals. Training would also be good for retention of current employees.
3. We could have more training the fields we work in and others cross training jobs.
4. Have requested many training classes over the years and have only been able to attend a small amount. Feeling certain personnel get to go.
5. Never receive any training
6. Can always use more training to broaden my knowledge of every aspect of DPW. Just seems like the same certain people go to training every year.
7. have never had a IDP request for training approved, training dollars always seem to stay at the top

Quality Training Employees Receive

1. none received
2. Not enough time with some.
3. what I did receive was good but when you are to turn classes that would be training in my field I never here ant thing or they are not approve I don't know what happen with them

4. minimal training received unless mandatory

Cooperation / Teamwork among Workers

1. certain personal have a tendency to over look team and do there own thing with projects
2. This area has improved considerably in recent months, prior to that it was every man for himself
3. There is no centralized system to where we capitalize on previous project experiences, feed back and after-action reviews. Actually after action reviews are none existing. Every engineer or tech keeps all previous projects documents hiding on their hard drive as not to allow access to it. This need to be shared to allow us to take a look at previous similar projects so we don't fall into the same mistake. Also these should include an after action review

Internal Recognition for Work Performance

1. have not received any for what I contribute
2. It depends on who you are, not what you do.
3. It seems you really only get recognized when you mess up, not in a good way.

Quality of Tool/Equipment

1. do not have any
2. Until recently we have had a difficult time acquiring the necessary tools.
3. Need a lot more equipment...but it is getting better
4. Program licenses are not properly tracked and controlled. You have to beg the IT guy if you want a program copy which sometimes the program is bought for your type of work. These licensed copies are skimmed of the top to people who either don't have a need to it or just in cahoot with the IT. You got programs that engineers need to open documents but don't have while someone in BOYD have it just to have it. What I am trying to say is that the need and priorities are not analyzed and distribution is not correct.
5. What tools? Several employees have requested tools for 10 years now.

6. office supplies: always have to scrounge, borrow, or get at my own cost

Quantity of Tools/Equipment

1. have to share or hunt down cameras or measuring wheels
2. Tools we have are general worn out and or broken.
3. Need a lot more equipment...but it is getting better
4. Miss management of computers and computer capabilities. Some has their own printer and scanner and some on the shared ones even though both have the same load and responsibilities. Again it's who you know to get set in that department.
5. Again, what tools?
6. Not enough vehicles to allow proper oversight of projects on a daily basis
7. they either don't buy enough or people hoard them
8. We could use a few more trucks; some inspectors do not have a truck making inspections difficult.

Amount of work Employees Receive

1. like staying busy
2. Nobody can say no
3. Sometimes workload can be a large burden. All work cannot be accomplished during normal working hours.
4. The entire Division is over whelmed
5. Overworked but I enjoy the challenges
6. Need more analysis and tracking
7. Excessive workload; not enough personnel to handle properly
8. With all the vacancies it seems you have to do the work of 2 people
9. I do not mind the amount of work but when taking leave no one to back me up so everything is stacked up and backed up when I get back.

3 Likes about the organization

1. People I work with, the challenges of ever projects, field work
2. Co-workers project management/ Design packages training
3. I like working for the Government I like being able to make a difference I think Robert Erwin is a good breath of fresh air for the engineering division
4. My current supervisor does not micromanage; therefore, I have the ability to make decisions based on my experience.
5. Salary Leave Boss
6. The work we perform directly benefits the soldier The people within our office The freedom we have to perform our jobs
7. Luncheons, supervisors, freedom of decisions
8. People, Supporting the Army, Families and Civilians, Challenges-Problem Solving
9. Senior supervisor is the reason I come to work every morning. He is trying to make changes. 2. In general the people are decent but like technical and managerial experience.
10. I like my job serving the soldiers, most days it is satisfying. I like the opportunities I have had to advance. I like the people I work with.
11. Good hard working people. Does good work for the community. Pay scale is decent
12. Love the work, the people
13. The work is very interesting always working with our soldiers improving Fort Hood for the future
14. Team works very well together, Management is easy to talk to, Coworkers willing to pitch in when others need it.
15. Everybody knows about "DPW"
16. people work environment my job

17. People - Environment- Leadership
18. Working in my field Good people to work with Boss let you do your job
19. 1. People 2. Type of Work 3. Great Experience

3 Dislikes about the Organization

1. Pay compared to civilian 2 Advancement is not seen 3 No type of Program management in place
2. Very little mentorship of employees whether young or old
3. Communication between team leads and pm workload needs to be done by all to many manger ans not enough PM's
4. I think we worry to much about watching people instead of leading them with a heart of a teacher. A degree only means that you completed and passed a series of tests, it is what you do with it in the workforce. And if you take someone to far to fast you will only hurt them. The young are the future but they still need the old and wise to lead them until they are ready to take over
5. Do not feel it is necessary to single employees out for corrections during meetings in front of their peers. This is basic management 101. You do need to speak with individual employees if you have a problem; however, it needs to be done privately, with a liaison, if necessary.
6. QA treated second class Will not be promoted without a degree Hidden agenda by other supervisors
7. The amount of overtime needed to maintain current work loads
8. not being on 4- 10 hour days.not going TDY,not getting supplies
9. 1)Never enough time to do the project right 2)Always being the target for other organizations 3)Lack of manpower
10. Summer hires from Texas A& M are mismanaged and there only for certain personnel s needs. 2. Very Poor First lane Team Leads, managerial very week. 3. Structure of teams and their duties need lots of work.
11. Some of the red tape to perform my job. Budget sometimes is not there or arrives late and causes a little stress. Better communication

so service contract CORs know when new buildings come on line so we can start providing services to the buildings.

12. Need more team work. More workers and less bosses. need supplies.
13. Everyone writes his/her own evaluation as to what they have done for the year. Why? Shouldn't the Supervisor know what you've done?
14. No opportunity for advancement.
15. To much paperwork
16. lack of communication between divisions, lack of cooperation with other divisions,
17. length of time to fill vacancies lack of supplies lack of job back-up when on leave
18. Stress-More trucks-Better communication between entities in Engineering
19. Some people think that they are more than what they are, because of their schooling

Additional Comments

1. need for alter work weeks
2. We need to have some kind of flex time. 4 tens 5 4 9 this will help with gas and stress
3. It would be nice if management would consider an alternate work week (5-4-9) or (4-10) to help save energy and weekly gas expenses.
4. Overall, This is a developing Engineering branch that was plagued with a chief engineer that only worried about his alumni and didn't offer the engineer division any leadership. Team leads need to be addressed because they are the product of a very week chief of engineering and it needs to change before we alienated more engineers and dis-satisfied Techs.

5. all members of engineering should be including in the efforts of the team
6. AWS, alternate work schedule, is this a possibility for ENG/SER?
7. What do additional duties include? Monitor of all trucks in Services Branch. Input mileage, etc. 100% inspect both contracts without help..Estimate funds for both contracts. I work very hard on my two jobs and please a lot of people on Fort Hood, TX. Also know that a lot of people who've left DPW want to come back now.
8. Review GS grades in Services due to the large monetary contracts worked by CORs. I feel the lowest grade should be a minimum of GS-9.
9. Over all I think DPW is a good pack to and I enjoy working here

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Vita

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