

CITY OF HOMER
STANDARD CONSTRUCTION SPECIFICATIONS
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STANDARD CONSTRUCTION SPECIFICATIONS FOR
GENERAL DIVISION 100
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SECTION 101 MOBILIZATION AND DEMOBILIZATION**101.1 General**

This item shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to and from the project site; and for all other work and operations which must be performed, or costs incurred, prior to beginning work on the various items on the project. Also included in this item is all work necessary to remove labor, materials, and equipment from the project site and to clean up all project work areas.

101.2 Method of Measurement

a. When five percent (5%) of the original contract amount is earned from other bid items, fifty percent (50%) of the amount of mobilization and demobilization, or five percent (5%) of the original contract amount, whichever is lesser, will be paid.

b. When ten percent (10%) of the original contract amount is earned from other bid items, one hundred percent (100%) of the amount of mobilization and demobilization, or ten percent (10%) of the original contract amount, whichever is lesser, will be paid.

101.3 Basis of Payment

Mobilization and demobilization will be paid at the contract lump sum bid. No adjustments shall be made in the contract price for mobilization and demobilization due to over-runs or under-runs in pay item quantities.

Payment will be made under:

<u>Item</u>	<u>Description</u>	<u>Unit</u>
101	Mobilization and Demobilization	Lump Sum

SECTION 102 CONSTRUCTION SURVEYING BY THE CONTRACTOR

102.1 General

This item of work shall be performed in accordance with *Section 10.05, Article 5.9 of the General Provisions*.

102.2 Monumentation

The Contractor shall install a permanent metal marker having magnetic properties at all intersections, center of cul-de-sacs, and PIs where intervisible. If the PIs are not intervisible, the PCs and PTs shall be monumented. In paved roads the monuments shall be a minimum of ½" x 6" set flush to the paving. In gravel roads the monuments shall be a minimum of ½" x 30" with a 2-1/2" minimum diameter metal cap showing the year set, registration number of the surveyor and the monument identification. In accordance with AS 34.65.03, a Record of Survey shall be filed for all monuments established and shall show the Homer Grid Coordinates for at least two monuments on the survey.

Prior to the establishment of construction stakes, a monument search shall be conducted and a record made in the survey control field book stating which monuments were found and which ones were not found. Record plats within the construction limits should be obtained by the Contractor to assist in monument recovery. If a record of monument recovery does not exist to verify that a search was conducted for all monumentation, then the Contractor will be held responsible to satisfy all claims by land owners and public agencies for re-monumentation at no additional expense to the City.

The Contractor shall replace any monument that exists within the project construction limits if it is disturbed or removed due to project activity. All monumentation disturbed or removed shall be replaced with the same type monument, or a monument approved by the Engineer. If the monument had a self identifying cap, then a new cap shall be attached bearing the same information which was stamped on the original cap. The new cap shall bear the license number of the Surveyor and the year the monument was replaced. Monuments that are located in gravel road surfaces, fill slopes, back slopes, or ditches shall be installed six (6) inches below the finished surface. When a monument cannot be re-established in the proper location, then one or more reference marks shall be established. The establishment of reference marks shall be coordinated with the Engineer.

102.3 Construction

The Contractor shall perform all surveying and staking essential for the completion of the project in conformance with the plans and specifications and shall perform all the necessary calculations required to accomplish the work. This will include but is not limited to:

a. Laying out the project baseline at minimum 50' stations from the basis of horizontal and vertical control provided by the Owner on the plans;

b. Cross-sectioning original ground and establishing slope stakes at the "catch points" of the design template at original ground, at minimum 50' stations noting the offset distance from the baseline of the vegetation limits at each station; slope stakes shall be in place a minimum of two (2) working days prior to the beginning of excavation of the staked area.

c. Cross-sectioning the sub-grade at minimum 50' stations after excavation for determination of excavation;

d. Establishing hubs at centerline and shoulders for finished grade at minimum 50' stations;

e. Providing any control needed to establish the horizontal and vertical position of any item on the plans for which specific horizontal and vertical parameters have been established; and

f. Providing as-builts of features discovered during construction and not on plans.

The Contractor shall provide a plot of the "original ground" and "after excavation" cross-sections to the Owner at a minimum of 1" = 10' horizontal and 1" = 5' vertical scale including the design template and slope "catch points." The Contractor will provide the area of each cross-section for excavation as well as a total volume computation for the entire project based on in-place volumes as determined by the average end areas of these cross-sections.

Original ground cross sections and slope stake information for earthwork quantities shall be recorded on staking sheets provided by the Contractor and approved by the Engineer. The post excavation cross sections for pay quantity calculations shall be recorded at the same locations and upon the same staking sheets as the original measurements. The Contractor shall provide the Engineer with copies of the staking sheets at any time.

The Contractor shall be responsible for the supervision of the construction surveying personnel, and any errors resulting from the operations of said personnel shall be corrected at the expense of the Contractor, and at no additional cost to the Owner.

Field notes shall be kept in standard bound notebooks in a clear, orderly, and neat manner consistent with standard surveying practice, including titles, numbering, and indexing. The field books shall be available for inspection by Owner's project personnel at any time. Copies of the field books shall be provided to the Owner at the completion of the project.

The Contractor shall use competent personnel and suitable equipment for the layout work required and shall furnish all stakes, templates, straightedges and other devices necessary for checking and maintaining points, lines and grades.

Surveys shall be done under the direction of a licensed surveyor registered for practice in the State of Alaska.

102.4 Method of Measurement

Measurement of this item will be by a percentage of project completion.

102.5 Basis of Payment

Payment will be made under:

<u>Pay Item</u>	<u>Description</u>	<u>Unit</u>
102	Construction Surveying	Lump Sum

SECTION 103 TRAFFIC SAFETY, MAINTENANCE, AND RESTORATION OF ROADS AND STREETS

103.1 General

This work shall consist of the necessary measures to protect and maintain traffic during the life of the contract, including the furnishing of such personnel, equipment, and devices as may be required to insure safety of the traveling public.

A traffic plan shall be submitted to the Engineer at the pre-construction conference for approval prior to initiation of any construction work. This plan shall include, as a minimum, the type/location of signs to be erected and the type/location of barricades required for any street closure, etc.

103.2 Construction Requirements

Construction shall be conducted so as to cause as little inconvenience as possible to owners of property abutting the project site. The Contractor shall provide and maintain, in a safe passable condition, temporary approaches, crossings, intersections with trails, streets, businesses, parking lots, residences, garages, and farms. When the abutting owner's access road, across the right-of-way line, is to be eliminated and replaced under the Contract, the existing access shall not be closed until the replacement access facility is available, unless previous permission is granted in writing from the affected party. A copy of the written permission shall be provided to the Engineer prior to closing the access.

Open trenches, ditches, pavement edge drop-offs and other excavations and hazardous areas shall be protected with barricades and shall be delineated.

When the Contractor is required to maintain traffic by grading roadway excavation and embankment areas, the construction shall be conducted in such a manner as to provide a reasonably smooth and even surface satisfactory for use by public traffic at all times. The surface of the roadbed shall be properly crowned for drainage. In advance of other grading operations, sufficient fill shall be placed at culverts and bridges to permit traffic to cross unimpeded. Partial width construction techniques shall be employed when the traffic is routed through roadway cuts or over embankments which are under construction. The material shall be excavated or placed in layers, and the construction activities shall be alternated from one side to the other, with traffic routed over the side opposite the one under construction.

During the removal or laying of culvert pipe, a maximum time of one hour of road closure may be extended to the Contractor, providing the removal and laying of the pipe can not be completed for one-half width of the roadway and provided the detour can not be constructed around the culvert being laid. Closures shall be scheduled so as not to delay buses and peak-hour traffic. Where so provided on the plans, or otherwise

approved, the Contractor may bypass traffic over a detour route. When no longer required, the detour shall be removed and the approaches obliterated.

When, in the opinion of the Engineer, conditions are such that the safety and/or convenience of the traveling public is adversely affected, the Contractor shall be immediately notified in writing. The notice shall state the defect(s) and the corrective action(s) required. In the event that the Contractor does not take corrective action within twenty-four (24) hours, the City may order such work from outside forces and suspend all work on the project until satisfactory corrective action is performed. The cost of work performed by outside forces shall be deducted from any moneys due the Contractor under the terms of the Contract.

103.3 Traffic Maintenance During Suspension of Work

Prior to suspension of work, the Contractor shall make passable and open to traffic portions of the project and temporary roadways, or portions thereof as may be agreed upon between the Contractor and the Engineer, for the temporary accommodation of necessary traffic during the anticipated period of suspension.

If the suspension is seasonal, maintenance of the temporary route or line of travel agreed upon will be by, and at the expense of the City, except as hereinafter specified. A seasonal suspension shall be maintained until an order is issued to the Contractor for the resumption of construction operations.

When work is resumed, the Contractor shall: replace or renew all work or materials lost or damaged because of such temporary use of the project; remove, to the extent directed by the Engineer, all work or materials used in the temporary maintenance; and shall complete the project in every respect as though its prosecution had been continuous. Additional work caused by such suspensions and for reasons beyond the control of the Contractor, will be paid for by the City at contract unit prices or at prices established for extra work.

103.4 Construction Signing

The Contractor shall furnish, erect, move, and remove as required and directed, series C construction signs and barricades, and/or temporary guide markers and pavement markers required to adequately and safely inform and direct the traveling public and satisfy legal requirements.

All construction signs shall be kept clean, mounted to the required height, and placed effectively day and night. All signs and markers shall indicate the actual existing conditions and be moved, removed, relocated, or changed immediately to reflect changed conditions. The number of signs indicated on the Alaska DOT & PF Standard Drawings are a minimum and the Contractor shall have an adequate supply available for immediate

use as required. The Engineer may require additional signs placed if unsafe conditions exist.

103.5 Method of Measurement

Traffic maintenance shall be measured by lump sum for all work described in this section and be paid by a percentage of project completion.

103.6 Basis of Payment

Payment at the lump sum price shall be full compensation for furnishing all labor, materials, and equipment as may be required to protect and maintain traffic and to insure the safety of the traveling public.

Payment will be made under:

<u>Pay Item</u>	<u>Description</u>	<u>Unit</u>
103	Traffic Maintenance	Lump Sum