

SECTION 105**CONTROL OF THE WORK****105.02 PLANS AND WORKING DRAWINGS**

The following shall be added to Paragraph A of this subsection:

Contract Drawings applicable to the work to be performed under the contract have the title and drawing number as follows:

Preparer's Note: ADD PROJECT NAME AND L-NUMBER HERE. If the L-Number is not required to be issued on the Contract Drawings, and such drawings are included in the back of this spec book, please replace the sentence hereinabove with "Contract Drawings have been made part of the Special Provisions as an Appendix."

Add the following subsections:

105.02.01 SUBMITTAL PROCEDURES

Preparer's Note: Add the minimum time for the contractor to provide the web based documentation service. Use 24 months for traffic signal projects that have construction durations of less than 120 calendar days. Use 36 months for pavement rehab/roadway widening/flood control, etc. with construction durations of 120 to 360 calendar days. Use 48 months for beltway or large projects with construction durations greater than 360 calendar days.

The contractor shall purchase a web based documentation control service such as Autodesk Build by Autodesk or approved equal for a minimum of (24, or 36 or 48) months. The service shall be contracted and available for use by the Engineer and the Contractor within 10 days of receiving the Award letter from Clark County Purchasing and Contracts. This service shall be incidental to the various elements of the work. Therefore, no separate payment will be made for the purchase of this service by the Owner.

The Engineer shall define roles within Autodesk Build based on the organization chart and administer any changes to users. Contractors, consultants, subconsultants, subcontractors, or any member of the project team other than the Engineer shall not make changes to roles within Autodesk Build.

The Contractor shall use the service for electronically submitting, exchanging, reviewing, logging, tracking and archiving construction documents including, but not limited to, shop drawings, RFIs, test results, meeting minutes, correspondence, pay applications, quality control documents and other communications. The Contractor shall be responsible for submitting all correspondence at 600 dpi resolution.

1. Contractor shall log all submittals in Autodesk Build, or approved equal.
2. Contractor shall prioritize all submittals and coordinate submittals of related items to expedite the Project.
3. For each submittal, the Contractor shall allow 15 calendar days for review (30 calendar days

if NDOT or other third party approval is required).

4. Contractor shall identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
5. Contractor shall provide space for Contractor and Engineer review stamps.
6. For revised and resubmitted submittals, the Contractor shall identify all changes made since previous submission.
7. Contractor shall distribute copies of reviewed submittals as appropriate. Contractor shall instruct parties to promptly report any inability to comply with provisions.
8. Submittals not requested will not be recognized or processed.
9. Contractor shall furnish a minimum of 8 licenses for the County's use.

105.02.02 SHOP DRAWING SUBMITTALS

1. Contractor shall submit a pdf of each shop drawing to the Engineer for review.
 - a. The term "shop drawing" shall be understood to include, but not be limited to, fabrication and installation drawings, lists, graphs, and operating instructions.
 - b. Unless otherwise required, shop drawings shall be submitted at a time sufficiently early to allow review by Engineer and to accommodate the rate of construction progress under the Contract.
 - c. Contractor shall not submit shop drawings to the Engineer until Contractor has reviewed them against requirements of the Contract Documents himself. Such reviews shall be indicated by a stamp placed on each submittal certifying that Contractor has reviewed the submittal.
 - d. Contractor shall not submit copies of Contract Drawings, Standard Drawings, and faxes to serve as shop drawings.
2. Within 15 calendar days (30 calendar days if NDOT or other third party approval is required) after receipt of submittals, Engineer will return submittals of each drawing to Contractor with comments noted.
3. Contractor shall make a complete and acceptable submittal to the Engineer by the second submission. Owner reserves the right to withhold monies due Contractor to cover additional costs of review beyond the second submission.
4. If submittals are returned to Contractor marked APPROVED or NO EXCEPTIONS TAKEN, a formal revision of the drawing will not be required.
5. If submittals are returned to Contractor marked APPROVED AS NOTED, ACCEPTED AS NOTED, or MAKE CORRECTIONS NOTED, a formal revision of the drawing will not be required.
6. If submittals are returned to Contractor marked REVISE/RESUBMIT, AMEND-RESUBMIT, or REJECTED-RESUBMIT, Contractor shall revise the drawing and shall resubmit the revised drawing to Engineer.
7. Fabrication of an item shall not be commenced before Engineer has reviewed the pertinent shop drawings and returned submittals to Contractor marked APPROVED or APPROVED AS NOTED. Revisions indicated on shop drawings shall be considered as

changes necessary to meet requirements of Drawings and Specifications and shall not be taken as the basis of claims for extra work.

8. Contractor shall have no claim for damages or extension of time due to any delay resulting from Contractor's having to make the required revisions to shop drawings (unless review by Engineer of the drawings is delayed beyond a reasonable period of time and unless Contractor can establish that Engineer's delay in review actually resulted in delay in Contractor's construction schedule).
9. The review of drawings by Engineer will be limited to checking for general agreement with Specifications and Drawings, and shall in no way relieve Contractor of responsibility for errors or omissions contained therein, nor shall such review operate to waive or modify any provision contained in the Specifications or Drawings.
10. Engineer's review of shop drawing submittals shall not relieve Contractor of the entire responsibility for the correctness of details and dimensions.
11. Contractor shall assume all responsibility and risk for misfits due to errors in Contractor submittals. Contractor shall be responsible for the dimensions and the design of adequate connections and details. Fabricating dimensions, quantities of materials, applicable code requirements and other Contract requirements shall be Contractor's responsibility.
12. Engineer shall have the authority to reject any product upon completion of review of the suppliers' submittals in regard to proof of acceptability of the product.

105.02.03 MIX DESIGN SUBMITTALS

1. Contractor shall submit mix designs for each specific item of work as described in Section 501, "Portland Cement Concrete". Separate mix designs shall be submitted for each class and compressive strength of Portland cement concrete and for roller compacted concrete.
2. Engineer will require 15 calendar days (30 calendar days if NDOT or other third party approval is required) to review mix design submittals. Contractor shall submit the mix designs early enough to allow this review without impacting the construction schedule.
3. Rejection of a mix design shall not be grounds for extension of Contract time or incidental damages.
4. With the exception of specific design requirements (class and compressive strength), an IQAC mix design may be used. If an IQAC mix design is selected, the contractor shall submit to the Engineer the mix design cover page with P.E. stamp. No other back-up data is required with the submittal.
5. The mix designs shall be based upon existing stockpiles. Mix designs prepared for previous projects will be accepted only if accompanied by a cover letter from the engineer who originally prepared the mix design. The cover letter shall indicate that the stockpile materials have been retested and are substantially unchanged, and that the mix design is still valid and in compliance with the plans and specifications.
6. Documentation and certifications for all materials used in the mix shall be submitted with the mix design. These shall include, but are not limited to, Portland cement and admixtures.
7. Any variation from a mix design or changes in any component used shall be approved by Engineer, prior to incorporation of the altered material in the project. Engineer may require new mix designs representative of the change as a condition of approval.

105.02.04 QUALITY CONTROL SUBMITTALS

Contractor shall submit quality control information as specified in Section 106, "Control of Materials."

105.02.05 CONTRACTOR'S REQUEST FOR INFORMATION (RFI):

General: In the event that the Contractor determines that some portion of the Contract Documents requires additional information, interpretation, or when a conflict is found in the field that is not shown on the plans, the Contractor shall submit a written statement via Autodesk Build (or approved equal) to the County requesting clarification on the issue. The Contractor must provide such request to the County immediately upon discovery. Prior to the submittal of the RFI the Contractor shall carefully study and review the Contract Documents to ensure that the requested information is not contained therein. Submit only one issue to be clarified per form.

The Contractor must include in a properly written RFI the following information:

1. Bid number and title, RFI number (sequentially numbered), date, person requesting clarification and signature.
2. A clear and concise summary of the issue in question and why further clarification or information is required from the County.
3. The drawing number shall be identified and the location on the drawing sheet.
4. Photographs of existing site conditions to properly document conflicts.
5. The specification section, page number, and paragraph shall be identified.
6. Where applicable, the Contractor shall include their own interpretation of the drawings or specifications and why they believe such an understanding is correct.
7. In cases requesting clarification of coordination issues, the Contractor shall include a suggested solution with necessary drawings or sketches with the RFI.
8. The amount of time, in calendar days (minimum 15 days), until the critical path of the project will begin to be affected. County may ask the Contractor to verify time through the construction schedule.

Only RFI's submitted by the Contractor will be accepted. Any clarifications required by the Subcontractors, Manufacturers, or Suppliers of the Contractor must be properly routed through the Contractor to the County on the appropriate form. All RFI's must be limited to clarifications of the Contract Documents. RFI's shall not be used for the purpose of notifying the County of the following:

1. To request approval of submittals.
2. To request approval of substitutions.
3. To request changes which entail additional cost or credit.
4. To request methods of performing work different than those shown or specified.

Improper or Frivolous RFI's: RFI's that are not properly prepared as detailed above, or request information that is clearly shown in the Contract Documents, will be returned to the Contractor labeled as either Improper or Frivolous with the reasons for such determination.

Any additional costs incurred by the County, as a result of unnecessary review by the Design Consultant or County may be deducted from money still due to the Contractor. The Design Consultant's standard hourly rate plus multiplier will apply. Prior to processing a Contract deduction, the Contractor will be notified.

Preparer's Note: For small projects or projects with less complex construction methods change RFI response from 15 calendar days to 7 calendar days

Response to RFI's: After County's receipt of the RFI, the County will be allowed non-compensable days totaling the amount of time to the critical path called out in the RFI or a minimum of fifteen (15) non-compensable calendar days to review and respond to the issue. If the County requires additional time, the Contractor will be notified by email or via Autodesk Build (or approved equal).

Responses by the Engineer shall not be interpreted as authorization to proceed with extra work. If the Contractor believes additional cost or time is involved from the clarification provided by the Engineer, the Contractor shall notify the Owner in writing that a construction change authorization or change order is required and state the reasons for the Contractor's belief that this work constitutes a change in the Contractor's contractual requirements. At no point in time is the Contractor to proceed with extra work without the written consent of an authorized representative of the Owner. See Subsection 109.03, "Extra and Force Account Work," for additional clarification of procedures.

105.04 COORDINATION OF PLANS, SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS:

This section is changed to read as follows:

All information covered under this section shall be as described in the General Conditions of the Contract Documents.

105.05 COOPERATION BY CONTRACTOR

Paragraph A is changed to read as follows:

The Owner will furnish to the Contractor, without charge, 4 sets of Special Provisions including the Drawings. The Contractor shall keep one copy of the documents available on the work site at all times. Additional quantities of Special Provisions with Drawings will be furnished to the Contractor at the cost of reproduction upon request to the contracting agency.

The following is added to Paragraph C:

Prior to issuance of Notice to Proceed, the Contractor shall submit to the Engineer in writing the names of at least three (3) 24-hour emergency contact personnel who have personal knowledge of the work and can respond to emergency situations. At least one of those persons listed must be available locally at all times during the contract period. This submittal shall include, at a minimum, home, office, email address, and cellular telephone numbers for these personnel.

105.06 COOPERATION WITH UTILITIES

Preparer's Note: If this project has any agreements with utilities, such as an NVE Line Extension Agreement, or interlocal agreement with LVVWD or other utility company, reference any agreements in this section as may be appropriate for the contractor's information. Consider adding the agreements in an appendix to these special provisions.

Preparer's Note: If this project has any concurrent utility work, include language in this section alerting the contractor to that concurrent work. **Example language is given below; however, the preparer of these special provisions must customize this section such that it applies to this specific project.**

Preparer's Note: The Contractor shall coordinate with UTILITY to verify the location and depth of all underground UTILITY facilities and provide a suitable timeframe for UTILITY to relocate their facilities without impeding or delaying the Contractor's operation. For UTILITY work that is to be done concurrently with the Contract, the Contractor shall develop mutually approved staging plans with the County and the UTILITY to ensure that UTILITY's relocation work can be completed without conflicts or delays to the Contractor's operations. UTILITY will require ____ calendar days' notice prior to the relocation of a facility within a specified area, and will need ____ calendar days to complete the work, depending on the area. When the relocation work of the UTILITY facility is within the limits of removals, excavation and/or construction for improvements as part of this Contract and as indicated within the plans, it shall be the Contractor's responsibility to complete this work as per plan including the required traffic control, to facilitate the relocation of the UTILITY's facility by the UTILITY. The UTILITY will be responsible for relocating the UTILITY's facility and any other related work outside the limits of construction for this project.

Preparer's Note: Gas mains indicated in the drawings as "to be removed and relocated" will be removed and relocated by Southwest Gas Corporation (SWG) prior to construction of this Contract, unless otherwise specified. Gas mains indicated to remain, but which are found to be in conflict, shall be relocated by Southwest Gas Corporation. Contractor shall not relocate any gas mains, but shall contact SWG if a gas main is found to be in conflict.

Preparer's Note: Where noted in the drawings, telephone conduits shall be relocated by CenturyLink, electrical conduits shall be relocated by NVE, and cable TV conduits shall be relocated by Cox Communications. Where noted in the drawings, FAST ITS infrastructure shall be relocated by the Contractor. Where utilities are found to be in conflict but are not noted as to be removed and relocated prior to construction of this Contract, the Contractor shall contact the affected utility to coordinate removal and relocation. Contractor shall not relocate any dry utilities unless noted within the Contract Drawings, and shall not relocate any dry utilities without prior permission of the utility company.

Preparer's Note: Subsurface utility exploration (potholing) has been conducted in the project area to identify potential utility interferences and conflicts with the proposed construction. The location and results of the potholing effort are depicted on the Plans. The following list identifies the individual utility companies, their contact representatives and their respective facilities that have been located within or in close proximity to their project:

Preparer's Note: Southwest Gas Corp. (SWG) Name, Title, Phone Number, and Email
The Contractor shall coordinate with SWG to verify the location and depth of all underground SWG facilities and provide a suitable timeframe for SWG to relocate their facilities without impeding or delaying the Contractor's operation. For SWG relocation work that is to be done concurrently with the project, the Contractor shall develop mutually approved staging plans with the County and with SWG to ensure that SWG's relocation work can be completed without

conflicts or delays to the Contractor's operations. SWG will require ____ calendar days' notice prior to the relocation of a facility within a specified area, and will need ____ calendar days to complete the work, depending on the area. When the relocation work of a SWG facility is within the limits of removals, excavation and/or construction for improvements as part of this Contract and as indicated within the plans, it shall be the Contractor's responsibility to complete this work as per plan including the required traffic control, to facilitate the relocation of the SWG facility by SWG. SWG will be responsible for relocating the gas facility and any other related work outside the limits of construction for this project.

Preparer's Note: NV Energy (NVE) Name, Title, Phone Number, and Email

The Contractor shall coordinate with NVE to verify the location and depth of all NVE facilities and provide a suitable timeframe for NVE to relocate their facilities without impeding or delaying the Contractor's operation. For NVE relocation work that is to be done concurrently with the project, The Contractor shall develop mutually approved staging plans with the County and with NVE to ensure that NVE's relocation work can be completed without conflicts or delays to the Contractor's operations. NVE will be doing relocation work (trenching, installing conduit and pulling wire) within the first ____ days of the contract at the following locations:

1. Station ____
2. Station ____
3. Station ____

The Contractor shall schedule its operations to allow for the relocation of NVE facilities in the work zone. NVE will relocate their facilities concurrent to the Contractor's work for the adjustments and/or to support in place in several locations for drop inlet construction. Contractor is to notify NVE ____ calendar days prior to beginning work at any location. The Contractor will need to coordinate and schedule its operations to allow for the relocation of the NVE facilities in the work zone.

Preparer's Note: CenturyLink Name, Title, Phone Number, and Email

The Contractor shall coordinate with CenturyLink to verify the location and depth of all underground CenturyLink facilities and provide a suitable timeframe for COX to relocate their facilities without impeding or delaying the Contractor's operation. For CenturyLink relocation work that is to be done concurrently with the project, the Contractor shall develop mutually approved staging plans with the County and with CenturyLink to ensure that CenturyLink's relocation work can be completed without conflicts or delays to the Contractor's operations. CenturyLink will require ____ calendar days' notice prior to the relocation of a facility within a specified area, and will need ____ calendar days to complete the work, depending on the area. When the relocation work of a CenturyLink facility is within the limits of removals, excavation and/or construction for improvements as part of this Contract and as indicated within the plans, it shall be the Contractor's responsibility to complete this work as per plan including the required traffic control, to facilitate the relocation of the CenturyLink facility by CenturyLink. CenturyLink will be responsible for relocating their communication infrastructure and any other related work outside the limits of construction for this project.

Preparer's Note: Cox Communications (COX) Name, Title, Phone Number, and Email

The Contractor shall coordinate with COX to verify the location and depth of all underground CATV facilities and provide a suitable timeframe for COX to relocate their facilities without impeding or delaying the Contractor's operation. For COX relocation work that is to be done concurrently with the project, the Contractor shall develop mutually approved staging plans with the County and with COX to ensure that COX's relocation work can be completed without conflicts or delays to the Contractor's operations. COX will require ____ calendar days' notice prior to the

relocation of a facility within a specified area, and will need _____ calendar days to complete the work, depending on the area. When the relocation work of a COX facility is within the limits of removals, excavation and/or construction for improvements as part of this Contract and as indicated within the plans, it shall be the Contractor's responsibility to complete this work as per plan including the required traffic control, to facilitate the relocation of the COX facility by COX. COX will be responsible for relocating their communication infrastructure and any other related work outside the limits of construction for this project.

Preparer's Note: Las Vegas Valley Water District (LVVWD) Name, Title, Phone, and Email

The Contractor shall verify the location and depth of water facilities and coordinate with the LVVWD before construction. LVVWD may have facilities on streetlight pole(s) within this project area. When working on one of these poles Contractor shall coordinate work with LVVWD.

Preparer's Note: RTC/FAST Name, Title, Phone, and Email

Where noted in the drawings, FAST ITS infrastructure shall be relocated by the Contractor. Contractor to contact RTC/FAST at least 30 days prior to beginning work at any location.

Replace Paragraph R as follows:

The Owner and Engineer do not guarantee that all existing utilities are shown on the contract drawings, or that the utilities are shown in their exact locations. The Owner has not indicated utility service connection laterals on the Contract Drawings.

Replace Paragraph S as follows:

During all time periods when any utility valve, manhole, vault, or pull box may be buried or otherwise rendered inaccessible, the Contractor shall have personnel and equipment on standby (respond within 1 hour) to uncover any valve, manhole, vault or pull box when requested by the Engineer or owning agency.

All utility valves, manholes, vaults, or pull boxes which are buried shall be conspicuously marked in a fashion acceptable to the owner and Engineer by the Contractor to allow their location to be determined by the Engineer or utility personnel under adverse conditions, (inclement weather or darkness).

All cost for providing standby personnel and equipment and for uncovering buried facilities shall not be paid for separately but shall be considered incidental to the items of work associated with the burial except for service connections, which may affect the work.

The relocation of utility service connections will be paid for in accordance with Subsection 105.09, "Construction Interferences".

The Contractor shall not be assessed liquidated damages for failure to complete the work on time to the extent that such delay was caused by failure of the owner or agency having jurisdiction over the utility or service connection to authorize or otherwise provide for its removal, relocation, protection, support, repair, maintenance, or replacement.

Replace Paragraph T as follows:

The Contractor shall pothole to determine the exact vertical and horizontal location of all existing utilities indicated on the Drawings, or marked/located in the field, crossing or in close proximity to the proposed underground improvements and submit a report to the Engineer a minimum of fifteen (15) calendar days in advance of the construction of the proposed improvement unless otherwise approved by the Engineer. As per NAC 455.115 section 1.b the Contractor shall submit requests for utility locations only for those portions of work which can be reasonably excavated or demolished within fourteen (14) calendar days unless otherwise approved by the Clark County Public Works Manager of Traffic Management. If the contractor elects to perform potholing during MNTP and/or prior to NTP the number of contracts days will not begin as long as the only activity being performed is potholing of utilities. The Contractor shall not request utility locates beyond those that can reasonably be potholed within fourteen (14) calendar days. The contractor will need to request and obtain a limited right of entry to perform the potholing and shall submit traffic control plans covering the work. There will be no direct payment for traffic control and any costs associated with performing this work early. There will be no direct payment for potholing and all costs associated with this work shall be considered incidental to the individual bid items for which the potholing is being performed.

The Contractor shall pothole all connections and tie-in locations to existing storm drain, sewer, and water facilities within fifteen (15) calendar days of NTP or within forty-five (45) days of the start of the MNTP, whichever is the earliest. Contractor will be granted a limited right of entry as identified above. There will be no direct payment for potholing and all costs associated with this work shall be considered incidental to the individual bid items for which the potholing is being performed.

Engineer or the utility owner will not be responsible for any delay in the project schedule or rework of installed improvements due to a failure by the contractor to comply with the 15 days in advance potholing and reporting requirement, or failure to pothole the full depth and width of the improvements for all conflicts indicated on the plans and/or marked/located in the field.

The report generated by the Contractor shall be submitted to the Engineer on the form provided at the end of this section, all pothole information obtained including; owner of utility, depth from finished grade, actual elevation, size and type, material it is made of, location (station and offset), description and whether there is a conflict with the proposed improvement within one working day following the potholing. The description must provide orientation of utility, if it is transverse or parallel to improvement and any other pertinent details. From this information, Engineer will determine additional utility conflicts, which may not be shown on the Drawings.

If any utility conflicts exist that are not shown on the Drawings, Contractor will take the necessary action in accordance with this subsection and Subsection 105.09 Construction Interferences.

Contractor shall flag or otherwise note discovered interferences on such submittal of pothole data. Specific interferences along with photos showing the specific interference shall be submitted separately as an RFI per Subsection 105.02.05, "Contractor's Request for Information (RFI)."

During the performance of contract work, the owner of any utility affected by the work shall have the right to enter, when necessary, upon any portion of the work for the purpose of maintaining service and of making changes in, or repairs to, said utility.

When the plans or specifications provide for the Contractor to alter, relocate, or reconstruct a utility, the bid prices shall include the cost of any temporary bypasses that may be required by the affected utility. It is the Contractor's responsibility under Section 102.05 "Examination of Plans, Specifications, Contract Documents, and Site of Work" to satisfy himself prior to bidding as to the

requirements of each utility and utility modification.

The relocation of utility service connections will be paid for in accordance with Subsection 105.09, "Construction Interferences".

The Contractor shall not be assessed liquidated damages for failure to complete the work on time to the extent that such delay was caused by failure of the owner or agency having jurisdiction over the utility or service connection to authorize or otherwise provide for its removal, relocation, protection, support, repair, maintenance, or replacement.

The Contractor shall not shut off the water supply to a hydrant, nor in any way, prevent access to a fire hydrant until he has secured permission to do so from the proper authorities.

105.08 CONSTRUCTION STAKES, LINES AND GRADES

Paragraph C is changed to read as follows:

The Contractor shall preserve property line and corner survey monuments except where their destruction is determined by the Engineer to be unavoidable. Monuments that are disturbed or destroyed by the Contractor's operations will be replaced in accordance with all applicable Nevada Revised Statutes and Standard Drawings by a Nevada Professional Land Surveyor. The replacement for any disturbed monuments shall be performed by the Engineer and the cost for such replacement will be deducted from any money due, or which may become due, the Contractor under this contract.

Paragraphs F and G of this subsection are deleted, and the following is added:

The Contractor shall allow a minimum of two (2) full working days' notice when submitting survey work requests. If multiple requests are submitted, prioritization of said requests will be provided by the Contractor in writing with consideration given to the length of time required to complete each ordered task.

Preparer's Note: Check with Survey Division for staking requirements and adjust items 1 through 8 shown below as needed. When Clark County Public Works' employees are providing the surveying, include item 8 as indicated below.

The following construction stakes will be furnished by the Owner:

1. Stakes at 50-foot intervals along the back of all curb and gutter and at the ends and center of each curb return, or at offsets that may be requested by the Contractor.
2. Stakes at 50-foot intervals for construction of drainage and utility pipes along an offset line chosen by the Contractor.
3. Two (2) stakes, containing horizontal and vertical control for each manhole, and drop inlets.
4. Stakes at the corners of junction structures containing horizontal and vertical control.
5. One (1) stake for each streetlight pole and two (2) stakes for each traffic signal pole containing horizontal and vertical control.

6. Subgrade stakes will be placed at 100' intervals (plus grade breaks) and three (3) across the asphaltic pavement area (maximum). Type II stakes will be placed at a maximum three (3) stakes per 50' station plus grade breaks.
7. Stakes not delineated above which the Engineer may determine are necessary to ensure the work will be properly constructed.
8. Survey staking will only be available Monday thru Thursday between the hours of 7:00 am to 3:30 pm unless otherwise noted.

The Engineer will also mark existing pavement for sawcut lines at all intersection streets and driveway locations.

The Contractor shall notify the Engineer prior to placement of curb and gutters at drop inlets to verify the form work elevations.

The above constructed stakes shall constitute the field control by and in accordance with which the Contractor shall execute the work, and will be furnished at no expense to the Contractor.

The Engineer will set stakes in addition to these delineated above, if required by and requested by the Contractor; however, costs for setting said additional stakes shall be paid by the Contractor and will be deducted from any amounts due or to become due the Contractor.

After stakes and marks have been set it shall be the responsibility of the Contractor and his employees to protect the stakes and marks against vandalism and/or destruction.

Should any of the stakes or marks be destroyed or disturbed by the Contractor's operations or otherwise, the cost of replacing said stakes or marks shall be paid by the Contractor and will be deducted from any amounts due or to become due the Contractor.

The following subsection shall be added:

105.09 CONSTRUCTION INTERFERENCES

Construction interferences shall consist of any utility or service connection that is required to be disturbed, modified, relocated, or removed to permit the construction of a pipeline or other structure as specified in the contract.

Such disturbance or removal shall be done only with the approval of the project Engineer and following notification to the owner of the interfering utility or service connection. Any such utility or service connection removed or otherwise disturbed shall be reconstructed as promptly as possible in its original or other authorized location in a condition at least as good as prior to such removal or disturbance, subject to the inspection of the owner of same.

The Contractor's responsibility under this subsection to remove or replace shall apply even in the event such damage or destruction occurs after backfilling or is not discovered until after completion of backfilling. The owner of the utility or service connection shall be notified immediately after damage or destruction occurs or is discovered.

A Class 1 construction interference shall be defined as to include any utility or service connection within the limits of excavation or over-excavation, required by the Contract Drawings or as ordered by the Engineer that is not located within the pipe space.

A Class 2 construction interference shall be defined as to include any utility or service connection located within the pipe space.

Pipe space shall be defined as to be the outside diameter or dimension of the pipeline or structure, plus 6-inches.

All costs involved in removing, relocating, protecting, supporting, repairing, maintaining, or replacing a utility or service connection shall be borne by the Contractor per the following descriptions and as shown on the figure at the end of this section.

Case I An actual Class 1 interference which is shown as a Class 1 on the Contract Drawing however approximate the location may be.

Case II An actual Class 2 interference which is shown as a Class 2 interference on the Contract Drawings.

Case III An actual Class 1 interference which is not shown on the Contract Drawings.

Case IV A main line or service connection which is smaller than or equal to 4-inches nominal diameter which actually constitutes a Class 1 or 2 construction interference, whether or not said line or connection is shown on the Contract Drawings.

Case V An actual Class 1 interference which is shown as a Class 2 interference on the Contract Drawings.

All costs involved in removing, relocating, protecting, supporting, repairing, maintaining, or replacing a utility or service connection greater than 4-inches nominal diameter, shall be paid for by the Contracting Agency as additions to work in accordance with subsection 104.03, "Extra Work," in the following case:

Case VI An actual Class 2 interference which is shown as a Class 1 interference or not shown at all on the Contract Drawings.

When the Contractor encounters a construction interference that has been incorrectly shown or omitted from the Contract Drawings, the Contractor shall immediately notify the Engineer with an RFI in accordance with Subsection 105.02.05. The Engineer will determine a case number for the construction interference in the RFI response. The Engineer will determine the case number for multiple ducts with individual nominal diameters 4-inches, or smaller.

When the Engineer has determined that the construction interference is a Case I, II, III, IV, or V, the Contractor shall continue with the work, including the removing, relocating, protecting, supporting, repairing, maintaining, or replacing of the construction interference. The Contractor understands and agrees that this condition is not a cause for delay in completion of the contract work.

When the Engineer has determined that the construction interference is a Case VI, and there is

no bid item in the contract covering this interference, the Contracting Agency and the Contractor will negotiate terms for a change order according to provisions of subsection 104.03, "Extra Work." During this negotiation period, the Contractor will continue work at another location within the scope of the project. A time extension for completion of contract work may be a part of the negotiation. The Contracting Agency will not pay standby expenses incurred by the Contractor or costs incurred by the Contractor in relocating equipment during the negotiating period or redesign of proposed improvements due to construction interferences.

The Contractor shall exercise extreme care so as not to damage new or existing buried utilities which do not physically constitute a construction interference and shall utilize equipment throughout his construction operations so that new and existing utilities are not damaged.

The Contractor shall be responsible for costs of removing, relocating, protecting, supporting, repairing, maintaining, or replacing new or existing facilities damaged by his operations as determined by the Engineer.

All pipe and conduit with individual nominal diameters 4-inches or less shall be the responsibility of the Contractor and no additional payment will be made.

105.14 MAINTENANCE DURING CONSTRUCTION

Paragraph D is changed to read as follows:

The Contractor shall maintain a temporary AC patch over backfilled pipe trenches, subject to traffic, during the course of the project to the satisfaction of the Engineer. The temporary patch shall be permanently repaired or removed as soon as the Contractor's operations allow. Temporary asphalt patching will not be allowed to remain longer than 30 calendar days before permanent paving is placed, or a permanent patch will be placed with minimum 3 inch of Hot Mix Asphalt machine placed with equipment with automatic controls to ensure a smooth riding surface. The surface tolerance shall be a maximum of ½ inch in 10 ft. A deduction equal to the daily traffic control bid line item will be applied to the project for every day surface tolerances are not met.

Should areas of temporary pavement fail and become hazardous, the Contractor shall repair at the Engineer's direction and at the Contractor's expense.

Temporary asphaltic pavement shall be placed in accordance with Subsection 208.03.21, "Cutting and Restoring Street Surfacing."

105.16 FINAL ACCEPTANCE

Replace Paragraph A as follows:

Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer will make an inspection. If all construction, final clean up, and Red-Lined As-Built Drawings provided for and contemplated by the contract are found completed to his satisfaction, the inspection shall constitute the final inspection and the Engineer will so advise the governing body or commission. The Contractor will then be notified in writing of the acceptance of the contract as of the date of the final inspection. Such notice will not be given to the board or commission

until all work including required Red-lined As-Built Drawings has been completed to the satisfaction of the Engineer.

The following subsections are added:

105.18 AUTHORIZED CHANGES

All changes to the plans performed in the field shall be reviewed, approved and authorized by the Engineer prior to proceeding with the work. Any changes to the plans without authorization may result in removal of such item at the Contractor's expense or nonpayment for the work, at the discretion of the Engineer.

Verbal authorized changes to the plans in the field will not be considered for additional quantities or compensation, but can be and will be considered for any reduction in quantities or cost.

Any authorized changes to the plans which are approved by the Engineer for additional compensation shall be in written form indicating all items of work involved and the cost for each item, and will be submitted to the Engineer prior to proceeding with the work involved.

Any authorized changes for the convenience of the Contractor will not be considered for additional quantities or payment, unless the Engineer has approved such additional cost in writing to the Contractor.

105.19 CONTRACTOR QUALITY CONTROL PROGRAM

The Contractor Quality Control Program was developed to ensure that materials and workmanship incorporated into the work meet the requirements of the Standard Specifications, Special Provisions, and all other contract documents. Quality Control (QC) is the sole responsibility of the Contractor. The QC Program encompasses QC, Quality Assurance (QA) and Independent Assurance (IA).

In order to ensure an understanding of the QC Program, there shall be a mandatory QC Program meeting prior to the start of construction. This meeting occurs subsequent to the pre-construction meeting. The contractor shall have in attendance at this QC Program meeting the Quality Control Manager (QCM), Quality Control Coordinator (QCC), inspectors and a licensed professional engineer in responsible charge of inspectors and testers at the meeting.

QC shall be performed in accordance with the Contract documents. Payment for bid items without the performance of required QC testing or without results uploaded will be withheld in the monthly pay applications until such time the documentation is provided to the Engineer and uploaded to Autodesk Build.

QC testing and inspections shall be performed by an accredited laboratory. If the testing and/or inspections were conducted by a non-accredited laboratory, the testing and/or inspection shall not be accepted, and payment will not be made for the installed material.

The Contractor's QC Program consists of performing testing and inspections for each bid line item as well as administering the QC program. All portions of the QC Program are incidental to the work required for each bid line item paid in accordance with the Contract. The payment for the bid line items of work, subject to the terms of the Contract, includes compensation for performing

all required quality control testing and inspection as set forth in the Contract, including, but not limited to, costs to develop and administer the quality control program, management of the quality control program, on-site testing, on-site inspection and oversight, off-site source/production inspection, off-site source/production testing, laboratory testing of field samples, preparation of the monthly reports, and submittal of results.

105.20 INDEPENDENT ASSURANCE SAMPLING

CCPW administers the Independent Assurance (IA) split sample program and supervises the sampling, splitting, collection and distribution of the samples. IA observes the QA and QC testing and may conduct its own testing. IA receives written test results from both QA and QC, compares results, and generates a report of the IA findings.

Coordination meetings must take place each time the IA program is conducted. The following personnel must be present at each IA meeting:

1. Contractor QCM
2. Contractor QCC
3. Contractor QC testing personnel
4. CCPW QA testing personnel
5. CCPW QA Inspector (optional)
6. CCPW IA personnel

There are two scenarios for how IA is performed:

1. The IA is performed by the County.
2. The IA is performed by a consultant contracted by the County.

As a part of the regular IA sampling and testing program, samples are taken and split three ways by the QC personnel as directed by the IA personnel. One sample is tested by QC, one is tested by QA, and one is tested by IA. The IA may observe the QA/QC testing process. The entire procedure is documented in the CM Manual on the Clark County Website <http://pwgate.co.clark.nv.us/IQAC/gagc.asp>.

The Contractor shall expect that all materials listed below be required for IA split sampling throughout the duration of the Contract.

1. Select Borrow
2. Granular and Drain Backfill
3. Base Aggregates
4. Concrete Aggregates
5. Aggregates for Plantmix Bituminous Surface and Ultra-Thin Asphalt Concrete Surface (UTACS)
6. Concrete
7. Plantmix Bituminous Surface
8. UTACS
9. Any other materials as required by the Contract.

The IA representative shall retain custody of the samples from the time they are taken until they are delivered to the QC or QA laboratories for testing.

The QC/QA test results performed for the IA process are independent of project sampling frequency and cannot be counted as a part of the Contract acceptance data.

105.21 ENGINEER AUDITS

The Engineer will audit the Contractor project QC records for compliance with the contract documents.

105.22 QUALITY CONTROL PERSONNEL REMOVAL

Section 113 of these Special Provisions requires that testing and inspection be conducted by certified personnel. If the testing is conducted by non-certified personnel, the quantity of the associated bid line item may be subject to non-payment or asset reduction. Additionally, the Contractor shall pay the Engineer for the Quality Assurance testing and inspection until such time the certified personnel are replaced.

The Contractor shall implement removal of personnel for the following:

1. A non-certified QC inspector or tester based on the Section 113 “Contractor Quality Control Organization and Qualification of Inspectors, Laboratories and Technicians” requirements.
2. Personnel falsifying contract documents of any kind. Testing technicians falsifying documents may be subject to a complaint filed with the NAQTC board for discipline, and if on a federal project, the FHWA will also be notified for subsequent Federal action.
3. A Professional Engineer violating NRS 625 and NAC 625 of the Nevada State Board of Professional Engineers and Land Surveyors.
4. Failure of QCM to perform the duties of the position, or upload QC documents in accordance with the Contract Documents in excess of 10 occurrences on the project, shall result in the removal of the QCM,

Additionally, fraudulent or deceitful acts of the Contractor may be subject to disciplinary action by the Nevada State Contractor’s Board or criminal liability, pursuant to Nevada Revised Statutes including NRS 624.750 and 624.3016.

105.23 QUALITY CONTROL ADMINISTRATIVE INCENTIVE

The Quality Control Administrative Incentive is an amount the Contractor can earn by thoroughly administering the Quality Control Program. The amount earned by the Contractor will be paid as a lump sum on the first pay estimate following substantial completion. The actual amount earned will be the amount indicated for Bid Item number 105.01 in the Bid Schedule less any reductions for documented non-compliant items and non-compliant incidents.

Reductions from the Quality Control Administrative Incentive for failure of the Contractor to comply with administrative items are as follows:

1. Engineer Audits per Subsection 105.21 will be subject to a **\$100.00** reduction in the Quality Control Administrative Incentive Bid Item for each non-compliant item identified in each audit. Reductions in the QC incentive assessed during audits are independent of Non-compliance reductions.
2. Program non-compliance will result in a **QC incentive reduction** per incident being withheld from the QC Administrative Incentive line item per the table below. Non-compliant incidents include the following:

Item	Description	Incentive Reduction
A	Non-compliance to any portion of the Contract Documents	\$300 / day
B	Non-resolution of non-compliant items discovered in Quality Control Administration audits (in addition to 105.23 Item 1 above.), within 10 days of receipt of audit results	\$300
C	Lack of or late submission of submittals	\$300
D	No pre-activity meeting	\$300
E	No 22-hour notification or less than 22-hour notification to QA inspector	\$300
F	No documentation of inspection	\$300 / day
G	Use of non-compliant and/or un-approved materials	\$300 / day
H	Use of an incorrect test method or improper execution of test method	\$300
I	Non-inspection	\$300 / day
J	Not testing per required test frequency	\$300 / day
K	Not using or missing "Hold Points"	\$300 / day
L	Non-resolution of deficiencies within 10 days	\$300 / day
M	Improperly submitted testing, inspection or monthly report(s)	\$300 / day
N	Late upload of required project documentation including but not limited to testing results, daily reports, advanced notification cards, activity cards, contractor's daily reports, inspections, or monthly report(s).	\$300 / day
O	Failure to notify the Owner of canceled inspections/testing 16 hours in advance of the scheduled activity.	\$300

3. Costs incurred by Engineer for equipment and labor time of the county employees and for consultant(s) required to review deficiency resolutions beyond the second review, resolve deficiencies with their own resources, and review of non-compliance resolutions will be billed at the base overtime rate, including fringe benefits, equipment costs, and administrative costs. If the invoice is not paid within 30 days, the amount will be deducted through a CCA from the next pay application and are independent of the QC incentive bid item.

105.24 PAYMENT OF QUALITY CONTROL ADMINISTRATIVE INCENTIVE

\$ XX,XXX.00 has been entered into the bid schedule under bid item number 105.01, "Quality Control Administrative Incentive." The bidder shall include this amount in the total base bid amount. The Contractor shall earn the total amount of the line item provided that the QC program has been adhered to and administered according to the Contract documents. The amount of the incentive line item, less reductions for non-performance, shall be paid to the Contractor upon the completion of all work and at the time of Substantial Completion as outlined in Section 108.14 "Contract Close-out Procedure."

Payment will be made under:

Pay Item**Pay Unit**

Quality Control Administrative Incentive..... LS

Preparer's Note: Estimate the Quality Control Administrative Incentive amount using the table below and with advice from CCPW Construction Management officials.

Quality Control Administrative Incentive Estimate Amount using the guidelines below		
Contract \$	Incentive \$	%
\$ 75,000,000	\$ 1,000,000	1.3%
\$ 65,000,000	\$ 900,000	1.4%
\$ 55,000,000	\$ 800,000	1.5%
\$ 45,000,000	\$ 700,000	1.6%
\$ 35,000,000	\$ 550,000	1.6%
\$ 25,000,000	\$ 400,000	1.6%
\$ 20,000,000	\$ 300,000	1.5%
\$ 15,000,000	\$ 225,000	1.5%
\$ 12,500,000	\$ 150,000	1.2%
\$ 10,000,000	\$ 100,000	1.0%
\$ 7,500,000	\$ 75,000	1.0%
\$ 5,000,000	\$ 50,000	1.0%
\$ 4,000,000	\$ 40,000	1.0%
\$ 3,000,000	\$ 30,000	1.0%
\$ 2,000,000	\$ 20,000	1.0%
\$ 1,000,000	\$ 10,000	1.0%



DEPARTMENT OF PUBLIC WORKS
CONSTRUCTION MANAGEMENT DIVISION

BID NUMBER: _____
PROJECT NAME: _____

UTILITY POTHOLE DATA SHEET

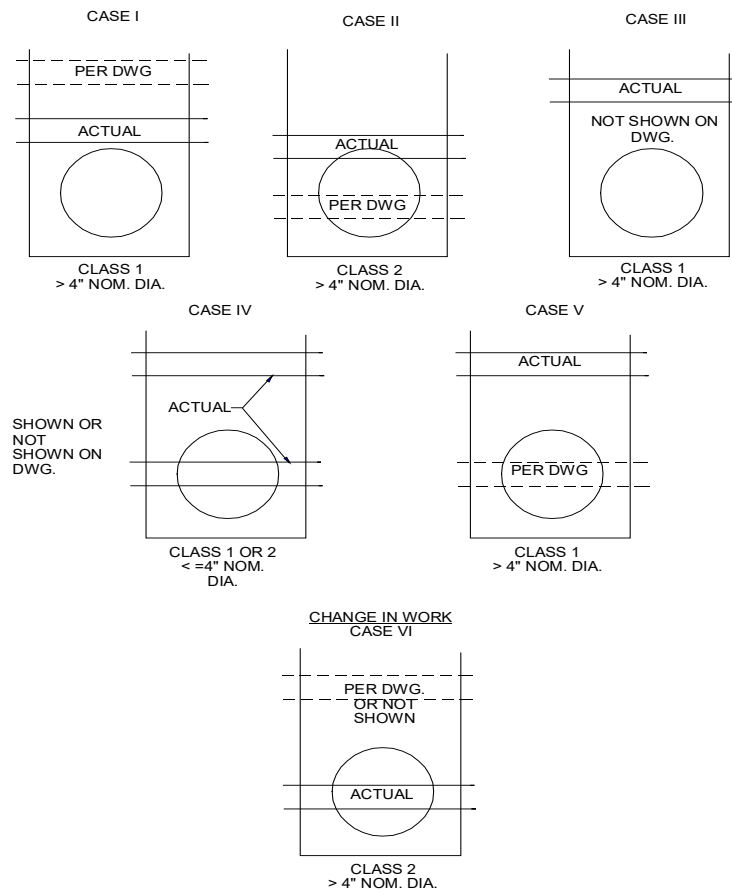
Pot-hole Number	Utility / Entity	Depth	Actual Elev	Size / Type	Description	Station / Offset	Conflict Yes / No	Case I-VI Class 1 or 2

LEGEND

Entity	Utility Type
FAST	Com / FO = Communication
CCPW	W = Water
CCWRD	SS = Sanitary
CLV	SD = Storm Drain
CNLV	RW = Reclaimed Water
COH	Elec = Electrical
CBC	
LVVWD / NDOT	

PREPARED BY: _____
CONTRACTOR NAME: _____
REPRESENTATIVE - PRINTED NAME _____
REPRESENTATIVE - SIGNATURE _____
DATE: _____

CONSTRUCTION INTERFERENCES CONTRACTOR'S RESPONSIBILITY



SECTION 106**CONTROL OF MATERIALS****106.01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS**

Paragraph H is changed to read as follows:

The Contractor shall furnish without charge such samples as may be required. Inspection and tests may be performed by the Engineer or his designated representative in accordance with subsection 105.20, but it is understood that such inspections and tests, if made at any point other than the point of incorporation in the work, in no way shall be considered as a guarantee of acceptance of such materials nor of continued acceptance of material presumed to be similar to that upon which inspections and tests have been made.

The following subsections are added:

106.01.01 CONTENT OF SUBMITTED MATERIALS LIST

Each individual material being submitted to the Engineer shall be submitted separately into Autodesk Build using the appropriate contract document category accompanied by a Cover Sheet. The contents of the Cover Sheet shall include the following:

- Contractor's Name and Address, including Phone and Fax numbers
- Project Name
- Bid Number
- Package Number (Numbering shall be per Figure 1 below for listed items, all other items will use the bid item prefix as the Package Number.)
- Submittal Number (Sequential number inside of a particular Package)
- Revision Number (Sequential number for each re-submit)
- Intended Use (description of the specific use or uses of the material on the project)
- Indication of "Or Equal" or "Substitution" as appropriate
- Date
- Printed Name and Signature of Submitting individual

Figure 1		
Table of Submittal Package Number		
Section	Package Number	Description
100		General Items
	100.01	SWPPP Permit
	100.02	NDPES Permit
	100.03	Air Quality Permit
	100.04	Rolling Stock Permit
	100.05	Emergency contact list
103		Awards and Execution of Contract
105		Control of Work
	105.01	QC Plan and Amendments
	105.02	QC Monthly reports
107		Legal Relations and Responsibility to the Public
	107.01	Property Owner Permission Letters
108		Prosecution & Progress
	108.01	Schedules
109		Measurement and Payment
	109.01	Pay Estimates
	109.02	Force Account
302		Aggregate Base Courses
	302.01	Type II
624		Accommodations for Public Traffic
	624.01	Traffic Control Plans
900		Project Closeout
	900.01	QC File Turnover
	900.02	Punchlist Completion
	900.03	QC/QA Personnel Data Sheets
NOTE: All other items will use the bid item prefix as the Package Number.		

106.01.02 ACCURACY OF CONTENT

The Contractor shall attest that the content of the submitted materials has been reviewed against the Contract Documents, and that the materials are in compliance thereto. Back-up documentation for submitted materials that are to be evaluated as “Or Equal” or “Substitution” shall be reviewed for accuracy and sufficiency before the submittal is sent to the Engineer for evaluation.

106.01.03 SUBMISSION OF MULTIPLE MATERIALS CONCURRENTLY

A “Transmittal” or Cover Page shall accompany any group of two (2) or more submitted materials. The Transmittal shall include the following information:

- Contracting company name and address, including phone and fax numbers
- Project name
- Bid number
- Listing of submitted materials attached including package and submittal numbers
- Date
- Printed name and signature of responsible person in charge

106.04 SAMPLES AND TESTS

Paragraph A of this subsection is changed to read as follows:

Sampling for final acceptance of materials will be as required in the appropriate Uniform Standard Specifications sections, contract special provisions, and in general must comply with the AASHTO requirements, where applicable and with the following exception:

1. Aggregate for all plantmix bituminous mixtures (base or surface) will be sampled for acceptance at the plant.
2. Sampling of bituminous materials, intended for use in prime, tack or seal coats, surface treatments, shall be done after the bituminous material has arrived at job destination and before, or at the time of unloading the materials.
 - a) For binder used in mixes, two samples shall be taken from the plant mixer prior to introduction into the mixer by a NAQTC person of the Contractor or his designated representative under the observation of a NAQTC technician and per the requirements of AASHTO T 40. Where delivery is made in smaller hauling units than those cited above such as a distributor, or where the contents of a storage tank are sampled, the required two samples shall be taken to represent a maximum of ten thousand (10,000) gallons. The Contractor shall take the samples during the established job working hours, unless arrangements are made for a representative of the Contracting Agency to witness the taking of the samples at another time.
 - b) All sampling devices and sample containers shall be furnished by the Contractor of Material Source.
 - c) One of the two samples, taken from each load, shall be submitted to the Contractor’s Material Source laboratory for testing as required per Section 703 and the other sample retained by the Engineer.
 - d) The Contractor shall furnish without charge such samples as may be required. Inspection and tests may be performed by the Engineer or his designated representative, but it is understood that such inspections and tests, if made at any point other than the point of incorporation in the work, in no way shall be considered as a guarantee of acceptance of such materials nor of continued acceptance of material presumed to be similar to that upon which inspections and tests have been made.

3. When the Engineer elects to take, or specifications require that samples be taken at a production plant, sampling of aggregates shall be by “belt cut” from a stopped conveyor or may be by mechanical sampling device built into the production plant. Any mechanical sampling device shall be approved by the Engineer prior to starting the respective phase of the project, or shall have been approved as part of a prior plant inspection by the Engineer or his representative. The sampling device shall be so constructed to provide for simultaneous “cutting” of the entire section of material being discharge or conveyed, and so constructed that small representative samples may be taken frequently and these samples combined to form the complete sample. The reference method for the procedure shall be a “belt cut” sample taken from a stopped conveyor belt.
4. Tests for the aforementioned materials produced under conditions other than contemplated herein shall be taken at the time and place deemed by the Engineer to be most appropriate.
5. Except as provided in Subsection 106.05, “Certificates of Compliance,” all materials will be inspected, tested, and accepted before incorporation in the work. Any work in which untested and unaccepted materials are used without approval or written permission of the Engineer shall be treated as provided in Subsection 105.12 “Removal of Unacceptable and Unauthorized Work.”
6. All field and laboratory testing technicians shall be Nevada Alliance for Quality Transportation Construction (NAQTC) certified, including ACI certification. Information regarding training, examinations and certification is available from the Nevada T2 Center/257, NAQTC, University of Nevada, Reno, 1664 N. Virginia Street, Reno, Nevada, 89557-0179.

SECTION 107**LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC****107.07 TRAFFIC AND ACCESS**

Preparer's Note: Add the following subheading and paragraph if bus stops are located within project limits.

Add the following to the beginning of Paragraph D:

The Contractor shall submit a bus stop closure schedule with the traffic control plan. The bus stop closure schedule shall identify specific durations and times of the day for all proposed bus stop closures.

Delete Paragraph I.

Revise Paragraph L as follows:

- L. All costs involved in providing the requirements in Section 107.07, "Traffic and Access," shall be included in the Contractor's bid for traffic control. All barricades, warning signs, lights, temporary signals, and other protective devices shall conform to the latest edition of the *Manual on Uniform Traffic Control Devices* (MUTCD).

Add the following paragraphs:

- M. The Contractor shall comply with all requirements contained in Section 624, "Accommodations for Public Traffic," and Section 625, "Construction Signs," of the Standard Specifications and with the supplemental requirements contained herein, except that no direct payment shall be made to the Contractor for signing and/or detours unless otherwise specified herein.
- N. The Contractor, as required by the Engineer, shall provide and station competent flaggers whose sole duties shall consist of directing the movement of public traffic either through or around the work. Traffic work zone technicians on the project must be certified in work zone traffic control at least at the "Technician" level by ATSSA or IMSA.
- O. Where necessary or required for the convenience of the public or individual residents at street crossings, alleys, or private driveways, the Contractor shall provide suitable temporary bridges over unfilled excavations, except in such cases as the Contractor shall secure permission from the Engineer to omit such temporary bridges. All such bridges shall be maintained in service until after the Contractor has complied with all of the specifications governing the work prior to backfilling.
- P. Temporary bridges for street crossings shall conform to the requirements of the authority having jurisdiction in each case and shall submit designs for approval by said authority as may be required. Steel plates used on this project must be capable of carrying the heaviest loads utilizing the roadway.
- Q. When the Contractor's construction operations encroach upon a sidewalk, walkway, or crosswalk area, the Contractor shall take special precautions to protect the pedestrian's safety including provisions to separate pedestrian traffic from the work area.

- R. Pipe stockpiled along pipeline alignments shall be within 1,000 feet of the Contractor's laying operations. Pipe strung within street right-of-way that is to remain one night or more shall be protected by barricades spaced at intervals not exceeding 50 feet.

107.16 CONTRACTOR'S RESPONSIBILITY FOR THE WORK AND MATERIALS

Add the following paragraphs:

- D. The Contractor shall maintain on-site copies of all applicable Safety Data Sheets (SDS) for all materials used on the project.
- E. These SDS sheets shall be readily available for inspection and review by any individual who may so request.

Preparers Note: For CCRFCD funded projects, and for any substantial stormwater facility potentially exposed to damage due to a flood event during construction, include the following wording as required for the project:

- F. By entering into a Contract to construct the [place stormwater project name here] project, Contractor recognizes that the project has the following portions of work:
1. Stormwater facilities including but not limited to; inlet and/ or outlet structure(s), lined channels, unlined channels, sedimentation basins and bank protection are within the [place the wash name here], an active natural wash that conveys perennial base flow, stormwater runoff and flood flows.
 2. Sediment basin at the intersection of [place stormwater project name here] is within an ephemeral wash that is subject to stormwater runoff and flash flooding.
 3. Dam embankment construction and associated works are within an ephemeral wash that is subject to stormwater runoff and flash flooding.
- G. During the contract period, the Contractor assumes all risk and responsibility for protecting and preserving all of their Work, as well as public and private property, from damage resulting directly or indirectly by drainage or stormwater runoff along or adjacent to the project, including upstream and downstream properties if damage is a result of Contractor's action in diverting or redirecting existing drainage patterns. During the contract period, Contractor assumes all risk and responsibility for protecting and preserving the Work from damage resulting directly or indirectly by drainage or stormwater runoff as a result of unsuitable weather, storms, rainfall, natural flow, nuisance flow, or any other type of flow.

107.18 FURNISHING RIGHT-OF-WAY

Add the following paragraphs:

- B. Lands or rights-of-way for the work to be constructed under the contract will be provided by the Owner as shown on the Drawings. Nothing contained in the Specifications or Drawings shall be interpreted as giving the Contractor exclusive occupancy of the lands or rights-of-way provided. Any additional lands or rights-of-way required for construction operations shall be provided by the Contractor at their own expense.
- C. The Contractor shall not enter nor occupy with men, equipment, or materials any lands outside the rights-of-way or easements shown on the Drawings without the written consent

of the owner of the property. Evidence of written permission to occupy lands outside those rights-of-way shown shall be presented to the Engineer prior to entry upon said land by the Contractor.

Add the following subsections:

107.23 PUBLIC RELATIONS AND NOTIFICATION

- A. The Contractor is required to provide a public information and outreach program for this project. The purpose of the program is to build and maintain positive public relations throughout the construction process through continuous, effective, two-way communications including updates on the progress of the work and information on changes affecting the flow of traffic.
- B. Ten working days after receiving the Notice of Award from Clark County Purchasing and Contracts Division, the Contractor shall prepare a draft public notification using the approved template provided by the County, a Project Information Flyer (Notice of Road Construction) in English and Spanish, for approval by the Engineer that will inform all property owners, residents, and businesses within or adjacent to the project of the project schedule and progress. The notification letter shall be distributed by the Contractor only after approval of the Engineer. The notification shall be an introductory letter, which shall contain information such as the scope of the project, anticipated construction start date and sequence of work, and the Contractor's contact information.
- C. Seventy-two hours prior to commencement of construction, the Contractor will notify, in person, all property owners and businesses which will be affected by the construction operation and will install "No Parking" signs at no more than 250-foot intervals along each side of the road where vehicle removal is required. Additionally, the Contractor, at their expense, shall reproduce and distribute written or printed notification in the form of a leaflet, door-hanger, and so forth approved by the Engineer, to each residence or business affected. The notification, using the approved template provided by the County (72-Hour Notice of Construction in English and Spanish), shall contain information such as the date and time of construction, brief explanation of work, vehicle removal instructions, Contractor's name, business address, and 24-hour telephone number of the Contractor or one of their agents. After notification by the Contractor, the Engineer will make any arrangements necessary to remove vehicles remaining in the roadway at the time of construction.
- D. Establish and maintain a comprehensive PUBLIC OUTREACH AND COORDINATION PLAN as follows:
 1. Within 30 calendar days after the project Notice-to-Award, the Contractor shall submit a Public Outreach and Coordination Plan to Clark County for review and comment. Address the goals, methods, and activities that will be used to build and maintain positive public relations throughout the project duration. As a minimum, include the following within the Plan:
 - a. Internal communications and protocols.
 - b. Identification of stakeholders and their concerns.
 - c. Key messages and commitments.

- d. Methods of communication to be used with stakeholder groups.
- e. Utilization of Changeable Message Signs to communicate with the traveling public and adjacent neighborhoods.
- f. Methods of communication with the public.
- g. Plan for complaint monitoring and resolution, including a comment database regularly updated/maintained and submitted with each progress report.
- h. Coordination plan for management and maintenance of traffic during construction.
- i. Implementation of a schedule consistent with the Contractor's overall project schedule.

E. PUBLIC OUTREACH EFFORTS AND ACTIVITY REQUIREMENTS

- 1. Coordinate the Public Outreach Program efforts and activities with Clark County's Public Information Officer (PIO).
- 2. Assist Clark County with news media, including assistance with press releases, coordination of media requests for interviews and detailed project information, and preparation of articles for use in newsletters and trade publications.

Preparer's Note: add the following section 3 only upon approval for website outreach from the Director of Public Works during 90% presentation in Project Review. The following section 3 shall be discussed with section 104 during the presentation.

- 3. Provide information listed below for review and approval by the Engineer.
 - a. Using the approved template provided by the County, a Project Information Flyer (Notice of Road Construction) in English and Spanish shall be provided thirty (30) calendar days prior to NTP.
 - b. Project phasing, which shall include timeline showing construction activity phasing, shall be provided thirty (30) calendar days prior to NTP.
 - c. Three-week project look ahead, which shall include construction activities, including any intersection traffic control changes, to be performed for the upcoming three (3) weeks. Updates shall be provided by 10:00 a.m. every third Thursday, until project substantial completion. The first project look ahead shall be provided thirty (30) calendar days prior to NTP.
 - d. Current traffic control exhibits, which shall include detour information (if applicable) and maps that show lane restrictions, available lanes of travel, message board locations, as well as property access impacts for current week and next week ahead. This initial information shall be provided thirty (30) calendar days prior to NTP. If no revisions to traffic control are made, an exhibit shall still be provided with an updated date. Updates shall be provided by 10:00 a.m. every Thursday, until project substantial completion.

- F. Submit all public information materials, proposed public information activities, responses to comments/questions, and plans for review and approval by the Engineer prior to implementation and distribution to the public.
- G. Clark County's PIO will manage all media relations, including issuing press releases, media advisories, and maintaining regular contact with the media. Refer all requests from the media for interviews, quotes, and/or detailed project information directly to Clark County's PIO. During the course of the project, immediately notify the Engineer of any situations that may involve the media.
- H. The Contractor will assist Clark County's PIO by providing timely information on project activities for use by the media. Such information will include, but not be limited to, press releases and press kits, maps and illustrations for news media use, notifications and illustrations of lane and ramp closures, speaking points, and project tours for media representatives. When requested by Clark County, provide a spokesperson for media interviews.
- I. The Contractor shall maintain a project mailing list that includes the following separate elements:
 - 1. Property owners in the vicinity of the project area.
 - 2. Homeowners Associations, if any, and elected officials who represent the project area.
 - 3. Interested individuals who have requested that their names be added to the mailing list via or other avenues.
 - 4. List of Emergency Service Providers.
- J. The Contractor shall provide a copy of the project mailing list and any periodic updates of the list to Clark County as requested.

107.23.01 PUBLIC OUTREACH MEASUREMENT

- A. The Public Outreach Plan tasks will be measured for payment on a time and materials basis, plus mark-up, as provided in the Public Outreach Plan approved by Clark County.

107.23.02 PUBLIC OUTREACH PAYMENT

- A. This work shall consist of all items necessary to implement the Public Outreach Program as described in Section 107.23, with the exception of changeable message signs. All changeable message signs shall not be paid for separately and shall be incidental to traffic control.
- B. Payment will be made on a monetary basis and will be paid for under "Construction Conflicts and Additional Work," Bid Item 109.01.

Preparer's Note: Only use the following Subsection 107.24 when a portion of the contract is within NDOT right-of-way and an encroachment permit has been issued. **Attach NDOT permit as an appendix.**

107.24 NDOT RIGHT-OF-WAY OCCUPANCY TERM AND CONDITIONS

- A. [Street name(s)] is (are) an NDOT maintained roadway, and as such certain conditions are required to be met during the performance of the work under this contract to satisfy the NDOT right-of-way occupancy permit. The Contractor shall comply with all terms and conditions of the NDOT permit.

107.25 TRAFFIC CONTROL REGULATIONS

- A. All traffic and traffic control devices under this contract shall be provided, maintained, and controlled as specified in this section and in the latest edition of the MUTCD.
- B. If the Contractor, at any time, fails to maintain traffic and traffic control devices as specified in the above documents or elsewhere by these specifications, the Engineer will immediately notify the Contractor in writing of such non-compliance. If the Contractor fails to remedy unsatisfactory maintenance within two hours after receipt of such notice, the Engineer may immediately proceed to perform such maintenance, and the entire direct cost of this maintenance will be deducted from money due or to become due to the Contractor.
- C. If, in the opinion of the Engineer, a condition develops that is dangerous to public safety, such condition may be immediately remedied with whatever means is available to the owner and the cost of this maintenance will be deducted from money due or to become due to the Contractor.
- D. Further, each instance of failure to remedy unsatisfactory maintenance within two hours of notification will result in a deduction of one day's value of the traffic control pay item from the bid amount. One day's value is determined by dividing the bid amount by the number of working or calendar days (whichever is applicable) allowed for the project. This sum is in addition to any direct costs incurred by Clark County to remedy unsatisfactory maintenance.

107.26 TRAFFIC CONTROL REQUIREMENTS

- A. The Contractor will also, as a minimum, provide the following traffic control measures:
1. Temporary traffic lanes must be delineated using either paint or traffic tape, excepting that paint may only be used on pavement to be replaced or overlaid as part of this contract.
 2. The tape shall conform to State of Nevada specifications. The temporary pavement striping shall be by pilot line method. The tape shall be 6 inches wide and 4 feet long and spaced every 40 feet. The color of the tape shall match the color of the line that it replaces. The double yellow line shall have two pieces of tape side by side with a 4-inch space between, and spaced to the increments above.
 3. Painted temporary traffic lines shall be 6 inches wide and shall be continuous or intermittent in accordance with the MUTCD. Existing lines either painted or raised pavement markers, that conflict with required temporary lines shall be effectively removed in such a manner to leave no residue or other trace of the former line that

may be misconstrued by a driver to be a traffic line under any condition of daylight, darkness and wetness of pavement.

4. At the completion of the project, the Contractor shall install additional pilot lines using 4-inch square pieces of tape to show the alignment of any permanent lines that were destroyed during construction. It shall be the responsibility of the Contractor to re-mark said lines. This 4-inch square tape shall be removed just prior to the installation of the permanent lines.
5. Type 3 barricades shall be used to protect all approaches to sites of excavation.
6. Flaggers must be used to assist trucks for safe ingress and egress whenever truck movements may interfere with safe passage through the work zone. In addition, flaggers shall be used whenever the Engineer deems it necessary for safety purposes.
7. If, in the opinion of the Engineer, a condition develops or exists that is dangerous to the safety of the general public, concrete barrier rails and fencing shall be used around the work site, excavations, trenches for underground utilities, and/or stockpiled materials. The barrier rails and fencing shall be maintained until the Engineer determines that the hazard no longer exists.
8. Portable concrete barrier rail ("F" rail) shall be used to separate travel lanes from excavations when any excavation:
 - a. exceeds one foot in depth,
 - b. exceeds one foot in width,
 - c. is sloped steeper than 4:1, and
 - d. is less than 18 feet from the nearest travel lane.
9. Fencing shall be used around open trenches exceeding 2 feet in depth. The fencing may be placed on top of concrete barrier rails. Type II barricades used for delineation shall have Type C steady burn lights. All barricades used for closures shall have Type A lights. Type B lights shall be used with appropriate advance warning signs.

107.27 TRAFFIC CONTROL AND BARRICADE PLAN

- A. The Contractor shall submit in Autodesk Build or approved equal, a "Traffic Control and Barricade Plan" to the Engineer no later than 14 calendar days prior to proposed use. The plan shall be submitted as a submittal directly to the Project Manager, who will review it for conformance to the contract documents and the MUTCD.
- B. No monies for Traffic Control shall be deemed to be earned until Contractor obtains approval of a Traffic Control and Barricade Plan. The total sum subsequently paid for "Traffic Control" shall be the bid amount minus a day's value, as determined in accordance with Subsection 107.29, for each day after the Notice to Proceed that the Contractor fails to obtain approval for the "Traffic Control and Barricade Plan." Further, work items requiring traffic control devices to be placed in the traveled way will not be allowed to proceed until the Contractor has an approved Traffic Control and Barricade Plan for such work.
- C. Traffic Control Plans shall be submitted on 11-inch x 17-inch plans unless required to be full plan size due to the complexity of the plan. All Traffic Control Plans shall be prepared

by an ISMA or ATSSA Certified Traffic Control Technician. Each sheet will have the following information:

1. Project Name
 2. Bid Number of the Project
 3. Name/address of Company that prepared the plan
 4. Name of the individual that prepared the plan
 5. The ISMA or ATSSA Certification number of the plan preparer
 6. The phone number of the Company that prepared the plan
 7. A 24-hour contact for the Company if different from above
 8. Whether the setup is day, night, or a 24-hour setup
 9. What work will be conducted with the plan
 10. Date the plan was prepared
 11. Dates the plan is proposed to be implemented
 12. Duration of each plan
 13. A 3-inch by 5-inch blank area in the upper right hand corner of each plan sheet
 14. Roadways shall be oriented with north to the top or left of the plan sheet
 15. Key to what each symbol used indicates
 16. If a sand barrel attenuator is used, the barrel layout and fill of each barrel
- D. Plans shall provide the minimum following items:
1. All advance warning signs and arrow boards
 2. Method of protecting excavations and work sites
 3. Method of barricading at intersections
 4. Delineation patterns, lengths, and so forth (including laterals)
 5. All regulatory signs
 6. All warning signs within delineation
 7. Driveway access plan and business access signage
 8. Method for protecting pedestrians and pedestrian access
 9. Provisions for emergency vehicle access at all times
 10. Lane widths, transitions, and tangent sections
 11. Proposed bus stop closures and relocations
 12. The existing posted speed on each roadway
 13. Any and all pedestrian pathways

- E. Temporary Traffic Control Devices shall not be pre-strung or left within the right-of way during non-working hours or when the devices are not being used. Drums shall be used on all tapers and lane shifts.
- F. Contractor shall complete the County's Lane Closure Notification System (LCNS) training, as described in Section 113, and submit within 14 calendar days after the Notice of Award a request for access to the Department's Lane Closure Notification System to the Engineer. Request shall include the Worksite Traffic Supervisor (WTS) name, email address and a copy of the individual's resume and certifications per Section 113.
- G. Approval for all lane closures operations is required. Submit requests to the Engineer fourteen (14) calendar days in advance of proposed lane closures for review. Requests for planned lane closures are to be submitted through the County's Lane Closure Notification System (LCNS). Record information for lane closures, including but not limited to, begin and end lane closure times and locations into the County's Lane Closure Notification System. For unforeseen events that require cancelling or rescheduling of lane closures, update the lane closure request a minimum of 1 hour prior to the approved setup start time.
- H. For changes to the WTS, submit a request with the replacing WTS's resume, certifications, and proof of LCNS training completion, as outlined in Section 113, to the Engineer at least fourteen (14) calendar days in advance of any closure for which the change is needed.
- I. Contractor is required to provide a minimum of three work day advance written notice to Clark County Traffic Operations for any changes to the traffic or pedestrian signal operations within the accepted traffic control plan. Contractor is responsible for all cost associated with any changes required to the traffic signal for vehicle or pedestrian movements.
- J. The above-described plan must conform to the Special Provisions Section 625 contained herein as well as the MUTCD for all traffic control methods, devices, and appurtenances.
- K. The Contractor is required to post with the Contracting Agent all information relative to any subcontractor for barricade control, including: Name of firm, address of firm, telephone number of firm, name of responsible agent for the project, and a 24-hour number for emergency response. All traffic control devices must display the 24-hour contact number of the traffic control subcontractor on their reverse side, along with an identifying name, initials, or logo.
- L. The Traffic Control and Barricade Plan must be completed to the Engineer's satisfaction and all traffic control devices installed according to the approved plans before construction begins.

107.28 TRAFFIC CONTROL PLAN FOR HIGHWAY WORK ZONES

- A. The Contractor may not utilize the *Traffic Control Plans for Highway Work Zones* as shown in the Standard Drawings in lieu of preparing a Traffic Control and Barricade Plan per Subsection 107.27.

107.29 TRAFFIC CONTROL MEASUREMENT

- A. Measurement for payment for traffic control shall be per Lump Sum for all traffic control required to safely perform the work described in the general and special provisions and the project plans, including punch list and clean up.

107.30 BASIS OF PAYMENT

- A. The bid amount paid for traffic control shall be full compensation for performing all required control of traffic including barricading, signing, temporary fencing, project signs, temporary lane delineation, arrow boards, portable changeable message signs, removal of conflicting markings, temporary paving to provide a minimum number of paved travel lanes as specified in Section 104, detours, driveway access and flag persons, fencing, trench plates, temporary bridges, concrete barrier rail to protect trenches, as specified herein, and as required by the Engineer.
- B. The bid amount payment for traffic control shall include all weekends, holidays and non-working days encountered during the duration of the contract including any days required for completion of corrective punch-list items.
- C. The Lump Sum bid amount will be divided by the number of calendar days in the contract to establish a daily value for Traffic Control. Each progress payment will reflect payment on the bid amount equal to this daily value times the number of days since the previous progress payment.
- D. Payment will be made under:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
107.01	Traffic Control	Lump Sum

SECTION 108**PROSECUTION AND PROGRESS****108.02 NOTICE TO PROCEED**

Replace paragraphs A and B with the following:

The Authorization to commence with acquisition of materials will be as described per the General Conditions in the contract documents.

The authorization to proceed with actual physical work shall be given to the successful bidder in writing.

108.03 PROSECUTION AND PROGRESS

This subsection is revised to read as follows:

The Contractor shall be responsible for planning, scheduling, and reporting the progress of the work to ensure timely completion of the contract.

This section includes the following scheduling requirements:

- 108.03.01 General Schedule Requirements.
- 108.03.02 Preliminary Schedule.
- 108.03.03 Baseline Schedule.
- 108.03.04 Monthly Schedule Updates.
- 108.03.05 Look-Ahead Schedules.
- 108.03.06 Time Impact Analysis.
- 108.03.07 Measurement and Payment

108.03.01 GENERAL SCHEDULE REQUIREMENTS**A. Minimum Scheduling Requirements:**

1. The Contractor shall designate an authorized representative who will be responsible for the preparation, revision and updating the overall project schedule. This person shall be experienced in the preparation and management of schedules of similar complexity, shall have 3 years verifiable experience and shall be proficient in the use of a Critical Path Method Scheduling (CPM) Software.
 - a. Engineer may order that the scheduler be removed and replaced with a competent scheduler if the scheduler provided does not meet acceptable qualifications and performance standards.
 - b. Additional schedule formatting & presentation requirements may be requested by Engineer.
2. Scheduling Software Requirements:
 - a. The Contractor shall use Primavera Project Management (P6), version 16 or greater.

- b. Schedule submissions will require the Contractor to create an export file of the project schedule. This XER file will then be imported into the Owner's system for review.
- c. Schedule Calculation Settings:
 - 1) Open-ended activities shall be shown as non-critical.
 - 2) The use of Expected Finish Dates is not permitted.
 - 3) The use of the application's auto-leveling feature is not permitted.
 - 4) Retained logic shall be used when scheduling progressed activities.
 - 5) "Start-to-Start" lag shall be calculated from Early Start.
 - 6) Critical activities shall be defined as those activities whose total float is less than or equal to zero (0) Days.
 - 7) Calculate total float as finish float.
 - 8) Relationship Lag shall be calculated based on the Predecessor calendar.
 - 9) All schedule activities shall be considered contiguous.
 - a) Remaining Duration shall be utilized to update schedule progress.
 - 10) Duration Percent Complete shall be utilized.

3. CALENDARS

- a. Contractor's planned work schedule, assigned to all general work activities.
- b. Five-Day Calendar: 5-day calendar that depicts all State of Nevada Legal Holidays as identified in the general conditions, days assigned to all Owner-related activities, such as submittal review & approval, inspection, startup & testing, and training activities.
- c. Seven-Day Calendar: 7-day calendar containing no holidays or "nonwork" days, assigned to activities such as concrete curing time and Contract Milestones.
- d. If Contractor has alternate work schedules these shall also be identified with a separate calendar.
- e. If Contractor submits a written request to perform physical work during a State of Nevada Legal holiday as identified in the general conditions, or a non-work period/day as defined elsewhere in the contract, and the request is approved by Engineer, any resulting cost including inspection costs shall be the sole responsibility of Contractor.
- f. The Engineer may conduct a Preconstruction Scheduling Meeting with Contractor's Project Manager, General Superintendent and Scheduler to take place within 7 calendar days after Award. This meeting is intended to cover schedule requirements including baseline schedule preparation, reporting required, updates, revisions, and schedule delay analysis.

4. Work Breakdown Structure (WBS): A hierarchical arrangement that defines the basic project structure; normally used to identify phase, area of work, location, etc.

- a. The WBS shall be structured in such a way that activities may be sorted into logical work areas and phases, with respect to their associated milestones.
- b. The use of Project Activity Codes can be considered as secondary means for filtering and organizing project data (i.e. trades or responsibilities, bid items, etc.). Project Activity Code descriptions shall incorporate the Project ID. Global Activity Codes shall not be allowed in the submitted schedule.

5. Float: The amount of time between the early finish date and the late finish date of any of the activities in the progress schedule, or the amount of time an activity can be delayed without delaying the project finish date.
 - a. Float within the schedule, and total float within the overall schedule, is not for the exclusive use of either the Owner or the Contractor, but is jointly owned by both parties and is a resource available to be reasonably used by both parties as needed to meet the Contract Times (or Milestones).
 - b. Since float within the schedule is jointly owned, it is acknowledged that Owner caused delays may be offset by Owner caused time savings. In such an event, the Contractor shall not be entitled to receive a time extension until all Owner caused time savings are exceeded and the Contract Times (or Milestones) are also exceeded.
 - c. Use of float suppression techniques such as preferential sequencing or logic, special lead/lag logic restraints, and extended activity durations are prohibited.
6. Durations:
 - a. The duration estimate for each activity shall be in Days and shall represent the single best estimate considering the scope of the Work and Resources planned for the activity.
 - b. Except for certain activities that are not affected by the Contractor's assignment of labor; such as submittal reviews, curing of concrete, delivery of materials, or milestones; activity durations shall not exceed 14 Calendar Days or less than 1 Working Day, unless otherwise accepted by the Engineer.
7. Relationships:
 - a. Each activity shall have at a minimum one "Finish-to-Start" or "Start-to-Start" predecessor and at a minimum one "Finish-to-Start" or "Finish-to-Finish" successor, with the exception of the first and last activities of the project.
 - b. Contradicting relationships shall not be used.
 - c. "Start-to-Start" and "Finish-to-Finish" relationship pairs must not be used if the creation of an activity will perform the same function (e.g. rough-in electrical work). The schedule should affect a realistic plan. If concurrent work is realistic the appropriate ties must exist.
 - d. Proposed "Start-to-Start" and "Finish-to-Finish" relationship pairs must be identified in the narrative with an explanation, and are subject to Owner approval.
 - e. Relationship lags must not be used if the creation of an activity will perform the same function (e.g. concrete cure time). Excessive lag durations are subject to Owner approval.
 - f. Proposed relationship lags must be identified in the narrative with an explanation, and are subject to Owner approval.
8. Submittal, Procurement, and Delivery Activities:
 - a. All submittals shall be included and tracked in the schedule. Distinct activities shall be included in the schedule to identify the submittal, review, procurement, fabrication, and delivery of all submittal items. These submittal activities shall be tied directly to their respective construction activities.

- b. Verify procurement, fabrication, and delivery times with the Manufacturer and/or Supplier and include accurate activity durations in the schedule.
- 9. Testing, Training, & Startup Activities:
 - a. Activities shall be included in the schedule identifying all commissioning, testing, training, & startup items as required by the contract documentation.
 - 1) Activity descriptions shall designate the particular phase of startup.
 - b. Interface activities and any work requiring coordination with the Owner shall also be identified.
- 10. Substantial Completion and Punch List:
 - a. Substantial Completion shall clearly be identified in the Baseline Schedule.
 - b. The Schedule shall also include the 30-calendar day punch list period, which will succeed the Substantial Completed date by now more than 14 calendar days unless approved by the Engineer.
- 11. Miscellaneous:
 - a. No schedule activities shall be allowed after Final Completion.
 - b. All schedule Contract Milestones shall be based on Calendar Days, not Work Days; however, the Contractor shall employ Work Day calendars that reflect the days that the Contractor plans to perform the Work.
 - c. The use of Notebook Topics shall not be considered written notification to the Engineer. Written notification must be provided in accordance with the contract documentation.
 - d. The following constraints shall not be used: “As Late As Possible”, “Mandatory Start”, and “Mandatory Finish”. The use of other types of constraints, including the project “Must Finish By” constraint, is subject to Owner approval. Contractual milestones shall be assigned a “Finish On or Before” constraint unless approved by the Engineer.
 - e. “Resource Dependent” activities shall not be used.
- 12. The Contractor shall participate in a review and evaluation by the Engineer, of the proposed Preliminary Schedule, Baseline Schedule, and Monthly Update Schedule. Any revisions necessary as a result of the review shall be submitted for acceptance to the Engineer within ten (10) calendar days after the review. The accepted Baseline Schedule shall then be used by the Contractor for planning, organizing, executing, and directing the work and for reporting progress of work accomplished. The Contractor shall furnish a copy of the baseline Schedule and monthly updated Schedule electronically to the Engineer for project use.
- 13. Acceptance of the Contractor's Schedules by the Engineer is not to be construed as relieving the Contractor of his obligation to complete the work within the contract time; or granting, rejecting, or in any other way acting on the Contractor's requests for adjustments to the date for completing contract work, or claims for additional compensation. Such requests shall be processed in strict compliance with other relevant provisions of the contract.

108.03.02 PRELIMINARY SCHEDULE REQUIREMENTS

- A. The Contractor shall submit a preliminary schedule to the Engineer within 14 days of Notice of Award. The preliminary schedule requirements shall be as follows.
1. It shall be a schematic (arrow) diagram or precedence diagram, showing the work stages and operations for all activities required by the contract.
 2. The diagram shall be in sufficient detail to allow day-to-day monitoring of the Contractor's operations.
 3. Along with the preliminary Schedule, the Contractor shall include his calendar for the contract period which shall show work days, calendar days and dates. The diagram shall include four to ten milestone events as identified by the Contractor and accepted by the Engineer.

108.03.03 BASELINE SCHEDULE REQUIREMENTS

- A. General Requirements:
1. The Contractor shall submit a baseline schedule, a minimum of 14 days prior to NTP, and a minimum of 7 days prior to the preconstruction conference.
 2. Each baseline schedule submittal shall be labeled as "Preliminary" in the Project ID and description until accepted as the Project Baseline by the Owner.
 3. Once the baseline schedule is acceptable to the Owner, it shall become the Project Baseline Schedule of Record and shall represent the Contractor's original intent and planned sequence of construction shall be identified thus in the Project ID and description. A record copy shall be kept on file throughout the duration of the project.
 4. The Project Baseline is the originally accepted Baseline Schedule until an approved change order adds/deletes days and/or costs to the schedule, or as directed by the Owner, at which time a revised Project Baseline will be used. It shall show the order and interdependence of activities and the sequence of work. The critical activities shall be prominently distinguished on all reports by the use of color or other means acceptable to the Engineer.
 5. It shall include any utility relocation required by project documents and any coordination required with other projects. Further, any Engineer furnished Contractor installed items shall be included.
 6. The construction activities shall be in sufficient detail to list all components of the work and to allow day-to-day monitoring of the Contractor's operations. For example, an activity such as placement of a concrete structure should show the interdependency of all related items, such as submittals (mix designs, rebar certifications, shop drawings, etc.); any required review period; start work; excavation; forming; reinforcing; concrete placement; concrete curing; removal of forms; etc.
 7. The activities shall be coded so as to conform to the contract bid item number in order to demonstrate the schedule contains all contractual work.
 8. Only the NTP, Mandatory Project Milestones, Substantial Completion, & Final Completion Milestones shall have constraints. Further, the use of mandatory constraints is not acceptable. (Reference Section 108.03.F for required Milestones)
 9. No schedule activities shall be allowed after Final Completion

10. The use of Notebook topics or logs shall not be considered written notification to the owner.
11. The diagram shall be accompanied by a Schedule Report of the network with a tabulation of the following data for each activity:
 - a. Activity ID number
 - b. Activity description
 - c. Activity duration
 - d. Start date
 - e. Finish date
 - f. Latest start date
 - g. Latest finish date
 - h. Total float
 - i. Predecessor & Successors
 - j. Responsibility for activity (e.g. Contractor, Subcontractor, Supplier, etc.)
 - k. Bid item for which the activity is a part
 - l. Any activity constraints
 - m. For Projects Over (10) Million Dollars
 - 1) Schedule activities shall be assigned a budgeted cost & resource value.
 - 2) Cost and resource loading shall define Cost, Labor and Equipment (model/size) by Contractor, Subcontractor and Suppliers for all activities in the schedule
 - 3) The sum of all budgeted cost values shall be equal to the Contract Value and the sum of all of the resource values shall equal the total resources included in the Contractors bid estimate.
 - n. Additional schedule formatting & presentation requirements may be requested by Engineer.
12. The Contractor shall not submit a proposed baseline Schedule that indicates an overall forecast substantial completion date earlier than contractually required. If interim completion milestones are included in the contract, their dates must also reflect the dates required by the contract as well. If the Contractor feels they can finish the project earlier than contract dates, they can add a Schedule Contingency activity to capture the float time between last day of work and Contract Completion. This float or contingency allowance belongs to the project, i.e., both the Contractor and Engineer
13. Seasonal weather conditions shall be considered and included in the planning and scheduling of all work influenced by high or low ambient temperatures and/or precipitation to ensure completion of all work within the contract time.
14. Seasonal weather conditions shall be determined by an assessment of average historical climatic conditions based upon the preceding ten (10) year records published for the locality by the National Ocean and Atmospheric Administration (NOAA) and entitled "Local Climatological Data".
15. The following schedule of anticipated adverse weather delays is based on NOAA or similar data for the project location and will constitute the baseline for the total contract time adverse weather delay evaluations. The Contractor's Baseline Project Schedule must assume to anticipate this degree of adverse weather delays in all-weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DAYS

Based on Work Days as Described in Section 108.03.01

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
6	2	2	1	1	0	2	2	1	1	1	3

16. The Contractor is to provide written notification to the Engineer of the occurrence of adverse weather delay days and resultant impact to normally scheduled work, within ten (10) calendar days of each occurrence, when such weather prevents work on critical activities for fifty percent (50%) or more of the Contractor's scheduled workday. A time extension may be granted when the number of actual adverse weather days calculated from the Notice to Proceed date to the date the Contractor asserts the request exceeds the total anticipated adverse weather delays using the above table for the same time period. If the Contractor wishes to assert additional claim(s) for time adjustment at later date(s), each succeeding claim must address the time period from Notice to Proceed date to the date of the request. No compensation will be made for monetary damages due to adverse weather delay(s).
17. Float time belongs to the project and is not for the exclusive use or benefit of either the Owner or the Contractor. Extension of time for performance may be granted to the extent that equitable time adjustment for the activity affected exceeds the total float, or where otherwise justified, and impact on the contract completion can be shown. The Contractor's schedule shall be based on the contract time and shall not be based on an early completion schedule. No additional compensation will be allowed to the Contractor for delays to an early completion schedule.
18. Baseline Schedule Submittal shall include as a minimum the following components;
 - a. Tabular listing of all activities including activity data
 - b. Critical Path Time scaled bar chart
 - c. Predecessor/successor report
 - d. Budgeted cost assigned to each construction activity
 - e. Work Breakdown Structure
 - f. Total Float Report (organized by total float)
 - g. The Baseline Schedule narrative shall at a minimum explain the schedule logic and construction sequencing, identify risk areas, and identify critical path
 - h. Electronic submittal of all of the above diagrams in PDF form and the complete native CPM schedule program file (XER by Primavera P6) for electronic review by Engineer.
19. Acceptance of the Contractor's schedules by the Engineer is not to be construed as relieving the Contractor of his obligation to complete the work within the contract time; or as granting, rejecting or in any other way acting on the Contractor's requests for adjustments to the date for completing contract work, or claims for additional compensation.
20. Furthermore, the accuracy and viability of the submitted schedule is the responsibility of the Contractor. The Engineer does not take responsibility for the Contractor's actions by either accepting or approving the schedule submittal, they merely indicate, whether or not, the schedule submittal complies with the required scheduling specification and standard of care regarding current scheduling practices.

21. Progress payments to the Contractor may be, at the option of the Engineer, withheld until the Baseline Schedule, satisfactory in form and substance to the Engineer, has been received, reviewed, and accepted. Further, Contractor may be subject to receipt of a Stop Work notice and potential default of contract, pursuant to NRS Chapter 338.

108.03.04 MONTHLY SCHEDULE UPDATES

A. General Requirements:

1. The Contractor shall submit a monthly progress schedule with each pay estimate.
2. Up to 10% of Monthly progress payments to the Contractor may be, at the option of the Engineer, withheld until the monthly progress schedule, satisfactory in form and substance to the Engineer, has been received, review and accepted. Further, Contractor may be subject to receipt of a Stop Work notice and potential default of contract, pursuant to NRS Chapter 338.
3. The monthly progress schedule shall conform to all the requirements indicated under Section 108.03.C “Baseline Project Schedule” and shall state the percentage of revenue actually earned as of the report date. The monthly progress schedule shall also be accompanied by a narrative description of job progress, problem areas and current and anticipated delaying factors and their expected effect and any corrective actions proposed or taken. The narrative description shall also clearly identify any departures from earlier Baseline Project Schedules, including but not limited to, changes in logical sequence or logical ties, constraints, changes in activity duration and changes, additions or deletions in event numbers, activity numbers and activity descriptions. The reasons for each departure shall be included in the narrative description.
4. Monthly Schedule Submittal shall include as a minimum the following components;
 - a. Work Completed this Period
 - b. All Activities Progress Schedule
 - c. Critical Path Filter
 - d. Three Week Look Ahead
 - e. Total Float Report (organized by total float)
 - f. Resource Reports (as required)
 - g. The Monthly Project Status Schedule narrative shall at a minimum explain schedule logic changes, added activities, identify risk or delay areas, identify critical path and general progress of work
 - h. Electronic submittal of all of the above diagrams in PDF form and the complete native CPM schedule program file XER (generated by Primavera P6) for electronic review by Engineer.
5. The Contractor shall allow fourteen (14) calendar days for the Engineer’s review and acceptance or rejection of any Monthly Progress Schedules or Project Recovery Schedules. The Contractor shall participate in a review and evaluation of the schedules with the Engineer, as requested. Requested revisions to the schedules shall be provided to the Engineer within seven (7) calendar days.

B. Change Orders:

1. If the Contractor determines that a Proposed Change Order will delay work on the critical path, a Time Impact Analysis shall be performed in accordance with the requirements of the contract and submitted to the Engineer in conjunction with the cost proposal.

2. Approved change orders must be incorporated into the schedule.
 - a. Additional activities shall be added to identify each change order. And, if necessary, additional activities shall be added in sufficient detail to identify any work required by the Change Order.
 - b. In the event that a Change Order includes a time extension, the milestone dates shall be adjusted accordingly.
 3. Construction Change Authorizations must also be incorporated into the schedule.
 - a. Additional activities shall be added to identify each Construction Change Authorizations. And, if necessary, additional detailed activities shall be added to identify any work required by the Authorization.
- C. Recovery Plan and Recovery Schedule:
1. If the project falls two weeks (14 calendar days) behind schedule the Contractor shall, when requested by the Engineer, submit:
 - a. A written statement explaining how the Contractor intends to correct nonperformance and what actions and/or resources shall be used to accelerate the work, ensuring a timely completion.
 - b. An acceptable schedule which shows project completion within the allotted time, based on revisions as described in the Recovery Plan.
 2. Actions by the Contractor to complete work within contract times (or milestones) shall not be justification for adjustment to contract price or contract times.
 3. If the Contractor's schedule fails to identify contractually required sequences, restraints, and milestones, approval by the Engineer shall not imply waiver or waive contract requirements.

108.03.05 LOOK-AHEAD SCHEDULES

A. General Requirements:

1. Concurrent with the weekly progress meetings, the Contractor shall prepare weekly, a Look-Ahead Schedule created from master P6 schedule, divided into twenty-eight (28) calendar days, listing all activities that have been performed in the past week and all activities that are to be performed during the following three weeks.

It shall indicate the status on scheduled activities within the three-week window, including:

 - a. Percent complete
 - b. Actual start/finish dates
 - c. Planned start dates
 - d. Continuation of work
 - e. Start and Finish Variance Columns (Targeted to the previous weeks update)
2. Look-Ahead Schedules shall be submitted to the Engineer through Autodesk Build, in PDF format, twenty-four hours prior to the weekly project meetings. The schedule shall be included in the meeting agenda and, based on the Engineer's review, will be discussed as an agenda item as necessary.

108.03.06 TIME IMPACT ANALYSIS

- A. The following is the Engineer preferred methodology, however alternate industry accepted delay analysis can be used pending the Contractor can demonstrate its validity.
- B. The Contractor shall submit a Project Recovery Schedule, at the discretion of the Engineer, when the most current Progress Schedule Update reflects a calculated schedule status of negative fifteen (15) calendar days (or five percent (5%) of the remaining duration of time to complete the Project, whichever is less) later than currently contractually allowed.
- C. If a delay beyond the Contractor's control is encountered and a time extension is requested, a Time Impact Analysis must be submitted to the Engineer substantiating a delay to the current project completion date. The Time Impact Analysis shall identify the effects of a single delay; multiple delays shall be addressed separately.
- D. The Contractor shall make every effort possible to mitigate the effects of a delay if that mitigation can be done without additional cost to the Engineer or disruption to the project. If mitigation attempts are not made by the Contractor, a statement must be provided explaining why efforts to mitigate the delay are not taken.
- E. General Requirements:
 - 1. The Time Impact Analysis shall be performed immediately following the delay events or when the full extent of the delay can be reasonably forecasted.
 - 2. A Comparison Schedule shall be created which shall incorporate all actual start and finish dates, actual durations of activities, and actual sequences of construction, current as of the time the change or delay is encountered.
 - a. The Comparison Schedule shall be validated by the Owner and all requests for time extension shall be based upon an analysis of this schedule. Deviations from the Baseline Schedule, including any changes made in previously approved monthly updates, shall be subject to Engineer approval.
 - 3. Each Time Impact Analysis shall demonstrate the estimated time impact in days based on the delay events, status of construction at that point in time, and the event time computation of all activities affected by the change or delay.
- F. Time Impact Analysis Procedure:
 - 1. Comparison Schedule – the following steps shall be taken to develop a Comparison Schedule:
 - a. A copy shall be created of the most recently approved, schedule update prior to the start of the delay. The Engineer project number and the TIA number shall be included in the file name.
 - b. The copied schedule shall be updated to the point prior to the start of the delay.
 - c. Any non-contractual constraints shall be removed.
 - d. An Activity Code shall be used to identify all activities impacted by the delay.
 - e. The schedule shall be calculated and a fragnet created of the relevant activities, denoting start dates, finish dates, float, and assigned calendars.

2. Impacted Schedule – the following steps shall be taken to develop an Impacted Schedule:
 - a. A copy of the Comparison Schedule shall be made. The Engineer project number and the TIA number shall be included in the file name.
 - b. The delay activities and appropriate relationships shall be added to the Impacted Schedule. The delay shall be described as simply as possible, with the fewest number of activities and relationships added in order to substantially reflect the impact of the delay to the schedule.
 - c. Existing relationships shall be left intact unless this would negate the actual work restraints on the project. Any deleted or modified relationships shall be subject to Engineer approval.
 - d. If a delay occurs to an in-progress activity, the existing delayed activity shall be broken into two activities, one representing the planned work prior to the delay and the other representing the planned work subsequent to the delay. The combined duration of the split activities shall be equal to the original duration of that activity.
 - e. An Activity Code shall be used to identify each new activity as a delay attributable to the Engineer, the Contractor, or Other/Excusable.
 - f. The schedule shall be calculated and a fragnet created of the relevant activities, denoting start dates, finish dates, float, and assigned calendars.
3. Mitigation Schedule:
 - a. If attempts are made by the Contractor to mitigate the effect of the delay, a Mitigation Schedule shall be created to identify the result of such efforts. Any mitigation attempts must be made without additional cost to the Engineer or disruption to the project, unless otherwise directed by the Engineer.
 - b. A copy of the Impacted Schedule shall be created. The Engineer project number and the Time Impact Analysis number shall be included in the file name.
 - c. The mitigation results shall be incorporated into the schedule by revising the remaining duration status of the relevant activities to the remaining duration status evidenced at the time of the actual end of the delay. Activities performed out-of-sequence will still exist as successors to the impacted activity, but their remaining durations will be reduced to reflect the work performed during the delay period.
 - d. An Activity Code shall be used to identify all activities which benefited from the mitigation efforts.
 - e. The schedule shall be calculated a fragnet created of the relevant activities, denoting start dates, finish dates, float, and assigned calendars.

108.03.07 MEASUREMENT AND PAYMENT

No measurement or direct payment will be made for Contractor's costs relating to preparation and submission of schedules and reports and revisions thereto, the cost being considered as included in the prices paid for contract items.

108.08 DETERMINATION AND EXTENSION OF CONTRACT TIME

The following is added to paragraph B:

4. If the Contractor's schedule, submitted and accepted by the Engineer per subsection 108.03 "Prosecution and Progress" of these specifications, reflects a total completion time less than that allowed by contract under the Instruction to Bidders, "Time: Completion Of Project", then the contract time will be adjusted by a no-cost change order to reflect the Contractor's submitted schedule completion time.
5. If the time needed to procure the fiber optic cable exceeds the total calendar days allowed to complete the project, the Contractor shall complete the project scope, except for the installation of the fiber optic cable, and stop work. Following the delivery of the fiber optic cable, the Contractor shall be given up to 10 non-compensable working days for every mile of fiber optic cable to be installed, to perform the installation, splicing, testing and other work necessary for a complete operation. No compensation will be made for the Stop-Start requirement.

The following is added to this subsection:

If the Contractor is unable to prosecute the portion of the work which is the currently controlling operation or shown as a critical path item on their schedule, an excusable, non-compensable time extension may be awarded if the following conditions are satisfied:

- 1) Weather must actually cause a delay to the completion of the project and the number of anticipated weather days has been exceeded in accordance with section 108.03.03.A and the delay must be beyond the control and without the fault or negligence of the Contractor; or
- 2) The Engineer orders the suspension of the work in the interest of public safety or health or due to specification requirements.

The Contractor is to provide written notification to the Engineer of the occurrence of adverse weather delay days and resultant impact to the currently controlling operation within 10 calendar days of each occurrence, when such weather prevents work on critical activities for 50 percent or more of the Contractor's scheduled work day.

No compensation will be made for re-work, traffic control, delay impact costs, or other monetary damages due to adverse weather delay(s).

Revise Paragraph C as Follows:

- C. Certain critical materials such as steel, copper, aluminum, fiber optic cable, traffic signal components, and bituminous products may be difficult to obtain due to a nationally recognized shortage or defense needs. The Contractor shall make every reasonable effort necessary to order and procure all such critical materials sufficiently in advance so as not to delay the completion of the project. Should a delay occur in obtaining critical materials that were properly ordered by the Contractor, the time for completion of the contract may be extended an amount determined by the Contracting Agency to be equivalent to the delay in project progress due to said delay in obtaining critical materials provided that:

1. The delay in furnishing critical materials was due to defense needs or nationally recognized shortage.
2. The Contractor furnishes evidence to the Engineer's satisfaction that the Contractor had taken adequate steps for a guaranteed delivery date from the Contractor's supplier.
3. The evidence shall contain certification of adequate steps for a guaranteed delivery by not less than 3 suppliers of the material or if 3 suppliers are not available, the Contractor shall so certify and supply certification from such suppliers as there are.
4. That the Contracting Agency does not find a source when notified of the shortage by the Contractor.
5. That the Contractor obtains such material from the first source available after such certification.

No compensation will be made for re-work, traffic control, delay impact costs, or other monetary damages due to critical material delay(s).

108.09 FAILURE TO COMPLETE THE WORK ON TIME

The following is added to this subsection:

At the time of presumptive completion of the work, which shall include, all valve and manhole adjustments, complete signal systems and streetlight assemblies, all permanent signage, striping and other pavement markings, and, excepting minor corrections, punch list items and clean-up, the Contractor will receive a Notice of Substantial Completion from the Engineer. On the date of the Notice of Substantial Completion, the time specified in the contract for completion of the work will terminate. Thereafter, the Contractor shall complete all work on the "punch list" and required clean-up within 30 calendar days or other time as agreed to by the Contractor and the Engineer.

Should the Contractor fail to complete the "punch list" within the above allocated time or within such extra time as allowed by the Engineer, there shall be deducted from any money due the Contractor the sum of **\$2,000.00** per each calendar day exceeding the allotted time. This sum shall be considered and treated not as a penalty, but as damage due the Contracting Agency from the Contractor by reason of added cost of engineering and supervision and other items which have caused an expenditure of funds resulting from the Contractor's failure to complete the work on the "punch list" and required clean-up.

Add the following subsections:

108.14 CONTRACT CLOSE-OUT PROCEDURE

When the Contractor considers that all work under the contract is completed, he shall inform the Engineer in writing and submit the completed Record Drawings to the Engineer.

Upon receipt of notification from the Contractor that all work has been completed, the Engineer shall:

- I. Inspect the work to determine if it is substantially complete, and inform Contractor in writing of this determination.

2. Notify, in writing, all affected utilities and other governmental agencies and request their acceptance, or punch list comments within 14 calendar days of receipt of the request or as an alternate their participation in the project walk-thru.
3. Schedule an inspection with the Contractor's representative and any other affected agency. This inspection shall be for the purpose of developing a "punch list" of items requiring correction, repair, or completion. The punch list shall include comments made by the Engineer on the Record Drawings submitted by the Contractor.
4. Shall compile the "punch list" from the comments provided at the inspection and supply a typewritten copy to the Contractor. Upon distribution of the punch list items to the Contractor, the punch list time allotment shall commence.

Scheduled completion of the punch list shall not exceed thirty (30) calendar days from date of the punch list letter or as otherwise agreed to by the Engineer.

When all punch list items are completed, Contractor shall notify in writing the Owner/Engineer who will verify their completion.

Should the Owner/Engineer be required to perform second inspections, either "punch list" or final, because of failure of work to be complete, Contractor shall compensate the Owner for any costs incurred by the second and any subsequent inspections.

Failure of the Contractor to complete the "punch list" within the stated time shall be cause for assessment of liquidated damages in accordance with Section 108.09 of the Special Provisions.

108.15 WARRANTY INSPECTION

The Contractor shall be responsible for coordinating the schedule of and conducting a warranty inspection with the Owner and its representatives approximately one (1) month prior to the expiration of the warranty period. This shall also include a Pre-Activity meeting for the warranty inspection activity.

All warranty corrections identified during the warranty inspection shall be commenced prior to the Warranty Bond expiration date. The Contractor shall be required to comply with all Federal, State, and local laws, regulations and ordinances regarding safety and environmental issues as it applies to the warranty inspection. The warranty inspection shall include but not be limited to: traffic control plan submission, approval and set-up for the inspection, confined space entry, support staff as needed, providing access to the inspection site, and all equipment, materials and manpower required to conduct the warranty inspection.

The cost of this inspection shall be considered incidental to the bid items in the contract. The Contractor's failure to perform shall not constitute waiver of warranty, and may necessitate the Owner to complete the warranty inspection and corrections, with costs incurred charged to the Contractor or against the Warranty Bond at the option of the Owner.

SECTION 109**MEASUREMENT AND PAYMENT**

The following subsection is added:

109.05 CONSTRUCTION CONFLICTS AND ADDITIONAL WORK

This work shall consist of repairing, rebuilding, relocating, replacing, constructing or reconstructing any surface or sub-surface improvements which cannot be paid by extending bid items and which are not shown on the drawings, or not otherwise covered in these Special Provisions. Such work shall be performed in accordance with the Standard Specifications, Standard Drawings, and these Special Provisions and as directed by the Engineer.

This work shall not be performed until the Contractor is instructed to proceed by the Engineer in writing. The Engineer will keep strict account of all actual costs involved with this item of work. The Contractor will be paid in accordance with subsection 109.03, "Extra and Force Account Work."

109.06 PARTIAL PAYMENT

The following is added to Paragraph A:

The monthly payment date shall be the last calendar day of each month; each pay request shall comprise work performed during that calendar month.

Add the following Paragraph K:

Payment based on the actual cost of "specially made" supplies, materials and equipment on hand under this Section shall be made by the Owner pursuant to NRS 338.515(2) with or without a paid invoice. "Actual cost" of materials shall be the invoice amount, whether paid or not, and shall not include any costs associated with installation, testing, etc. The Contractor shall be entitled to payment of the actual cost of supplies, materials and equipment only if he (1) presents an invoice to the Owner with the progress bill and (2) states in the progress bill that the materials have been delivered and stored in the time and manner specified in the contract between the Contractor and his supplier or subcontractor. If the Contractor fails to comply with those conditions, the Owner may withhold payment in accordance with the provisions of NRS 338.525. The Owner expressly reserves the right to withhold retention until the Contractor presents to the Owner a paid invoice, or some other proof of payment satisfactory to the Owner, for the Owner's use in verifying the accuracy of the actual cost of the supplies, materials or equipment. If the amount paid does not match the actual cost, the Owner shall adjust the amount of retention accordingly. Payment for supplies, materials or equipment on hand does not alter the responsibility of the Contractor for all supplies, materials and equipment until final acceptance of the work.

Materials, supplies and equipment considered "specially made" for this project include:

- 1.
- 2.
- 3.

Preparer's Note: Complete the above listing for your project. Traffic signal poles, mast arms, and controller cabinets, if provided by the Contractor are items that are considered "specially made" for projects. If you have questions concerning what other items are included in this category, contact CCPW Construction Management officials.

The following subsections are added:

109.08 HISTORICAL OWNER CAUSED DELAY ALLOWANCE

The quantity and minimum unit price for this item is based on an estimate of the Contracting Agency's historical experience of owner-caused delays on this type and size of project. The minimum unit price bid plus the additional amount bid by the Contractor per day of delay shall be the full compensation due the Contractor for all delay-related costs, both direct and indirect pursuant to the project, including, but not limited to, home office and field overheads, supervision, opportunity costs, quality control, traffic control, dust control, storm water pollution control, and equipment standby costs. Owner-caused delays shall mean the delays set forth in Subsection 108.08 "Determination and Extension of Contract Time" (Subparagraph B.2) of the standard specifications, exclusive of the provisions of NRS 338.

If the Contractor experiences concurrent delays wherein one or more delay event is compensable under this item and other delay(s) are merely excusable as defined in Subsection 108.08 (Subparagraph B.3), no compensation will be made. If a Contractor experiences concurrent delays wherein one or more delay event is compensable under this item and other delay(s) are neither compensable nor excusable, such concurrent delay will be neither compensable nor excusable. If the Contractor experiences multiple concurrent owner-caused delays with no other delay events in effect, compensation will be limited to one bid price day per calendar day.

Delay cost incurred while performing additional work on a force account basis shall be considered as compensated for within the markups allowed in Subsection 109.03 "EXTRA AND FORCE ACCOUNT WORK"; owner caused delay will not be added to extra work or force account markups.

This is an allowance item that will be paid for the actual quantity used, and is not subject to price re-negotiation based on quantity variance from the bid quantity of days. (i.e., The renegotiation aspects of Section 104.02 of the Standard Specifications do not apply to this item).

109.09 EXTENSION OF QUANTITIES

The extension of quantities for the purpose of paying for unrelated items of work shall not be permitted. Only in kind pay item quantities will be allowed to be extended for additional work, for example, plantmix bituminous surface will only be extended for additional plantmix bituminous surface, or concrete sidewalk will only be extended for additional concrete sidewalk, etc.

109.10 UNSETTLED CLAIMS

If the Contractor and Engineer cannot agree on a negotiated cost for the additional work, the Engineer shall give the Contractor a written notice to proceed with the additional work. The Contractor shall then expeditiously perform the work as required and the additional compensation for such work shall be paid under Subsection 109.03, "Extra and Force Account Work." However, if the Contractor deems that any additional compensation is due him for the additional work, the

Contractor may file a claim in accordance with Subsection 105.17, "Claims for Adjustments and Disputes."

BASIS OF PAYMENT

109.11 PAYMENT

Preparer's Note: Estimate the construction conflict amount as 1% of the construction cost estimate, rounded to the nearest \$10,000 and fill in the conflict amount below. If a different construction conflict amount may be appropriate for your specific project, discuss the reasons with CCPW and obtain approval from the Director before increasing the construction conflict amount. Additionally, the construction conflicts bid item number MUST BE 109.01. (This is because the Pay Estimates used by Construction Management have a spreadsheet set up with macros to track this line item.)

\$ XX,XXX.00 has been entered into the bid schedule under bid item number 109.01, "Construction Conflicts and Additional Work." The bidder shall include this amount in the total base bid base amount.

Preparer's Note: For each individual project, get estimated number of days from CCPW Construction Management Division officials for the Historical Owner Caused Delay Allowance.

Preparer's Note: The minimum unit price to enter for Historical Owner Caused Delay Allowance is \$500/Day. However, the minimum for each project varies, depending on considerations such as the size, duration, complexity, and location of the project. When estimating the minimum amount, consider such items as cost of traffic and dust control, and consult with the CCPW Construction Management Division. Additionally, whatever amount is entered in this location also needs to be entered in the 637.04.01 Measurement section.

The minimum unit price paid for the Historical Owner Caused Delay Allowance item shall be \$ _____ per day. The Contractor shall bid an additional amount to be added to the \$ _____ to determine the actual unit price paid per day of delay.

Payment will be made under:

<u>Bid Item</u>	<u>Pay Item</u>	<u>Pay Unit</u>
109.01	Construction Conflicts and Additional Work	LS
109.02	Historical Owner Caused Delay Allowance	Day
109.03	Additional Amount over \$ _____/Day as determined by Bidder	Day

SECTION 110**WAGES, HOURS AND CONDITIONS OF EMPLOYMENT****110.01 WAGES, HOURS AND EMPLOYMENT PRACTICES**

Paragraph B is changed to read as follows:

The Contractor shall pay for the overtime of agents and employees of Clark County who, as a result of Contractor's operations, are required to perform inspections or testing beyond the normal hours of the established working day, and in accordance with Subsection 105.11. Contractor shall not be required to pay for the overtime of the agents and employees of Clark County for work performed beyond the normal hours of the established working day if such hours are required by the Contract.

Paragraph C is changed to read as follows:

The Contractor will be billed at the base overtime rate, including fringe benefits, equipment costs, and administrative costs. If the invoice is not paid within 30 days, the amount will be deducted from the next pay estimate due.

Add the following to this subsection:

The established working day shall be 7:00 AM to 3:30 PM, Monday through Friday, except legal holidays, as specified in the General Conditions, paragraph 3.4 State of Nevada Legal Holidays.

At the discretion of Clark County, seasonal or other adjustments in the hours of the normal working day may be made.

Preparer's Note: Check hours or lane restrictions given in Clark County Title 30 Development Code, Section 30.32.100 "Time Restrictions on Work in Streets."

Preparer's Note: Be specific with the hours of work for specific streets if the Title 30 hours conflict with the established working day hours listed above (such as night work.) Variances from Title 30 hours will need approval by the Director.

Preparer's Note (if applicable) Night work (specify hours and days) will only be allowed at the following locations on the project:

- _____
- _____
- _____

Add the following Section:

SECTION 111

CONTRACTOR QUALITY CONTROL ADMINISTRATION - GENERAL CONTRACTOR PROGRAM

111.01 GENERAL

The Contractor Quality Control Program includes the following Sections:

- Section 111 Contractor Quality Control Administration –General Contractor Program
- Section 112 Contractor Quality Control Administration
- Section 113 Contractor Quality Control Organization and Qualification of Inspectors, Laboratories and Technicians
- Section 114 Contractor Quality Control Inspection Procedures
- Section 115 Contractor Quality Control Administration and Inspection Forms
- Section 117 Contractor Quality Control Testing

Program Documents: A written program does not have to be submitted if the Contractor performs the administration, testing, and inspection in accordance with this and other referenced sections. The only submittal required for approval for the quality control program itself is the personnel qualifications as listed in Section 113, "Contractor Quality Control Organization and Qualification of Inspectors, Laboratories, and Technicians."

Preparer's Note: The preparer shall contact the Construction Management Division for the type of project. For projects with minimal QC needs, use the following:

On this project, the QCM shall be allowed to provide testing and inspection; however the QCM shall not be involved in managing the project, or performing operations other than managing quality control. The QCM cannot be the superintendent.

This project is a size that does not require a Quality Control Coordinator (QCC) as described in Section 113, "Contractor Quality Control Organization and Qualification of Inspectors, Laboratories and Technicians," organization. However, the QCM shall coordinate the Quality Control functions as outlined in Section 113 for the QCC. The contractor shall submit for approval by the Engineer an organization chart indicating the position numbers and the persons responsible. The QCM must remain on the project full time.

The foreman shall not have quality control responsibilities and shall not be assigned as the Quality Control Inspector (QCI) inspector position.

Preparer's Note: The preparer shall contact the Construction Management Division for the type of project. For projects with significant QC needs, use the following:

On this project, the QCM shall not be allowed to provide testing, inspection, be involved in managing the project, or performing operations other than managing quality control. The QCM cannot be the superintendent.

The project is a size that requires a Quality Control Coordinator (QCC) separate from the QCM. The QCC and QCM shall be located on-site full-time. The descriptions of these positions are in Section 113.02. The contractor shall submit for approval by the Engineer an organization chart indicating the position numbers and the persons responsible.

The Quality Control Inspector (QCI) shall be a different person than the working foreman and shall be qualified in the discipline of construction being inspected. The certified inspector may also perform tests if they are certified with ACI or NAQTC. However, all work shall be continuously inspected. One inspector may be used at several locations if they are within a 5 minute walking distance. This will be identified and approved by the Engineer during the Pre-Activity Meeting for the specific activity.

111.02 SUBCONTRACTOR QUALITY CONTROL PROGRAMS

In the event a Subcontractor has a Quality Control Program, the Subcontractor Quality Control Program shall provide, at a minimum, the requirements set forth in this specification, tailored to the Subcontractor's scope of work. The only point of contact for the Engineer is the Prime Contractor. Therefore, the QCM shall be on-site during any subcontractor work.

111.03 DEFINITIONS GENERAL

The definitions given in this section shall be in conjunction with and/or in addition to the definitions given in the Uniform Standard Specifications. The definitions given herein shall not be construed to modify the definitions given in the *Uniform Standard Specifications* unless specifically stated within this section.

a. Authorized Manufacturer List:

A list generated by the Engineer containing material sources that are "authorized" for production and thereby do not require Plant testing and inspection by the Contractor.

b. Control Measures:

All actions taken to ensure that materials are in compliance with specifications, shall include but not be limited to submittal, testing, inspection, documentation, quantifying for testing and payment, vertical and horizontal control, as-built drawings and material tracking. The Contractor shall perform independent Control Measures from the Engineer's Quality Assurance to ensure that all elements of the project are within specifications.

c. Inspection:

A control measure utilizing visual and manual methods shall be used to determine the quality of workmanship, material, or finished product. Inspections shall determine if all verifiable parts, practices, and products are in compliance with the Contract Documents. All inspections shall be documented, and any deviations from Contract Documents shall be noted therein.

d. IQAC Materials List:

A qualified source list generated by the Interagency Quality Assurance Committee (IQAC) contains materials requiring an abbreviated submittal prior to incorporation into the work. Materials on the IQAC Materials List that are removed by IQAC before or during a project shall not be incorporated into the work. This does not eliminate the testing that is to be performed at the project site or of that for a non-authorized source.

e. Lot:

A Lot shall be one day's production, regardless of quantity produced. One day's production shall be considered as one continuous production run within one working day shift by the Source or Contractor from which the finished product was produced.

Examples of a Lot are as follows:

1. One "heat" or one continuous pouring from a caldron for reinforcing steel.
2. One day's production of a particular mix design of Asphalt Concrete regardless of tonnage quantity.
3. One "batch" of Portland Cement or Asphalt Cement (binder).
4. One day's production of a particular mix design of Portland Cement Concrete.

Lots may be composed of several sub-lots as provided by specification.

f. Qualified Source:

A Qualified Source is a source that has not been authorized and one that requires Plant testing and inspection.

g. Oversight:

The Contractor's supervisory personnel shall perform all daily inspection, supervisory oversight, and normal worker performance verification checks during production of the work. Oversight shall be documented.

h. Pre-Activity Meeting:

A meeting to coordinate the quality control, quality assurance, and work planning for a specific activity prior to its start. This formal meeting shall resolve all outstanding issues regarding submittals, inspection, testing requirements, elevation controls, safety, and work plan.

i. Quality Assurance (QA):

Quality Assurance shall be all Control measures taken by the Engineer to verify that the Contractor Quality Control measures, materials, and workmanship comply with Contract Documents.

j. Independent Assurance (IA):

Independent Assurance validates that Engineer's Quality Assurance and Contractor's Quality Control measures comply with the Clark County Public Works procedures and Contract Documents.

k. Quality Control (QC):

Quality Control shall be all measures taken by the Contractor to ensure that materials and workmanship are in compliance with the specification.

l. Testable Quantity:

The amount of work, material, or construction shall be quantified by the units used for the determination of testing frequency. Testing units and payment units may be different. For the purposes of this document all quantities shall be testable quantities.

m. Source:

Material manufacturing located outside of or on the project limits. Locations outside of the limits are named "Off-Site Sources," while on the project are named "On-Site Sources."

n. Submittal:

A submittal is a document that is transmitted to the Engineer in order to seek approval of a material or procedure, or as indicated in the Contract Documents.

111.04 SCOPE

These specifications listed in Subsection 111.01 are the specifications and references detailing the Quality Control Program and defining policies, elements, activities, and guidelines to ensure that the materials and workmanship in all construction projects conform reliably to the requirements for the approved plans and specifications. It has been developed in conformance with the criteria contained in Federal Regulation 23 CFR 637B, *Quality Assurance Procedures for Construction*.

CCPW's Quality Program represents the Department's recognition of its responsibility and commitment to ensure a high level of confidence in the materials, material sources, field and laboratory test results reported by Quality Control laboratories, and field testing personnel performing testing activities on CCPW projects. The Contractor is expected to be familiar with all aspects of inspection, testing, technician training and laboratory qualification program relating to their duties.

111.05 OVERVIEW

Federal Regulation 23 CFR 637B allows the traditional approach of CCPW performed Quality Assurance sampling and testing for acceptance and the option of using material source or Contractor Quality Control sampling and testing results for acceptance, provided adequate verification is in place. In conformance with these regulations the CCPW Quality Control Program was created implementing a schedule of activities to cover construction installation, laboratory operations, testing personnel competency, source production inspection, and material source authorization program with the goal of using the Contractor data for verified acceptance. The Quality Assurance program provides for four areas of assurance:

Area 1: Qualifying Laboratories and Testing Personnel.

This ensures that technical personnel are capable of performing the tests properly and that the applicable testing qualifications have been met. This level also ensures that testing laboratories are properly accredited.

Area 2: Independent Assurance Program (IA).

This level ensures that the QA and QC functions of the program conform to their respective Quality Special Provision sections and 23 CFR 637B. Additionally, the IA is responsible for the validation of the qualification/certification of inspection and testing personnel along with accreditation of laboratories used in the Quality Control/Quality Assurance Programs.

Area 3: Material Source Quality Program.

Option 1: Qualified Source - This level ensures the quality of the material through acceptance sampling, testing, and inspection performed by the Contractor.

Option 2: Authorized Source - This level ensures the quality of the material through inspection and verification of the material source QC Plan and its application and/or inspection of the source facility itself by the Engineer. The Contractor performs Quality Control inspection and testing of materials placed from the Authorized Source at the project location. For **federally funded** projects, there are no Authorized Material Sources. The Contractor is required to test and inspect the material source as per Table 1 on the Website link at https://www.clarkcountynv.gov/government/departments/public_works_department/professional_services/materials_gaqc.php and/or according to other requirements in the contract documents.

Area 4: Construction Inspection and Testing Program.

This program ensures the workmanship of materials incorporated into the CCPW project contract through inspection and testing by Contractor QC with Quality Assurance by the Engineer.

The CCPW Quality Program requires QA verified QC test results as part of the acceptance decision. The program also allows for the use of test results obtained by

non-CCPW agencies and laboratories in the acceptance decision provided they meet the following:

- (a) Qualified personnel through qualified laboratories have performed the sampling and testing.
- (b) The quality of the material has been validated by verification sampling and testing.
- (c) The appropriate Quality Assurance Auditing activities have been conducted in a satisfactory manner.

111.06 QC RESPONSIBILITY

The Contractor is responsible for the quality of all material properties and workmanship. This specification is intended to quantify the minimum requirements for acceptance of materials and establish a minimum standard for the control of quality within a project. The Contractor shall use this specification, as a minimum, for the basis of their Quality Control.

The Contractor's Quality Control shall provide evidence that all items have been submitted, tested, inspected, and accepted. Further, the Contractor shall track the usage of all materials on the project. The Contractor shall document each of these aspects independently as required herein, regardless of testing, inspection, Quality Control measures and/or Quality Assurance measures historically performed by any agency. Any testing, inspection, Quality Control measures, or Quality Assurance measures that are performed by an agency, will not be considered as part of the Organization's Quality Control. Compliance with the frequency of testing, inspection, and Quality Control measures required in this specification shall be independent of any compliance measures taken by any agency.

The Contractor is required to measure and reach agreement on "testable quantities" with the Engineer daily. "Partial" quantities and "completed" quantities for payment purposes only, shall be agreed upon by both parties, and shall not include in-part or in-whole any materials which will require subsequent testing prior to acceptance.

111.07 ACCEPTANCE

The Engineer will provide Quality Assurance for the verification of the Contractor Quality Control for the acceptance of the construction materials and installation.

The acceptance is also based upon the program compliance and is subject to the reductions listed in Section 105 Quality Control Administrative Incentive.

111.08 CONTRACTOR CONTRACT ADMINISTRATION - GENERAL

The Contractor may have internal administration of the Contract that is not contained in this section. This section only specifies those Contract Document processes that are submitted to the Engineer for Quality Control Purposes.

111.09 ORGANIZATION - GENERAL

The minimum organization staffing and qualifications are described in Section 113, "Contractor Quality Control Organization and Qualification of Inspectors, Laboratories and Technicians. The contractor shall submit for approval by the Engineer an organization chart indicating the position numbers and the persons responsible.

SECTION 112**CONTRACTOR QUALITY CONTROL ADMINISTRATION****112.01 GENERAL**

The administration of the Contractor Quality Control Program (QC) shall comply with the minimum requirements as established in this section. This section includes descriptions of all the control measures that are applicable to the QC documentation process. A written program does not have to be submitted if the Contractor performs the administration in accordance with this and other referenced sections. The only submittal required is the personnel qualifications as listed in Section 113 “Contractor Quality Control Organization and Qualification of Inspectors, Laboratories, and Technicians”. All documents that are required through the course of the work shall be submitted to the Engineer.

112.02 ADMINISTRATIVE OUTLINE

- .112.03 Organizational Processes
- .112.04 Documentation Process – General
- .112.05 File Maintenance
- .112.06 Project Filing System
- .112.07 Submittal Tracking
- .112.08 Deficiency Tracking and Resolution
- .112.09 Conflict Resolution Process
- .112.10 Certification and Material Delivery and Tracking Procedure
- .112.11 Activity Cards and Control Measures
- .112.12 Tracking Responsibility
- .112.13 Field Testing
- .112.14 Daily Reporting
- .112.15 Monthly Reporting
- .112.16 Final Reporting
- .112.17 QC Auditing Procedures
- .112.18 Sample Retention

112.03 ORGANIZATIONAL PROCESSES

The Contractor shall follow the organizational chart as indicated in Section 113 “Contractor Quality Control Organization and Qualification of Inspectors, Laboratories, and Technicians.” The descriptions of the positions are generalizations of requirements. Additional requirements for a given individual may be further defined in other Special Provisions to the Contract.

112.04 DOCUMENTATION PROCESS - GENERAL

The Contractor is responsible for the execution and maintenance of the project file system, which shall be maintained in Autodesk Build or approved equal.

The Contractor has the responsibility for documenting the QC process. All documentation and records generated at the field level or laboratory shall be uploaded per the turn-around times listed in Table 2. The QCM shall review the documents for Contract compliance and notify the Engineer of any deficiencies within 24 hours of uploading the following:

1. Records generated by the Contractor laboratory or an outside laboratory.
2. Records generated by the Contractor Site Inspector.
3. Records generated by Material Sources.

112.05 FILE MAINTENANCE

The maintenance of the documentation shall comply with the following:

1. Be legible, identifiable, and retrievable.
2. Retain handwritten original documents until transmitted to the Engineer at substantial completion.

112.06 PROJECT FILING SYSTEM

The QCM or designee shall identify, with approval of the Engineer, the central location for filing and storage of all project documentation that is not contained in Autodesk Build (or approved equal). Storage shall be throughout the duration of the project.

The project file system shall include the following:

1. Hotmix Placement Log.
2. Concrete Placement Log.
3. Contractor Internal Audits.

112.07 SUBMITTAL TRACKING

Submittal tracking shall be performed by the QCM. Submittals that are specification substitutions shall be so identified with written justification by the Project Manager.

Submittal Process

1. The QCM shall take the following steps:
 - a. Generate and attach a Submittal Cover Sheet.
 - b. Upload the submittal.
2. The Project Manager shall review and approve the QC Submittal content and verify against specifications.
3. The Project Manager shall release the submittal to the Engineer.

Reviewing Returned Submittals

1. The QCM shall determine the status of the submittal and take appropriate action.
 - a. “No Exceptions Taken”
 - 1) Forward copies to appropriate vendors, subcontractors or suppliers.
 - b. “With Corrections Noted”
 - 1) Verify that the corrections are clear.
 - 2) Forward copies to appropriate vendors, subcontractors or suppliers.
 - c. “Amend and Resubmit”
 - 1) Notify the Project Manager who will obtain or create a revised submittal.
 - 2) The re-submittals shall use the same initial log ID number. The Revision number shall progress sequentially for each additional “Resubmit.”
 - d. “Rejected”
 - 1) Notify the Project Manager who will obtain or create a new submittal.
 - 2) These submittals shall be given a new log ID number and treated as a new submittal.

112.08 DEFICIENCY TRACKING AND RESOLUTION

This subsection shall define the procedures required to accurately identify, track, and resolve project deficiencies.

1. Deficient Work (Deficiency)

Deficient work is defined as work that is not in accordance with Contract Documents as identified by QC personnel.

2. Non-Conforming Work (Non-Compliance)

Non-compliant work is defined as work that is not in accordance with Contract Documents as identified by QA personnel.

3. Informational Tests

In order to control failing QC inspections and/or testing, the Contractor may perform "informational testing."

The informational testing that is performed shall be in addition to the minimum testing required by the Contract Documents. Passing informational test(s) which represent the work being performed may be submitted as part of the minimum testing required by the Contract Documents and approved QC Program, only if the Engineer was given proper advance notification of the testing. Informational testing is not required to be submitted to the Engineer as part of the QC documentation but shall be made available for review at the Engineer's request.

4. Tracking Responsibility

The QCM shall review all Activity Cards daily for New and Resolved Deficiencies.

- a. When New Deficiencies are found that were resolved on the same day, do not log them on the Deficiency Log. (No further action shall be required for these items.)
- b. When New Deficiencies are found that are not Resolved on the same day, log them on the Deficiency Log including the following information:
 - 1) Sequential Deficiency Log ID Number
 - 2) Reference QC Activity Card Number
 - 3) Date of Deficiency
 - 4) Material ID Number
 - 5) Written description of the deficiency

The QCM or designee is responsible for transferring deficiencies from the log to the applicable activity cards.

The QCM is responsible for deficiency resolution documentation. Following the resolution, the corrective action and resolution shall be documented on the deficiency log and the deficiency noted as corrected.

5. Deficiency Reporting

The QCM shall review the Deficiency Tracking Log for outstanding Deficiencies and report them at the Weekly Progress Meeting.

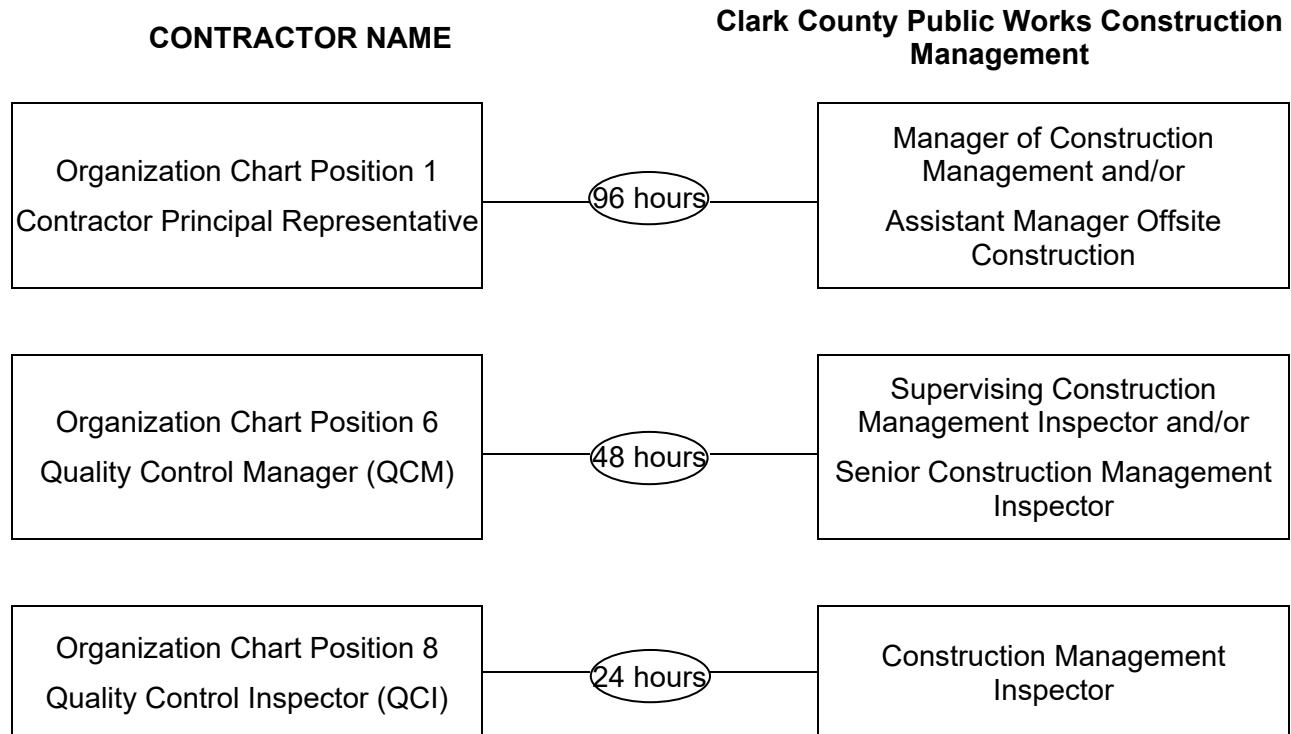
6. Deficiency Resolution

The Engineer will review resolutions initiated by the Contractor and where engineering properties or design are involved, the Contractor shall have the resolution reviewed by a Nevada Professional Engineer at the Contractor's expense.

Resolutions may only be approved by the Engineer. The Engineer has the right to not approve the resolution.

112.09 CONFLICT RESOLUTION PROCESS

Conflict resolution shall be accomplished collaboratively in that there shall be levels of authority, time frames of resolution, and a correspondence between the Contractor and QA employees as outlined in the chart below. Every effort shall be made to resolve conflicts at the lowest possible level. The example chart depicts the resolution process for "deficient and non-compliant work."



The above chart is used as a process to follow whenever there is disagreement between Contractor Quality Control and Engineer Quality Assurance inspection and/or test results. Only the top tier has the authority to accept the resolution of deficient or non-compliant work. The bottom and middle tiers show the time allowed to escalate any conflict or disagreement regarding the resolution of deficient or non-compliant work.

Third party inspections and/or testing may be proposed under the following conditions:

1. The third party shall be a separate independent laboratory, meeting the minimum qualifications set forth for laboratories on the project and not performing any additional work for the Engineer, Contractor, Subcontractors, and/or Suppliers on or for the project.
2. The third party shall be agreed to by both the Contractor and the Engineer.
3. Costs for the third party testing shall be as follows:
 - a. Initial inspection or test for the disputed work in question shall be included as part of Contract Documents, paid for by the Contractor.
 - b. If the third party's inspection and/or test results reflect Engineer results, Contractor shall pay for any additional inspection(s) or testing performed by the third party after the initial inspection or test.
 - c. If the third party's inspection and/or test results reflect the Contractor results, the Engineer shall pay for any additional inspection(s) or testing performed by the third party after the initial inspection or test.

112.10 CERTIFICATION AND MATERIAL DELIVERY AND TRACKING PROCEDURE

Logs shall be established for the purpose of tracking materials that are delivered to or generated from the project. The logs shall be maintained by the QCM within Autodesk Build (or approved equal) and updated daily. The accompanying certifications shall be uploaded and numbered relative to the log.

The QCM shall be responsible for generating and completing delivery-tracking documentation.

The documentation of the lot, or other identifiable information, relative to the item and the date of installation documented by the QCM shall serve as evidence of the location of the delivered material upon incorporation into the project. For non-authorized sources, the tests per lot shall be attached to the certificate.

The QCM shall:

1. Complete the Materials Delivery documentation.
2. Track materials until incorporation into the work.
3. Ensure that all materials are noted on the Materials Tracking Log.
4. Resolve certification problems.

When a certification is not presented with the delivery, the QCM shall obtain the document prior to material installation.

The individual material tracking logs shall be completed and uploaded daily in Autodesk Build (or approved equal). Copies of these tracking logs are available at the link shown below:

http://www.clarkcountynv.gov/Depts/public_works/construction_mgmt/Pages/Materials.aspx

The sample log ID number shall be the Contract project sequential number, not an independent numbering system supplied by the laboratory. A separate column may be added for a cross-reference if a laboratory number is needed.

112.11 ACTIVITY CARDS AND CONTROL MEASURES

The QCM shall ensure that the Advance Notification and Activity Cards are in conformance with the procedures in Section 114, "Quality Control Inspection Procedures," and shall establish the guidelines and processes utilized with respect to Advance Notification and QC Activity Cards. The QCM is responsible for verifying that all documentation on the QC Activity and Advance Notification Cards is in compliance with this program before being presented to the QA Representatives for "sign-off" and closeout of the activity.

The activity cards shall only be signed by the QCI and Quality Assurance Inspector (QAI) who was directly responsible for observing the activity.

112.12 TRACKING RESPONSIBILITY

The QCM shall be responsible for logging and tracking deficiencies on the QC Activity Card. Constant comparison against the deficiency log shall ensure no deficiency is left unresolved.

The QCM shall document deficiencies that are new or have been cleared for each item relative to each activity. Every effort shall be made to resolve deficiencies as soon as possible but no later than 10 days after occurrence. If deficiencies are resolved over 10 days after occurrence they are subject to a deduction per the Quality Control Administrative Incentive in Section 105. No work shall proceed that will negatively affect the resolution.

Section 2 of the QC Activity Card is used for documenting existing deficiencies associated with the activity listed in Section 1 of the QC Activity Card. If no deficiencies exist or occur for the activity, the QCM shall check-off and initial this section. If deficiencies do exist, the lower area of this section shall be completed. Each material number shall be verified against outstanding deficiencies.

112.13 FIELD TESTING

The QCM utilizing the QC testing frequencies as indicated in Table I located on the Webpage at http://www.clarkcountynv.gov/Depts/public_works/construction_mgmt/Pages/Materials.aspx shall verify the test methods, frequency of the tests, and the planned number of tests to be taken for each material used in the respective activity as designated by the author of the Activity Card.

The tests are subject to a testing turn-around time as designated in Table 2 on the Webpage at http://www.clarkcountynv.gov/Depts/public_works/construction_mgmt/Pages/Materials.aspx.

Check the box on the table for which tests are performed either in-house or contracted. This form is to be submitted at the beginning of the project. When the test result is submitted after the durations shown in Table 2, a deduction per test method will be made to the contract per the Quality Control Administrative Incentive in Section 105.

The QC Inspector, in the appropriate space provided on the QC Activity Card, shall document the actual number of tests taken on each material. The activity card must indicate the quantity and frequency of the tests.

The quantity of material to be tested is the numerical amount of material actually available or “ready” for testing shown in units defined in Table 1 relative to the frequency of the material and based on the stationing information documented on the card.

The QCM shall verify all necessary calculations to ensure the number of tests performed meet the required number. All minimum test numbers calculated shall be rounded up.

In the event that multiple lifts of material are represented or given that the testable quantity shown on the QC Activity Card is not readily identifiable with documented stations and dimensions, appropriate documentation and/or calculations shall be provided on the QC Activity Card to facilitate easy verification of the testable quantity. This process allows the technician to show documentation for the entire amount of material represented without documenting repetitive entries.

The QC Activity Cards and testable quantities shall not be used for compilation of the monthly pay estimate or for bid item payment tracking.

The test numbering shall be sequential for the entire project. If a test number is missing, it needs to be accounted for by the QCM.

The testing for each day must be verified by Quality Assurance testing. Both data sets, including failing tests that have not been re-tested, will be statistically verified by QA.

If the data cannot be verified, the conflict resolution procedure must be implemented as outlined above which may include retesting.

112.14 DAILY REPORTING

The QC Activity cards with the inspection forms and daily reports attached plus any field tests shall be used to satisfy the requirements of this subsection. The QC Activity card, completed and signed off, shall serve as the daily summary of activities on the project for the relative item(s). This shall include the transfer of any deficiency items to the tracking log.

112.15 MONTHLY REPORTING

The QCM shall be responsible for uploading the monthly report by the 15th of each month to Autodesk Build (or approved equal).

The monthly summary submitted by the QCM shall include the following:

1. A cover letter prepared by the QCM verifying that the summary has been reviewed. The letter shall note new deficiencies, cleared deficiencies and deficiencies that require action.
2. A cover letter for each laboratory stamped by the Nevada P.E. in responsible charge certifying that all field laboratory testing was performed correctly, and that the corresponding data is accurate as required by NAC 625.612. This certification shall be attached to the monthly submittal. Additional P.E. stamped letters shall accompany the monthly summary to indicate a P.E. level review and acceptance of the information provided by each laboratory.
3. Field Test Result Summary which shall indicate all field test procedures and results performed during the reporting period. Items and tests shall be summarized by type.
4. Field Density Test Result Summary indicating all pertinent information generated during all field density testing,
5. Laboratory Test Result Summary indicating all laboratory test procedures and results performed during the reporting period. Items and tests shall be summarized by type.
6. Laboratory Concrete Break Result Summary facilitating brief analysis of critical concrete strength data. Items shall be summarized by cylinder set numbers.
7. Laboratory Aggregate and Soils Result Summary indicating all gradation test procedures performed during the reporting period.
8. Deficiency log.
9. Testable Quantity Summary that shall indicate total month and to-date counts of tests performed relative to the testable quantities and to-date testable quantities.

10. The most current AASHTO Re:source (formerly AMRL) or CMEC accreditation status for the laboratories referenced in the report from the AASHTO Re:source (formerly AMRL) or CMEC website. <http://www.aashtoresource.org/> or <http://www.cmec.org/>.
11. A list of the certified technicians and inspectors that were working at the referenced laboratories or in the field for the project during that reporting period.

112.16 FINAL REPORTING

A final summary report shall be generated in accordance with Subsection 112.15 “Monthly Reporting” and shall not be submitted until such time as all deficiencies have been resolved and a close-out audit has been performed.

112.17 QC AUDITING PROCEDURES

The QCM is responsible for performing internal audits. Results shall be submitted to the Engineer on a monthly basis.

Specific items or topics of the program that will be evaluated include:

1. Advance Notification Cards Logs - 24-hour notice being given;
2. Pre-Activity Meetings Logs;
3. Activity Cards Logs - accurate, correct, and complete on a daily basis;
4. Materials Tracking Log;
5. Sampling and Testing completed with tracking information and results;
6. As-built drawings being updated monthly;
7. QC documentation and overall program is being implemented effectively;
8. Documentation for resolution of Deficiencies/Non-Conformances Logs correct and complete.

Items that are found to require corrective measures shall be noted in the remarks section of the audit form. The QCM shall ensure corrective measures are taken and comply with the program. A follow-up audit limited to items that need correcting shall occur within one week.

112.18 SAMPLE RETENTION

All samples are to be retained until the project is complete. The sample size shall be such that the required testing could be performed. A sample shall also be submitted to the QA Section laboratory. The Contractor QCM shall be responsible for ensuring the sample is of the appropriate size and that it is stored properly at a location approved by the Engineer.

The materials to be retained are:

1. Asphalt cement, two quarts.
2. Materials with failing results.
3. Materials in dispute.

The following Section is added:

SECTION 113

CONTRACTOR QUALITY CONTROL ORGANIZATION AND QUALIFICATION OF INSPECTORS, LABORATORIES AND TECHNICIANS

113.01 GENERAL

This section describes the minimum Contractor Quality Control Organization indicating chain of command and position descriptions. Depending on the size of the project, all of the positions may not be required. The contractor must submit the QC Organization to the Engineer for approval prior to the beginning of the work.

The Qualifications, Scope of Work and Responsibilities, Communication, and Reporting for each position are related to the execution of the Project Quality Control Program only. Other roles, responsibilities, and reporting requirements may be required by the Engineer in the Contract specification; however, this Program does not address those roles or responsibilities, nor is it intended to diminish their intent.

113.02 ORGANIZATION

The minimum chain of command positions are titled as follows:

- Position 1 - Contractor Principal Representative
- Position 2 - Project Manager
- Position 3 - Superintendent
- Position 4 - Trades Foreman
- Position 5 - Quality Control Professional Engineer (PE)
- Position 6 - Quality Control Manager (QCM)
- Position 7 - Quality Control Coordinator (QCC), if required in Section 111
- Position 8 - Quality Control Inspector (QCI)
- Position 9 - Quality Control Field Testing Technician (QCFT)
- Position 10 - Quality Control Laboratory Testing Technician (QCLT)
- Position 11 - Worksite Traffic Supervisor (WTS)

Qualifications and experience requirements are provided for each QC position. The minimum experience requirements for selected positions are described in the following paragraphs.

The Contractor shall complete the organizational/communication chart (Chart 1) naming each individual assigned to each position. The same individual may not be named for multiple positions except that Positions 5 and 6 may be the same individual and Positions 8, 9 and 10 may be the same individual.

Position 1: The Contractor Principal Representative shall be a “qualified employee” as defined by the Nevada State Contractor’s Board.

Position 2: The Project Manager is in overall charge of the planning and execution of the project and may provide direction to the Superintendent(s).

Position 3: The Superintendent is as defined in Section 101.

Position 4: The Trades Foreman is in charge of a crew and/or a specific area of work.

Position 5: The QC Professional Engineer who is in responsible charge of the testing and/or inspection shall be a Nevada State licensed Civil Professional Engineer, with a minimum of five (5) years of experience in construction materials and inspection. All shall have the ability to speak and read English and read and understand construction Drawings and Specifications.

Position 6: The Quality Control Manager (QCM) shall be a quality control project manager having a minimum of five (5) years of experience in managing the type of construction implemented on the Contract. The QCM shall be a quality control person and not be a member of the Contractor construction production or related administration staff. All QC personnel shall report to the QCM. The QCM shall report to the QC Professional Engineer who is in responsible charge. The production staff shall have no influence or direction over QC positions. All QC personnel shall have the ability to speak and read English and read and understand construction Drawings and Specifications. The QCM shall have stop work authority.

Position 7: The Quality Control Coordinator (QCC), if required per Section 111, is a quality control administrator who ensures that the documents are coordinated in all levels of the project with either a minimum of two (2) years of experience in this type of work or with evidence in the resume showing the ability to coordinate documents. The QCC is not an alternate QCM and shall not act on behalf of the QCM in any capacity. The QCC shall have the ability to speak and read English and read and understand construction Drawings and Specifications.

Position 8: The Quality Control Inspectors (QCI) shall be certified and have a minimum of three (3) years of experience in the inspection of the particular type of construction work they are performing. The certification shall be from a nationally recognized association or when approved by the engineer, an interview by the Clark County Public Works construction division. The inspectors shall have the ability to speak and read English and read and understand construction Drawings and Specifications.

Position 9: The Quality Control Field Testing Technicians (QCFT) perform quality control field testing, as per Table 1. The QCFT provides reports to the PE, QCM and/or QCI.

Position 10: The Quality Control Laboratory Testing Technicians (QCLT) perform quality control laboratory testing, as per Table 1. The QCLT provides reports to the PE.

Position 11: The Worksite Traffic Supervisor (WTS) is responsible for initiating, installing, tearing down and maintaining all temporary traffic control devices. They are responsible for complying with the County's Lane Closure Notification System (LCNS). The WTS must have at least three years' experience in temporary traffic control within Clark County, including but not limited to direct placement of temporary traffic control devices, field inspections and maintenance of traffic control devices, supervision of traffic control crews and designing temporary work zone traffic control setups. They must be certified as Traffic Control Supervisor thru ATSSA, LiUNA or an approved recognized program.

Worksite Traffic Supervisors (or designees) and other personnel responsible for the planning and implementation of lane closures must obtain training and certification for the County's Lane Closure Notification System (LCNS) available at the following URL addresses:

Live Link = <https://info.one.network/live-link-resources>

Traffic Management = <https://info.one.network/us-tm-training>

They are required to notify County after they have passed the training so they can finalize their accounts with the LCNS.

The Contractor quality control material sampling and testing shall be performed by a Nevada Alliance for Quality Transportation Construction (NAQTC) or Western Alliance for Quality Transportation Construction (WAQTC) certified technician. Concrete sampling and testing shall be performed by an American Concrete Institute (ACI) certified technician.

Resumes of all QCM, QCC, PE, inspection, and material testing personnel shall be submitted to the Engineer. The Contractor shall verify that qualifications of each employee match those required by the position that individual will hold and will be valid for the duration of the project. If the personnel are required to be recertified during the Contract duration, the Contractor shall indicate those personnel and the process for ensuring that the recertification is accomplished.

If during the progression of the contract the personnel are not performing their contract duties, they shall be removed from the project.

All QC personnel shall have demonstrated competence in their respective work area.

When multiple QC Inspectors are used, the individuals allowed to inspect a specific item within the work will be identified and be present during the Pre-Activity Meeting.

The acceptance of the work is by the Engineer using the Engineer's inspection and the QC information provided by the contractor.

113.03 LABORATORIES

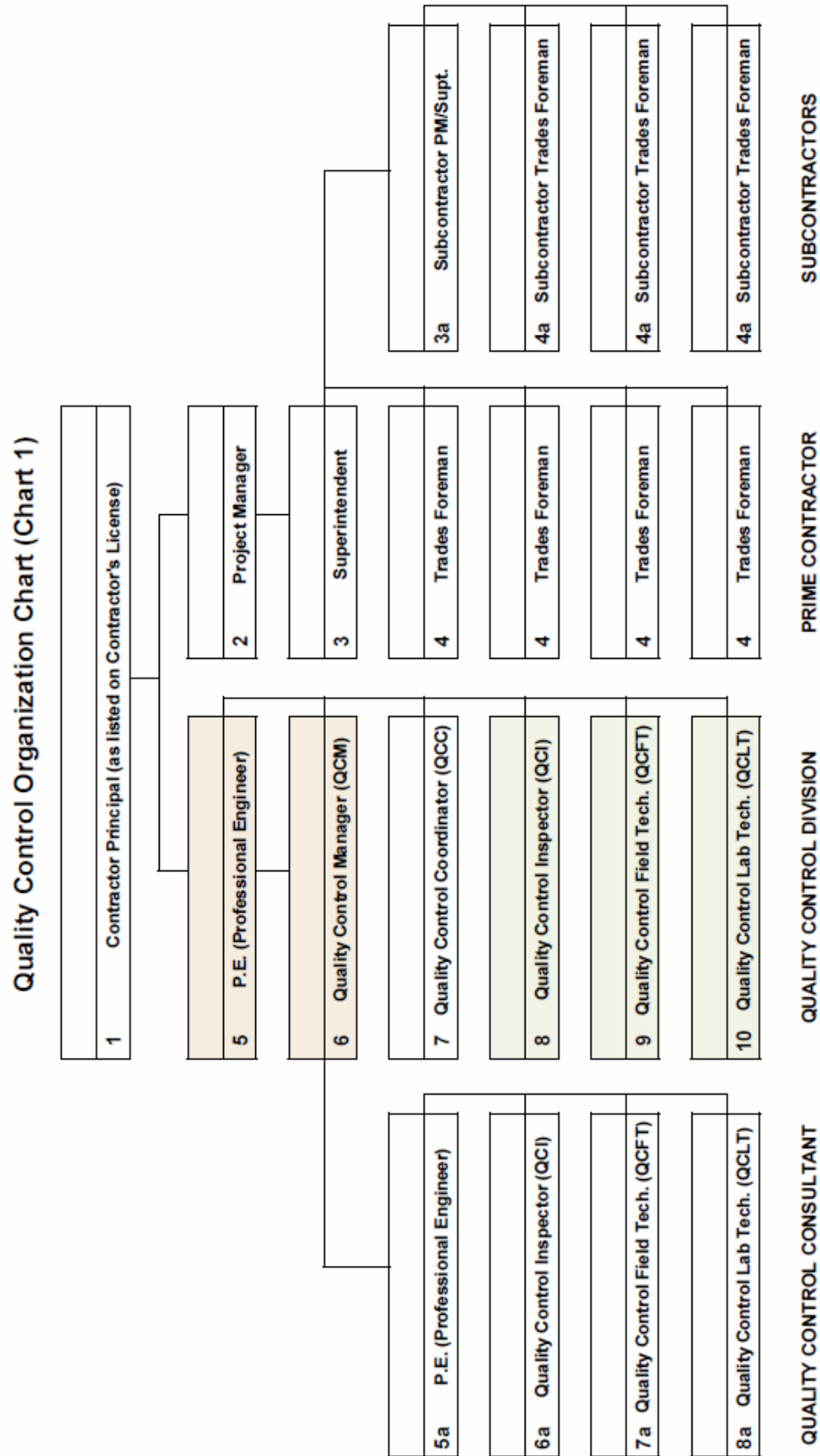
All laboratories including both the field and lab, whether primary or subcontracted, shall be AASHTO R18 accredited. Additionally laboratories shall hold certification for ASTM D 3666 (Asphalt Concrete and Aggregates), D 3740, C1077 or any other certification as required by the contract. Accreditation shall be through AASHTO Resource (formerly AMRL) or CMEC.

For laboratories with multiple facilities, the Contractor shall identify the location of the lab providing the service. This information is project specific for the actual work that will be performed.

Separate laboratories may be used in conjunction with the Primary QC Laboratory. Prior to their use, the Contractor shall provide a submittal for each QC Laboratory. The approved submittal will then be added to the QC program as an amendment.

With the exception of "chemical testing" (i.e. binder, cement), QC Laboratory reviewing personnel are required to be Professional Engineers (P.E.s) registered in the State of Nevada and in

responsible charge of the work, regardless of whether the QC Laboratory utilized is primary or secondary.



The following Section is added:

SECTION 114

CONTRACTOR QUALITY CONTROL INSPECTION PROCEDURES

114.01 GENERAL

The Inspector shall be qualified as required in Section 113, "Contractor Quality Control Organization and Qualification of Inspectors, Laboratories and Technicians," or as stated in other Contract Documents.

These inspections and tests include, but are not limited to, qualification tests, factory fabrication and verification tests, material and pre-operational checks/tests, site construction, installation, and testing.

Inspection, process oversight, and testing of items under construction shall be performed for work activities as required in the Contract Documents and at the frequency referenced in the specifications.

A combination of inspection, testing and process oversight shall be performed in a systematic manner to ensure the specific requirements for control of the process and quality of the item are being achieved throughout the duration of the process.

Inspection, oversight, and test results shall be documented in accordance with the Quality Control (QC) Program requirements in Section 111 "Contractor Quality Control Administration – General Contractor Program". Inspection results shall be evaluated and the acceptance determined by the Engineer.

Modifications, repairs or replacement of items subsequent to final inspection shall be re-inspected and/or retested to verify acceptance.

114.02 SECTION 114 OUTLINE

The following are described in this section:

114.03 Organization

114.04 Inspection Process

- 114.04.01 Pre-Activity Meetings
- 114.04.02 Advance Notification Cards
- 114.04.03 Quality Control Activity Card Process
- 114.04.04 Sampling and Testing
- 114.04.05 Inspection(s) and Testing
- 114.04.06 Hold Point Processes
- 114.04.07 Material Inspection
- 114.04.08 Elevation References

114.05 Field Problem Identification and Reporting Process

114.06 Deficiency Tracking Responsibility

114.07 Blank

114.08 Contractor's Daily Report

114.03 ORGANIZATION

The organization is based on Section 111 which identifies the minimum levels for communication and delegation for the Quality Control (QC) program.

114.04 INSPECTION PROCESS

The Contractor's inspection program shall utilize an inspection plan outlined as follows:

114.04.01 PRE-ACTIVITY MEETINGS

For the first start-up of any item of work or in the change of a crew for the same work, a meeting shall be conducted with all persons involved. The meetings shall be held to discuss all quality control and operational aspects of proposed activities. Meetings shall be held for all work activities regardless of size or scope and may be held under special requests made by the Engineer.

The information outlined herein shall be relayed during the daily course of the project and through any periodic progress meetings. However, formal Pre-Activity Meetings shall be held as activities begin for a period of unbroken time. The Pre-Activity Meeting is intended to be held at the actual location of the work. The Pre-Activity Meeting shall be held within one week of the first item of work on the shift that the actual work shall begin. The Contractor shall provide a minimum of two days' advance notice prior to the meeting being held. Longer notice shall be required for multi-jurisdictional projects.

The Quality Control Manager (QCM) shall facilitate the meetings at the project level.

Documentation of the meetings shall be provided in the form of voice recordings and/or written documentation. A copy of the documentation (written and/or recorded) shall be uploaded to Autodesk Build (or approved equal) within one shift of the meeting. The meetings shall document the following items:

- Description of work to be performed
- Attendees
- List of materials
- Ensure that all submittals are approved
- Verify that no outstanding deficiencies exist for work that led up to this activity
- Review plans, specifications, and procedures that apply
- Review all change documents (CCAs, RFIs, etc.)
- List of control measures and responsible parties
- Discussion of acceptance criteria
- Hold points
- Particular items of interest to the Engineer
- Discussion of off-site and on-site QC responsibilities
- Itemize frequency of inspection and testing
- Traffic control and safety issues
- Quality Assurance (QA) expectations
- List any "extra care items" (i.e., manufacturers' specifications)
- Discuss "What do we do when something goes wrong?"
- Discuss "Ways to maintain proper notification."

The following individuals are required to attend the Pre-Activity Meeting for work that they perform:

- QCM
- QCC
- QC Inspector
- QA Inspector
- Superintendent
- Responsible activity foreman
- IA if required by the activity

114.04.02 ADVANCE NOTIFICATION CARDS

The Contractor shall utilize the Advance Notification Card in the example forms to schedule all activities.

Advance Notification Cards must be submitted/uploaded one full working day (a minimum of twenty-four (24) hours) in advance of beginning the activity. Any exception will result in a reduction from the Quality Control Administrative Incentive item.

The Contractor is required to specify the start times for each inspection or testing activity on the Advance Notification Card. This start time is when Quality Control begins their inspection/testing. QC must allow QA to witness all control measures in person. QA will inspect or test concurrently as access and availability allow.

114.04.03 QUALITY CONTROL ACTIVITY CARD PROCESS

QC Activity Cards, as exemplified in Section 115, will not be required when activities do not necessitate testing or inspection to be performed.

The QCM is responsible for verifying all documentation on the QC Activity and Advance Notification Cards is in compliance with this program before being presented to the QA Representatives for “sign-off” and closeout of the activity.

The QCM shall use the following guidelines for QC Activity Card identification and logging:

- QC Activity Cards shall be issued a sequential number to uniquely identify it with the activity and for only one activity much like a crew card.
- QC Activity Cards uploaded in the same sequence as numbered above to the QC Activity Card Log as described in Section 112.

The QC Activity Card with applicable test and inspection observation reports results shall be delivered to QCM prior to being uploaded.

A. Activity Card Section 1 – Actual Work Performed

Used to document the actual work performed for the activities listed. Locations shall be listed to correlate with the type of work performed.

B. Activity Card Section 2 – Deficiency Check

Used for documenting existing deficiencies associated with the activity listed in Activity Card Section 1 – Actual Work Performed. If no deficiencies exist or occur for the activity, the top section shall be checked-off and initialed. If deficiencies do exist, the lower area of this section shall be completed. Each material number shall be verified against outstanding deficiencies.

C. Activity Card Section 3 – Item/Material for Inspection

Used for documenting inspections associated with the activities listed in Section 1 and for documentation of QA verification inspections. Each material utilized during the activity shall be entered.

All items listed on QC Table 1 shall be inspected. Table 1 is found on the Website link at https://www.clarkcountynv.gov/government/departments/public_works_department/professional_services/materials_qaqc.php.

The next column “QA Initial/Date” shall be utilized for QA’s documentation of verification of the inspections listed within the section.

If Advance Notification was given and inspections cannot be performed by QA, subsequent activities may proceed provided no exceptions were taken during the QC inspection. A statement of no QA inspection shall be made on the QC Activity card.

All inspection observation reports shall be attached to the activity card.

D. Activity Card Section 4 – Testing and Sampling Requirements

Used for documenting field tests associated with the activities listed in Section 1.

The QCM shall indicate the description of the test performed. The “Actual” column shall also be completed by QCM and shall reflect the actual number of tests performed for each item listed.

The final column, “Testable Quantity,” shall be completed by the QCM and shall indicate the amount of material that was available for testing for the items listed within this section. The amount shall be followed by the appropriate unit (square feet, cubic yards, or linear feet). Calculations shall be shown to justify the number entered.

E. Activity Card Section 5 – Remarks

Used for documentation of miscellaneous information associated with the activities listed on the card. QA may also use this section for their remarks.

F. Activity Card Section 6 – Quality Assurance Sign-off

Used for documentation of the QA sign-off of the QC work performed associated with the activity listed.

114.04.04 SAMPLING AND TESTING

All sampling and testing shall be performed in accordance with the Contract Documents, other agency jurisdiction where applicable, and/or Table 1, found on the following website:

https://www.clarkcountynv.gov/government/departments/public_works_department/professional_services/materials_qaqc.php

114.04.05 INSPECTION(S) AND TESTING

All items listed on QC Table 1 shall be inspected. Table 1 is found on the Website link at https://www.clarkcountynv.gov/government/departments/public_works_department/professional_services/materials_qaqc.php

114.04.06 HOLD POINT PROCESSES

A hold point is the point in the construction installation where all activity must stop and a QA inspection must be performed prior to proceeding. Hold points are defined on the Website link (shown below) and may also be defined in the Contract Documents. A hold point not indicated in the Contract Documents may be defined by the Contractor and approved by the Engineer.

https://www.clarkcountynv.gov/government/departments/public_works_department/professional_services/materials_qaqc.php

The Contractor shall not proceed past a hold point without specific approval of QA.

114.04.07 MATERIAL INSPECTION

All materials to be incorporated into the work, which are not to be subsequently tested, shall be jointly inspected upon delivery.

Source inspection of items fabricated or manufactured specifically for the Project shall be performed jointly as required by the Contract Documents and may not eliminate onsite inspection.

114.04.08 ELEVATION REFERENCES

The elevation references in the table below are used to aid in the overall coordination of testing and inspection locations.

Abbreviation	Grade Name	Description of Grade
FG	Finish Grade	Final elevation for the top of the completed work
FGAB	Finish Grade - Aggregate Base	Final elevation for the top of Aggregate Base
FGE	Finish Grade - Embankment	Final elevation for the top of Embankment Fills
FGS	Finish Grade - Subgrade	Final elevation for the top of Subgrade *Note 1

Note 1: The Finish Grade - Subgrade elevation shall only reference the top of the “scarified and recompacted,” “in-place” and “native” original ground material. This elevation shall not be used to reference any portion of embankment materials. In Trench Zone work, this elevation shall be the bottom of the trench excavation only; all other elevations shall be referenced to FGE, FGAB, or FG. In the event that the Aggregate Base Zone is placed directly on scarified original ground, the FGS elevation shall be used for the top of native Subgrade.

All elevations shall be “called out” as one of the Finish Grade elevations noted in the table above minus the number of feet below that grade.

114.05 FIELD PROBLEM IDENTIFICATION AND REPORTING PROCESS

Refer to conflict resolution procedures in Section 112.

114.06 DEFICIENCY TRACKING RESPONSIBILITY

Refer to deficiency tracking procedures in Section 112.

114.07 BLANK

114.08 CONTRACTOR’S DAILY REPORT

In addition to the standard forms, the Contractor shall keep a written or electronic Daily Report of activities. The report shall contain such information as weather conditions, important conversations, visitors on the site, verbal orders received, unusual incidents, equipment breakdowns, length of work stoppages, number of persons and types of equipment affected by work stoppages, and any changes in the appearances of the material. Any item of significance shall be recorded.

The Daily Report shall include as a minimum, where applicable, the following:

- a) Date including the year
- b) Weather conditions; cloudy, rainy, etc.
- c) Temperature – high and low
- d) Wind velocity and direction (approximate)
- e) Total calendar days
- f) Contractors and Subcontractor’s working hours
- g) Specific work activities performed on that day the work is in progress
- h) Note of any unusual situations encountered, such as accidents, damages to vehicles or to the project, unusual material (bentonite, etc.), or anything that should be brought to the attention of others
- i) Conversations
- j) Verbal discussions with Engineer relative to the work, including any instructions or suggestions from the Engineer
- k) Communication with property owners
- l) Official visitors and their recommendations (Official visitors may include FHWA, OSHA, etc.)

- m) General locations where equipment is working, not working, and/or idle for repairs
- n) Material rejected and reason
- o) Description of any delays and duration
- p) Progress of surveying and staking
- q) Deviations and corrective action taken
- r) Traffic Control
- s) Changes to Plans
- t) Manpower
- u) Equipment
- v) Photographs or video with references to specific activity cards
- w) Contractor representative signature and title

Add the following Section:

SECTION 115

CONTRACTOR QUALITY CONTROL ADMINISTRATION AND INSPECTION FORMS

115.01 GENERAL

Inspection and administration documents that shall be used by the Contractor for the Quality Control Program may be downloaded from the Website link at:

https://www.clarkcountynv.gov/government/departments/public_works_department/professional_services/materials_gagc.php

If the Contractor would like to revise these or use other documents in the quality control program, they may be submitted prior to use to the Engineer for approval.

The following Section is added:

SECTION 117

CONTRACTOR QUALITY CONTROL TESTING

117.01 GENERAL

The testing and frequency shall comply with Table 1, which can be located at the following website:

<http://pwgate.co.clark.nv.us/IQAC/gaqc.asp>

At the time the testing is performed, all density testing locations shall be clearly identified by paint marking on the grade. All trench walls or structure shall have backfill lift thicknesses marked in paint. This requirement will aid in the correlation testing by Quality Assurance.

117.02 TESTING EXCEPTIONS

117.02.01 AASHTO TEST METHODS

Add items 1 through 4 shown below to Section 9.4.15 of AASHTO T310 In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1. If a test fails, it is acceptable to rotate the moisture-density gauge on axis of the probe to achieve a better seating of the gauge. This process can be performed numerous times.
2. The depth of probe shall equal the lift depth of compacted material.
3. Perform a new AASHTO T180 proctor according to the guidelines as follows:
 - a. The onset of each new construction process;
 - b. When compaction readings are over 101 percent;
 - c. When the source of material changes;
 - d. When required at the discretion of the Engineer.
4. All density test results shall be handwritten. Typed density test results in daily field reports will not be accepted.

117.02.02 OTHER TEST METHODS

1. NDOT Projects
 - a. NDOT does not have a list of QC test frequencies; thus, use the CCPW sampling and testing frequencies shown in Table 1 at the following website:

<http://pwgate.co.clark.nv.us/IQAC/gaqc.asp>

2. Compaction

a. Standardizing

- 1) At the start of each shift, standardize the moisture-density gauge to check equipment operation.
- 2) If the first check fails according to the manufacturer displayed results, repeat standardization.

b. Record the density standard count (DS) and moisture standard count (MS) in the gauge log book on the appropriate form that also includes the following:

- 1) Manufacturer Name
- 2) Model Number
- 3) Gauge Serial Number

117.03 CONSTRUCTION

Bridge abutments: The zone for structural backfill for bridge abutments is within 50 feet of the structure. Walk behind equipment must be used at the face of the walls.

117.04 REINFORCEMENT BAR TESTING

Tensile testing of reinforcing steel is required for all bars except for #3 bars.

117.05 TEMPORARY DETOURS

Items associated with temporary detours and sections will be tested at a rate of 25 percent (25%) of that which is specified in the respective QC Table(s) with the exception of those items listed below. The use of the APA equipment shall not be required for temporary sections both for production control and design of bituminous pavements.

For temporary paving sections, the following test procedures will not be required:

CCPW Table I

- Absorption of Agg
- APA
- Atterburg Limits
- Fractured Face
- Lottman
- PBS Mixture Moisture Marshall Testing
- Plant Inspection
- Production Rate Report
- Stabilometer
- Straightedge and Profilograph

For temporary soil and aggregate sections, only field density testing and related “proctor” will be performed.

117.06 SOIL COMPACTION LIFTS

In order to reduce the possibility that testing frequencies are not being met, the following guideline is presented.

Figure 1 is an example for trenches and from Table 1, the frequency of testing is 1/100 Linear Feet (LF) / per Lift. The lighter colored lifts on the left hand side of the diagram were placed in the morning (AM). The darker colored lifts on the right hand side were placed in the afternoon (PM).

In the AM (lighter) the following testing would be required:

1. The 1st Lift would require one (1) test.
2. The 2nd Lift would require one (1) test.
3. The 3rd Lift would require one (1) test
4. The 4th Lift would require one (1) test.

In the PM (darker), the following testing would be required:

1. The 1st Lift would require one (1) test.
2. The 2nd Lift would require two (2) tests.
3. The 3rd Lift would require two (2) tests.
4. The 4th Lift would require two (2) tests.

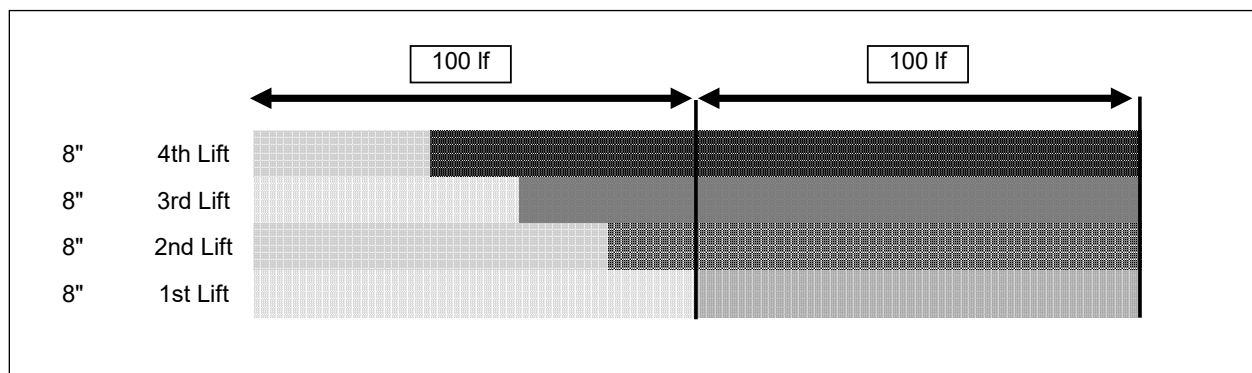


Figure 1- Trench Backfill

Ramping: In Figure 2 below, the contractor has elected to place the fill diagonally. Because each lift is within 100 LF continuous, only one (1) test is required for each lift (darkened line).

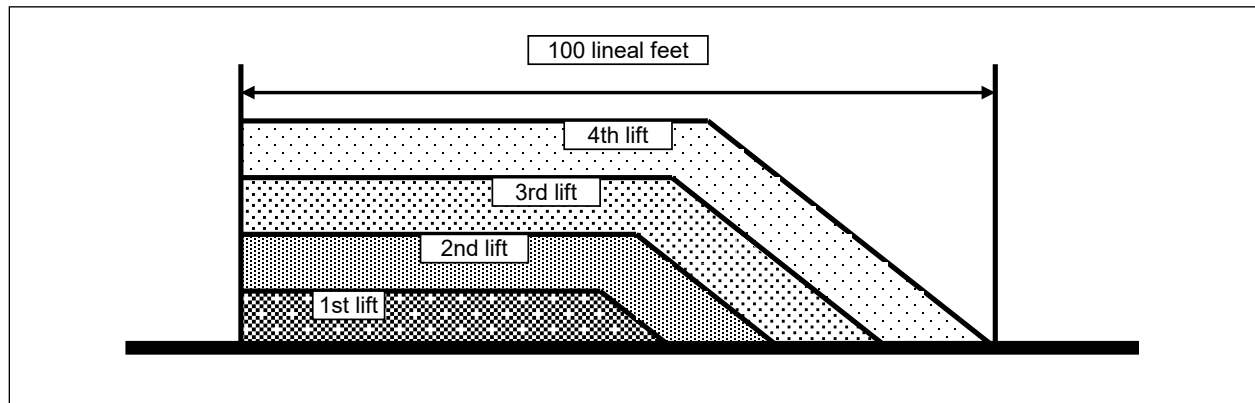


Figure 2- Ramping

The testing requirement is “per lift.” Therefore, testing at four locations on a single lift down the slope is not acceptable.

The most common method is rapidly dumping enough material to get the equipment into the trench. This method would only be acceptable when the Ramp is subsequently removed, replaced, compacted, and tested in lifts per specification.

A remark needs to be made on the Activity Card when a ramp is not tested. This remark will be a reminder that the ramp will be required to be reworked. If the work is covered or the activity moves out of the immediate area, a deficiency would then be noted on the Activity Card.

The best method for ramping is to build the ramp in lifts and test each lift as it is being constructed.