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CONSTRUCTION SPECIAL PROVISIONS AND LIST OF
MARICOPA ASSOCIATION OF GOVERNMENTS
STANDARD SPECIFICATIONS

CONCRETE BOX CULVERTS
ON SIGNAL BUTTE FLOODWAY
AT CRISMON ROAD AND ELLSWORTH ROAD



DIBBLE AND ASSOCIATES
CONSULTING ENGINEERS
PHOENIX, ARIZONA

November 27, 1979

FLOOD CONTROL DISTRICT
OF
MARICOPA COUNTY

APPLICABLE
MARICOPA ASSOCIATION OF GOVERNMENTS
STANDARD SPECIFICATIONS

CONCRETE BOX CULVERTS
ON SIGNAL BUTTE FLOODWAY
AT CRISMON ROAD AND ELLSWORTH ROAD

MAG STANDARD SPECIFICATIONS

- Part 100 General Conditions
- No. 206 Structure Excavation and Backfill
 - No. 211 Fill Construction
 - No. 215 Earthwork for Open Channels
 - No. 225 Watering

 - No. 301 Subgrade Preparation
 - No. 310 Untreated Base
 - No. 321 Asphalt Concrete Pavement
 - No. 336 Pavement Matching and Surfacing Replacement
 - No. 350 Removal of Existing Improvements

 - No. 401 Traffic Control
 - No. 405 Monuments
 - No. 415 Flexible Metal Guardrail
 - No. 420 Chain Link Fences

 - No. 505 Concrete Structures
 - No. 525 Pneumatically Placed Mortar

 - No. 601 Trench Excavation, Backfilling and Compaction

 - No. 701 Rock, Gravel, and Sand
 - No. 702 Base Materials
 - No. 710 Asphalt Concrete
 - No. 711 Paving Asphalt
 - No. 712 Liquid Asphalt
 - No. 713 Emulsified Asphalts
 - No. 725 Portland Cement Concrete
 - No. 726 Concrete Curing Materials
 - No. 727 Steel Reinforcement
 - No. 729 Expansion Joint Filler
 - No. 771 Galvanizing
 - No. 772 Chain Link
 - No. 778 Lumber
 - No. 779 Wood Preservatives
 - No. 792 Dust Palliative

CONSTRUCTION SPECIAL PROVISIONS

CONCRETE BOX CULVERTS ON SIGNAL BUTTE FLOODWAY AT CRISMON ROAD AND ELLSWORTH ROAD

LOCATION OF WORK: This project is the construction of concrete box culverts at two different locations in Eastern Maricopa County as follows:

1. Crismon Road approximately 1400 feet north of Brown Road.
2. At the intersection of Ellsworth Road and Brown Road.

PROPOSED WORK: The proposed work consists of excavation, concrete box culverts, backfill, and other miscellaneous items of work required for the completion of the project.

SPECIFICATIONS: The work embraced herein and as shown on the plans for the construction of this project shall be done in accordance with the Maricopa Association of Governments Uniform Standard Specifications for Public Works Construction dated July 1, 1974 and the applicable Supplements thereto together with the Maricopa County Highway Department Supplement to the Uniform Standard Specifications and the Construction Special Provisions contained herein.

PREVAILING WAGE SCALE: All labor employed on the work shall be paid for at rates not less than the prevailing rates of wages certified by the Industrial Commission of Arizona for public works contracts in excess of \$1,000. A list of prevailing wage rates is on file in the office of the Maricopa County Highway Department and with the Clerk of the Board of Supervisors, and may be inspected at any time during regular working hours, or it may be secured from the office of the Industrial Commission of Arizona.

CONTRACT TIME: The Contractor shall complete all work on the project within One Hundred Twenty (120) calendar days after the date of notice to proceed.

PROGRESS SCHEDULE: The Contractor shall submit his proposed work progress schedule to the Engineer for approval before starting the work.

ITEM COMMENTS: The herein contained Construction Special Provisions supplement the Uniform Standard Specifications and the Maricopa County Highway Department Supplement to the Uniform Standard Specifications, however, in case of conflict, these Special Provisions supersede the Uniform Standard Specifications and the Maricopa County Supplement.

ADDENDA: Addenda issued during the time of bidding shall be attached to and made a part of the contract drawings.

SECTION 105.6 - COOPERATION WITH UTILITIES: The Contractor shall comply with the requirements of the ARS 40-360.21 through 40-360.20 in notification to the interested utility owners prior to the start of construction and shall ascertain the approximate locations of the various underground utilities shown on the plans, and as may be brought to his attention. The exact location of these underground utilities shall be determined by excavations made by the Contractor prior to any trenching operations.

When the Contractor's operations result in damage to any utility, the location of which has been brought to his attention, he shall assume full responsibility for such damage.

The following phone numbers as indicated should put the Contractor in contact with the proper personnel:

Salt River Project.....Blue Stakes.....263-1100
Mountain Bell Telephone Company.....Blue Stakes.....263-1100
Arizona Public Service.....Blue Stakes.....263-1100
City of Mesa.....834-2248

SECTION 109 - MEASUREMENT AND PAYMENT: The work under this project shall be measured and paid for as a lump sum price for each culvert location. The lump sum price bid shall be compensation in full for furnishing all labor, materials, equipment and appurtenances necessary to complete the work in a satisfactory manner as shown on the plans and as required in these specifications.

SECTION 206 - STRUCTURE EXCAVATION AND BACKFILL: The work under this item shall consist of clearing, excavation, backfill, grading and disposal of excess material and shall conform to Section 206 of the Uniform Standard Specifications and Maricopa County Highway Department supplement thereto, except as modified herein.

All compaction shall be Type I, as specified in Table 601-2. Payment shall be included in the lump sum price bid for the concrete box culverts.

SECTION 215 - EARTHWORK FOR OPEN CHANNELS: The work under this item shall fully conform to Section 215 of the Uniform Standard Specifications except that payment shall be included in the lump sum price bid for the concrete box culverts.

SECTION 225 - WATERING: The work under this item shall fully comply with Section 225 of the Uniform Standard Specifications.

SECTION 301 - SUBGRADE PREPARATION: The work under this item shall consist of shaping the roadway subgrades to the grades and cross section for the pavement replacement as shown on the plans and in accordance with Section 301 of the Uniform Standard Specifications and Maricopa County Highway Department Supplement to the Uniform Standard Specifications. Payment shall be included in the lump sum price bid for the concrete box culverts.

SECTION 310 - UNTREATED BASE: The work under this item shall consist of furnishing and placing select material and aggregate base material in accordance with the following specifications:

Select Material and Aggregate Base shall conform to the requirements of Section 702 of the Uniform Standard Specifications. Select Material and Aggregate Base shall be crushed in accordance with Section 702.2.

Payment shall be included in the lump sum price bid for the concrete box culverts.

SECTION 321 - ASPHALT CONCRETE PAVEMENT: The work under this item shall consist of furnishing and placing a plant mixed asphalt concrete road surfacing material to the compacted thickness shown on the plans for the pavement replacement.

The bituminous material to be used shall be AR-4000 Paving Asphalt and shall fully comply with Section 711 of the Uniform Standard Specifications.

The mineral aggregate shall meet the grading requirements within the range of the specified tolerances for Mix Designation C-3/4 in accordance with Section 710 of the Uniform Standard Specifications.

Payment shall be included in the lump sum price bid for the concrete box culverts.

SECTION 321.4 - BITUMINOUS TACK COAT: The work under this item shall fully comply with Section 321.4 of the Uniform Standard Specifications. The tack coat will be used where asphalt concrete is placed directly on top of the box culvert deck.

The tack coat shall be grade SS-1h (diluted) and shall fully comply with Section 321 and 713 of the Uniform Standard Specifications. Tack coat shall be applied at the rate of 0.05 gallon per square yard.

Payment shall be included in the lump sum price bid for the concrete box culverts.

SECTION 336 - PAVEMENT MATCHING AND SURFACING REPLACEMENT: Work under this item shall conform to Section 336 of the Uniform Standard Specifications.

Payment shall be included in the lump sum price bid for the concrete box culverts.

SECTION 350 - REMOVAL OF EXISTING IMPROVEMENTS: The work under this item shall consist of the removal and disposal of any obstacle to construction whether shown on the plans or not, unless specifically called out on the plans to be removed or relocated by other agencies and shall be accomplished in accordance with Section 350 of the Uniform Standard Specifications.

Arrangements for disposal of all waste material shall be the responsibility of the Contractor.

Payment for this item will be included in the contract lump sum price bid for the concrete box culverts.

SECTION 401 - TRAFFIC CONTROL: Traffic control shall conform to the applicable paragraphs of Section 401 of the Uniform Standard Specifications and the applicable Section of the Maricopa County Highway Department Supplement to the Uniform Standard Specifications and these Special Provisions.

The following shall be considered Major Streets:

University Drive
Crismon Road
Ellsworth Road
Brown Road
McKellips Road
84th Street

Two lanes of traffic on Major Streets shall be maintained open for traffic at all times.

Project advance warning signs shall be 48 inches in size and placed on channels 1000 feet and 500 feet prior to construction of all Major Streets.

Construction shall be posted at 25 MPH by the Contractor.

At the contractor's option, the Maricopa County Highway Department will allow full closure of the roads where the culverts are to be built. However, only one site may be closed at a time. Once a road is closed, the work shall proceed until all work, which would necessitate a road closure at that site, has been completed and the road re-opened. The road at the second site may then be closed and the work completed in that location.

Road closure identification signs shall be placed at the nearest Major Streets, in all directions.

All unneeded traffic control signs disturbed by construction shall be removed and stored by the Contractor for pick up by the County Highway Department. Stop signs and street name signs shall be maintained on temporary structures during construction.

Payment shall be included in the lump sum price bid for the concrete box culverts.

SECTION 405 - MONUMENTS: The work under this section shall consist of furnishing and installing survey monuments of the types as shown on the plans.

All work shall conform to Section 405 of the Uniform Standard Specifications and Maricopa County Highway Department Standard C-101, Type A.

Payment shall be included in the lump sum price bid for the concrete box culverts.

SECTION 415 - FLEXIBLE METAL GUARDRAIL: The guardrail shall be constructed where shown on the plans and as detailed in the Arizona Department of Transportation (A.D.O.T.) Standard No's. C-10.01, C-10.12, C-10.13.

The materials for construction shall conform to the requirements of Section 415 of the Uniform Standard Specifications, except as modified herein:

All metal surfaces shall be galvanized in accordance with the requirements of ASTM A 525. The weight of the coating (total for both sides) shall be the weight specified for Coating Class 2.50.

Painting will not be required on treated timber posts and blocks.

Payment shall be included in the lump sum price bid for the concrete box culverts.

SECTION 505 - CONCRETE STRUCTURES: The concrete box culverts and apron shall conform to the requirements of Section 505 - Uniform Standard Specifications (MAG) except as modified herein:

A. The culvert materials at Crismon Road shall meet the following specifications:

1. Class A concrete, f'c = 3000 PSI per MAG Specifications Section 725.
2. The dimension detailing shall conform to A.D.O.T. Standard Drawings CM-1, CB-3 (Table I) and CWL-2, Type A, except as modified on the plans.
3. Reinforcing steel, curing compound and expansion joint filler shall conform to Sections 726, 727, and 729 of the MAG Specifications.

B. The culvert materials at the intersection of Ellsworth Road and Brown Road shall meet the following specifications:

1. Class AA concrete, f'c = 4000 PSI per MAG Specifications Section 725.
2. The dimension detailing shall conform to the details on the plans.
3. Reinforcing steel, curing compound and expansion joint filler shall conform to Sections 726, 727, and 729 of the MAG Specifications.

Measurement shall be for each culvert in place, including all labor, materials, equipment, excavation, backfill, compaction, guardrail, pavement replacement, monuments, traffic control watering, and miscellaneous removals and other work to complete the culvert installation as detailed on the plans.

Payment for all work under these items shall be for the job, lump sum, per culvert at each location.

SECTION 525 - PNEUMATICALLY PLACED MORTAR: All work under this item shall conform to Section 525 of the Uniform Standard Specifications except as modified herein:

Payment shall be included in the lump sum price bid for the concrete box culverts.

GENERAL COMMENTS: The County reserves the right to adjust design grades or the location of drainage structures prior to construction, if it should become necessary in the opinion of the Engineer, without additional cost to Maricopa County.

The cost of all work required under this contract as shown on the plans for which there are no specific items shown on the Bidding Schedule, shall be included in the prices bid for related items.

An attempt has been made to determine the location of all underground utilities and design the location and elevation of culverts and structures so as not to interfere with existing utilities, however, it shall be the Contractor's responsibility to cooperate with the pertinent utility companies so that any obstructing utility installation may be adjusted.

Any facility or work which may be performed for the accommodation of any utility (except as noted on the plans) shall be paid for by the utility owner. The Contractor shall make all arrangements that may be necessary for the construction and any financial agreement shall be solely between the contractor and the utility owner.

SPECIAL PROVISIONS
FOR
SIGNAL BUTTE ROAD BOX CULVERT
OVER
SIGNAL BUTTE FLOODWAY

WORK ORDER NO. 70012

SUPPLEMENTARY TO MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD
SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION EDITION OF ~~JULY 1, 1974~~ &
REVISIONS AND SUPPLEMENTS THERETO.

1979

MARICOPA COUNTY HIGHWAY DEPARTMENT

INVITATION TO BID

SIGNAL BUTTE ROAD BOX CULVERT

OVER SIGNAL BUTTE FLOODWAY

M.C.H.D. Work Order No. 78012

BID OPENING: _____

PROPOSED WORK: The proposed work consists of constructing a concrete box culvert and other miscellaneous items of work required for the completion of the project.

LOCATION OF WORK: The proposed work is located on Signal Butte Road north of Brown Road.

SEALED BIDS: Sealed Bids for the proposed work will be received by the Maricopa County Engineer, 3325 West Durango Street, Phoenix, Arizona until 2:00 p.m. (Phoenix time) on the above date, and then publicly opened and read. No bids will be received after the time specified for bid opening. All bids must be submitted on proposal forms furnished by the Maricopa County Highway Department. The Board of Supervisors reserves the right to reject any and all bids and to waive any informality in any bid received.

ELIGIBILITY OF CONTRACTORS: The Contractor shall be appropriately licensed as a Contractor in the State of Arizona for performing the before-mentioned type of work.

PRINCIPAL ITEMS AND APPROXIMATE QUANTITIES

<u>QUANTITY</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
.300	c.y.	channel Excavation
.100	c.y.	Class A concrete
12000	Lb.	Reinforcing steel

And such other pertinent items as are necessary for the completion of the project as shown on the plans or as called for in the Special Provisions.

INVITATION TO BID
WORK ORDER NO. 78012

Page 1 of 2

CONTRACT TIME: The Contractor shall complete all work on the project within forty-five (45) calendar days after date of Notice to Proceed.

A PRE-BID CONFERENCE WILL BE HELD ON _____, 19____, AT _____ A.M. IN THE MARICOPA COUNTY HIGHWAY DEPARTMENT CONFERENCE ROOM, 3325 WEST DURANGO STREET. IT IS IN THE BEST INTEREST OF PROSPECTIVE BIDDERS TO ATTEND THE PRE-BID CONFERENCE.

QUESTIONS OR ITEMS FOR CLARIFICATION MAY BE ADDRESSED TO THE COUNTY ENGINEER, PREFERABLY IN WRITING, PRIOR TO THE PRE-BID CONFERENCE. ANY ANSWERS OR CLARIFICATIONS AFFECTING THE COST WILL BE ADDRESSED TO ALL BIDDERS IN AN ADDENDUM. UNDER NO CIRCUMSTANCES WILL VERBAL ANSWERS OR CLARIFICATIONS BE GIVEN TO INDIVIDUAL CONTRACTORS EITHER BEFORE OR AFTER THE PRE-BID CONFERENCE.

CONTRACT PLANS SPECIAL PROVISIONS & CONTRACT DOCUMENTS: Plans, Special Provisions, Proposal, Bidding Schedule, Contract Agreement and Performance Bond may be obtained from the Maricopa County Highway Department, 3325 West Durango Street, Phoenix, Arizona, upon payment of \$500 by check payable to the TREASURER OF MARICOPA COUNTY. This payment will not be refunded. Each bid must be accompanied by a bond or certified check in the amount of 5% of bid, made payable to the TREASURER OF MARICOPA COUNTY as a guarantee that if the work is awarded to the bidder, he will within ten (10) days from the date of such award, enter into proper contract and bond condition for the faithful performance of the work, otherwise, said amount will be forfeited to the said Board of Supervisors.

~~PREVAILING WAGE SCALE: All labor employed on this work shall be paid for at rates not less than prevailing rates of wages certified by the Industrial Commission of Arizona for public works contracts in excess of \$1,000. A list of the prevailing wage rates is on file in the office of the Maricopa County Highway Department and with the Clerk of the Board of Supervisors which may be inspected at any time during regular working hours or it may be obtained from the office of the Industrial Commission of Arizona.~~

OMIT

ALL BIDS ARE TO BE MARKED IN ACCORDANCE WITH SECTION 102.9 OF THE UNIFORM STANDARD SPECIFICATIONS.

RHEA WOODALL, CLERK
BOARD OF SUPERVISORS
MARICOPA COUNTY

INVITATION TO BID
WORK ORDER NO. 78012

CONSTRUCTION SPECIAL PROVISIONS
MARICOPA COUNTY PROJECT
FOR
SIGNAL BUTTE ROAD BOX CULVERT
OVER
SIGNAL BUTTE FLOODWAY
WORK ORDER NO. 78012

LOCATION OF THE WORK: This project is located on Signal Butte Road
north of Brown Road

PROPOSED WORK: The work consists of constructing concrete box
culvert and other miscellaneous items
of work required for the completion of the project.

SPECIFICATIONS: The work embraced herein and as shown on the plans for the
construction of this project shall be done in accordance with the Maricopa
Association of Governments Uniform Standard Specifications for Public
Works Construction dated July 1, 1974 and the Supplements dated 1977 together
with the Maricopa County Highway Department Supplement to the Uniform
Standard Specifications and the Construction Special Provisions contained
herein.

~~PREVAILING WAGE SCALE: All labor employed on the work shall be paid for at
rates not less than the prevailing rates of wages certified by the Industrial
Commission of Arizona for public works contracts in excess of \$1,000. A
list of prevailing wage rates is on file in the office of the Maricopa
County Highway Department and with the Clerk of the Board of Supervisors,
and may be inspected at any time during regular working hours, or it may
be secured from the office of the Industrial Commission of Arizona.~~ OAA IT

CONTRACT TIME: The Contractor shall complete all work on the project within
forty-five (45) calendar days after the date of Notice
to Proceed.

PROGRESS SCHEDULE: The Contractor shall submit his proposed work progress
schedule to the Engineer for approval before starting the work.

ITEM COMMENTS: The herein contained Construction Special Provisions supplement
the Uniform Standard Specifications and the Maricopa County Highway Department
Supplement to the Uniform Standard Specifications, however, in case of conflict,
these Special Provisions supersede the Uniform Standard Specifications and
the Maricopa County Supplement.

CONSTRUCTION SPECIAL PROVISIONS

WORK ORDER NO. 78012

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SECTION 105.6 - COOPERATION WITH UTILITIES: When the Contractor's operations result in damage to any utility, the location of which has been brought to his attention, he shall assume full responsibility for such damage.

The following phone numbers as indicated should put the Contractor in contact with the proper personnel:

Mountain Bell Telephone Company.....	263-3219
Salt River Project.....	273-2202
Arizona Public Service.....	271-7014
Location Staking (A.P.S., Mtn. Bell, S.R.P.)....	Blue Stake.....263-1100
Maricopa County Flood Control District.....	262-1501

SECTION 206 - STRUCTURE EXCAVATION
AND BACKFILL

box culvert and wings

Structure excavation consists of the removal of material for the construction of the ~~bridge pile caps~~ in accordance with the plans and Section 206 of the Uniform Standard Specifications.

~~Structure backfill consists of furnishing, placing and compacting select material and other backfill material in accordance with the plans and Section 206 of the Uniform Standard Specifications.~~
suitable excavated

~~Select Material shall conform to the requirements of Section 702 of the Uniform Standard Specifications.~~

No separate payment will be made for structure excavation and backfill as such and the cost thereof shall be included in the price bid for the items to which they are appurtenant.

SECTION 215 - EARTHWORK FOR OPEN CHANNELS. The work under this section consists of excavating the floodway channel in accordance with the plans and Section 215 of the Uniform Standard Specifications.

Quantities will be computed by the average end area method.

Payment for all work under this section will be made at the unit price bid per cubic yard for ITEM NO. 215 - CHANNEL EXCAVATION.

Signal Butte Rd. Box Culvert

SECTION 401 TRAFFIC CONTROL: Traffic control shall conform to the applicable paragraphs of Section 401 of the ~~MAG~~ Uniform Standard Specifications dated 1979, amendments and the County Supplement thereto and these Special Provisions.

The number and kind of barricades, signs, delineators, barriers and all other traffic control devices shall be subject to approval; however, approval of traffic control devices and the approval of the Contractor's method of application of all traffic control measures, shall not relieve the contractor of the responsibility of protecting the work, the workmen and the traveling public. *of the engineer*

Box culvert construction is not on a designated ^{county} road, however there is evidence of constant use of this road by the public. As such the Contractor shall provide standard road closure signing on both the north and south approaches to the construction site. *e*

SECTION 505 - CONCRETE STRUCTURES

box culvert and wings

The work under this section consists of constructing in place the concrete ~~portions of the bridge and approach slabs~~ in accordance with the plans and Section 505 of the Uniform Standard Specifications.

The concrete shall conform to Section 725 and the reinforcing steel shall conform to Section 727 of the Uniform Standard Specifications.

Payment for all work under this section will be made at the unit price bid per cubic yard for ITEM NO. 505-1 CLASS "A" CONCRETE and ~~ITEM NO. 505-2 CLASS "B" CONCRETE~~ and at the unit price bid per pound for ITEM NO. 505-3 REINFORCING STEEL, respectively.

~~FOR BRIDGE STRUCTURE OTHER THAN SPURWAY~~

GENERAL COMMENTS: It shall be the Contractor's responsibility to protect the structure and construction site from any excessive or detrimental flooding, within the ~~river~~ ^{channel} right-of-way which may occur during the construction period and until final acceptance of the completed bridge by the County Engineer. ~~bridge~~ ^{box culvert}

Upon completion of the construction, the Contractor shall clear the ~~river~~ ^{channel} bed and work area of all debris to the satisfaction of the Engineer.

No vehicular loads will be permitted on the ~~bridge widening~~ ^{box culvert} before the lapse of twenty-one (21) days from the date of the last pour of concrete for the ~~bridge-deck~~, unless approval is obtained in writing from the Engineer. ~~bridge~~ ^{box culvert}

The County reserves the right to adjust design grades or the location of drainage structures prior to construction, if it should become necessary in the opinion of the Engineer, without additional cost to Maricopa County.

^{box culvert} The Contractor shall take special precautions to keep the ^{channel} area around the ^{box culvert} bridge properly barricaded and marked with flares to prevent automotive traffic from running into the ~~river~~ crossing the new bridge structure prior to the acceptance of the completed project by the Maricopa County Engineer. The installation of any necessary conduits, brackets or piping or any other facility or work which may be performed for the accommodation of any utility, shall be paid for by the utility owner. The Contractor shall make all arrangements that may be necessary for the construction and any financial agreement shall be solely between the Contractor and the utility owner.

GUARANTEE: The Contractor shall guarantee the structures for one year against faulty materials, faulty workmanship and failure to meet the specifications requirements. Said guarantee by the Contractor shall not apply to damage caused by earthquakes or other acts of God, land subsidence or faulty operations or any abuse of the structures by others.