



TECHNICAL PROPOSAL REPORT

Agreement: E02497	Project Specific	Active
Name: Emergency Agreement for SR 118, Section 50 retaining wall washout		Selection Process: Sole Source
		Initiating Org: Engineering District 4-0

Part 1 - Final Design of SR 0118 Wall

Description

Final Design of SR 0118 Wall

Task 1 - Surveys

Objective:

2.4.1 - Surveys

This task consists of providing the survey requirements associated with specific PennDOT projects designated for studies, reports, design and construction.

2.4.1.1 - Horizontal Control (Preliminary Design)

This task consists of providing the horizontal control survey data as required for preliminary design.

2.4.1.2 - Vertical Control (Preliminary Design)

This task consists of providing the vertical control survey data as required for preliminary design.

2.4.1.3 - Survey Data Collection

This task consists of collecting the survey data as required for preliminary design.

2.4.1.4 - Structure Survey Data Collection

This task consists of collecting the bridge and hydrologic survey data as required for preliminary design.

Scope:

2.4.1 - Surveys

Guidance:

- Publication 122M, Surveying and Mapping Manual
- Strike Off Letter 430-99-20, QA/QC Control checklist for Right-of-Way and Construction Plans
- Publication 213, Work Zone Traffic Control Manual
- Form D-428, Field Book
- Design Manual 3, Plans Presentation
- Referencing alignments should be in agreement with Pub 122M, Ch. 3.1 and DM3 Figure 3.214

Scope:

Surveys may consist of either conventional data collection, Three-Dimensional data collection, or a combination, as directed by the District. Obtain published horizontal and vertical control data for project use.

The Quality Assurance/Quality Control Checklist will be completed and discussed with the District Chief of Survey for all preliminary design survey work.

Prior to initiating surveys, develop a Traffic Control Plan in accordance with Publication 213 for implementation during surveys within existing transportation facilities.

2.4.1.1 - Horizontal Control (Preliminary Design)**Guidance:**

- Publication 122M, Surveying and Mapping Manual
- Strike Off Letter 430-99-20, QA/QC Control Checklist for Right-of-Way and Construction Plans
- Form D-428, Field Book

Scope Deliverables:

1. Provide horizontal control.
2. Horizontal control network will be established and records completed. Horizontal control network design and requirements will be discussed with District Chief of Surveys.
3. Establish and stake horizontal alignment.
4. Provide line book in Form D-428.
5. Reference alignment (preferred method is by angle and distance □ see DM3 Fig. 3.2.14).

2.4.1.2 - Vertical Control (Preliminary Design)**Guidance:**

- Publication 122M, Surveying and Mapping Manual
- Strike Off Letter 430-99-20, QA/QC Control Checklist for Right-of-Way and Construction Plans
- Form D-428, Field Book

Scope Deliverables:

1. Provide vertical datum and note initial benchmarks.
2. Provide leveling notes in Form D-428, field book.
3. Establish a vertical control network by setting benchmarks within the project area by differential leveling, unless directed by the department to use trigonometric methods.
4. Traverse or mapping control points will be turned through on differential level runs before mapping is begun for the purpose of creating Digital Terrain Models along existing roadways, unless otherwise directed by the Department.
5. Benchmarks set will be no greater than one half mile apart and will be set on permanent objects not subject to movement.

2.4.1.3 - Survey Data Collection

Guidance:

- Publication 122M, Surveying and Mapping Manual
- Strike Off Letter 430-99-20, QA/QC Control Checklist for Right-of-Way and Construction Plans
- Form D-428, Field Book

Scope:

Provide survey data at intervals and widths necessary for the proper design for highways and structures.

Scope Deliverables:

1. Provide Survey data of items listed in Publication 122M for preliminary surveys including, but not limited to, utility facilities, roadway features, structures, topography features, obvious property corners, driveways, and buildings.
2. Provide survey data sufficient to establish geometry of intersecting streets and railroad crossings.
3. Establish control traverse and/or GPS Control Network.
4. Establish stations, bench levels, and references at proper intervals.
5. Record cross sectional information at proper intervals.
6. Reference control points as required.

2.4.1.4 - Structure Survey Data Collection

Guidance:

- Publication 122M, Surveying and Mapping Manual
- Strike Off Letter 430-99-20, QA/QC Control Checklist for Right-of-Way and Construction Plans
- Form D-428, Field Book

Scope Deliverables:

Provide survey data as required in Publication 122M at the required intervals and as defined in the department details for this task.

Detail Task 1 - Survey

Department Details:

No additional work.

Approach:

Detail Task 1 – Surveys

Reilly Associates Approach: This work will consist of obtaining field survey data, which will include horizontal alignment, profile, cross-sections and topography. Trees and tree lines will be located. The limits of the survey are expected to be as follows:

The survey will extend 500 feet in each direction along SR 118 with sufficient width for potential adjustment in approach, bridge location and potential temporary road location. Existing driveways, structures, wells, drainage features, utilities and other physical items will be located.

Along Kitchen Creek: Approximately 500 ft. upstream and downstream to the bottom of the waterfall. Reilly will locate creek banks, existing substructures in detail, houses, drainage outlets, utilities and sections at the upstream and downstream side of the existing structure and at approximately 50 ft. intervals up and downstream.

Extended sections of a sufficient extent and elevation for complete hydraulic study of 100 year storm will be taken. High water elevations will be obtained if available. Bridges crossing Kitchen Creek will be located and any trails within the cross section area of Kitchen Creek will be located.

The survey limits and key features will be refined and a check list developed for the field pickup based on initial field views and discussions with the District. All major terrain features and other topography that may be relevant to the project will be located and identified. Elevations will be obtained at inlets, manholes, curbs, guiderail, walls, sidewalks, buildings and other features that may be necessary for the design of the project. Property corners will be located if found.

Test boring locations will be staked and the elevations of the existing ground will be obtained at each boring location.

The baseline will be referenced to the existing USGS benchmark and two project benchmarks will be set in locations accessible to the construction and not expected to be disturbed. The horizontal control will be based on the Pennsylvania State Plane system.

Reilly Associates will provide for the preservation of any existing geodetic survey marks within the project limits. This preservation will include the determination of the presence or absence of Geodetic survey marks within the construction limits through a combination of research of appropriate survey library records and field inspection.

Prior to entering upon any private property, Reilly Associates will notify the owners in accordance with PennDOT Design Manual 1, Chapter 4, Section 11, secure required releases before entering upon any private property and submit the list of property owners contacted to the District.

All survey level notes shall be kept in standard PADOT notebooks, which will be furnished by the department. The notebooks will be accurately and neatly kept, fully indexed, marked serially and list the name of the responsible surveyor. The project will be surveyed utilizing an electronic total station and/or GPS equipment using a TDS data collector with survey file software. All data will be stored using point files and line work. The total station input will be supplemented with detailed field sketches to facilitate accurate plotting.

The field surveys will be performed following the requirements in Department Form 122M, Survey and Mapping Manual. The importance of the safety of our field crew and the traveling public will be stressed. Reilly Associates will comply with the requirements of Department Publication 213, Work Zone Traffic Control, as it applies to highway surveying. We will supply and erect the required traffic control devices prior to starting work and maintain them for the duration of the surveying operation.

Strike-off Letter 430-99-20, QA/QC Control Checklist for Right-of-Way and Construction Plan, will be used as a guide for QA/QC.

Task 2 - Structure Boring

Objective:

2.5.4 - Structure Boring

This task is the performance of core borings for structures by an approved test boring contractor in accordance with Publication 15M, Design Manual Part 4, Publication 293 and Publication 222M.

Scope:

2.5.4 - Structure Boring

The following work elements are required for completion of this task:

1. Coordinate the effort with the District Geotechnical Engineer (DGE), District Bridge Engineer, BOD Bridge Quality Assurance Division (BQAD), and the other engineering disciplines involved. Perform QA/QC on work processes and products. Verify that roadway alignment and structure TS&L have not changed since approval of the Reconnaissance Soils and Geological Engineering Report (RSGER).
2. Advertise and receive bids on a contract for performance of the test borings in accordance with Publication 222M, based on the boring program in the approved TS&L for the structure.
3. Submit a summary of the bids to the District for approval to award the contract and proceed with the work.
4. Upon notice to proceed, notify the affected public, and award and administer the test boring contract in accordance with Publication 222M.
5. Provide PennDOT-certified inspectors to oversee the field operations and to prepare the field logs of the borings as they are drilled.
6. Prepare water testing required to allow analysis of foundation conditions. Tabulate the results of the testing
7. Upon completion of the field work, verify contract terms have been met, close out the subcontract, and prepare and submit the subcontractor evaluation form.
8. Prepare a record copy of the engineer's logs for the borings for submission with the Foundation Report for the structure.

Detail Task 1 - Borings

Department Details:

No additional work.

Approach:

The Kimball team will complete this task as follows:

Dawood agrees with the Scope of Work as discussed in the WBS and will assist in fulfilling the work associated with completing the structure borings required for this project with the following clarifications:

The Preliminary Geotechnical Engineering Report has been waived by the District for this project. Therefore, the locations and depths of the structure borings will be approved through approval of the Subsurface Boring, Sampling and Testing Contract (SBSTC). Boring locations, selected

by Dawood, will be staked in the field by Reilly prior to soliciting bids.

Based on field observations, bedrock is anticipated to be shallow at the wall location. Bedrock outcropping is present near the downstream end of the existing retaining wall as well as many locations in the vicinity of the wall. For proposal purposes, it is assumed that a total of three (3) borings will be drilled for this project and that all three borings will be extended to a minimum depth of 10 feet into bedrock. For estimation purposes, it has been assumed that bedrock will be encountered at a depth of 15 feet. Based on an approximate drill footage of 75 feet and assuming a drill rate of 25 lineal feet per day, it is anticipated that approximately 3 days of inspection time will be required.

The estimated drilling cost for the project is assumed to be less than \$20,000; therefore, bids will be obtained by obtaining written quotes from a minimum of three (3) PennDOT-approved drilling contractors per PennDOT Publication 222, Section 3.1.3. It is assumed that bids will be received and opened at Dawood's office. All bids will be summarized and submitted to the District for approval prior to awarding the contract.

One revision to the Scope of Work is that all laboratory testing, not just water testing, will be completed under this task. Due to the limited amount of roadway work associated with the project, no CBR testing will be completed. The following laboratory tests are anticipated to provide parameters for foundation design of the proposed wall:

- Soil Classification – 2 each
- Moisture Content – 2 each
- Corrosion Series – 1 each
- Soil Strength Testing (If applicable) – 1 each
- Unconfined Compressive Strength Testing of Rock – 6 each
- Sieve Analysis of Streambed Sample – 1 each

Task 3 - Final Structure Foundation Report

Objective:

2.5.5 - Final Structure Foundation Report

This task includes all items necessary to prepare the Final Structure Foundation Report in accordance with Publication 15M, Design Manual Part 4.

Scope:

2.5.5 - Final Structure Foundation Report

This task consists of the development of a Final Structure Foundation Report for each structure in the project. The report presents recommendations for design and construction of the structure foundations, and provides geotechnical data in support of the recommendations.

The following work elements are required for completion of this task:

1. Coordinate the effort with the District Geotechnical Engineer (DGE), District Bridge Engineer, BOD Bridge Quality Assurance Division (BQAD), and the other engineering disciplines involved. Perform QA/QC on work processes and products.
2. Perform an office investigation, reviewing available geotechnical reports for the project including the Reconnaissance Soils and Geological Engineering Report (RSGER) for the specific structure. Review the Preliminary Foundation Report. Obtain the record copy of the engineers logs for the borings drilled for the structure.
3. Perform the soil, rock, and water testing required to allow analysis of foundation conditions. Tabulate the results of the testing.

4. Perform analyses to determine the preferred foundation for the structure, and document the rationale for the preference. Include cost comparisons for foundation alternatives. Prepare a tabular summary of the site conditions and foundation recommendations at each substructure location.
5. Identify and address special site conditions through appropriate design. Develop foundation notes, construction details, and special provisions as warranted.
6. Prepare plotted boring log sheets for the core borings used in foundation analysis and design.
7. Prepare the Final Foundation Report for the structure, presenting the information required in Design Manual Part 4, with the tabular summary of foundation recommendations, foundation notes, construction details, special provisions, and plotted boring log sheets appended. Submit the report, with the other documentation required by Design Manual Part 4, for approval.
8. Prepare quality assurance (QA) form for foundations.

Detail Task 1 - Foundation Report

Department Details:

No additional work.

Approach:

The Kimball team will complete this task as follows:

Dawood agrees with the Scope of Work as discussed in the WBS and will assist in fulfilling the work associated with completing the structure borings required for this project with the following clarifications:

All laboratory testing, soil, rock, and water, will be performed under Task 2 – Structure Borings.

Dawood will prepare a foundation submission package as outlined in DM-4, Section 1.9.4.3.1 for District approval with the following exceptions and/or clarifications:

The Foundation Submission Letter, outlined in DM-4, Section 1.9.4.3(a), will be prepared by Kimball.

The foundation plans, as outlined in DM-4, Section 1.9.4.3.1(b), will be prepared by Kimball. The plotted coring boring logs, as outlined in DM-4, Section 1.9.4.3(b)(3), will be completed by Dawood.

Scour calculations and proposed scour countermeasures outlined in DM-4, Section 1.9.4.3(b)(11) will be completed by Kimball under Task 4 – Hydrologic and Hydraulic Report but will be incorporated into the Structure Foundation Geotechnical Report. A sieve analysis will be performed on a representative streambed sample for D50 determination for use in the scour calculations. Testing will be conducted as part of Task 2.

The Structure Foundation Geotechnical Report, as outlined in DM-4, Section 1.9.4.3(c), will be completed by Dawood. ABLRFD design runs, completed by Kimball, will be incorporated into the report.

The Kimball team anticipates completion of this task as shown in the WBS, and as per the following division of labor between consultant team members:

DM4 Section 1.9.4.3(a) - Foundation Submission letter - Completed by Kimball

DM4 Section 1.9.4.3(b) - Foundation Plans - Completed by Kimball except

1.9.4.3(b)(3) - Plotted Core boring logs – Completed by Dawood

1.9.4.3(b)(11) - Scour calculations and proposed scour countermeasures - completed by Kimball under the H&H task

DM4 Section 1.9.4.3(c) - Geotechnical Report – Completed by Dawood except ABLRFD runs to be completed by Kimball.

As per DM4 1.9.3.1 the TS&L and Foundation reports will be submitted concurrently.

Task 4 - Hydrologic and Hydraulic Report

Objective:

2.7.1 - Hydrologic and Hydraulic Report

This task consists of the preparation of Hydrologic and Hydraulic reports for all bridges, culverts and longitudinal encroachments to size waterway openings properly and to satisfy permitting requirements. Publication 13M, Design Manual Part 2, Publication 15M, Design Manual Part 4; and PADEP Chapter 105 apply to this task.

Scope:

2.7.1 - Hydrologic and Hydraulic Report

A separate Hydrologic and Hydraulic Report is required for each hydraulic structure. However, dual structures or structures located within the same hydraulic system should be combined into one report.

The following work elements are required for the successful completion of this task:

1. Gather existing information to be used in the development of the hydrologic and hydraulic analyses and in the preparation of the H&H Report.
2. Perform a hydrologic analysis of the watershed at each proposed crossing using one or more of the Department approved methodologies. The use of a particular model shall be justified as valid for the situation in which it is being used. All assumptions and/or limitations of each model shall be clearly identified and referenced. Multiple hydrologic models are recommended to assist in validating the selected approach. An analysis of the flood history according to the guidelines contained in Design Manual Part 2 should also be considered.
3. Perform a hydraulic analysis for each proposed crossing including alternatives, if necessary, using one or more of the Department approved hydraulic models. The use of a particular model shall be justified as valid for the situation in which it is being used. All assumptions and/or limitations of each model shall be clearly identified and referenced. Where a Flood Insurance Study has been established by FEMA, the hydraulic data included in the study should be utilized to the maximum extent deemed appropriate. Each proposed alternative shall be modeled to assist in the justification for the selected alternative. The hydraulic model shall extend a sufficient distance upstream and downstream to adequately evaluate the potential impacts due to the proposed construction. The hydraulic model should be used to compare existing and proposed conditions with respect to water surface elevations and channel velocities for the design discharge rate(s), including the 500-year event for the scour evaluation and the "overtopping event" for the risk assessment.

4. Evaluate the scour potential at bridge abutments and piers in accordance with Design Manual Part 4. Evaluate the erosion potential at culvert outlets in accordance with HEC-14.
5. Evaluate the channel stability and design countermeasures, if needed.
6. Perform a risk assessment or analysis for each applicable waterway structure or encroachment alternative.
7. Evaluate the hydraulic impacts as a result of temporary encroachments and/or permanent bank protection, if applicable.
8. Prepare the Hydrologic and Hydraulic Report following the general outline described in Design Manual Part 2.
9. If applicable, prepare a Conditional Letter of Map Revision (CLOMR) in accordance with FEMA regulations. The scope of work for the preparation of the CLOMR is not included herein and should be developed prior to initiating the work.

Detail Task 1 - H&H Report

Department Details:

No additional work.

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

The Kimball team will perform the H&H using WMS software with HEC-RAS. Existing FEMA study information will be obtained and incorporated into the HEC-RAS model. A pre-application meeting will be scheduled with DEP and Luzerne County Conservation District. Meeting minutes will be prepared and distributed to all attendees. Effort for preparation of a CLOMR has not been included in this proposal. Effort for preparation of waterway permits is included in the waterway permit task.

The Kimball team will build a single hydraulic model to account for the retaining wall replacement. The effects of bridge under SR 118 immediately adjacent to the wall will be accounted for.

Task 5 - Final Type, Size & Location (TS&L) Report

Objective:

2.7.3 - Final Type, Size & Location (TS&L) Report

This task consists of the assembly of Type, Size and Location studies and development of recommendations for proposed structures within the project. Publication 15M, Design Manual Part 4 apply to this task.

Scope:

2.7.3 - Final Type, Size & Location (TS&L) Report

Review any previous studies or preliminary designs with respect to the selection of structure type, span arrangements, horizontal and vertical clearances, design controls and typical section. Coordinate with the District on the logical selection of span arrangements, types of piers, and

structure types suitable at each location.

The preliminary structure designs will be performed at a stage when the highway alignment and profile are well defined. Review structure requirements with the District prior to Design Field View (Line and Grade) submission and approval.

The following work elements are required for the successful completion of this task:

1. Develop a location plan showing the feature to be crossed or retained, design controls and regulated areas
2. Identify possible pier and abutment locations
3. Evaluate geotechnical conditions to identify potential foundation types
4. Recommend locations for structure foundation borings
5. Evaluate constructibility, vertical and horizontal clearances and site constraint issues in determining the most suitable structure design for the particular location
6. Prepare cost estimates for alternative structure designs
7. Prepare justification for recommended alternative
8. Prepare transmittal letter, plans and report for TS&L Submission

Detail Task 1 - TS&L

Department Details:

No additional work

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

The following single TS&L option will be investigated as applicable per the parameters established in the H&H analysis and structure width needed, and as per a pro-team meeting with the Department to establish the type of structure:

- a) Reinforced Concrete cast-in-place retaining wall, with spreading footing foundation bearing directly on rock

The effort for this task will include a pro-team meeting to determine the structure type, submission of the preliminary TS&L to the Department, and addressing of comments on the pre-TS&L in a final TS&L submission. It is anticipated that architectural treatment will be required on the stream side face of the retaining wall due to the project location within Ricketts Glen State Park at the entrance to a heavily used trail system. It is also anticipated that PA Bridge Barrier or Type 10M barrier will be used due to hydraulic considerations

As per DM4 1.9.3.1 the TS&L and Foundation reports will be submitted concurrently.

Task 6 - Waterway Permits

Objective:

2.7.4 - Waterway Permits

This task is the coordination with the appropriate environmental agencies and the preparation of permit applications.

2.7.4.1 - 105 Permit Application/401 Water Quality Certification (WQC)

This task includes the preparation of the Chapter 105 Permit application package.

2.7.4.3 - 404 Permit Application

This is submitted as the 105 permit in PA

Scope:

2.7.4 - Waterway Permits

Needs completed.

2.7.4.1 - 105 Permit Application/401 Water Quality Certification (WQC)

1. Coordinate with the PADEP to present the water obstructions and encroachments associated with the project. Determine any specific information requirements that will be needed for the Chapter 105 permit review.

2. Prepare a summary of the information requirements needed for the permit review.

3. Prepare the Chapter 105 Permit Application package using the PENNDOT JPA Expert System. This will include, but not limited to: the General Information Form, Chapter 105 Application (signed and notarized), location map, Act 14 Notification Letters with return receipts, floodplain and stormwater management consistency letters, Environmental Assessment Form, H&H reports, E&S approval letter, etc.

4. Provide written responses to any PADEP comments received on the permit package.

2.7.4.3 - 404 Permit Application

Coordinate the information requirements with the USACE and PADEP for the Section 404 Permit during NEPA/404 Projects. Non-NEPA projects do not require a separate Section 404 Permit, as the PADEP Chapter 105 Joint Permit includes a simultaneous submission for the Section 404 Permit. For the NEPA/404 project, prepare a written request for the 401 WQC. The project EIS or EA will be the supporting document for this request.

Complete the Environmental Assessment Form contained in the PADEP Chapter 105 Application in order to obtain the 401 WQC. The Section 404 Permit is not valid until the 401 WQC is granted.

Detail Task 1 - Permits

Department Details:

No additional work

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

PennDOT District 4-0 is proposing the repair of a retaining wall along S.R. 0118 parallel to Kitchen Creek within Luzerne County, Pennsylvania. L.R. Kimball will coordinate with PennDOT and the Northeast Regional Office of PA Department of Environmental Protection (PA DEP) to determine the permitting needs of the project. One pre-application field view meeting will be conducted with the PA DEP and U.S. Army Corps of

Engineers. The PA Fish and Boat Commission and U.S. Fish and Wildlife Service will also be invited. L.R. Kimball will prepare the Field Checklist for Preliminary Design Permit Coordination prior to the pre-application meeting. L.R. Kimball will also provide electronic meeting minutes from the pre-application meeting.

Generic Maintenance Permit

Under this scope of work, based on existing available information and BRPA Evaluation document, Kimball anticipates the proposed activity can be permitted via utilization of the E35-9999 Generic Permit (Standards for Bridge Clearance, Channel Improvement and Bridge Rehabilitation Projects) to address proposed stream channel impacts. The permit will be submitted to PA DEP by the District.

E35-9999 Generic Permit

This permit package will include:

1. Location Map
2. Proposed Work Schedule Table
3. PNDI Receipt
4. Project Plan

Task 7 - Final Right-of-Way Plan

Objective:

2.10.5 - Final Right-of-Way Plan

This task includes all work necessary to prepare the final R/W plan in accordance with Publication 14M, Design Manual Part 3.

Scope:

2.10.5 - Final Right-of-Way Plan

Right-of-Way Plans, when specified in the project scope of work, will be the basis for determining all property damages which are involved in the construction requirements of a highway project. They will also serve as the legal record of the location, the extent, and the character of any acquisition of Right-of-Way, Permanent Easements, and Temporary Easements by the Commonwealth.

The Right of Way Plan presentation format will be as specified in the project scope of work. The Right-of-Way Plan format could be either, or a combination of the following:

- A. Standard Right-of-Way Plan - For the authorization of acquisition of both total take and partial take property, for both Free Access and Limited Access highways.
- B. Final Plan - Reestablishes and/or authorizes the GAP Plan right-of-way, if necessary, and establishes right-of-way and authorizes acquisition of property requirements that were not included under the GAP Plan.
- C. Combination Plan - This plan combines both the Right-of-Way and Construction requirements on the

drawings. This plan shall be acceptable only for small Federal Aid and 100% state-financed projects involving few properties with no relocation problems.

D. Simplified Right-of-Way Plan - This plan is a simple one (1) or two (2) sheet Right-of-Way Plan, applicable to small projects, where construction is primarily within existing legal right-of-way where only a few properties are involved and the area of taking is minor.

The following are general tasks and their description for Right-of-Way Plan preparation:

1. Current Property Owner Record Research
2. Deed Plotting
3. Composite Deed Plot Matrix Map
4. Property Owner Name
5. Parcel Numbers
6. Right-of-Way Plan Preparation

The following are the basic requirements comprising Right-of-Way Plan preparations:

1. Title Sheet
2. Index Sheet
3. Location Map, General Notes, Etc., Sheets
4. Typical Sections
5. Summary of Project Coordinates
6. Summary of Required Right-of-Way Line Coordinates
7. Detail Plan Sheets
8. Profile Sheets
9. Property Plats
10. Right-of-Way Plan Revisions

Detail Task 1 - R/W Plan

Department Details:

All work needed to complete plans including deed research etc....

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

Kimball anticipates a Simplified Right-of-Way Plan will be prepared and submitted. No property plats will be prepared. The effort for the preliminary and final Right-of-Way plans are included within this task. The preliminary plan will be prepared and submitted to the District for comments which will be addressed in the final plan submission. It is estimated that plans will be prepared to a scale of 1"=25'.

Reilly Associates Approach: (This is for general tasks 1, 2, and 3 for Right of Way plan preparation)

Reilly Associates will perform current property owner record research, plot deeds and composite deed plot matrix map as outlined. Reilly

Associates has been advised by the District that a full plot of the Ricketts estate and identification of adjacent property owners will not be required.

Task 8 - Traffic Control Plan

Objective:

2.10.14 - Traffic Control Plan

This task is the development of the final traffic control plan. Publication 14M, Design Manual 3; the MUTCD and Publication 213 apply to this task.

Scope:

2.10.14 - Traffic Control Plan

Phasing schemes, sign messages, and approximate locations of signs and traffic control devices should be approved at the Design Field View stage, prior to the development of the final plans.

The Traffic Control Plan will be a stand-alone plan and will include the following:

- Title sheet with general notes, location map, and pay item quantities,
- Tabulation of Traffic Control Devices,
- Typical-sections
- Narrative describing each stage and phase by stating the work to be performed and the traffic control to be implemented
- General plan layout
- Temporary road plan, typical-section and profile (if necessary)
- Temporary signal plan (if necessary)
- Temporary Highway Lighting (if necessary)
- Special Sign Details (if necessary)

The plan will also include, but will not be limited to, sign messages, sign sizes, general sign locations, tapers lengths, barricades, channelizing devices, impact attenuators, temporary pavement markings, temporary roadway locations, temporary highway lighting locations, detours, portable changeable message signs, and arrow boards. Detail of temporary roads cross-section and profile will be included as well as other details as appropriate.

If detours are necessary, the detour route(s) will be identified and driven to determine general safety issues and restrictions. State roads requiring a detour will utilize other State owned roadways. If detour routes formed from State owned roads are found to be unacceptable because of length or other reasons, then agreements between the State and municipalities will need to be developed to utilize local roadways. This scope does not include support activities needed to develop agreements between the State and municipalities.

In locations where pedestrian movements are prominent, either safe passage or restrictions will be addressed. Scope associated with construction temporary pedestrian structures and signals will be included in either the Amendments to the Standard Scope of Work or the Detailed Project Approach.

Provide temporary highway lighting for limited access crossovers and at locations as directed by the District. Contact the Highway Lighting Unit in Harrisburg for design requirements. Submit the lighting design to the Highway Lighting Unit for approval prior to the release of the Traffic Control Plans to the District for PS&E Development.

This scope of work does not provide for a temporary traffic signal plan. If the implementation of the traffic control plan impacts a signalized

intersection such that a temporary signal design is necessitated, the temporary signal plan will be incorporated into the traffic control plan. However, the scope of work for the temporary signal design will be provided in the Detailed Project Approach or in the Amendments to the Standard Scope of Work.

Specifications will include the description of the construction staging and phasing. Special provisions will also be written for traffic control devices outside the scope of the specifications included in the Publication 408M.

If required for boring and drilling work associated with geotechnical studies, the subconsultant will develop traffic control plans. Details of the design for these plans will be provided in the Detailed Project Approach.

Detail Task 1 - TCP

Department Details:

No additional work

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

Task includes utilization of a single lane of alternating one-way traffic with temporary signals. Driveways for Ricketts Glen State Park parking areas within the project area will be accounted for in the M&PT plan, as will pedestrian crossings of SR 118. The preliminary plan will be prepared and submitted to the District. Comments received will be addressed in the final plan submission.

Task 9 - Final Structure Plans

Objective:

2.10.13 - Final Structure Plans

This task is the development of the final structure plans.

Scope:

2.10.13 - Final Structure Plans

1. Complete final engineering design(s) for structures on the project based upon the approved type, size and location (TS&L) plans and approved foundation recommendations. Prepare design calculations, construction documents and QA/QC forms in accordance with the Department's Design Manuals as amended by current strike-off letters.
2. Provide pay items and special provisions for design alternate bidding.
3. Provide plan details and special provisions as required for support of excavation and for construction phasing.
4. Provide special provisions for items not covered by Department specifications. Obtain current standard special provisions list from District and utilize standard special provisions whenever possible. Write project specific special provisions, if needed.
5. Prepare cost estimate for each structure based upon estimated quantities and historical data for similar structures in the project region. Consider

access, phasing, and relative difficulty of construction in establishing unit prices.

6. Make a pre-final submission to the Department of completed plans, special provisions, quantity estimates, cost estimates, QA/QC forms and computations.

7. Revise the previously submitted documents as required to address the Department's comments thereon. Document responses to comments in writing.

8. Submit the final plans, special provisions, quantity estimates, cost estimates, QA/QC forms and computations properly signed and sealed and in the form described in Publication 15M, Design Manual Part 4.

Detail Task 1 - Final Structure

Department Details:

No Additional work

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

The Kimball team anticipates 10 sheets for the final structure plan set. These list of sheets contains adequate details to address the structure replacement as currently anticipated.

The following assumptions were used to determine the effort required for final design of this structure:

- Wall length is anticipated to be less than 100'
- Details will be included for tie-in to the existing SR 118 bridge over Kitchen Creek
- Architectural Treatment is anticipated on the stream side face of the wall

The pre-final plan will be prepared and submitted to the District for comments which will be addressed in the final plan submission.

Task 10 - Erosion and Sedimentation Control Plan / NPDES Permit

Objective:

2.10.25 - Erosion and Sedimentation Control Plan / NPDES Permit

This task is the development of the Erosion & Sedimentation Control Plan and submission of the NPDES Permit Application.

Scope:

2.10.25 - Erosion and Sedimentation Control Plan / NPDES Permit

The Erosion and Sediment Pollution Control Plans and supporting documentation shall be submitted to the applicable Engineering District for review and approval. Upon acceptance of the plans by the District, the submission will be forwarded to the County Conservation District for review and approval.

The following work elements are required for the successful completion of this task:

1. Develop Erosion and Sedimentation Control Plans to include:

- cover sheet
- location map
- topography of the area including watershed areas and watercourses receiving runoff from the project
- proposed alterations to the area
- limits of the project
- the location of all temporary and permanent erosion and sediment pollution control measures and facilities
- all pertinent erosion control and construction details

2. Develop a narrative report describing the project and indicating the purpose, the engineering assumptions, the specifications, and the calculations for erosion control measures and facilities. The narrative shall include a schedule of installation and removal of temporary and permanent erosion control measures and facilities as they relate to the various earthmoving operations and a maintenance program for each type of temporary and permanent erosion control measure and facility.

3. Provide detailed instructions relating to the sequence of construction on the plan and in the narrative. Include staging, sequencing and scheduling of earthmoving activities and installation and removal of erosion and sediment pollution control measures and facilities as required.

4. Provide a detailed description in the narrative report of all soil types located within the project limits including each soil type, depth, slope and resistance to erosion. The soil boundaries and a summary table of the soil types and limitations should also be included on the plans.

5. Provide all applicable construction schedules, maintenance programs (including the removal and disposal of accumulated soil materials).

6. Prepare transmittal letter, plans and narrative report for submission to the County Conservation District. If necessary, on large projects meet with the County Conservation District prior to submission to discuss submission requirements and review conceptual plan.

7. For projects exceeding 5 acres of earth disturbance or impacting High Quality/Exceptional Value (HQ/EV) waterways, prepare a Notice of Intent (NOI) Application for an NPDES Storm Water Permit and a Preparedness, Prevention and Contingency (PPC) Plan (see below). The PPC plan should also be incorporated into the narrative report and the plans.

8. Address all applicable comments from the County Conservation District and/or PADEP and re-submit the revised package for approval.

The following tasks are required for the preparation of the NPDES permit application:

1. Develop an NPDES boundary map that includes the following information: limits of disturbance, highway alignment, cut & fill limits, ROW lines, contours, stations, location identifiers and, the permit boundary.

2. Complete the NPDES Permit Application. The application package will consist of the following items: Act 14 Notification, PNDI Form, location map, NPDES Application Form, Cultural Resources Notice (if involves a Special Protection Watershed), General Information Form (if project involves a Special Protection Watershed or an Individual NPDES Application), and the Erosion and Sediment Pollution Control Plan.

3. Submit NPDES Permit Application package to PennDOT for review. Revise as necessary. Obtain PennDOT's notarized signature on the application and make the designated amount of copies to submit to the County Conservation District and, if applicable, the PADEP.
4. Schedule review meetings with the agencies prior to submitting the NPDES permit package to expedite the permitting process.
5. Submit permit package to the Conservation District/PADEP.

Detail Task 1 - E&S

Department Details:

No additional work

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

It is assumed that NPDES permit and Post Construction Stormwater Management Plans (PCSM) will not be required.

Kimball will prepare an E&S Plan / Report and submit to PennDOT for initial review. Comments received will be addressed on the final plan and submitted to PennDOT for submission to the Luzerne County Conservation District.

Task 11 - Roadway

Objective:

2.10.2 - Roadway

This task includes survey, roadway, pavement and drainage design, plans, cross sections, soil profile, final design office meeting, draft special provisions and final design field view.

2.10.2.1 - Final Drainage Design

This task includes the design of roadway drainage items. Publication 13M, Design Manual Part 2 applies to this task.

2.10.2.2 - Final Pavement Design

This task is the preparation of the final pavement design.

2.10.2.3 - Roadway Plan

This task includes the preparation of the final roadway plans and profiles in accordance with Publication 10A, Design Manual Part 1A.

2.10.2.4.1 - Plans

This task is the review of the final roadway plans in accordance with Publication 10A, Design Manual Part 1A.

2.10.2.4.2 - Draft Special Provisions

This task is the review of the draft special provisions in accordance with Publication 10A, Design Manual 1A.

2.10.2.5 - Final Design Field View

This task is the actual field view of the project with the final roadway plans.

Scope:

2.10.2 - Roadway

Needs completed.

2.10.2.1 - Final Drainage Design

One copy of the plan depicting the drainage design and the hydraulic design computations for roadway drainage structures shall be submitted to the appropriate District Office for review and comment by the Project Manager or designated drainage engineer. As directed by the District, one additional copy of the drainage submission shall be sent to Central Office, Bureau of Design for quality assurance review.

The following work elements are required for the successful completion of this task:

1. Develop a drainage design that provides the proper capacity, spacing, size and type of drainage facility (existing and proposed) for each drainage area, location, fill height, roadway type and environmental condition including all inlets, pipes, culverts, ditches and base drains.
2. Prepare hydraulic design computations using appropriate methodologies for all roadway drainage structures. Include energy grade line and hydraulic grade line computations for existing and proposed systems.
3. Develop alternate pipe designs as required with corresponding hydraulic computations for each alternate. Provide "For Information Only" quantities for each pipe type and alternate as well as minimum and maximum fill heights as required.
4. Verify that downstream drainage capacity is sufficient for the proposed design. Conform to local municipal storm water requirements, if a local storm water ordinance exists.
5. Show all existing and proposed drainage facilities on construction cross sections and profiles.
6. Prepare transmittal letter to include, plans showing drainage design and hydraulic design computations. Provide PE seal on all plans and computations.

2.10.2.2 - Final Pavement Design

Follow Publication 13M, Design Manual Part 2, which refers to Publication 242, Pavement Policy Manual for the preparation of final pavement design.

2.10.2.3 - Roadway Plan

The submission will include the completion of the following work items:

1. Interchange Design
2. Intersection Design - Prepare pavement elevation plans to describe the horizontal and vertical geometry that cross sections cannot describe.
3. Airport Clearances - Review Part 77 of the Federal Aviation Regulations and adjust the design accordingly when the project is within 2 (3.2 km)

miles of an operating airport. If the project is within 2 (3.2 km) miles of an operating airport, an Airport Clearance Submission to the FAA is required.

Prepare all the following work elements:

(Note: Plans listed below are highway design plans only and do not include also plans.)

1. Title sheet
2. Index/General Note Sheet
3. Typical Section Sheet (Location Map and General Notes)
4. Summary of Quantities Sheets
5. Tabulation of Quantities Sheets
6. Detail Plan Sheets
7. Profile Sheets
8. Contour, Grading, and Drainage Plans
9. Landscaping Plans
10. Cross Sections
11. Special Detail Sheets
12. Required Forms, Special Provisions and Estimates

2.10.2.4.1 - Plans

The Engineer will submit 90% plans and specifications for review by the District, Central Office and FHWA. The final design office review must be performed prior to the final plan check.

The Final Design Office Meeting is held to review project development after the following design issues are approved and the plan has been developed to a 90% level of completion:

- Typical sections
- Pavement design
- Service road justification
- Interchange geometrics
- Hydraulic computations
- Addenda (if required) to the draft Soils and Geological Engineering Report
- Final Traffic Control Plan (TCP)
- Erosion and Sedimentation (E&S) Control Plan
- Hydraulic design of structures
- Final Lighting Plans
- Final Signing Plans
- Final Traffic Signal Plans
- Special Provisions
- Planning and coordination of all major utility relocations
- Structural drawings

2.10.2.4.2 - Draft Special Provisions

1. If changes are necessary to a standard special provision then write an individual special provision.
2. Obtain review and approval of proprietary and experimental items in special provisions.
3. Make special provisions available for review by Department offices, municipalities, utilities and others in authority as appropriate.
4. All reviews and issues are to be resolved prior to the PS&E

2.10.2.5 - Final Design Field View

1. Conduct final design field view early in final design (about 35% completion level).
2. Evaluate the proposed design under field conditions.
3. Solicit comments from review agencies for further project development
4. Obtain acceptance of the Final Design Field View Submission and approval to proceed with final design.
5. Prepare the Final Design Field View Submission (two copies) for reviewing agencies at least several weeks prior to the Final Design Field View. Include the following:
 - * Plans
 - * Profiles
 - * Typical Sections
 - * Cross Sections
6. Prepare Final Design Field View Minutes which serve as official record of key decisions. Include the following:
 - * Project Index Map
 - * Location Map
 - * Typical Section
 - * Updated Cost Estimate

Detail Task 1 - Roadway

Department Details:

No additional tasks

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

Interchange design is not applicable.
Intersection design will not be performed
Airport Clearance is not applicable.
Landscaping plans will not be provided.

No meetings are anticipated for this phase beyond what is included in the other tasks.

The pavement design will be provided by the District.

The approved Line, Grade and Typical Sections developed as part of the Design Field View will be utilized in Final Design. Any revisions to approved Line, Grade or Typical Sections will require a supplemental agreement and additional fee.

Quantity calculations are included in the task.

Final plans will be prepared at a scale of 1"=25' and consist of the following:

Title sheet

Index sheet

General Notes / Location Map sheet

Typical Section / Detail sheets

Summary sheets

Tabulation of Quantity sheets

Plan sheets

Profile Sheets

Cross Sections

Task 12 - Final Plan Checks

Objective:

2.10.28 - Final Plan Checks

This task is the time required to attend/perform all final plan checks.

Scope:

2.10.28 - Final Plan Checks

The Final Plan Check is performed by representatives of: Bureau of Design - Field Liaison Engineer, District Engineer/Administrator, and Consultant.

The Field Liaison Engineer is in charge of the Final Plan Check and prepares a Plan Review Report on any items which are not correct at the time of the Final Plan Check.

The District Engineer/Administrator provides qualified personnel to perform all required design review; prepares Form 407, Form D-444D and a list of Structural Special Provisions, and notifies the Field Liaison Engineer when the plans will be ready for the Final Plan Check.

The Consultant is required to have the plans adequately checked prior to the Final Plan Check, and will have the Project Engineer and adequate design personnel to make any required corrections, present at the Final Plan Check. It is expected that all required corrections will be made by the Consultant prior to leaving the Final Plan Check.

Detail Task 1 - Plan checks**Department Details:**

Assume 1 on Right of Way Plan and 1 on Construction Plans

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

This task includes submission of plan check set for review and preparing responses to comments / corrections.

Task 13 - Assemble Final Project Documents for Contract Management**Objective:**

2.10.29 - Assemble Final Project Documents for Contract Management

This task is the preparation of the PS&E submission to District contract management.

2.10.29.2 - Finalize Pre-Bid Construction Schedule/Special Provisions

This task is to prepare the final pre-bid construction schedule/special provisions.

2.10.29.6 - Engineer's Estimate

This task is the preparation of the engineer's estimate.

2.10.29.7 - Construction Schedule

This task is the preparation of the final construction schedule.

Scope:

2.10.29 - Assemble Final Project Documents for Contract Management

Before any attempt is made to develop and submit a proposal, it is very important to obtain all required documents, contract drawings, design estimates and supporting data. Supporting documents such as environmental clearances and re-evaluations, funding authorizations, PMC approvals, DEP and Corps of Engineer permits, utility and right-of-way clearances, agreements and related administrative requirements must be resolved. Missing supporting documents complicate the PS&E process, and may affect project advancement to letting.

Assemble all available information on the project from the designers, such as plans or sketches, permits, non-standard special provisions, agreements, construction trainee requirements, Utility Form D-419 clearance and right-of-way certification.

Contract proposals should appear as uniform as possible on a State-wide basis to assist prospective bidders as well as Department personnel who use the proposal. All proposals are to be prepared by utilizing the Contract Management System (CMS) automated bid proposal development software, in accordance with the principles in the current "CMS Users Manual."

Assemble project documents in accordance with requirements of Publication 51M, "Contract Proposal Preparation Guide."

2.10.29.2 - Finalize Pre-Bid Construction Schedule/Special Provisions

Provide provisions, requirements, or directions applying to the project, as set forth in the proposal, that are not contained in Publication 408M or its supplements. Generally, the design engineer will submit draft special provisions to be reviewed, finalized and incorporated into the Bid proposal by Contract Management.

2.10.29.6 - Engineer's Estimate

Prepare a detailed estimate, which will be used to verify funding requirements and to determine acceptability of bids, and submit with the PS&E to Contract Management.

2.10.29.7 - Construction Schedule

Prepare Form D476 & D476A, or CPM schedule, for construction of the project.

Detail Task 1 - PS&E

Department Details:

No additional work.

Approach:

Kimball will complete this task in accordance with the WBS Scope, and Department details.

Task 14 - Project Management/Administration

Objective:

2.1.1 - Project Management/Administration

This task consists of the administrative effort required by principals, project manager, and involved personnel to complete the project on time and within budget, and to provide a quality product.

2.1.1.1 - Meetings

This task includes meeting preparation, attendance and documentation in the form of minutes. This includes Project Status, Design Review and Special Purpose Meetings.

2.1.1.5 - Project Schedule Development and Maintenance

The purpose of this task is to prepare and maintain a design schedule that ranges from Scoping Field View to Contract Award.

Scope:

2.1.1 - Project Management/Administration

Project Management involves the planning, scheduling, organizing and controlling of resources to achieve specific objectives within established schedule, budget and quality standards. The Project Manager is responsible for the tasks outlined in the Department Detail.

2.1.1.1 - Meetings

Attend all project meetings as necessary, including meeting preparation and minutes. Meetings will include but will not be limited to:

Project Status Meetings
Design Review Meetings
Special Purpose Meetings (e.g., Kick-off Meeting, Design Field View, etc.)
Public Meetings

Preparation for the meetings will include an agenda and any visuals necessary to conduct the meeting.

Meeting minutes will be prepared in a timely and accurate manner.

2.1.1.5 - Project Schedule Development and Maintenance

Guidance:

- Publication 615, Scheduling Manual
- All applicable strike-off-letters
- ECMS (Project Management Homepage)

Scope:

1. Develop a design schedule utilizing Deltek's Open Plan software. The design schedule will be developed in accordance with Publication 615 using the Department's PDSRPRJ and PDSMASTER templates.
2. Maintain the design schedule utilizing Deltek's WelcomHome software.
3. Document all schedule issues to ensure that the project is let on time.

Scope Subtasks:

1. Coordinate the schedule development with the entire project team. The project team includes but is not limited to the District Portfolio Manager, the District Project Manager, various District functional units, the Bureau of Design, the Federal Highways Administration and various environmental agencies. Development of the schedule will consist of reviewing the schedule to ensure it contains the appropriate activities. There may be the need to add or delete activities to make the schedule specific to a given project. The review and modification of durations or relationships should also be performed to ensure that the schedule is setup to meet the desired completion date.
2. Prepare a draft of the design schedule that will be reviewed by the project team either in conjunction with a project status meeting or offline depending on the frequency of these meetings. The draft will, if approved, become the initial project schedule and be maintained through the remainder of the project.
3. Monthly progress of the design schedule activities will be input into Deltek's WelcomHome software. The schedule update day of the month will be specified by the District Project Manager to ensure that they have appropriate time to review proposed schedule changes prior to acceptance.
4. In the event that a major change in schedule occurs the Department will provide an Open Plan backup file (bk3) so that revisions can be made and resubmitted to the Department. Re-submittal shall follow the same process as the initial schedule development.

Scope Deliverables:

1. Provide the project team a draft design schedule in portable document format (PDF) and/or hard copy. The draft will contain relationships and durations so that they can be reviewed along with the activities that are included in the schedule. Schedules provided in portable document format (PDF) shall be submitted either by email or CD-ROM.
2. Upon acceptance of the schedule by the project team an Open Plan backup file (bk3) shall be provided to the District Project Manager either by email or CD-ROM.
3. Resubmit major revisions to the design schedule, as an Open Plan backup file (bk3), to the District Project Manager either by email or CD-ROM.
4. All schedule documentation shall be provided in MS Word compatible format to the District Project Manager either by email or CD-ROM.

Detail Task 1 - management**Department Details:**

Assume 3.5%

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

The Project Manager will be responsible for coordinating all in-house and sub-consultant activities as well as acting as liaison with all outside agencies. The project manger will be responsible for meeting all project milestones and deadlines, while ensuring that the design team completes all work within budget and in compliance with Department policies and procedures. Kimball will follow all Federal and State project development processes, including PENNDOT's Design Manual, Part 1 - Transportation Project Development Process (Chapter 3, Section 3.1) and Design Manual, Part 1A - Transportation Engineering Procedures (Chapter 6).

PROJECT MANAGEMENT/ADMINISTRATION

Kimball will develop and maintain the project schedule. Mr. O'Connor will monitor the progress of all engineering tasks identified on the schedule. He will pay careful attention to all details in the schedule so that he can address any problems early and avoid effects on key milestones.

Mr. O'Connor will be responsible for reviewing and approving all sub-consultant invoicing, as well as submitting Kimball's monthly invoices. He will be responsible for controlling the project costs and will review the budget when major changes in cost or scope occur.

Detail Task 2 - Meetings**Department Details:**

Assume 3 deisgn meetings

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

PROJECT MEETINGS

Kimball will assign knowledgeable representatives to participate in status meetings, field views, and conference calls. The project manager will remain in close contact with the Department to inform them of any unforeseen problems and to prepare for upcoming meetings and submissions. Effort For public meetings is included in task 15.1 - Public Involvement.

Detail Task 3 - Open Plan schedule

Department Details:

Task to create and maintain schedule.

Approach:

The Kimball team will complete this task as per the project scope.

Task 15 - Public Involvement

Objective:

2.1.3 - Public Involvement

This task includes the attendance and preparation of informational materials to be viewed and/or distributed to the general public at public meetings. This task may also include the preparation of newsletters, public announcements and all other aspects of public involvement as outlined in Publication 295.

Scope:

2.1.3 - Public Involvement

1. Obtain approval from PMC to proceed with public involvement activities.
2. Prepare announcement for public meeting.
3. Prepare visual materials and/or flyers for general public meetings.
4. Attend all public meetings and address comments made at the meeting.
5. Prepare minutes to the meeting and submit to the Project Manager for review. Revise if necessary.

Detail Task 1 - Public Involvement

Department Details:

assume 2 meetings with the Park.

Approach:

L.R. Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows. Effort will be included for a total of two (2) meetings with Ricketts Glenn State Park Officials. The L.R. Kimball team will include effort for the following items:

- a) Coordination with the Department and Park regarding an acceptable meeting time and date.

- b) Determination of an appropriate location for the meetings and coordination with the Department on same.
- c) Production of an agenda, sign-in sheet, display materials, and handouts as necessary.
- d) Production of up to 4 plans and/or photo display boards for the meetings. These may include color coded plans and/or project site photos. Renderings are not anticipated for this project.
- e) Provide attendance at the meetings, staff anticipated to attend include L.R. Kimball Project Manager and one additional staff as needed
- f) Compilation of meeting attendee information and meeting minutes for each meeting.

It is L.R. Kimball's understanding that a public officials meeting and general public meeting will not be held for this project.

Task 16 - Design Field View

Objective:

2.4.10 - Design Field View

This task consists of the development, submission and approval of the Design Field View submission.

2.4.10.1 - Submission Development

This task consists of the assembly of the Design Field View submission. Reference Publication 10/10A, Design Manual Part 1/1A.

2.4.10.4 - Design Exceptions

This task consists of preparing a draft design exception report in accordance with Strike-off-Letter 430-93-40 and Publication 10A, Design Manual Part 1A.

Scope:

2.4.10 - Design Field View

1. Conduct design field view at the end of the preliminary engineering and within several weeks of the Design Field View Submission.
2. Evaluate the proposed alternatives under field conditions.
3. Solicit comments from review agencies for further project development.
4. Determine the preferred alternative if applicable.

2.4.10.1 - Submission Development

Upon receipt of NEPA Clearance/Design Approval, the drawings will be further refined and developed to prepare a submission for the Design Field View.

The submission will include the following:

1. Line and Grade
2. Alternate Interchange Schematics
3. Rough preliminary signing layout including the type of sign supports, paint markings, and other traffic control devices to determine if the project is operational and can be signed.
4. Typical sections
5. Structure locations
6. Approximate pavement depth

7. Mass diagrams of grading quantities
8. Draft of Soils and Geological Engineering Report and Profile.
9. Traffic Control Plan
10. Drainage and Preliminary Hydraulic studies
11. Service road justification
12. Utilities
13. Preliminary traffic signals plan
14. Comments from the District Safety Review Committee
15. Agreements with Cities and other Political Subdivisions

2.4.10.4 - Design Exceptions

Prepare the Design Exception Submission after the approval of the proposed design exception(s) by the District Safety Review Committee. Include this report in the Design Field View Submission. Address the following items as applicable:

- * Provide project identification information
- * Describe proposed work, design criteria, include typical sections
- * Provide traffic information
- * Identify substandard design elements
- * Provide cost information with and without design exception
- * Provide justification for retention of the design exception
- * Evaluate accident history
- * Describe remediation
- * Provide collision diagrams and/or accident cluster diagrams
- * Compare accident rates to statewide averages
- * Describe mitigation measures
- * Describe date and type of future upgrades
- * Describe advantages and disadvantages of meeting full criteria

Complete the "Design Exception Data Checklist" Design Manual 1A. Include the following in the submission:

- * Project location map
- * Scoping field view minutes
- * Accident analysis with collision diagrams
- * Letter of recommendation from Safety Review Committee
- * Plan, profiles, cross sections, typical sections if not previously included in the Design Field View Submission
- * Bridge sufficiency rating and letter from District Bridge Engineer (if applicable)
- * Ramp design sheet (Publication 13M, Design Manual Part 2), if applicable
- * Photographs of existing conditions, if applicable

[Detail Task 1 - DFV](#)

Department Details:

No Additional Work

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

This task includes the effort for preparation of preliminary Line and Grade, typical sections, and cross sections. It is anticipated that design exceptions will not be required. It is anticipated that the Design Field View meeting will be waived by the District. The Design Field View will be submitted for comments to be addressed in the Final Roadway submission.

DFV plans will be prepared at a scale of 1"=25' and consist of:

Title sheet

Index sheet

General notes / location map

Typical sections

Plan sheets

Profile sheets

Representative cross sections

Detail Task 2 - Constructability Meeting

Department Details:

This is meeting to go over constructability of the project.

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

The Kimball team will provide plans for the constructability meeting, attend the meeting, generate meeting minutes, and address comments from the meeting.

Task 17 - Utility Engineering

Objective:

2.10.8 - Utility Engineering

This task consists of engineering for utility relocation.

2.10.8.1 - Utility Coordination

This task consists of the coordination of all project utility relocation activities.

Scope:

2.10.8 - Utility Engineering

Guidance:

- Publication 16M, Design Manual Part 5, Utility Relocation

Solicit the utilities requirements for the design and construction of the relocations as soon as possible to determine if:

- work will be done by utility staff and forces,
- work will be done by utility consultant and contractor,
- work will be requested to be done by PennDOTs project designer and contractor, or any combinations of the above.

All utility related formal requests for agreements, permits and occupancy applications must be in accordance with the applicable policies and procedures of Design Manual Part 5.

Authorization to perform preliminary and final utility engineering will be provided in writing by the Department.

2.10.8.1 - Utility Coordination

Guidance:

- Publication 16M, Design Manual Part 5, Utility Relocation
- Form D4181, Utility Relocation Questionnaire and Permit Application
- Form D4181UC, Utility Relocation Clearance Report
- Form D4181A, Utility Relocation Estimates Relocation Plans & Supporting Data
- Cost Sharing Request Information, DM5

The scope of work will include the following activities:

1. Schedule and facilitate an Initial Utility Design Stage meeting to explain the project improvement goals, schedules, and targeted utility clearance dates.
2. Transmit copies of the Department's right-of-way plans, profiles and cross sections along with forms D4181, D4181UC, and D4181A to the utility companies for their relocation engineering design and cost estimates.
3. Delineate the type, size and location utility information verified by the utility company onto the project plans, profiles and cross sections.
4. Upon receipt of utility relocation alignment plans, establish and delineate the substitute right-of-way, or reserved easements, corridor for the utility relocation on the project Right-of-Way Plan.
5. Solicit utility company input relative to project design/utility conflicts, and potential need for substitute right-of-way corridors for utility relocations.
6. Schedule and conduct a utility meeting to review the proposed utility relocations and to resolve any outstanding issues with the individual affected utilities, as needed.
7. Schedule and facilitate the Final Utility Design Stage meeting to discuss and resolve utility/design conflicts and concerns, including substitute right-of-way, when required.
8. Keep utility companies informed of all design changes that could impact existing or planned utility facilities.

- 9. Ensure the following items are made part of the P.S.&E. package:
 - a. Utility relocation, abandonment and removal information onto the roadway construction plans, based on plans and information received from the utility company.
 - b. Incorporated utility work to be performed by the PennDOT contractor, as ALSO Plans, or other approved procedures, into the project construction contract documents.
 - c. Obtain the restrictive, prior, concurrent, and coordinated calendar work day estimates from the utility companies for work to be performed by their own forces. The utility relocation construction duration time and schedule restrictions must be incorporated into the overall project construction schedule.
- 10. Invite District Utility Unit representative to attend the Final Design Stage Meeting, pre-bid, pre-construction, and all construction status meetings.

Scope Deliverables:

Document and distribute all meeting minutes, correspondence, memorandums and telephone conversations regarding project related utility issues.

Detail Task 1 - Utilities

Department Details:

No additional work.

Approach:

Kimball will complete this task in accordance with the WBS Scope and Department details. It is estimated that 2 utility coordination meetings will be included.

Consultant Hierarchy

Business Partner	DBE Type	Supervising BP
CDI-Infrastructure, LLC d/b/a L. R. Kimball	No	
Dawood Engineering, Inc.	Yes	CDI-Infrastructure, LLC d/b/a L. R. Kimball
Reilly Associates	No	CDI-Infrastructure, LLC d/b/a L. R. Kimball

Attachments

No records found.

Part 2 - Construction Services SR 118-LEE

Description

Construction Services SR 118-LEE

Task 1 - Other Post-Design Activities

Objective:

2.11.99 - Other Post-Design Activities

This includes any other necessary PennDOT post design activities for the project which are not otherwise covered under the standard post design tasks.

Scope:

2.11.99 - Other Post-Design Activities

Provide work as detailed by the Department. See Below.

Detail Task 1 - Construction Services

Department Details:

This work is for shop drawing reviews, alternate design reviews, construction consultations. Assume 500 hours for all work.

Approach:

Kimball will complete this task in accordance with the WBS Scope, Department details, and as follows:

Shop Drawing Review

Prior to construction, the Kimball team will review all shop drawings for conformity with the design plans, specifications and PennDOT standard drawings and Form 408. Shop drawings for the structure(s) will be reviewed for general conformance to the design plans, specifications, PennDOT standard drawings and Publication 408. The review will comply with the latest requirements of Publication 10/10A, Design Manual 1/1A, Design Manual Part 4, PP1.10.2, and Design Manual Part 4, Appendix B, Technical Guidelines for Shop drawing review. The review will not include a complete check of all fabrication dimensions and quantities.

Upon final acceptance of the shop drawings, they will be distributed as required by Design Manual Part 4.

Construction Consultation

Kimball will assist the Department in coordination with the contractor prior to the issuance of the Notice-to-Proceed. Kimball will provide key personnel who are knowledgeable in all aspects of the project design. Our key personnel will be available to review alternate designs developed by the contractor as well as being available to attend pre-bid meetings. Kimball personnel will also be available to review the construction plan with the contractor and the District's project engineer prior to construction.

Effort will be included as directed by the District.

Consultant Hierarchy

Business Partner

DBE Type

Supervising BP

CDI-Infrastructure, LLC d/b/a L. R. Kimball	No	
Dawood Engineering, Inc.	Yes	CDI-Infrastructure, LLC d/b/a L. R. Kimball
Reilly Associates	No	CDI-Infrastructure, LLC d/b/a L. R. Kimball

Attachments

No records found.

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