CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the A. F. Budge Mining Ltd. Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

A.F. Budge

ARIZONA DEPARTMENT OF TRANSPORATION

ADVERTISEMENT FOR BIDS

BID OPENING: FRIDAY March 11, 1988 at 11:00 A.M.

PROJECT AND LOCATION:
VLT-900-936 STATEWIDE (SURVEYS AND MISCELLANEOUS)
(Jerome State Park)

ROUTE NO.	MILEPOST	DISTRICT	ITEM NO.	FUND CODE
N/A	N/A	3	529	82560

The location and description of the proposed work and the representative items and approximate quantities are as follows:

The proposed work is located in Yavapai County in the immediate vicinity of the Town of Jerome and extends for one mile from U.S. 89A, approximate Milepost of 345.00, along the park entrance road to the Jerome State Historic Park. The work consists of grading and draining the roadway; furnishing and placing aggregate base and asphaltic concrete; furnishing and installing pipe; furnishing all material and constructing portland concrete cement pavement, concrete catch basins, guard rail, concrete curb, curb and gutter and sidewalk; furnishing all materials and constructing retaining walls; furnishing and applying painted permanent pavement marking; and other incidental work.

Roadway Excavation (Overexcavation)	Cu.Yd.	4,925
Roadway Excavation	Cu.Yd.	8,903
Aggregate Base, Class 3	Cu.Yd.	2,222
Portland Concrete Cement Pavement (6")	Sq.Yd.	136
Asphaltic Concrete (Miscellaneous Str.)	Ton	2,899
Pipe, Corrugated Metal	L.Ft.	198
Pipe, Culvert	L.Ft.	462
Flared End Section	Each	8
Concrete Catch Basin	Each	3
Permanent Pavement Marking Painted	L.Ft.	19,515
Sewer Pipe	L.Ft.	746
Retaining Wall (Criblock)	Sq.Ft.	10,065
Construction Surveying and Layout	L.Sum	1

The number of working days specified for the completion of the work is 140.

Project plans, specifications, and proposal pamphlets may be obtained from Contracts and Specifications Services, 1651 W. Jackson, Room 121F, Phoenix, AZ 85007, (602) 255-7221. Plans and bidding documents should be available for sale to bidders approximately two weeks following notice of advertisement for bids. The cost is $16.00. No refund will be made for plans and specifications returned. We cannot guarantee mail delivery.

No contracting firm will be issued a proposal pamphlet until it has become prequalified. The Application for Contractor Prequalification shall be filed at least 15 calendar days prior to the bid opening date. The Application may be obtained from Contracts and Specifications Services.

No proposal will be accepted from any contractor who is not a duly licensed contractor in accordance with Arizona Revised Statutes 32-1101 through 32-1170.03.

The Arizona Department of Transportation hereby notifies all bidders that pursuant to this advertisement for bids, Disadvantaged Business Enterprises will be afforded full opportunity to submit bids in response to this solicitation and will not be discriminated against on the grounds of race, color, sex, or national origin in consideration for an award.

A proposal guaranty in the form of either a certified or a cashier's check made payable to the State Treasurer of Arizona for not less than five percent of the amount of the bid or in the form of a surety (bid) bond for five percent of the amount of the bid shall accompany the proposal.

Surety (bid) bonds will be accepted only on the form provided by the Department and only from corporate sureties authorized to do business in Arizona.

Proposal pamphlets shall be returned <u>only</u> in the envelope provided by the Department to:

Arizona Department of Transportation
Highway Division
Contracts and Specifications Services
1651 West Jackson Street, Room 121-F
Phoenix, Arizona 85007-3276

Sealed bids will be received until the hour indicated and then publicly opened and read. No bids will be received after the time specified.

Engineering Specialist: Rik Richter (602) 255-8260
Construction Supervisor: Cliff Passmore (602) 632-7826

DALLIS B. SAXTON, Engineer-Manager
Contracts & Specifications Services

VLT-900-936
12/29/87
10/88
RR/lg

Registered Professional Engineer (Civil)
CERTIFICATE NO.
9178
MAURILIO
OLLERVIDES
Date Signed 1/12/88
ARIZONA, U.S.A.

SPECIAL PROVISIONS

FOR

ARIZONA PROJECT

VLT-900-936

STATEWIDE (SURVEYS AND MISCELLANEOUS)

(Jerome State Park)

GRADE, DRAIN and AC PAVE

PROPOSED WORK:

The proposed work is located in Yavapai County in the immediate vicinity of the Town of Jerome and extends for one mile from U.S. 89A, approximate Milepost of 345.00, along the park entrance road to the Jerome State Historic Park. The work consists of grading and draining the roadway; furnishing and placing aggregate base and asphaltic concrete; furnishing and installing pipe; furnishing all material and constructing portland concrete cement pavement, concrete catch basins, guard rail, concrete curb, curb and gutter and sidewalk; furnishing all materials and constructing retaining walls; furnishing and applying painted permanent pavement marking; and other incidental work.

(SPC87ST, CS, 09/01/87)

SPECIFICATIONS:

The work embraced herein shall be performed in accordance with the requirements of the following separate documents:

Arizona Department of Transportation, Highways Division, Standard Specifications for Road and Bridge Construction, Edition of 1987,

Arizona Department of Transportation, Highways Division, Standard Drawings, listed in the project plans and defined hereinafter,

Arizona Department of Transportation, Traffic Control Manual for Highway Construction and Maintenance, August, 1981,

Manual on Uniform Traffic Control Devices for Streets and Highways, 1978, and Amendments, and

The Proposal Pamphlet which includes the following documents:

These Special Provisions,

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246), July 1, 1978, Revised November 3, 1980 and Revised April 15, 1981,

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246), July 1, 1978, Revised November 3, 1980 and Revised April 15, 1981,

Executive Order 75-5, April 28, 1975, Revised November 25, 1980,

Compliance Reports, Non-Federal Aid Projects, July 1, 1975, Revised May 20, 1981,

Proposal,

Bidding Schedule,

Surety (Bid) Bond, 12-1303,

Certification With Regard to the Performance of Previous Contracts or Subcontracts, Subject to the Equal Opportunity Clause of Executive Order No. 75-5 and the Filing of Required Reports, Non-Federal Aid Projects, July 1, 1975,

Certification With Respect to the Receipt of Addendums, and

Affidavit by contractor certifying that there was no collusion in bidding for contract.

BID SUBMISSION:

In the submission of a bid, the contractor shall completely execute the following documents:

Proposal,

Bidding Schedule,

Surety (Bid) Bond, 12-1303,

Certification With Regard to the Performance of Previous Contracts or Subcontractors, Subject to the Equal Opportunity Clause of Executive Order No. 75-5 and the Filing of Required Reports, Non-Federal Aid Projects, July 1, 1975,

Certification With Respect to the Receipt of Addendums, and

Affidavit by contractor certifying that there was no collusion in bidding for contract.

PROPOSAL GUARANTY:

Each bidder is advised to satisfy himself as to the character and the amount of the proposal guaranty required in the Advertisement for Bids.

CONTRACT DOCUMENTS:

The bidder to whom an award is made will be required to execute a Performance Bond and a Payment Bond, each in 100 percent of the amount of his bid, an Insurance Certificate and the Contract Agreement.

A copy of these documents is not included in the Proposal Pamphlet which is furnished to prospective bidders; however, each bidder shall satisfy himself as to the requirements of each document.

The documents, approved by the Department of Transportation, Highways Division, are identified as follows:

Statutory Performance Bond, 12-1301, December, 1975
Statutory Payment Bond, 12-1302, December, 1975
Contract Agreement, 12-0912, January, 1986
Certificate of Insurance, 12-0100, June, 1985

A copy of each document may be obtained by making a request to Contracts and Specifications Services.

COPIES OF PROJECT DOCUMENTS:

Distribution of a limited number of plans and Special Provisions will be made to the successful low bidder, at no charge, following confirmation of bid prices and DBE submittal, if applicable. The distribution will be made on the following basis:

CONTRACT SIZE (DOLLARS)	FULL SIZE PLANS	1/2 SIZE PLANS	BOUND BID BOOKS	UNBOUND BID BOOKS
$0 - $10,000,000	2	25	5	25
over $10,000,000	5	50	5	50

These plans and Special Provisions will be set aside and designated for use by the low bidder along with an equal number held in reserve for the responsible District Office. In the event that excess documents remain following bid opening, the additional documents will be evenly split between the low bidder and the A.D.O.T. District Office.

Any additional plans or Special Provisions that the low bidder may require beyond the above distribution will be available at the invoice cost of printing by ordering thru the Engineer.

MATERIAL AND SITE INFORMATION:

Projects requiring materials, excavation, or site investigation may have additional information available concerning the material investigations of the project site and adjacent projects. This information, when available and applicable, may be examined in the Office of the Assistant State Engineer, Materials Section, 206 S. 17th Avenue, Phoenix, Arizona 85007. This information will not be attached to the contract documents. Copies of available information may be purchased by prospective bidders.

(NOGOAL, CS, 09/01/87)

DISADVANTAGED BUSINESS ENTERPRISES:

Policy:

It is the policy of the Arizona Department of Transportation (Department) that Socially and Economically Disadvantaged Business Enterprises (DBE's) shall have maximum opportunity to participate as contractors, subcontractors, suppliers, or vendors in the performance of contracts.

RIGHT-OF-WAY:

The Arizona Department of Transporation has not secured the rights of entry to the nine parcels described below. It is expected that such rights to occupy and use the right of way will be acquired by April 15, 1988. Until such time as the Department secures these rights, the contractor shall schedule and conduct his operations so as to avoid entering these parcels.

13-426 (Verde Exploration): Sta. 0+50 - 1+25 Lt. (East Avenue); Sta 8+11 - 55+53 Rt., Sta. 12+65 - 15+30 Lt., Sta. 16+05 - 16+65 Lt. and Sta. 17+86 - 59+10 Lt. (Park Road); Sta. 0+00 - 6+20 Lt., Sta. 7+60 - 16+10 Lt., Sta. 0+00 - 6+05 Rt. and Sta. 7+75 - 16+35 Rt. (Little Daisey Road).

13-430 (Manley): Sta. 11+66 - 12+18 Lt.

13-431 (Pierce): Sta. 12+18 - 12+65 Lt.

13-437 (Baisch): Sta. 15+50 - 16+05 Lt.

13-448 (Dietrich): Sta. 7+86 - 8+11 Rt.

13-531 (Palumbo): Sta. 16+65 - 17+86 Lt.

13-532 (Ortiz): Sta. 7+78 - 7+86 Rt.

13-533 (Jerome Verde Dev.): Sta. 6+20 - 7+60 Lt. and Sta. 6+05 - 7+75 Rt. (Little Daisey Road).

13-536 (Town of Jerome): Sta. 28+50 - 29+35 Rt. (Little Daisey Road).

GENERAL REQUIREMENTS:

Construction Phasing:

Construction phasing is expected to accomplish the following goals for this project:

1. To minimize the time that the Park Road (UVX Mine Road) is completely closed.

2. To provide continuous access to the mine for the A.F. Budge Mining personnel, ore trucks and any needed emergency equipment at approximate Sta. 50+00 Rt.

3. To provide continuous access to the homes near the mine, for the residents, via the Little Daisy Road and a portion of the Mine Road.

4. To provide reasonable access to the home at Sta. 30+50 Lt.

5. To provide once a week access to the mine for semi trucks delivering materials for the mine, via the Park Road.

6. To provide weekend access to the Museum, for tourists, as soon as possible.

The following is presented as a possible construction schedule intended to accomplish the goals listed above:

Phase 1 Little Daisy Road Construction.

Phase 2 Construction from U.S. 89A to approximately Sta. 31+00 including demolitions, cribwall construction, overexecavation areas, installation of culverts, sleeves, and water lines and rough grading, sidewalk and concrete paving of East Avenue.

Phase 3 Construction from Sta. 31+00 and Sta. 51+50 to 59+84 including overexcavation, construction of ACTO at Sta. 32+01.50 Lt., cribwall construction, installation of culverts and rough grading.

Phase 4 Construction from Sta. 33+00 to 47+50 including sewer lines and rough grading.

Phase 5 Construction from Sta. 47+50 to 51+50 including concrete retaining walls, water lines and rough grading.

Phase 6 Asphaltic concrete paving including fine grading, ABC installation, signing and striping for the project.

Bench Marks:

Bench Marks that will be furnished by the Department and shall be placed by the contractor. No separate payment will be made for placing bench marks, the cost being considered as included in the price of contract items.

Continuous Water and Sewer Service:

The contractor shall be responsible for maintenance of water service and sanitary disposal of waste during the construction of the water and sewer pipes. Suitable pumps, temporary pipe lines, and/or hauling equipment shall be provided to prevent backing up of flow in underground systems upstream from construction sites.

No measurement or direct payment will be made for pumping and/or disposal of water or sewage and all costs in the temporary connections as described and specified herein and on the project plans, the cost being considered as included in Item 8080286-Pipe (PVC) (6") (Schedule 80) and Item 8080395-Pipe (PVC) (4") (Schedule 80).

ADDITIONS AND REVISIONS TO THE STANDARD SPECIFICATIONS:

(ERATA100, CS, 12/02/87)

STANDARD SPECIFICATIONS ERRATA:

The following changes shall be made to cover errors in the text of the Standard Specifications:

Page 41: The second sentence of Subsection 105.18(B) shall read:

Such demand for Arbitration shall be made by the claimant within 30 days measured from actual receipt of the State Engineer's ....

The last sentence of 105.18(C) shall read:

The scope of the arbitration proceeding shall be restricted and limited to the matters presented to the State Engineer or authorized representative upon which the decision or determination was made and shall include no other matters.

The second sentence of 105.18(C) is hereby deleted.

Page 141: The last line of the first column of Table 305-2 shall read:

* less than 350

Page 151: The second sentence of the third paragraph of Subsection 401-3.05(B) is hereby deleted.

Page 166: The first sentence of the first paragraph of Subsection 402-3.03 shall read:

Areas to be repaired will be designated by the Engineer and shall be repaired before ....

Page 264: The first sentence of Subsection 410-3.07 shall read:

At least three pneumatic rollers conforming to the requirements of Subsection 406-10.08 (A) (2)....

Page 408: The last sentence of the second paragraph shall read:

All devices provided under this section which are lost, stolen, destroyed or are deemed unacceptable by the Engineer, while their use is required on the project, shall be replaced by the contractor and, except as hereinafter specified for temporary impact attenuators, at no additional cost to the Department.

(CNSLT101, CS, 09/01/87)

SECTION 101 - DEFINITIONS AND TERMS:

101.21 Engineer: of the Standard Specifications is modified to add:

It is the intent of the Department to utilize a consultant engineering firm as its agent to administer this contract.

Except as may be otherwise specified in the agreement between the consultant engineering firm and the Department, the ". . . assistant or other representative duly authorized by the State Engineer to act for him who is responsible for engineering supervision of the construction", as defined under Subsection 101.21 of the Standard Specifications, shall also mean the duly authorized consultant engineering firm.

(PLANS101, CS, 09/01/87)

SECTION 101 - DEFINITIONS AND TERMS:

101.34 Plans: the last paragraph of the Standard Specifications is revised to read:

The cost of each set of Standard Drawings is $5.00. Single copies of each drawing are also available at $0.15 each. The above costs include postage. The minimum mail order is $1.00.

(EARTH102, CS, 09/01/87)

SECTION 102 - BIDDING REQUIREMENTS AND CONDITIONS:

102.07 Examination of Plans, Specifications and Site of Work: of the Standard Specifications is modified to add:

A set of cross section sheets will be available at Highway Plans Services, 205 South 17th Avenue, Room 108E, Phoenix, and at the project office responsible for the project, for contractors to review in the process of preparing bids for projects containing earthwork.

(PROP102, CS, 11/20/87)

SECTION 102 - BIDDING REQUIREMENTS AND CONDITIONS:

102.11 Delivery of Proposals: of the Standard Specifications is modified to add:

No bid will be accepted from a contractor who is not a duly licensed contractor in accordance with Arizona Revised Statutes 32-1101 through 32-1170.03.

Registrar of Contractors
800 West Washington Street
6th Floor
Phoenix, AZ 85007
Phone: (602) 255-1502

(UTIL107, CS, 09/01/87)

SECTION 107 - LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC:

107.19 Contractor's Responsibility for Utility Property and Services: of the Standard Specifications is modified to add:

The contractor's attention is directed to the requirements of A.R.S. 40-360.21 through .29 requiring all parties excavating in public streets, alleys or utility easements to first secure the location of all underground facilities in the vicinity of the excavation.

The following utilities have facilities in conflict and are to be relocated prior to commencement of construction. It shall be the contractor's responsibility to determine the exact location of the utilities prior to commencing construction and notify the utility at least 72 hours in advance of commencing construction.

Electric:

Arizona Public Service Company: Mr. Richard Boyle Jr.
at (602) 634-3379

APS has a pole at Sta. 56+15 to be relocated under agreement for reimbursement in addition to their other facilities within the project to be removed and/or relocated at their own expense. Exercise "CAUTION" at all overhead power lines within the project. NOTE: Mountain Bell and APS are joint users at some locations.

Telephone:

Mountain Bell: Ms. Mary Addis/Mr. Tom Guthrie
at (602) 634-7556

Mountain Bell has a telephone line to be relocated after APS relocates their pole at Sta. 56+15. Their relocation will be at their own expense. Exercise "CAUTION" at all overhead telephone lines.

Gas:

Southern Union Gas: Mr. Ed Shermantine
at (602) 634-5555

Southern Union Gas has an existing 2 inch gas line and valves requiring lowering and/or relocation throughout the project limits. This work will be done by Southern Union Gas under an agreement for reimbursement due to their prior rights status.

The following utility has facilities which are in conflict and will be relocated as a part of this ADOT project contract.

Water:
Sewer:

Town of Jerome: Mr. Ron Ballatore
at (602) 634-7943

The Town of Jerome has a fire hydrant installation, water lines, sewer lines, and sleeves to be relocated and/or installed by the contractor as a part of this project as a result of the prior rights of the facilities within this project.

(SUBC108, CS, 11/20/87)

SECTION 108 - PROSECUTION AND PROGRESS:

108.01 Subletting of Contract: of Standard Specifications is modified to add:

Contractors shall not sublet to subcontractors who are not duly licensed contractors in accordance with Arizona Revised Statutes 32-1101 through 32-1170.03.

Further information regarding licensing may be obtained by contacting:

Registrar of Contractors
800 West Washington Street
6th Floor
Phoenix, AZ 85007
Phone: (602) 255-1502

The following items are hereby designated as Speciality Items:

7080001, 7080011, 8050014 and 9250001.

(FORCE109, CS, 09/01/87)

SECTION 109 - MEASUREMENT AND PAYMENT:

109.04 (B)(3) Equipment: of the Standard Specifications is modified to add:

RATE ADJUSTMENT FACTOR TABLE

Year of Manufacture	Table A	Table B
1987 and later	-	1.00
1986	.907	.998
1985	.903	.990
1984	.896	.987
1983	.892	.983
1982	.885	.958
1981	.865	.933
1980	.835	.908
1979	.816	.872
1978 or earlier	.787	.846

Use Table A for equipment listed in Blue Book sections copyrighted in 1986.

Use Table B for equipment listed in Blue Book sections copyrighted in 1987.

ITEM 2020001 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS:

The work under this item shall include but not be limited to the following:

1) Removal of 687 L.Ft. of sewer pipe.

2) Removal of concrete sidewalk, 101 L.Ft.

3) Removal of 586 L.Ft. of pipe culverts and 2 concrete headwalls.

4) Removal of 608 L.Ft. of Guard rail.

5) Remove and salvage 2 road signs. The contractor shall carefully remove the road signs in such a manner as to prevent any damage and give them to the Engineer.

6) Removal of 165 L.Ft. water line.

7) Remove and salvage rock in 11 L.Ft. of rock wall (Sta. 7+75± Lt.). The contractor shall carefully remove the rock wall in such a manner as to prevent any damage to the rock. The rock may be used as part of ITEM 9140155.

8) Removal of 4 L.Ft. of curb (Sta. 7+80± Rt.).

9) Remove and relocate 14 road signs and the Jerome State Park sign (Sta. 7+95± Lt.).

10) Removal of 2 water valves and 1 fire hydrant (Sta. 7+95± Lt.).

11) Removal of wooden garage structure (Sta 8+10± Rt.).

12) Removal of storage building (Sta. 16+80± Lt.).

13) Removal of shed (Sta. 17± Lt.).

14) Removal of 2 sewer box structures (Sta. 30+26 Rt. and Sta. 33+93 Rt.).

15) Removal of a manhole (Sta 36+80± Lt.).

16) Removal of five ballards (Sta 43+00± Rt.).

17) Removal of the concrete road support structure (Sta 49+12± Rt.).

18) Removal of existing concrete box (Sta 49+80± Rt.).

19) Removal of 2 L.Ft. of concrete channel (Sta. 53+35 Rt.).

20) Removal of 2 concrete catch basins (Sta. 53+35± Rt. and Sta. 55+20± Rt.).

21) Remove and salvage 65 L.Ft. of 6 foot high chain link fence and chain link gate (Sta. 53+50±). The contractor shall carefully remove the chain link fence and the chain link gate in such a manner as to prevent any damage to these items and give them to the Park Manager at the Jerome State Park Museum.

22) Removal of steel grate (Sta. 54+15± Rt.).

SECTION 303 - AGGREGATE SUBBASES AND AGGREGATE BASES:

303-2 Materials: of the Standard Specification is modified to add:

There is no Department-furnished source of aggregate base. The contractor shall provide a source in accordance with the requirements of Section 1001 of the Specifications.

Aggregate Base, Class 3 shall conform to the following:

Sieve Size	Percent Passing
1 inch	100
3/4 inch	80-100
3/8 inch	55- 75
No. 8	30- 45
No. 200	0- 8

The plasticity index shall not exceed 3, when determined in accordance with the requirements of AASHTO T90.

(PCCP401, CS, 09/01/87)

SECTION 401 - PORTLAND CEMENT CONCRETE PAVEMENT:

401-3.06 (A) Sawed Joints: paragraphs 7 and 8 of the Standard Specifications are revised to read:

Immediately prior to applying the sealant, each joint face shall be cleaned by sand blasting. The joint shall then be cleaned with high pressure air jets so that each face is clean, dry and dust free. The air shall be oil and water free. Water jets shall not be allowed.

Immediately prior to applying joint sealant, an expanded closed cell polyethylene foam backer rod, approved by the Engineer, shall be inserted along the joint as shown on the plans. The backer rod shall be compatible with the joint sealant to be applied.

(CRKBT404, CS, 09/01/87)

ITEM 4040301 - SEAL CRACKS IN ASPHALTIC CONCRETE PAVEMENT:

1. Description:

The work consists of routing and cleaning cracks in existing bituminous pavement and sealing the cracks with asphalt-rubber sealant as shown on the plans and as specified herein.

2. Material Requirements:

2.01 General:

Crack sealant shall be any one of the following:

a. A mixture of asphalt and 100 percent vulcanized, granulated rubber.

b. A mixture of asphalt, extender oil, and reclaimed high natural and ground vulcanized rubber.

c. Premixed block material consisting of asphalt and 100 percent vulcanized rubber.

d. Premixed block material consisting of asphalt and extender oil, reclaimed high natural and ground vulcanized rubber.

2.02 Ground Rubber:

Ground rubber shall meet the requirements of these specifications and the contractor shall furnish certification that the material meets the requirements. The certificate shall be signed by a party legally able to bind the supplier and his signature shall be notarized.

Ground rubber shall be free of fabric, wire or other contaminating materials. No more than four percent by weight calcium carbonate may be included to prevent the particles from sticking together.

Reclaimed high natural rubber shall be a dry, free flowing blend of reclaimed high natural rubber and vulcanized rubber scrap which has a natural rubber content of at least 25 percent as determined in accordance with the requirements of ASTM D 297.

The gradation and the specific gravity (S.G.) of the ground rubber shall meet the following requirements:

Sieve Size	Asphalt-Rubber (Vulcanized)	Asphalt-Rubber (Reclaimed High Natural)	Premixed Asphalt-Rubber (100 Percent Vulcanized)	Premixed Asphalt-Rubber (Reclaimed High Natural)
No. 8	100	100	100	100
No. 10	98-100		98-100	
No. 30		30- 50		30- 50
No. 40	0- 10		0- 10	
No. 50		5- 20		5- 20
No. 100		0- 10		0- 10
S.G.	1.15 ± 0.2	1.25 ± 0.2	1.15 ± 0.2	1.25 ± 0.2

2.03 Asphalt Cement:

(A) Asphalt-Rubber (Vulcanized):

Asphalt cement for asphalt-rubber (vulcanized) shall be fully compatible with the ground rubber used and shall be one of the following types:

Type A:

Type A asphalt cement shall conform to the requirements for Asphalt Cement, AC-10 as presented in Table 1005-1 of the Specifications.

Type B:

Type B asphalt cement shall conform to the requirements for Asphalt Cement, AC-20 as presented in Table 1005-1 of the Specifications.

(B) Asphalt-Rubber (Reclaimed High Natural):

Asphalt cement for asphalt-rubber (reclaimed high natural) shall conform to the requirements for Asphalt Cement, AC-20 as presented in Table 1005-1 of the Specifications and shall be fully compatible with the ground rubber used to produce the asphalt-rubber material.

2.04 Extender Oil:

Extender oil shall be a resinous, aromatic hydrocarbon meeting the following requirements when tested as indicated:

Test	ASTM Test Method	Requirement
Viscosity, SSU at 100 degrees F.	D 88	2,500 Minimum
Flash Point, COC Open Cup	D 92	392 Minimum
Molecular Analysis	D 2007	
Asphaltene, % by Weight		0.1 Maximum
Aromatic, % by Weight		55 Minimum

2.05 Material Mixing Requirements:

(A) General:

The methods used to combine the materials and the design of the equipment shall be such that the Engineer can readily determine the percentages by weight of the materials being incorporated into the mixture.

(B) Asphalt-Rubber (Vulcanized):

The mixture shall consist, by weight, of 75 (± 2) percent asphalt and 25 (± 2) percent rubber.

The materials shall be combined as rapidly as possible, for such a time, and at such a temperature that the consistency of the mixture approaches that of a semi-fluid material. Since the time required to achieve this state is a function of the temperature of the asphalt, the time may vary and shall conform to that recommended by the manufacturer.

(C) Asphalt-Rubber (Reclaimed High Natural:)

The mixture shall be a combination of asphalt, extender oil, and rubber. The amount of rubber to be used shall be 25 (± 2) percent of the total weight of the mixture. The materials shall be combined as rapidly as possible, for such a time, and at such a temperature that the consistency of the mixture approaches that of a semi-fluid material. Since the time required to achieve this state is a function of the temperature of the asphalt, the time may vary and shall conform to that recommended by the manufacturer.

3. Construction Requirements:

The equipment used in the application of asphalt-rubber material shall have a mixing system in the heating unit in order to maintain a consistent, uniform, homogeneous mixture throughout the crack sealing operation. The equipment shall be designed to provide a continuous supply so that operations may proceed without delays.

Asphalt-rubber mixture shall not be placed during wet weather or under other conditions which may adversely affect the operations. The sealant shall not be placed in cracks which are wet. If weather conditions are such as to adversely affect the operations, the Engineer will determine whether or not the operations should cease. He shall be the sole judge.

Cracks which have an average clear opening of less than 1/4 inch shall not be sealed. Cracks which have an average clear opening of 1/4 inch to 1/2 inch shall be routed to a minimum 1/2 inch opening. Cracks which are 1/2 inch or larger shall be cleaned and sealed. The Engineer shall be the sole judge in determining which cracks shall be sealed.

Immediately prior to sealant application, the cracks shall be thoroughly cleaned with high velocity compressed air or by other methods approved by the Engineer. Cracks shall be cleaned to a depth equal to at least two times the clear opening of the crack.

Asphalt-rubber sealant shall be applied in accordance with the manufacturer's recommendations and the equipment used shall be as recommended by the manufacturer.

4. Method of Measurement:

Sealed cracks in asphaltic concrete pavement will be measured by the linear foot.

5. Basis of Payment:

The accepted quantities of sealed cracks measured as provided above, will be paid for at the contract price per linear foot complete in place.

(PRCST601, CS, 09/01/87)

SECTION 601 - CONCRETE STRUCTURES:

601-1 Description: of the Standard Specifications is modified to add:

The following have been approved as alternates to cast-in-place minor structures:

Utility Vault Company Drawing HD-103, revised 5-12-78, has been approved as an alternate to Standard Drawing C-15.80.

O'Malley Pipe Company Drawing dated 8/15/79 has been approved as an alternate to Standard Drawing C-15.80.

Utility Vault Company Drawing HD-121, revised 5-12-78, has been approved as an alternate to Standard Drawing C-15.10 or C-15.30.

Pre-Cast Mfg. Co. Drawing SMH-4, revised 07-02-82, has been approved as an alternate to Standard Drawing C-18.10.

The "H" dimension for catch basins shall be determined in the field prior to casting.The contractor is advised to acquaint himself with conditions peculiar to the project which might limit the use of precast items.

To obtain approval of drawings for precast minor structures, the drawings must be submitted to the Engineer at least six weeks in advance of their need. Eight sets of clear, legible drawings, not exceeding 36 inches by 22 inches in size, must be submitted by the manufacturer. If corrections are required, one set of drawings will be returned with the required revisions noted thereon. After corrections have been made, two sets of corrected drawings must be re-submitted. Upon approval, the manufacturer will be notified in writing and the precast item will be listed as an approved alternate.

Drawings of proposed precast minor structures should be submitted to:

Arizona Department of Transportation
Assistant State Engineer, Construction
206 South 17th Avenue, Room 172A
Phoenix, Arizona 85007

Color Coating:

A color coating shall be applied to all exposed surfaces of the concrete retaining walls that can be seen by the traveling public and pedestrians, as determined by the Engineer. The coating shall extend at least one foot below finished ground surface.

601-2 Materials: of the Standard Specifications is modified to add:

The color coating shall be a semi-opaque colored toner containing only methyl methacrylate-ethylate copolymer resins, inorganic oxide toning pigments suspended in solution at all times by a chemical suspension agent and solvent, and shall conform to the following:

Solids	Not less than 21 percent by volume.
Viscosity	150 to 500 cps when tested in accordance with ASTM D 2196.
Solvent	Hydrocarbon base tested by MIR infrared spectrograph.
Water content	Not more than 1.00 percent by volume.

There shall be no settling or color variation. Use of vegetable or marine oils, paraffin materials, stearates or organic pigments in any part of coating formulation will not be permitted. The coating material shall weigh at leat 8.3 pounds per gallon.

The color coating shall match the color of the building located at Sta. 50+00 Lt., as approved by the Engineer.

601-3.09 Color Coating: of the Standard Specifications is modified to add:

The contractor shall furnish a sample of concrete with the proposed colored coating applied. The sample shall be 2 feet by 2 feet and the concrete shall have a surface similar in pattern and texture to that to be used on the retaining wall. The coating shall be applied by thye same methods as will be used to coat the structure. No work shall be accomplished until the sample has been approved by the Engineer.

All concrete shall be finished and cured in accordance with the requirements of the specifications prior to the application of the coating material.

Within 24 hours before the coating material is to be applied, the concrete surfaces to be coated shall be lightly sandblasted to remove dirt, curing agents, form release agents, or other foreign substances which would be detrimental to the coating penetration or color. All concrete surfaces to be coated shall be clean, completely dry, and free of frost or other foreign substances at the time of the application of both the first coat and the second coat.

The coating material shall be applied in two coats by spray, brush, or roller, at the option of the contractor. Each application shall be at the approximate rate of one gallon per 150 square feet. The second coat shall not be applied until thorough solvent release has been achieved for the first coat.

The coating material shall be applied at an ambient temperature of from 40 degrees F. to 90 degrees F. Should ambient temperatures consistently exceed 90 degrees F., manufacturer's recommendation for application at higher temperatures shall be followed.

601-6 Basis of Payment: of the Standard Specifications is modified to add:

No measurement or direct payment will be made for the color coating as described and specified herein and on the project plans, the cost being considered as included in Item 9140156-Retaining Wall (Concrete) (Details C & D).

(PDMPT701, CS, 09/01/87)

SECTION 701 - MAINTENANCE AND PROTECTION OF TRAFFIC:

701-4.02 (B) Elements of Work (Complete-in-Place): of the Standard Specifications is revised to read:

The elements of work listed under this subsection will be measured for payment upon the satisfactory completion of the initial installation or obliteration. Except as hereinafter specified under Basis of Payment, no subsequent measurements will be made.

Element of Work	Unit	Rate($)
Preformed Pavement Marking (Type II)	L.Ft.	1.60
Preformed Pavement Marking (Type III)	L.Ft.	1.30
Temporary Pavement Marking (Painted Line)	L.Ft.	0.12
Obliterate Pavement Marking	L.Ft.	0.50
Delineator (Std. Dwg. 4-M-4.01)	Each	25.00

Raised Pavement Marker (Temporary)	Each	4.00
Raised Pavement Marker (Permanent) (Used As Temporary)	Each	4.50
Chip Seal Pavement Marker	Each	2.00

701-4.02 (C) Elements of Work (In Use): of the Standard Specifications is revised to read:

The elements of work listed under this subsection will be measured from the point at which the element is put into active use on the project and accepted by the Engineer until such times that the Engineer determines that the element is no longer required.

Element of Work	Unit	Rate($)
Temporary Concrete Barrier(In Use)	L.Ft./Day	0.04
Impact Attenuation Device (Sand Barrel) (In Use)	Ea./Day	0.05
Impact Attenuation Device (Energy Absorbing Terminal)(In Use)	Ea./Day	1.00
Impact Attenuation Device (Truck Mounted)	Hour	27.00
Flashing Arrow Panel	Hour	5.00
Pilot Truck	Hour	11.90
Relocation Service, Truck	Hour	13.50
Flagger	Hour	18.78
Flagger (Uniformed Police Officer)	Hour	21.42
Official Police Vehicle	Mile	0.20
Operator (Pilot Truck, Relocation Service, and Truck Mounted Attenuation Device)	Hour	22.70
Relocation Service, Barricade Setter	Hour	10.49
Maintain Changeable Message Board	Hour	1.45
Vertical Panels	Ea./Day	0.45
Barricade (Type II)	Ea./Day	0.45
Barricade (Type III)	Ea./Day	0.85
Flashing Warning Light (Type A)	Ea./Day	0.25
Flashing Warning Light (Type B)	Ea./Day	2.00
Steady-Burning Warning Light, (Type C)	Ea./Day	0.85
High Intensity Reflective Sheeting, Small Sign (Less than 10 Sq.Ft.)	Ea./Day	1.00
High Intensity Reflective Sheeting, Medium Sign (10 Sq.Ft. to 16 Sq.Ft.)	Ea./Day	1.25
High Intensity Reflective Sheeting, Large Sign (More than 16 Sq.Ft.)	Ea./Day	1.50
Standard Intensity Reflective Sheeting, Small Sign (Less than 10 Sq.Ft.)	Ea./Day	0.50

Standard Intensity Reflective Sheeting, Medium Sign (10 Sq.Ft. to 16 Sq.Ft.)	Ea./Day	0.75
Standard Intensity Reflective Sheeting, Large Sign (More than 16 Sq.Ft.)	Ea./Day	1.00
Sign Stand (Large, 9 Sq.Ft. or Larger)	Ea./Day	0.90
Sign Stand (Small, Less than 9 Sq.Ft.)	Ea./Day	0.60
Traffic Cones, 28 inch	Ea./Day	0.71
Drum (18" x 36")	Ea./Day	1.20

701-6 Basis of Payment: of the Standard Specifications is revised to read:

The contractor will be compensated for accepted quantities of Maintenance and Protection of Traffic at the predetermined reimbursement rates and in accordance with the procedures of Subsection 701-4 of the Standard Specifications.

(PPM708, CS, 09/01/87)

SECTION 708 - PERMANENT PAVEMENT MARKINGS:

708-1 Description:

The work under this section shall consist of cleaning and preparing the pavement surface, furnishing all materials and applying white or yellow chlorinated rubber traffic paint and reflective glass beads at the locations and in accordance with the details shown on the plans, MUTCD, the requirements of these specifications, or as directed by the Engineer.

708-2 Materials:

708-2.01 Pavement Marking Paint:

(A) General:

All material used in the formulation of the pavement marking paint shall meet the requirements herein specified. Any materials not specifically covered shall meet the approval of the Engineer.

(B) Composition Requirements:

The permanent pavement marking paint shall consist of the following components with all percentages specified being by weight:

(1) Pigment Composition: percent by weight of total pigment

	White	Yellow
Titanium Dioxide, Rutile (ASTM D 476, Type II 92% min.)	24.0-26.0	7.0-9.0
Medium Chrome Yellow (ASTM D 211, Type III 87% min.)		15.0-17.0
Zinc Oxide (ASTM D 79 American Process Type)	7.5-9.5	7.0-9.0
Magnesium Silicate (ASTM D 605)	6.0-38.0	35.0-37.0
Calcium Carbonate (ASTM D 1199, Type GC, Grade I or II)	28.0-30.0	31.0-33.0
Antisettling Agency (Bentone 34 or Claytone 40) See Note 1		

(2) Vehicle Composition: percent by weight

	White and Yellow
Alkyd Resin Solution - See Note 2	21.3 min.
Chlorinated Rubber (Parlon S20 or Alloprene X20)	16.4 min.
Chlorinated Paraffin (Fed. Spec. Mil-C 429C, Type I)	11.3 - 13.3
Lead Drier 24% (ASTM D 600 Class B)	0.2 - 0.4
Cobalt Drier 6% (ASTM D 600 Class B)	0.05 - 0.25
Antiskinning Agent (Exkin or Equivalent) See Note 3	0.45 - 0.55
Stabilizer (Propylene Oxide) See Note 4	
Toluene (ASTM D 362)	26.1 max.
Heptane (Technical Grade)	6.5 - 8.5
Methyl Ethyl Ketone (ASTM D 740)	14.7 min.
Methanol (ASTM D 1152)	0.2 - 0.4

Note 1. Sufficient dispersing and suspending agent shall be added to prevent excessive settling.

Note 2. Alkyd Resin Solution: The medium oil soya-modified alkyd resin shall be supplied as 59 to 61 percent non-volatile solids in VM & P Naphtha (TT-N-95b, Type I). The resin solids shall contain an oil acid content of 48 to 55 percent, a phthalic anhydride content of 33 to 37 percent and an acid number of 8 maximum. The alkyd resin solution shall have a maximum of 9 (Gardner). The alkyd resin solution, reduced to 45 percent solids with VM & P Naphtha, shall have a viscosity of D to G (Gardner-Holdt). No resin will be permitted. The oil fatty acids shall be of vegetable origin, either alkali refined soya bean oil or the fatty acids of soya bean oil having a minimum iodine number of 115. No recovered oil marine or soya food fatty acid derivatives shall be used. The alkyd resin solution must tolerate a 500 percent by weight dilution with VM & P Naphtha. A solution containing alkyd resin solution, chlorinated rubber, methyl ethyl ketone, toluene and heptane in the proportions given in the vehicle composition shall be clear, transparent and show no separation after storage of 24 hours in a three-quarter full test tube at 26.7 degrees+ 2.8 degrees C (80 degrees+ 5 degrees F).

Note 3. Sufficient antiskinning agent shall be used to prevent skinning. Material shall be added at the proper time during the manufacturing of the paint so as to minimize losses due to volatilization and maximize retension in the packaged product.

Note 4. Other approved Stabilizers: Styrene Oxide - 3 pounds per 100 gallons of paint; Thermolite 813 - 0.5 pounds per 100 gallons of paint.

(C) Manufacturing Formulations:

The typical formula which may serve as a guide for the paint manufacture is as follows: (Yield is approximately 100 gallons).

	POUNDS	
	White	Yellow
Titanium Dioxide	150	50
Medium Chrome Yellow		100
Zinc Oxide	50	50
Magnesium Silicate	224	224
Calcium Carbonate	175	200
Antisettling Agent (Claytone)	5	5
Methanol	2	2
Alkyd Resin Solution (60% non-volatile)	130	130
Chlorinated Rubber (93% non-volatile)	100	100
Chlorinated Paraffin	75	75

24% Lead Drier	2	2
6% Cobalt Drier	1	1
Antiskinning Agent (Exkin)	3	3
Stabilizer (Propylene Oxide)	3	3
Toluene	160	160
Heptane	45	45
Methyl Ethyl ketone	90	90
	1215	1240

(D) Quantitative Requirements of Mixed Paint:

	White	Yellow
Pigment: percent by weight-See Note 5	48.9-50.6	49.9-51.6
Total Solids: percent by weight	69.4 min.	70.0 min.
Non-volatile Vehicle: percent by weight vehicle	38.9 min.	38.9 min.
Viscosity: K.U. at 77 F	76 ± 8	76 ± 8
Weight per Gallon: pounds	12.2 ± 0.2	12.5 ± 0.2
Fineness of Grind: Hegman gauge, North Standard Scale	3 min.	3 min.
Drying Time: minutes	1 - 4	1 - 4
Directional Reflectance:	80 min.	50 min.
Uncombined Water: percent by weight of paint	1.0 max.	1.0 max.
Coarse Particles and Skins: retained on a No. 325 mesh sieve, percent by weight of pigment.	1.0 max.	1.0 max.

Note 5. The extracted pigment upon analysis shall conform to the quantitative compositional requirements.

(E) Qualitative Requirements:

(1) Color of Yellow paint:

The color of the yellow paint shall visually match color chip No. 33538 of Fed. Std. 595 (Note 6). In case of dispute, the color shall be within the green and red tolerance limits when compared with the standard color chips of "Highway Yellow Color Tolerance Chart" U.S. Department of Commerce, Bureau of Public Roads PR Color No. 1, June 1965.

(2) Condition in Container:

The paint shall not show excessive settling in freshly-opened full can and shall be easily redispersed with a paddle to a smooth homogeneous state. The paint shall show no curdling, livering, caking, gelling or thixotropic properties, lumps, skins or color separation.

(3) Skinning:

The paint shall not skin within 48 hours in a three-quarter filled, tightly closed container.

(4) Storage Stability:

The paint shall show a viscosity increase of not more than five (5) Krebs units above the original viscosity and the degree of settling shall have a rating of six (6) or better (Note 7). When stored for twelve (12) months the paint must be usable, the drying time shall be as specified and the consistency range shall be 70 to 85 Krebs units.

(5) Flexibility and Adhesion:

The paint shall show no cracking, flaking or loss of adhesion when tested as specified. Apply a wet film thickness of 0.005 inches with a film applicator to a 3 by 5 inch tin panel weighing 0.39 to 0.51 lbs. per sq.ft., previously cleaned with benzene and lightly buffed with steel wool. Dry the paint film at 70 degrees to 80 degrees F in a horizontal position for 18 hours, then bake in an oven at 122 degrees $\pm$ 4 degrees F (47.8 degrees C to 52.2 degrees C) for two hours, cool to room temperature for at least 1/2 hour and bend over a 1/2 inch diameter rod and examine, without magnification.

(6) Water Resistance:

The paint shall show no softening, blistering, loss of adhesion or other evidence of deterioration other than a slight loss in gloss when tested as specified. Apply a wet film thickness of 0.015 inches with a film applicator to a clean glass plate. Let dry in a horizontal position at room temperature (70 degrees to 80 degrees F) for 72 hours. Immerse one-half the painted plate in distilled water at room temperature for 18 hours as specified in method 6011 of Fed. Test Method Std. No. 141, allow to dry for two hours and examine.

(7) Dilution Stability:

The thinned paint shall be uniform and show no separation, curdling or precipitation after reduction in the properties of eight parts by volume of the package material with not more than one part by volume of the appropriate thinner for each type of paint.

(8) Spraying Properties:

The paint as received or diluted no more than specified above shall have satisfactory spraying properties when applied (and held in a horizontal position) to tinplate or aluminum surfaces at a wet film thickness or approximately 0.015 inch. The sprayed film shall dry to a smooth uniform finish, free from roughness, grit, unevenness and other surface imperfections. The paint shall show no streaking or separation when placed on clean glass.

(9) Bleeding:

The bleeding characteristics shall be determined in accordance with ASTM D 969. The test panels shall be evaluated according to ASTM D 868, and the degree of resistance to bleeding shall have a numerical rating of six (6).

Note 6. Apply a wet film of 0.015 inches to a tin panel; let dry for 24 hours and compare color.

Note 7. Storage stability shall be determined in accordance with ASTM D 1309 Settling Properties of Traffic Paints During Storage; ASTM D 869 Evaluating Degree of Settling; and Consistency, Krebs-Standard Method 4281 of Federal Test Method Std. No. 141.

(F) Manufacturing Requirements:

(1) Inspection:

The manufacture shall advise the Engineer when paint is to be manufactured and shall furnish the Engineer free access to all parts of the plant and shall furnish every reasonable facility for sampling both the paint and the raw materials during the process of manufacturing.

All materials used in formulation shall meet the requirements herein specified. Any materials not specifically covered shall meet the approval of the Engineer.

(2) Testing:

All tests will be conducted in accordance with the latest test methods of the American Society for Testing and Materials, Federal Test Method Standard No. 141, and methods in use by Materials Services, Highways Division, and the Arizona Department of Transportation. Where both an ASTM and Federal Test Method is available for new materials or the finished product, the ASTM test method will prevail.

Evidence of adulteration or improper formulation shall be cause for rejection.

(3) Packaging:

The finished paint shall be homogeneous, free of dirt, water and other foreign matter. The paints shall be strained immediately prior to canning.

All shipping containers must comply with Federal Interstate shipping standards of the Department of Transportation, and be stamped 17-H in accordance with the standards. The containers must be lined so as to prevent attack by the paint. The lining must not come off the container as skins.

All containers of paint shall be labeled with weatherproof markings, showing the color, manufacturer's name, date of manufacture, tare weight, net weight, gross weight and manufacturer's batch number on the side of drum and also on the lid.

708-2.02 Reflective Glass Beads:

(A) General:

The beads shall be manufactured from glass of a composition designated to be highly resistant to traffic wear and to the effects of weathering.

The glass beads shall be moisture-proof, contain less than 1/4 of one percent moisture by weight, and be free of trash, dirt, or other deleterious materials.

Beads shall be essentially free of sharp angular particles showing milkiness or surface scoring or scratching. Beads shall be water white in color.

(B) Physical Requirements:

(1) Gradation:

When tested by the method provided in AASHTO M-247 (by use of US Standard Sieves) the grade sizes of the beads shall be as follows:

Size of Sieve	Percent Passing
No. 20	100
No. 30	75 - 95
No. 50	15 - 35
No. 100	0 - 5

(2) Roundness:

When tested by the method provided in ASTM D-1155-53 (Procedure B except paragraphs (F) and (G) are deleted) beads retained on any screen specified in the gradation requirements shall contain a minimum of 70% true spheres.

(3) Index of Refraction:

When tested by a liquid immersion method at a temperature of 25 degrees C, the beads shall have an index of refraction of 1.50 to 1.57.

(4) Specific Gravity:

The specific gravity of the beads shall be in the range 2.40-2.60 when tested in accordance with the following procedures:

Place 100 grams in an oven at 110 C for 1 hour.

Remove beads and place in a desiccator until the sample is cool.

Remove approximately 60 grams of beads from the desiccator and weigh the sample accurately.

Pour the beads slowly in a clean 100 ml graduated cylinder containing 50 ml of isopropyl alcohol. Make certain that air is not entrapped among the beads.

The total volume, minus 50, will give the volume of the beads.

Calculate the specific gravity as follows:

$$\text{Specific Gravity} = \frac{\text{Weight of sample}}{\text{Volume of the sample}}$$

(5) Chemical Stability:

Beads which show any tendency toward decomposition, including surface etching, when exposed to atmospheric conditions, moisture, dilute acids, or alkalies or paint film constituents, may be required to demonstrate satisfactory reflectance behavior, prior to acceptance, under such tests as may be prescribed.

(C) Moisture Proofing:

All glass beads shall have a moisture-proof overlay consisting of water repellent material applied during the process of bead manufacture. The beads so treated shall not absorb moisture in storage and shall remain free of clusters and lumps and shall flow freely from dispensing and testing equipment.

The beads shall pass the test for water repellency and free flow using the following equipment:

(1) Test bag:

The bag used is approximately 10 1/2 inches x 17 1/2 inches after sewing. The material used in the construction of the bag is unbleached cotton sheeting with a thread count of 48 x 48. The material before sewing is approximately 18 inches x 22 inches. The cloth is folded in half lengthwise and stitched in the shape of an "L" with the short side left open at the top. The material can be obtained from selected manufacturers of cloth and paper packaging. The finished bag may also be obtained from the manufacturer of the glass beads.

Newly fabricated bags must be thoroughly washed with hot water and detergent and rinsed before use to remove the sizing which may be present in the cloth. Subsequent to the initial washing, the bags need only be rinsed clean of beads from previous tests and dried thoroughly before use.

(2) Funnel:

The funnel used is a standard laboratory funnel with a top opening diameter of 125 mm. and 150 mm. stem length. The inside diameter of the stem is between 9 and 10 mm. This funnel is available from most laboratory glassware supply houses. Corning No. 6100 or equal.

(3) Ring Stand and Clamp.

(4) Balance accurate to 0.1 grams.

(5) Distilled water.

MOISTURE TESTING PROCEDURE:

Glass beads shall be tested for compliance to specification requirements. Testing shall be conducted at standard conditions of temperature (25 ± 1 degrees C) and humidity (50 ± 5 percent R.H.) and shall consist of the following procedure or an approved alternate:

Weigh 900.0 grams of glass beads into a clean, dry, flat-bottomed pan.

Dry beads at 150 degrees C for two hours.

Cool beads to room temperature (25 ± 1 degrees) in a desiccator.

Using the clean, pre-washed bag described under apparatus section, turn the bag inside-out so that the sewn seam and seam-allowance are on the outside.

Quantitatively transfer the beads into the inverted cotton bag.

Grasp the gathered top of the bag with one hand and lower the bag into a container of distilled water until the beads are approximately one inch below the water level. The container shall be of such dimensions that the bag does not contact the bottom or sides during immersion. Each bag shall be immersed individually. Do not allow one bag to contact another if multiple tests are run.

Remove the bag after 30 seconds of immersion time.

Cradle the bottom of the bag uniformly in the palm of one hand and twist the top neck of the bag until the twisted bag is compressed firmly against the beads. Twist until excess water no longer drips from the bag.

After the excess water has been squeezed from the bag, allow the bag to unwind.

Gather the top of the bag and clamp. Suspending the bag on a ring stand or other support such that the bottom or sides of bag do not contact the support.

After a standing time of 2 hours at room temperature 25 degrees ± 1 degrees C, remove bag from support. Mix sample thoroughly by holding the bottom seam allowance in one hand and gathered neck of the bag in the other, invert bag and shake up and down 5 times.

Transfer the sample into a clean, dry funnel of the type described under apparatus. if consecutive tests are run, be sure the funnel is clean, dry and free of beads from prior tests.

The entire sample shall flow through the funnel without stoppage.

At the start of the test only, it is permissible to lightly tap the stem of the funnel to initiate flow.

Small quantities of beads which have adhered to the side of the funnel or stem shall not be cause for failure.

708-3 Construction Requirements:

708-3.01 Equipment:

The traffic paint and beads shall be placed on the pavement by a spray-type, self-propelled pavement marking machine except that temporary striping during construction may be placed with other equipment designed for application of paint and beads.

The application equipment to be used on roadway installation shall have, as a minimum, the following characteristic and/or apparatus:

The machine shall be capable of applying a clear-cut 4-inch line or lines.

The machines shall be equipped with a mechanical device capable of placing a broken reflectorized line with a 10-foot painted segment and a 30-foot gap.

The machine shall be equipped with an air-operated glass bead drop-in dispenser controlled by the spray gun mechanism.

A glass bead dispenser which is capable of placing the glass beads into the paint line as the paint is applied to the pavement shall be utilized. This dispenser shall provide satisfactory marking and delineation.

708-3.02 Application:

Pavement markings shall be applied when the pavement surface is dry and the weather is not foggy, rainy, or otherwise adverse to the application of markings. The surface shall be free from excess asphalt or other deleterious substances before traffic paint, beads or primer are applied. The contractor shall remove dirt, debris, grease, oil, rocks or chips from the pavement surface before applying markings. The placing of traffic markings shall be done only by personnel who are experienced in this work.

The volume of paint in place shall be determined by measuring the paint tank with a calibrated rod. At the option of the Engineer, if the striping machine is equipped with air-atomized spray units (not airless) and paint gauges, the volume of paint may be determined by utilizing said gauges.

The quantity of glass reflectorizing beads in place shall be determined by measuring the glass reflectorizing bead tank with a calibrated rod.

The contractor shall provide the necessary personnel and equipment to divert traffic from the installation area where the work is in progress and during drying time when, in the opinion of the Engineer, such diversion of traffic is necessary.

Tolerances for Placing Paint, Beads, and Primer:

The length of painted segment and gap shall not vary more than 6 inches in a 40-foot cycle.

The finished line shall be smooth, aesthetically acceptable and free from undue waviness.

Painted lines shall be 4, 8, or 12 inches wide as shown on the plans with a tolerance of plus or minus 1/8 inch and shall be placed at a minimum rate of 16 gallons per mile for a solid 4-inch line and 4 gallons per mile for a broken 4-inch line, based on a 10-foot stripe and a 30-foot gap (40-foot cycle aggregate).

Glass reflectorizing beads shall be applied on the wet paint at a minimum rate of 6 pounds to each gallon of paint.

Wet mil thickness shall not be less than 15 mils.

708-4 Method of Measurement:

Pavement marking paint will be measured by the linear foot along the centerline of the pavement stripe. Skips in dashed lines will not be included in the measurement. Length of pavement markings will be based on four inch wide stripe. Measurement for striping with a plan width greater or less than the basic four inches as shown on the plans or directed by the Engineer will be made by the following method:

$$\frac{\text{Plan Width of Striping (inches)} \times \text{Linear Feet}}{4 \text{ (inches)}}$$

Symbols and legends will be measured by each unit applied. Each legend, regardless of the number of letters, will be considered as a single unit.

708-5 Basis of Payment:

Pavement striping of the type specified, measured as provided above, will be paid for at the contract price per linear foot for the total length of painted line applied to the nearest foot, which price shall be full compensation for the work complete, as described and specified herein and on the project plans.

Pavement symbols and legends measured as provided above, will be paid for at the contract price for each painted symbol or legend, which price shall be full compensation for the work complete, as described and specified herein and on the project plans.

ITEM 8050014 - SEEDING (CLASS II) (Hydraulic):

Description:

The work consists of furnishing and applying chemical fertilizer; furnishing and planting grass, shrub and tree seed; and furnishing and applying wood fiber mulch. The areas to be seeded are wall areas and areas designated by the Engineer.

Materials:

Seed:

Seed shall consist of Western wheatgrass (Agropyron smithii, 'Barton'), Sideoats grama (Bouteloua curtipendula 'Vaughn'), Blue grama (Bouteloua gracilis), Blue flax (Linum lewisii), and California poppy (Eschscholtia Californica).

Application rates of seed as specified are for Pure Live Seed)PLS). PLS is determined by multiplying the sum of the germination and hard or dormant seed by the purity.

Weed content of seed shall not exceed 0.5% and shall conform to the requirements of Subsection 805-2.02 of the Standard Specifications.

Wood Fiber Mulch:

Wood fiber mulch shall consist of a specially prepared wood fiber processed to contain no growth germination inhibiting factors. The mulch shall be from virgin wood and be manufactured and processed so the fibers will remain in uniform suspension in water under agitation to form a homogenous slurry.

Fertilizer:

Chemical fertilizer shall conform to the requirements of Subsection 805-2.06 of the Standard Specifications and shall be the kind as hereinafter specified.

Construction Requirements:

Seeding shall be accomplished as soon as possible after the slopes and those portions of the right-of-way that have been disturbed have been finished in accordance with the requirements of the applicable portions of Section 203 of the Standard Specifications.

Areas designated for planting shall be fertilized and seeded by broadcasting or in a slurry with a hydroseeder. Seed shall not be left in the hydroseeder with the fertilizer and water longer than 30 minutes. After the seed and fertilizer are applied, wood fiber mulch shall be applied over the area at the rate of 1500 pounds per acre. Up to 200 pounds per acre of the fiber mulch specified may be used as part of the seed and fertilizer slurry to provide an indicator for more even coverage. The fertilizer and seed rates are as follows:

Type of Fertilizer	Pounds per Acre
Ammonium Phosphate 16-20-0	200

Type of Seed	Pounds per Acre
California poppy	3
Western wheatgrass	4
Sideoats grama	4
Blue grama	1
Blue flax	2

Method of Measurement:

Seeding Class II (Hydraulic) will be measured by the acre, to the nearest hundredth acre, measured along the ground surface for the areas which have been planted and mulched, as determined by the Engineer.

Basis of Payment:

The accepted quantities of seeding, measured as provided above, will be paid for at the contract unit price per acre, which price shall be full compensation for the work complete including all equipment, labor and materials required for planting as described and specified herein.

ITEM 8080651 - FIRE HYDRANT (Detail J):

Description:

The work under this item consists of furnishing all materials, equipment, tools and labor necessary to install a fire hydrant complete at the location shown on the project plans and in accordance with Detail J and the requirements of these special provisions.

Materials:

Fire Hydrant:

The fire hydrant shall be a 6 inch dry-barrel type equal to the Parkson Tyler, APCO, Deep Skirted Lid (4 inches or more) Type with Sliding Adjustable Cast Iron Valve Box.

All interior ferrous surfaces of the shoe exposed to fluid flow shall be epoxy coated to a minimum dry thickness of 6 mils. Epoxy coatings shall be factory applied by an electrostatic or thermosetting process in accordance with the manufacturer's printed instructions. Epoxy materials used shall by 100 percent powder epoxy or liquid epoxy that conforms to the requirements of AWWA C550-81, and to the prevailing requirements of the Food and Drug Administration and of the Environmental Protection Agency.

Style of inlet connections shall be bell or mechanical joint with accessories, gland, bolts, gaskets and having a 6 inch diameter inlet connection. Facing of the main valve against seats shall be synthetic rubber or balata. The top of the stem or bonnet shall be equipped with the 'O'-ring seal. Hydrants shall be constructed so that extension sections in multiples of 6 inches, with rod and coupling, can be added to increase barrel length. The hose and steamer nozzle connections shall match the standard size and threads per inch of the Town of Jerome. Operating and outlet nozzle cap nuts shall be of solid pentagonal shape. The pentagon shall measure fifteen-sixteens to thirty-one thirty-seconds inch on side, 1 1/2inch from point of flat. All barrels above ground shall have a prime coat and painted two coats of fire hydrant yellow paint. Hydrants shall be constructed so that the standpipe can be rotated to at least 8 different positions and the center of the lowest nozzle shall have a ground clearance of not less than 15 inches.

The manufacturer shall guarantee that the hydrant is so constructed that the valve stem will not be bent when hydrant is damaged or broken at or near the grade level. A safety breaking flange or thimble, shall be provided.

Thrust Blocks and Concrete Pad:

Concrete shall be Class S (f'c = 3,000 psi) conforming to the requirements of Section 1006 of the Standard Specifications.

Construction Requirements:

If paint is chipped, scuffed or otherwise damaged during handling and installation of the fire hydrant, the contractor shall touch up such spots as directed by the Engineer.

Hydrant shall be flushed and left in good working condition with the control valve open.

Method of Measurement:

Fire hydrants will be measured by the unit each of fire hydrants installed.

Basis of Payment:

Fire hydrants, measured as provided above, will be paid at the contract unit price each for the fire hydrant installed complete in place and in operating condition.

SECTION 902 - CHAIN LINK FENCE:

902-1 Description: of the Standard Specifications is modified to add:

The work under this section shall consist of furnishing all materials and constructing gate posts with chain at the location and in accordance with Detail P shown on the project plans and the requirements of these special provisions.

902-4 Method of Measurement: of the Standard Specifications are modified to add:

Gate posts with chain will be measured on a lump sum basis.

902-5 Basis of Payment: of the Standard Specifications are modified to add:

The accepted quantities of gate post with chain, measured as provided above, will be paid for at the contract lump sum price complete in place, including excavation and concrete footing.

SECTION 905 - GUARD RAIL:

905-2 Materials: of the Standard Specifications is revised to read:

Materials for guard rail shall conform to the requirements of Section 1012, except that all W-beam guard rail elements shall be weathering steel conforming to the requirements of AASHTO Specification M 180 Class A Type 4.

Materials for the buried guard rail anchorage shall conform to the requirements of Section 1012.

905-3.01 General: the third paragraph of the Standard Specifications is revised to read:

All metal work shall be fabricated in the shop. No punching, drilling, cutting or welding shall be done in the field, except as provided for under Subsections 905-3.04 and 905-3.05 and for guard rail whichwill be installed with a five foot post spacing at those locations indicated on the plans and on the Barrier Summary Sheet. Bolt holes for guard rail with five foot post spacing will be drilled in the field at the time of construction. All metal cut in the field shall be cleaned and all sharp edges shall be rounded before installation. All non-weathering steel surfaces, components and fastners shall be primed as required and given two coats of paint to match the color of the weathering steel guard rail as approved by the Engineer.

ITEM 9140155 - RETAINING WALL (Rock) (Detail L):

Description:

The work under this item shall consist of furnishing all materials and constructing a retaining wall of rough hewn rock at the location shown on the project plans and in accordance with the applicable requirements of Section 601 of the Standard Specifications and these special provisions.

Materials:

Concrete for the wall footing shall be Class B (f'c = 2,500) conforming to the requirements of Section 1006 of the Standard Specifications.

Reinforcing steel shall conform to the requirements for Section 1003 of the Standard Specification.

Masonry mortar shall conform to the requirements of ASTM C-270, Type S, having a compressive strength of 1,800 psi.

Rock Rough Hewn for wall construction shall approximately match in size, color, type and installation pattern of the existing rock wall. The rock selected shall be approved by the Engineer prior to construction. The contractor may use the rock removed from the existing wall if approved by the Engineer.

Method of Measurement:

Retaining Wall (Rock) will be measured by the square foot of wall constructed. Measurement will be made on the plane of the front face of the wall from the top of the footing to the top of the wall.

Basis of Payment:

Retaining Wall (Rock), measured as provided above will be made at the contact unit price per square foot for ITEM 9140155, which price shall be full compensation for the item complete, including excavation and the miridrain model No. 6000, as described and specified herein and on the project plans.

ITEM 9140156-RETAINING WALL (Concrete) (Details C & D):

Description:

The work under this item consists of furnishing all materials and constructing retaining walls at the locations and in accordance with the details shown on the project plans and in accordance with the applicable requirements of Section 601 of the Standard Specifications and these special provisions.

Materials:

Concrete shall be Class S (f'c = 3,000) conforming to the requirements of the Standard Specifications for Section 1006.

Color coating shall conform to the requirements of Section 601 of these special provisions.

Reinforcing steel shall conform to the requirements of the Standard Specifications for Section 1003.

Form liners used for texturing the concrete retaining walls shall be Burk PVC Form Liner No. BG 109, "Riverbed, simulated bush hammered, medium texture".

Structure backfill material shall conform to the requirements of Subsection 203-5.03(B)(1) of the Standard Specifications.

Wall backfill material shall conform to the requirements of Subsection 1006-2.03(B) of the Standard Specifications.

Method of Measurement:

Retaining Wall (Concrete) will be measured by the square foot of wall constructed. Measurement will be made on the plane of the front face of the wall from the top of the footing to the top of the wall.

Basis of Payment:

Retaining Wall (Concrete), measured as provided above will be made at the contact unit price per square foot for ITEM 9140156, which price shall be full compensation for the item complete, including Burk PVC Form Liner No. BG 109, color coating the concrete, excavating and backfill material, as described and specified herein and on the project plans.

ITEM 9140157-RETAINING WALL (Cribwall) (Details R, S & T):

Description:

The work under this item consists of furnishing all materials, equipment and labor to construct cribwall retainings wall at the location and in accordance with the details shown on the project plans and the requirements of these specifications. These specifications do not purport to provide a full engineering analysis of cribwall components. Such an analysis can be performed by a qualified Engineer, registered in the State of Arizona, as required. Analysis specific to the proprietary CRIBLOCK units can be provided by Retaining Walls, Incorporated, P.O. Box 2129, Escondido, California, 92025. Telephone number: (619) 489-1108.

Materials:

Headers, Stretchers and Closers:

Headers, stretchers and closers shall be CRIBLOCK standard units constructed to CRIBLOCK specifications. All units shall be handled, stored and shipped on stringers, pallets or other approved method so as to eliminate the danger of chipping, cracks, fractures and excessive bending stresses. All units shall be subject to final acceptance on site. It shall be the contractor's repsonsibility to ensure that all units are erected in an undamaged condition. Units with cracks or other imperfections which, in the opinion of the Engineer, are unacceptable shall not be placed in the wall. Rejected units shall be removed from the work site and shall be replaced with acceptable units at no extra cost to the Department.

Concrete shall be integrally colored at the manufacturer's plant. Color shall be San Diego Buff, No. 5237, manufactured by Davis Colors. Color shall be added and mixed according to the manufacturer's recommendations in order to ensure uniform color throughout the various crib units. Three colored crib units shall be delivered to the jobsite for approval by the Engineer in consulation with Roadside Development Services of the Department prior to the manufacture and placement of crib units. Shade and tone adjustment shall be made in accordance with aesthetic considerations and final approval may require such adjustment. The three representative crib units shall be stockpiled and saved for use by the Engineer as color match control during the erection of the wall.

Backfill Material:

Structure backfill material shall conform to the requirements of Subsection 203-5.03(B)(1) of the Standard Specifications.

Wall backfill material shall consist of either a well-graded crushed rock of at least one-inch diameter, or a soil reasonable free from organic and otherwise deleterious materials and conforming to the following gradation limits as determined by AASHTO T-27:

Sieve Size	Percent Passing
3 Inch	100
No. 200	10-25*

*In addition, if the fraction finer than the No. 200 mesh sieve is between 15 and 25 percent, the backfill must conform to the following requirements:

A. The Plasticity Index (P.I.) as determined by AASHTO T-90 shall not exceed six.

B. The fraction finer than 15 microns (0.015 mm) as determined by AASHTO T088 shall not exceed 15 percent.

C. The material when compacted to 85 percent or higher of AASHTO T-99 at optimum moisture content shall exhibit an internal angle of friction of not less than 30 degrees as determined in a standard direct shear test (AASHTO T-236).

D. The cohesion as determined by standard direct shear tests shall fall within the range of 50 to 150 psf.

The intent of these specifications is that backfill material within the wall be structurally strong and in addition exhibit sufficient cohesion to effectively resist wind and rain erosion, but that cohesion not be so excessive as to create problems with compaction.

If material conforming to the above specifications cannot be obtained from material excavated onsite, the backfill for the cribwalls shall be Aggregate Base, Class 4 as defined in Section 303 of the Standard Specifications.

Bedding Material:

Fine aggregate conforming to the requirements of Section 1006 of the Standard Specifications shall be used as bedding material below the bottom course of stretchers.

Construction Requirements:

General:

In accordance with the requirements of Section 105 - CONTROL OF WORK, of the Standard Specifications, the contractor shall submit for review and approval structural calculations specific to the proprietary units for which approval is requested prior to the manufacture of such units.

Field personnel representing the Retaining Walls, Incorporated shall be available during the erection of the wall, at no additional cost to the Department.

Erection of the CRIBLOCK retaining wall shall be in accordance with the requirements of Retaining Walls, Incorporated.

Excavation:

A bench excavation to sound material shall be made for the base of the cribwall. Unless shown otherwise on the project plans, the benches shall be horizontal in the line of the wall and have a fall of 1 in 4 from the front to the back of the excavation. The depth of the excavation shall be a minimum of 1.0 foot below the proposed finished ground level at the front face of the wall, or as shown on the project plans.

The contractor shall not cast any concrete or install any cribwall units until the Engineer has inspected and approved the excavated foundation for alignment, grade and base-soil adequacy.

Finished base excavation to within 0.5 inches of base elevation shall include vertical steps where plans indicate the base of wall is to step.

Cribwall Construction:

The crib units shall be handled and placed in such a manner that they are not cracked or chipped and so that no damage is caused to the seating areas.

The first course of units shall be stretchers (or closers) unless shown otherwise on the project plans. Care shall be taken in the placement to ensure firm bedding against the base soils.

The cribwalling shall be placed in horizontal lifts. No more than three lifts shall be placed before backfilling, unless backfilling with rock.

The units shall be placed in a uniform pattern as shown on the drawings or as approved by the Engineer. Walls shall be provided with back stretchers for the full height of the wall, except the top course. Refer to CRIBLOCK standard plans.

The bottom course of headers in a single depth wall shall be of full-headers only. No false headers shall be used prior to second layer.

The top course of headers shall consist of full-headers only. No back stretchers are required on the top course. All top front stretchers shall be epoxied into place where top of wall is accessible for pedestrian traffic and where stretchers are not secured by other means.

Where walls join at an angle, it may be necessary to saw-cut stretchers to provide a neatly joined corner. Walls greater than five courses high may require special treatment of headers: see details on CRIBLOCK Standard Plans. If a corner is included on the project, construction shall start at the corner and proceed away from it, wherever possible.

Where a wall is curved to a radius of less than 100 feet, special stretchers shall be provided or saw cuts made where necessary to ensure that the gap between stretchers is in accordance with the requirements of these specifications.

Where a wall is curved to a radius of less than 60 feet, grout shall be used at the junctions of headers and stretchers to insure uniform bearing.

A continuous subsoil drain of four inch minimum diameter with a minimum fall of 1 in 50 shall be provided as shown on drainage details of the CRIBLOCK Standard Plans unless otherwise noted on the project plans. Drainage outlets shall be constructed as shown on the project plans or as directed by the Engineer.

Drainage:

Drainage above the wall shall be collected and diverted from flowing over the face of the wall. Drainage interception ditches shall be as shown on CRIBLOCK Standard Plans or as shown on the project plans.

The intent of the drainage collection system above the wall is to eliminate erosive flow of surface water down, through and over the face of the wall.

Backfilling:

Backfill material shall be placed as specified herein and in accordance with the requirements of Section 203 - EARTHWORK of the Supplemental Specifications.

Backfill soils shall be placed in layers of no more than one foot loose depth. Each one foot layer of material shall be thoroughly compacted within and behind the wall using hand operated compaction machinery.

Care shall be taken not to disturb the alignment of the units during backfilling and compaction operations. No more than two and one-half courses of crib framework shall be unfilled before backfill operations begin.

The areas behind and above the cribwalling shall be backfilled to the finished configuration shown on the project plans, taking care to insure that drainage is diverted from going over the face of the wall.

Compaction within the cribwall framework shall be to a minimum of 90 percent relative compaction per ASTM D-1556 and Arizona Test Method 225, 226 and 227. For single depth walls and for the front cell of multiple depth walls, compaction tests shall be taken at the center of the crib cell, approximately one-third of the distance from back stretcher to front stretcher. For all other cells of multiple depth walls, tests shall be taken centered in the cell.

The contractor shall call for tests after every two feet (vertical) of fill has been placed and compacted or as directed by the Engineer.

A minimum in place wet density, at optimum moisture, of 110 lbs per cubic foot is required.

Tolerances for Finished Walls:

The finished front face of the wall shall be as shown on the project plans, within the following tolerances:

A.	Variation in any one course.	Not more than 1/4 inch variation from 15 foot straight edge.
B.	Relative position of adjacent stretchers in any one course in plan or elevation.	Within 1/4 inch of true alignment.
C.	Alignment of headers and false headers up the face of the wall.	± 1/2 inch from vertical in elevation.
D.	Variation in front batter slope from design slope.	± 1 inch in 10 feet.
E.	Variation within batter slope.	Not more than 1/2 inch from a 10 foot straight edge.
F.	Variation from plane surface along the wall for straight walls.	Not more than 1/2 inch from a 10 foot straight edge.
G.	Variation of gap between stretchers from point midway between headers.	± 2 inch except in curbed areas ± 4 inches.

Curved cribwalls shall be constructed with a uniform angular change at each joint between stretchers (or uniform rate of change) so that the front face presents an evenly curved surface along the wall. The gap between adjacent stretchers in any course of a curved wall shall not exceed one inch.

Angular deflection at a junction between stretchers should not exceed 20 degrees (approximately 15-foot radius) unless special saw cuts are made in the stretchers.

Method of Measurement:

Retaining Wall (Cribwall) will be measured by the square foot of area of wall constructed. The square foot area will be measured on the batter at the outer face of the cribwall for the height from the bottom of the base stretcher to the top of the top stretcher and for a length measured from end to end of each section of wall.

Basis of Payment:

The accepted quantity of Retaining Wall (Cribwall), measured as provided above, will be paid for at the contract unit price per square foot, which price shall be full compensation for the item complete in place, including the coloring of concrete crib units, excavation, shoring, and backfill, as described and specified herein and on the project plans.

ARIZONA DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
CONTRACTS AND SPECIFICATIONS SERVICES
BIDDING SCHEDULE

DATE: 01/11/88

PROJECT NUMBER	TERMINI	LOCATION	FUND CODE	ITEM
VLT 900- -936	STATEWIDE (SURVEYS & MISC)	(JEROME STATE PARK)	82560	0529

COUNTY	GROSS LENGTH	NET LENGTH	PREPARED BY
YAVAPAI	1.000	1.000	RIK

VLT 900- -936

BIDDING SCHEDULE

DATE: 01/11/88

ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
2010001	CLEARING AND GRUBBING	L.SUM	1		
2020001	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.SUM	1		
2020029	REMOVAL OF ASPHALTIC CONCRETE PAVEMENT	SQ.YD.	10,600		
2020041	REMOVAL OF PIPE	L.FT.	602		
2030301	ROADWAY EXCAVATION	CU.YD.	8,903		
2030302	ROADWAY EXCAVATION(Overexcavation) (Details E, F, & Q)	CU.YD.	4,925		
2060001	FURNISH WATER SUPPLY	L.SUM	1		
2070001	DUST PALLIATIVE	M.GAL.	60	8.00	480.00
3030023	AGGREGATE BASE, CLASS 3	CU.YD.	2,222		
4010006	PORTLAND CEMENT CONCRETE PAVEMENT (6")	SQ.YD.	136		
4040301	SEAL CRACKS IN ASPHALTIC CONCRETE PAVEMENT	L.FT.	500		
4090003	ASPHALTIC CONCRETE (MISCELLANEOUS STRUCTURAL)	TON	2,899		

VLT 900- -936

BIDDING SCHEDULE

DATE: 01/11/88

ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
5010003	PIPE, CORRUGATED METAL, 10" (Pipe Sleeve)	L.FT.	72		
5010004	PIPE, CORRUGATED METAL, 12" (Pipe Sleeve)	L.FT.	76		
5010005	PIPE, CORRUGATED METAL, 15" (Pipe Sleeve)	L.FT.	50		
5012918	PIPE CULVERT, 18"	L.FT.	226		
5012924	PIPE CULVERT, 24"	L.FT.	38		
5012930	PIPE CULVERT, 30"	L.FT.	126		
5012948	PIPE CULVERT, 48"	L.FT.	72		
5014518	FLARED END SECTION, 18" (C-13.20 OR C-13.25) (PIPE CUL	EACH	3		
5014524	FLARED END SECTION, 24" (C-13.20 OR C-13.25) (PIPE CUL	EACH	1		
5014530	FLARED END SECTION, 30" (C-13.20 OR C-13.25) (PIPE CUL	EACH	2		
5014548	FLARED END SECTION, 48" (C-13.20 OR C-13.25) (PIPE CUL	EACH	2		
5030003	CONCRETE CATCH BASIN (C-15.10) DOUBLE, H=8' OR LESS (Type 1)	EACH	1		

VLT 900- -936

BIDDING SCHEDULE

DATE: 01/11/88

	ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
	5030072	CONCRETE CATCH BASIN (C-15.30) DOUBLE, H = 8' OR LESS (Type 4)	EACH	1		
	5030605	CONCRETE CATCH BASIN (C-15.80 Modified) (Detail I)	EACH	1		
	5050031	MANHOLE (C-18.10) (NO. 3) (FOR PIPES 6" TO 36")	EACH	3		
	5050101	FRAME AND COVER FOR MANHOLE (C-18.20) (TYPE A)	EACH	3		
	5050201	RESET FRAME AND COVER FOR MANHOLE	EACH	1		
	7010001	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1	40,000.00	40,000.00
	7080001	PERMANENT PAVEMENT MARKING (PAINTED) (WHITE)	L.FT.	10,010		
	7080011	PERMANENT PAVEMENT MARKING (PAINTED) (YELLOW)	L.FT.	9,650		
	8050014	SEEDING (CLASS II) (HYDRAULIC)	ACRE	1		
	8080254	VALVE (4")	EACH	1		
	8080256	VALVE (6")	EACH	1		
	8080286	PIPE (PVC) (6") (Schedule 80)	L.FT.	165		

VLT 900- -936

BIDDING SCHEDULE

DATE: 01/11/88

	ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
	8080395	PIPE (PVC) (4") (SCHEDULE 80)	L.FT.	132		
	8080651	FIRE HYDRANT	EACH	1		
	8090041	SEWER PIPE (4") (DUCTILE IRON) (Detail B)	L.FT.	100		
	8090061	SEWER PIPE (6") (DUCTILE IRON) (Detail B)	L.FT.	210		
	8090066	SEWER PIPE (6") (PVC)	L.FT.	80		
	8090081	SEWER PIPE (8") (DUCTILE IRON) (Detail B)	L.FT.	60		
	8090121	SEWER PIPE (12") (PVC)	L.FT.	296		
	9010001	MOBILIZATION	L.SUM	1		
	9022801	GATE POST WITH CHAIN	L.SUM	1		
	9050001	GUARD RAIL, W-BEAM, SINGLE FACE	L.FT.	973		
	9050002	GUARD RAIL, W-BEAM, SINGLE FACE, SHOP CURVED	L.FT.	345		
	9050031	GUARD RAIL, BREAKAWAY CABLE TERMINAL	EACH	10		

VLT 900- -936 BIDDING SCHEDULE DATE: 01/11/88

ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
9050201	GUARD RAIL ANCHORAGE, BURIED	L.FT.	38		
9080003	CONCRETE CURB (C-05.10) (TYPE A) (7")	L.FT.	121		
9080092	CONCRETE CURB AND GUTTER (C-05.10)(TYPE A)(7")	L.FT.	813		
9080201	CONCRETE SIDEWALK (C-05.20)	SQ.FT.	961		
9090041	VALVE BOX, FRAME & COVER (Detail J)	EACH	2		
9110001	RIGHT-OF-WAY MARKER	EACH	88		
9130003	RIPRAP (GROUTED) (Detail H)	CU.YD.	25		
9140155	RETAINING WALL (Rock) (Detail L)	SQ.FT.	136		
9140156	RETAINING WALL (Concrete) (Details C & D)	SQ.FT.	2,021		
9140157	RETAINING WALL (Criblock) (Details R, S, & T)	SQ.FT.	10,065		
9170012	EMBANKMENT DOWNDRAINS (C-4.20) (Modified)	L.FT.	8		
9170031	INLET (C-4.20) (SINGLE)	EACH	1		

PROJECT NUMBER

VLT 900- -936

BIDDING SCHEDULE

DATE: 01/11/88

ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
9250001	CONSTRUCTION SURVEYING AND LAYOUT	L.SUM	1		
9250102	TWO-PERSON SURVEY PARTY	HOUR	48	65.00	3,120.00
9250103	THREE-PERSON SURVEY PARTY	HOUR	48	75.00	3,600.00
9250104	FOUR-PERSON SURVEY PARTY	HOUR	48	85.00	4,080.00
9260004	ENGINEERS FIELD OFFICE	L.SUM	1		
			TOTAL:		

A. F. Budge (Mining) Limited
7340 E. Shoeman Lane, Suite 111 "B" (E)
Scottsdale, AZ 85251-3335
(Business Office)
Telephone: (602) 945-4630
Telex: 751739

January 22, 1988

Ms. Camille Hong
Arizona Department of
Transportation
Appraisal Section
330E, 205 S. 17th Avenue
Phoenix, AZ 85007

Dear Ms. Hong:

Enclosed is a copy of our lease agreement, dated April 1, 1985, with Verde Exploration Ltd., complete with map, detailing the areas covered by the lease at Jerome.

Please do not hesitate to call at any time for any information. Unfortunately, I will be in and out of the office most of next week at a Society of Mining Engineers' convention at the Hyatt Regency and the Convention Center. Should you wish to reach me, please leave a message at the Hyatt, telephone 252-1234. We have a suite there beginning on Sunday, and I will be there at least daily to check for messages.

Sincerely,

Carole A. O'Brien

Carole A. O'Brien

encls.

DIRECTORS: A.F. Budge, O.B.E., C.Eng., F.I.C.E., F.I.H.T.; Mrs. J. Budge; 7602 Clearwater Parkway, Paradise Valley, AZ 85253

A. F. Budge (Mining) Limited
7340 E. Shoeman Lane, Suite 111 "B" (E)
Scottsdale, AZ 85251-3335
(Business Office)
Telephone: (602) 945-4630
Telex: 751739

January 22, 1988

Ms. Camille Hong
Arizona Department of
Transportation
Appraisal Section
330E, 205 S. 17th Avenue
Phoenix, AZ 85007

Dear Ms. Hong:

Enclosed is a copy of our lease agreement, dated April 1, 1985, with Verde Exploration Ltd., complete with map, detailing the areas covered by the lease at Jerome.

Please do not hesitate to call at any time for any information. Unfortunately, I will be in and out of the office most of next week at a Society of Mining Engineers' convention at the Hyatt Regency and the Convention Center. Should you wish to reach me, please leave a message at the Hyatt, telephone 252-1234. We have a suite there beginning on Sunday, and I will be there at least daily to check for messages.

Sincerely,

Carole A. O'Brien

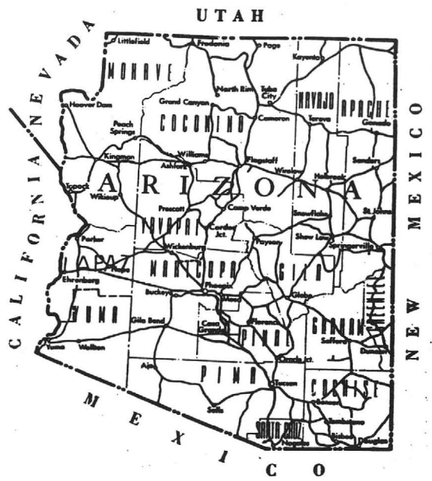
Carole A. O'Brien

encls.

DIRECTORS: A.F. Budge, O.B.E., C.Eng., F.I.C.E., F.I.H.T.; Mrs. J. Budge; 7602 Clearwater Parkway, Paradise Valley, AZ 85253

A. F. Budge

2/2

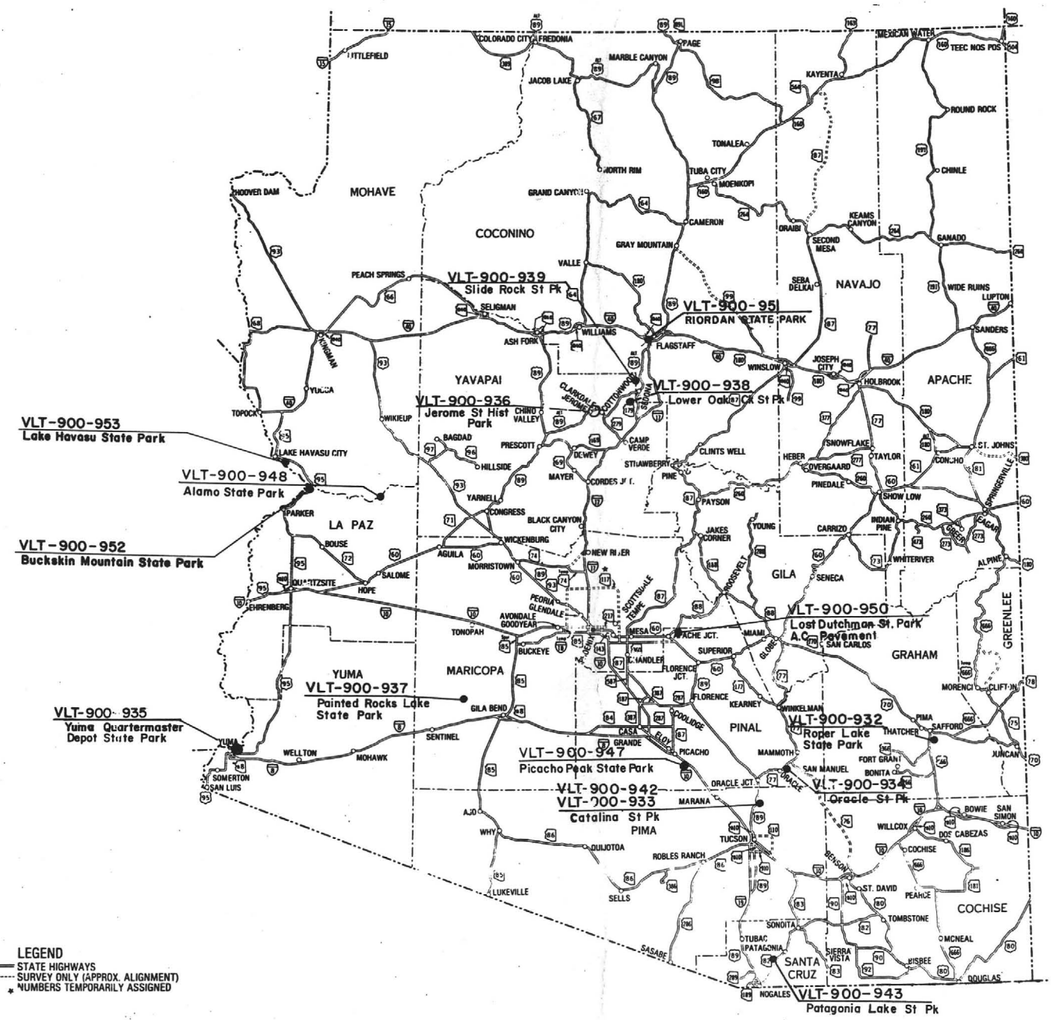


STATE OF ARIZONA
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND PROFILE OF PROPOSED

STATE PARKS

VLT-900-936



1985
STATE HIGHWAY SYSTEM
OF
ARIZONA

ARIZONA DEPARTMENT OF TRANSPORTATION

AS OF JANUARY 1, 1985
SCALE-MILES

LEGEND
STATE HIGHWAYS
SURVEY ONLY (APPROX. ALIGNMENT)
* NUMBERS TEMPORARILY ASSIGNED

ARIZONA DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
APPROVED. W. O. FORD
ASSISTANT DIRECTOR
STATE ENGINEER

APPROVED DATE 1/5/89

CHIEF DEPUTY STATE ENGINEER
A. F. Budge

APPROVED DATE

DEPUTY STATE ENGINEER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED DATE

DIVISION ADMINISTRATOR

A.D.O.T. STANDARD DRAWINGS

F.H.W.A REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	VLT-900-936	1A	31	

REVISION DATE	STANDARD NO.	SUBJECT
		CONSTRUCTION
	C-01.10	PLANS SYMBOLS
	C-01.11	PLANS SYMBOLS
	C-01.12	PLANS SYMBOLS
1/83	C-01.30	GENERAL ABBREVIATIONS
1/83	C-01.31	GENERAL ABBREVIATIONS
1/83	C-01.32	GENERAL ABBREVIATIONS
1/83	C-02.10	SLOPES, INTERSTATE & CLASS A-A ROADWAYS
1/83	C-02.20	SLOPES, CLASS A & B ROADWAYS
1/83	C-02.30	SLOPES, CLASS C & D ROADWAYS
1/83	C-02.40	PAVEMENT CROWN, PARABOLIC
1/83	C-03.10	DITCHES AND DYKES
1/83	C-03.20	CHANNELS & DYKES TYP. PARALLEL INSTALLATIONS
1/83	C-04.10	SPILLWAY, EMBANKMENT
1/83	C-04.20	DOWNDRAIN, EMBANKMENT
1/83	C-04.30	SPILLWAY, EMBANKMENT LENGTH TABLE
1/83	C-04.40	DOWNDRAIN, EMBANKMENT LENGTH TABLE
3/87	C-05.10	SINGLE CURB, CURB & GUTTER EMBANKMENT CURB
1/83	C-05.20	CONCRETE SIDEWALK & DRIVEWAY
1/83	C-06.10	TURNOUT & DRIVEWAY LAYOUT
1/83	C- 6.20	GEOMETRICS, DETOUR
11/83	C-07.10	PAVEMENT, CONCRETE, TRANSVERSE JOINTS
11/83	C-07.20	PAVEMENT, CONCRETE, LONGITUDINAL JOINTS
1/83	C-07.30	PAVEMENT, CUT & REPLACEMENT
1/83	C- 8.10	GEOMETRICS, EXIT RAMP
1/83	C- 8.20	GEOMETRICS, ENTRANCE RAMP
1/83	C- 9.10	GROOVING FOR BITUMINOUS SHOULDERS
1/83	C- 9.20	GROOVING FOR CONCRETE SHOULDERS
1/83	C-10.01	TYPE A GUARD RAIL INSTALLATION, REFLECTOR TAB
1/83	C-10.02	TYPE B GUARD RAIL INSTALLATION, REFLECTOR TAB
7/85	C-10.03	MEASUREMENT LIMITS FOR W BEAM AND THRIE BEAM SYSTEM
7/85	C-10.04	G4(1W) AND G4(2W) BLOCKED OUT W BEAM (TIMBER POST)
7/85	C-10.05	G4(1S) AND G4(2S) BLOCKED OUT W BEAM (STEEL POST)
7/85	C-10.06	G4(1S-MODIFIED) BLOCKED OUT W BEAM (STEEL POST) WITH SPECIAL CURB AND GUTTER
7/85	C-10.07	G9(A) AND G9(B) BLOCKED OUT THRIE BEAM (STEEL POST)
7/85	C-10.08	G9(C) BLOCKED OUT THRIE BEAM (STEEL POST)
1/83	C-10.09	HALF BARRIER, CAST IN PLACE, SLIP FORM
11/83	C-10.10	HALF BARRIER, CAST IN PLACE, FIXED FORM
1/83	C-10.11	HALF BARRIER, PRECAST
1/83	C-10.12	MEDIAN BARRIER, CAST IN PLACE, SLIP FORM
1/83	C-10.13	MEDIAN BARRIER, CAST IN PLACE, FIXED FORM
1/83	C-10.14	MEDIAN BARRIER, PRECAST
7/85	C-10.15	FLARED BREAKAWAY CABLE TERMINAL ASSEMBLY (TIMBER POST)
7/85	C-10.16	FLARED BREAKAWAY CABLE TERMINAL ASSEMBLY (STEEL POST)
3/87	C-10.17	BCT ASSEMBLY STEEL
6/86	C-10.18	BCT ASSEMBLY TIMBER
3/87	C-10.21	GUARD RAIL ANCHOR ASSEMBLY STEEL TERMINAL POST
6/86	C-10.22	GUARD RAIL ANCHOR ASSEMBLY TIMBER TERMINAL POST
7/85	C-10.23	BURIED & BOLTED ANCHOR TIMBER POST
7/85	C-10.24	BURIED & BOLTED ANCHOR STEEL POST
3/87	C-10.25 SH 1	TRANSITION W BEAM (TIMBER POST) TO CONCRETE HALF BARRIER
6/86	C-10.25 SH 2	TRANSITION W BEAM (TIMBER POST) TO CONCRETE HALF BARRIER
3/87	C-10.25 SH 3	TRANSITION W BEAM (TIMBER POST) TO CONCRETE HALF BARRIER
7/85	C-10.25 SH 4	TRANSITION W BEAM (TIMBER POST) TO CONCRETE HALF BARRIER
3/87	C-10.25 SH 5	TRANSITION W BEAM (TIMBER POST) TO CONCRETE HALF BARRIER
6/86	C-10.30 SH 1	TRANSITION W BEAM (STEEL POST) TO CONCRETE HALF BARRIER
6/86	C-10.30 SH 2	TRANSITION W BEAM (STEEL POST) TO CONCRETE HALF BARRIER
3/87	C-10.30 SH 3	TRANSITION W BEAM (STEEL POST) TO CONCRETE HALF BARRIER
7/85	C-10.30 SH 4	TRANSITION W BEAM (STEEL POST) TO CONCRETE HALF BARRIER
3/87	C-10.30 SH 5	TRANSITION W BEAM (STEEL POST) TO CONCRETE HALF BARRIER
6/86	C-10.35 SH 1	TRANSITION W BEAM (STEEL POST) TO CONCRETE HALF BARRIER, CURB INSTALLATION
6/86	C-10.35 SH 2	TRANSITION W BEAM (STEEL POST) TO CONCRETE HALF BARRIER, CURB INSTALLATION
6/86	C-10.35 SH 3	TRANSITION W BEAM (STEEL POST) TO CONCRETE HALF BARRIER, CURB INSTALLATION
7/85	C-10.35 SH 4	TRANSITION W BEAM (STEEL POST) TO CONCRETE HALF BARRIER, CURB INSTALLATION
7/85	C-10.35 SH 5	TRANSITION W BEAM (STEEL POST) TO CONCRETE HALF BARRIER, CURB INSTALLATION
6/86	C-10.40 SH 1	TRANSITION W BEAM TO CONCRETE MEDIAN BARRIER
6/86	C-10.40 SH 2	TRANSITION W BEAM TO CONCRETE MEDIAN BARRIER
7/85	C-10.40 SH 3	TRANSITION W BEAM TO CONCRETE MEDIAN BARRIER
7/85	C-10.40 SH 4	TRANSITION W BEAM TO CONCRETE MEDIAN BARRIER
7/85	C-10.45 SH 1	W BEAM BCT ATTENUATOR ASSEMBLY
7/85	C-10.45 SH 2	W BEAM BCT ATTENUATOR ASSEMBLY
6/86	C-10.45 SH 3	W BEAM BCT ATTENUATOR ASSEMBLY
7/85	C-10.45 SH 4	W BEAM BCT ATTENUATOR ASSEMBLY
7/85	C-10.45 SH 5	W BEAM BCT ATTENUATOR ASSEMBLY
7/85	C-10.50 SH 1	W BEAM BCT ATTENUATOR ASSEMBLY, CURB INSTALLATION
6/86	C-10.50 SH 2	W BEAM BCT ATTENUATOR ASSEMBLY, CURB INSTALLATION
6/86	C-10.50 SH 3	W BEAM BCT ATTENUATOR ASSEMBLY, CURB INSTALLATION
7/85	C-10.50 SH 4	W BEAM BCT ATTENUATOR ASSEMBLY, CURB INSTALLATION
7/85	C-10.50 SH 5	W BEAM BCT ATTENUATOR ASSEMBLY, CURB INSTALLATION
7/85	C-10.55 SH 1	MEDIAN W BEAM BCT ATTENUATOR ASSEMBLY
6/86	C-10.55 SH 2	MEDIAN W BEAM BCT ATTENUATOR ASSEMBLY
7/85	C-10.55 SH 3	MEDIAN W BEAM BCT ATTENUATOR ASSEMBLY
7/85	C-10.55 SH 4	MEDIAN W BEAM BCT ATTENUATOR ASSEMBLY
1/83	C-10.96	GLARE SCREEN, TYPE 'P', CONC. MEDIAN BARRIER
11/83	C-10.97	GLARE SCREEN, TYPE 'O', CONC. MEDIAN BARRIER

REVISION DATE	STANDARD NO.	SUBJECT
1/83	C-11.10	ROADWAY CATTLE GUARD-FOOTING TYPE
1/83	C-11.11	ROADWAY CATTLE GUARD - GRILL & GRILL CLAMP DETAIL
1/83	C-11.12	ROADWAY CATTLE GUARD-FOOTING TYPE, MISC. DETAILS
1/83	C-11.20	CATTLE GUARD, DRAINAGE
1/83	C-11.30	CATTLE GUARD, RAILROAD
5/85	C-12.10 SH 1	FENCE, WOVEN WIRE
5/85	C-12.10 SH 2	FENCE, BARBED WIRE
5/85	C-12.10 SH 3	FENCE, GATE, TYPE 1 & 2, FLOOD GATE
5/85	C-12.10 SH 4	FENCE, FLOOD GATE INSTALLATION
3/87	C-12.10 SH 5	FENCE, MISC. DETAILS
5/85	C-12.20 SH 1	FENCE, CHAIN LINK TYPE 1
5/85	C-12.20 SH 2	FENCE, CHAIN LINK TYPE 2
5/85	C-12.20 SH 3	FENCE, CHAIN LINK GATES
11/83	C-13.10	PIPE CULVERT INSTALLATION
5/85	C-13.15	TYPICAL PIPE INSTALLATION
1/83	C-13.20	PIPE, REINFORCED CONCRETE END SECTION
1/83	C-13.25	PIPE, CORRUGATED METAL, END SECTION
1/83	C-13.30	PIPE & PIPE ARCH, CORRUGATED METAL CONCRETE INVERT PAVING
1/83	C-13.35	STRUCTURAL EXCAVATION PAYMENT LIMITS
11/83	C-13.40	STRUC. EXC. PAYMENT LIMITS STR. BACKFILL PLACEMENT
11/83	C-13.45	STRUCTURE BACKFILL PLACEMENT
11/83	C-13.50	STRUCTURE BACKFILL MEASUREMENT
1/83	C-13.55	PIPE, CATTLE-VEHICLE PASS, MITERED END TREATMENT
1/83	C-14.10	HEADWALL, PIPE, STRAIGHT & 'L' TYPES
1/83	C-14.20	HEADWALL, NORMAL TO PIPE 42" - 84" PIPE
1/83	C-14.21	HEADWALLS, 42" - 84" PIPE SKEWED
1/83	C-14.30	HEADWALL, DROP INLET
6/86	C-15.10	CATCH BASIN, TYPE 1
6/86	C-15.20	CATCH BASIN, TYPE 3
6/86	C-15.30	CATCH BASIN, TYPE 4
6/86	C-15.40	CATCH BASIN, TYPE 5
1/83	C-15.50	CATCH BASIN, GRATES, LONGITUDINAL BARS
1/83	C-15.60	CATCH BASIN, GRATES, TRANSVERSE BARS
6/86	C-15.70	CATCH BASIN MISC. DETAILS
1/83	C-15.80	CATCH BASIN, MEDIAN FLUSH
6/86	C-15.90	CATCH BASIN, MEDIAN DYKE, PRECAST
1/83	C-16.10	IRRIGATION HEADWALLS 18" TO 60" DIAMETER PIPES
1/83	C-16.20	IRRIGATION STANDPIPES
1/83	C-16.30	IRRIGATION VALVE & GATE
6/86	C-17.10	BANK PROTECTION, RAIL TYPES 1, 2 & 3
6/86	C-17.20	BANK PROTECTION, RAIL TYPES 4, 5 & 6
1/83	C-18.10	MANHOLE DETAILS
1/83	C-18.20	MANHOLE FRAME & COVER
1/83	C-19.10	FORD - CONCRETE WALLS
1/83	C-19.20	FORDS - TYPES 1 & 2
1/83	C-21.10	SURVEY MONUMENT, FRAME AND COVER, RIGHT OF WAY MARKER
1/83	C-21.20	STANDARD MARKER
1/83	C-22.10	UTILITY LINE, PROTECTIVE CONCRETE SLAB
		STRUCTURES-1987
		REINFORCED CONCRETE BOX CULVERTS
10/86	B-01.10	MISCELLANEOUS DETAILS FOR STANDARD BOX CULVERTS
10/86	B-02.10	SINGLE BARREL BOX CULVERT
10/86	B-02.20	DOUBLE BARREL BOX CULVERT
10/86	B-02.25	DOUBLE BARREL BOX CULVERT
10/86	B-02.30	TRIPLE BARREL BOX CULVERT
10/86	B-02.35	TRIPLE BARREL BOX CULVERT
10/86	B-02.40	FOUR BARREL BOX CULVERT
10/86	B-02.45	FOUR BARREL BOX CULVERT
10/86	B-02.50	FIVE BARREL BOX CULVERT
10/86	B-02.55	FIVE BARREL BOX CULVERT
10/86	B-02.60	SIX BARREL BOX CULVERT
10/86	B-02.65	SIX BARREL BOX CULVERT
10/86	B-03.10	16' X 14' EQUIPMENT PASS
	B-04.10	OUTLET WINGS, CULVERT HEIGHT 3' TO 7', SKEW 0 TO 20
	B-04.20	OUTLET WINGS, CULVERT HEIGHT 8' TO 12', SKEW 0 TO 20
	B-04.30	INLET WINGS, CULVERT HEIGHT 3' TO 7', SKEW 0 TO 20
	B-04.40	INLET WINGS, CULVERT HEIGHT 8' TO 12', SKEW 0 TO 20
	B-04.50	INLET & OUTLET WINGS, CULVERT HEIGHT 3' TO 7', SKEW 25 TO 45
	B-04.60	INLET & OUTLET WINGS, CULVERT HEIGHT 8' TO 12', SKEW 25 TO 45
	B-05.10	HEADWALL QUANTITIES, 2:1 SLOPE
	B-05.20	HEADWALL QUANTITIES, 4:1 SLOPE
	B-05.30	HEADWALL QUANTITIES, 6:1 SLOPE
	B-06.10	OUTLET APRON DETAIL
	B-06.20	OUTLET APRON DIMENSIONS & QUANTITIES, 2:1 SLOPE
	B-06.30	OUTLET APRON DIMENSIONS & QUANTITIES, 4:1 SLOPE
	B-06.40	OUTLET APRON DIMENSIONS & QUANTITIES, 6:1 SLOPE

REVISION DATE	STANDARD NO.	SUBJECT
7/76	B-08.10	INLET OR OUTLET LEVEL WINGS, HEIGHT 3' TO 7'
7/76	B-08.20	INLET OR OUTLET LEVEL WINGS, HEIGHT 8' TO 12'
		CONTINUOUS SPAN CONCRETE SLAB BRIDGES
10/86	B-09.10	CONTINUOUS SPAN SLAB, HS20-44 LOADING
8/85	B-09.20	CONTINUOUS SPAN SLAB WITH HINGE, HS20-44 LOADING
10/86	B-09.30	CONTINUOUS SPAN SLAB, INTERSTATE LOADING
8/85	B-09.40	CONTINUOUS SPAN SLAB WITH HINGE, INTERSTATE LOADING
10/86	B-10.10	SLAB HINGE JOINT AND HINGE SPAN REINFORCING DETAILS
10/86	B-10.11	SLAB HINGE JOINT AND HINGE SPAN REINFORCING DETAILS (STUD ALTERNATE)
		REINFORCED CONCRETE HEADWALLS FOR PIPE CULVERTS
10/86	B-11.10	PIPE CULVERT HEADWALLS, MISCELLANEOUS DETAILS
7/76	B-12.10	INLET HEADWALL, RIGHT ANGLE PIPE CULVERT
7/76	B-12.20	OUTLET HEADWALL, RIGHT ANGLE PIPE CULVERT
9/72	B-12.30	INLET AND OUTLET HEADWALLS, RIGHT ANGLE PIPE CULVERT, 2:1 SLOPE
9/72	B-12.40	INLET AND OUTLET HEADWALLS, RIGHT ANGLE PIPE CULVERT, 4:1 SLOPE
9/72	B-12.50	INLET AND OUTLET HEADWALLS, RIGHT ANGLE PIPE CULVERT, 6:1 SLOPE
7/76	B-13.10	INLET AND OUTLET HEADWALLS, 15 SKEW PIPE CULVERT
9/72	B-13.20	INLET AND OUTLET HEADWALLS, 15 SKEW PIPE CULVERT, 2:1 SLOPE
9/72	B-13.30	INLET AND OUTLET HEADWALLS, 15 SKEW PIPE CULVERT, 4:1 SLOPE
9/72	B-13.40	INLET AND OUTLET HEADWALLS, 15 SKEW PIPE CULVERT, 6:1 SLOPE
7/76	B-14.10	INLET AND OUTLET HEADWALLS, 30 SKEW PIPE CULVERT
9/72	B-14.20	INLET AND OUTLET HEADWALLS, 30 SKEW PIPE CULVERT, 2:1 SLOPE
9/72	B-14.30	INLET AND OUTLET HEADWALLS, 30 SKEW PIPE CULVERT, 4:1 SLOPE
9/72	B-14.40	INLET AND OUTLET HEADWALLS, 30 SKEW PIPE CULVERT, 6:1 SLOPE
7/76	B-15.10	INLET AND OUTLET HEADWALLS, 45 SKEW PIPE CULVERT
9/72	B-15.20	INLET AND OUTLET HEADWALLS, 45 SKEW PIPE CULVERT, 2:1 SLOPE
9/72	B-15.30	INLET AND OUTLET HEADWALLS, 45 SKEW PIPE CULVERT, 4:1 SLOPE
9/72	B-15.40	INLET AND OUTLET HEADWALLS, 45 SKEW PIPE CULVERT, 6:1 SLOPE
9/72	B-16.10	MULTIPLE HEADWALLS
9/72	B-17.10	OUTLET APRONS
9/72	B-17.20	OUTLET APRON STEEL LIST 2:1 SLOPE
9/72	B-17.30	OUTLET APRON STEEL LIST 4:1 SLOPE
9/72	B-17.40	OUTLET APRON STEEL LIST 6:1 SLOPE
		RETAINING WALLS
10/86	B-18.10	CANTILEVER RETAINING WALL DETAILS
12/82	B-18.20	CANTILEVER RETAINING WALLS ON SPREAD FOOTINGS
12/82	B-18.30	CANTILEVER RETAINING WALLS ON STEEL PILES
3/73	B-18.40	CANTILEVER RETAINING WALLS ON CONCRETE PILES
		MISCELLANEOUS STANDARDS
10/86	B-19.10	MISCELLANEOUS DETAILS FOR BRIDGES
10/86	B-19.20	SLOPE PAVING DETAILS
2/82	B-20.10	PRECAST AND CAST-IN-PLACE CONCRETE PILES
12/82	B-20.20	PRESTRESSED CONCRETE PILES
8/85	B-21.10	W BEAM TERMINAL CONNECTOR, DADO CONNECTION
8/85	B-21.18	BRIDGE CONCRETE BARRIER DETAILS
10/86	B-21.19	BRIDGE CONCRETE BARRIER TRANSITION WITH CURB
10/86	B-21.20	BRIDGE CONCRETE BARRIER TRANSITION
10/86	B-21.21	BLOCK AND TERMINAL CONNECTOR ASSEMBLY DETAILS
	B-22.40	TRAFFIC AND PEDESTRIAN RAIL
	B-22.41	TRAFFIC AND PEDESTRIAN RAIL
	B-22.50	PEDESTRIAN FENCE DETAILS WITH CURB
	B-22.60	PEDESTRIAN FENCE DETAILS WITH PARAPET
10/86	B-23.10	RAIL BANK PROTECTION FOR BRIDGES
10/86	B-24.10	ROADWAY JOINT-STEEL
10/86	B-24.11	ROADWAY JOINT-STEEL (STUD ALTERNATE)
10/86	B-24.20	ROADWAY JOINT POLYCHLOROPRENE
10/86	B-24.21	ROADWAY JOINT POLYCHLOROPRENE (STUD ALTERNATE)
	B-30.10	CONCRETE SOUND BARRIER WALLS
	B-30.20	MASONRY SOUND BARRIER WALLS

REV.: 4/13/87

___ OF ___

A. D. O. T. STANDARD DRAWINGS

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	VLT-900-936	1B	31	

SIGNING & MARKING DETAILS

REVISION DATE	STANDARD NO.	SUBJECT
7/83	4-M-1.01	PAVEMENT MARKINGS FOR CROSSWALKS, PARKING & INTERSECTIONS
1/77	4-M-1.02	CURB MARKINGS FOR RAISED MEDIAN & ISLANDS
8/86	4-M-1.03	PAINTED CHANNELIZATION
8/86	4-M-1.03.1	CENTERLINE AND REVERSE CURVE DETAILS
10/82	4-M-1.04	INSPECTION STATION MARKINGS FOR FREEWAYS
10/82	4-M-1.05	INSPECTION STATION MARKINGS FOR NON-FREEWAYS
10/82	4-M-1.06	TRANSITION STRIPING TWO LANE TO FOUR LANE
10/82	4-M-1.07	STRIPING AND DELINEATION FOR FREEWAY TERMINALS
11/78	4-M-1.08	UPHILL PASSING LANE STRIPING DETAILS
1/85	4-M-1.09	STRIPING FOR ENTRANCE RAMPS, EXIT RAMPS AND EDGE LINES
10/82	4-M-1.10	APPROACH MARKINGS FOR OBSTRUCTIONS IN THE ROADWAY
1/87	4-M-1.11	RAILROAD MARKINGS
7/85	4-M-1.12	8' WORD MARKINGS
7/85	4-M-1.13	8' PAVEMENT LETTERS
8/85	4-M-1.14	8' PAVEMENT LETTERS
8/85	4-M-1.15	8' PAVEMENT NUMBERS
8/86	4-M-1.16	STORAGE LANE MARKINGS AND ARROW DETAILS
10/82	4-M-1.17	PLACEMENT OF CENTERLINES, LANE LINES & EDGE LINES
3/83	4-M-1.18	TURNING LANE TYPICAL PAVEMENT MARKINGS
7/85	4-M-1.23	FREEWAY PAVEMENT MARKINGS
3/87	4-M-1.25	STRIPING AND DELINEATION FOR TRUCK ESCAPE RAMPS
7/87	4-M-2.02	RAISED PAVEMENT MARKER DETAILS
7/87	4-M-2.03	STRIPING DETAILS
12/84	4-M-2.04	TYPICAL INSTALLATIONS OF RAISED PAVEMENT MARKERS
8/86	4-M-2.05	TEMPORARY PAVEMENT MARKERS FOR CHIP SEAL PROJECTS
7/87	4-M-2.10	RUMBLE STRIP DETAILS
7/87	4-M-3.01	OBJECT MARKER DETAILS
8/86	4-M-3.02	OBJECT MARKER PLACEMENT DETAILS
1/85	4-M-3.03	OBJECT MARKER FOR SAND BARREL CRASH CUSHION
2/85	4-M-3.04	OBJECT MARKER FOR G.R.E.A.T. CRASH CUSHION
7/87	4-M-4.01	DELINEATOR DETAILS
8/86	4-M-4.02	ROADWAY DELINEATOR PLACEMENT
8/86	4-M-4.03	INTERCHANGE DELINEATOR SPACING
10/82	4-M-4.04	TRANSITION DELINEATION
8/86	4-M-5.01	MILEPOST DETAILS
10/82	4-M-6.01	OFF MAINLINE REFERENCE MARKER DETAILS
10/82	4-M-9.01	SNOW MARKER DETAILS
2/85	4-M-10.01	BRIDGE & BARRIER MARKER DETAILS
8/81	4-M-10.02	BRIDGE & BARRIER MARKER PLACEMENT & INSTALLATION DETAILS
2/87	4-M-10.03	GUARDRAIL B.C.T. DELINEATION DETAILS
10/82	4-S-1.01	INSPECTION STATION SIGNING FOR FREEWAYS
10/82	4-S-1.02	INSPECTION STATION SIGNING NON-FREEWAYS
2/81	4-S-1.03	TRANSITION SIGNING FOR FREEWAY TERMINALS
8/78	4-S-1.04	TRANSITION SIGNING
6/74	4-S-1.05	SIGNING FOR UPHILL PASSING LANES
8/86	4-S-1.06	STANDARD SAFETY PULLOUT SIGNING
6/74	4-S-1.07	TYPICAL CROSSROAD SIGNING TRUMPET INTERCHANGE
7/80	4-S-1.08	TYPICAL CROSSROAD SIGNING CLOVERLEAF INTERCHANGE
6/80	4-S-1.09	TYPICAL CROSSROAD SIGNING DIAMOND INTERCHANGE
10/78	4-S-1.10	TYPICAL REST AREA INTERIOR SIGNING
8/86	4-S-1.11	TYPICAL INTERCHANGE REGULATORY SIGNING SIGNALIZED-ONE WAY STREET
8/86	4-S-1.12	TYPICAL INTERCHANGE REGULATORY SIGNING SIGNALIZED-NARROW MEDIAN
8/86	4-S-1.13	TYPICAL INTERCHANGE REGULATORY SIGNING SIGNALIZED-WIDE MEDIAN
8/86	4-S-1.14	TYPICAL INTERCHANGE REGULATORY SIGNING STOP SIGN CONTROL
3/83	4-S-1.15	TYPICAL RAILROAD CROSSING SIGNING
3/87	4-S-1.16	TYPICAL SIGNING TRUCK ESCAPE RAMP
8/86	4-S-2.01	EXIT NUMBER PANEL AND EXIT SIGN FORMAT
8/86	4-S-2.02	REST AREA SIGN FORMAT
11/74	4-S-2.03	SCENIC VIEW SIGN FORMAT
11/85	4-S-2.04	SERVICES SIGN FORMAT
8/85	4-S-2.05	SERVICES SIGN FORMAT
8/85	4-S-2.06	SERVICES SIGN FORMAT
8/86	4-S-2.07	SERVICES SIGN FORMAT
6/74	4-S-2.08	ARROW FORMAT DETAILS
5/85	4-S-3.01	ALUMINUM EXTRUSION SIGN PANEL DETAILS
7/85	4-S-3.01.1	ALUMINUM EXTRUSION EXIT NUMBER PANEL DETAIL
6/74	4-S-3.02	LAMINATED ALUMINUM SIGN PANEL DETAILS
8/86	4-S-3.02.1	LAMINATED ALUMINUM SIGN PANEL MOUNTING DETAILS
6/74	4-S-3.04	OVERLAID PLYWOOD PANEL DETAILS FOR GROUND MOUNTED SIGNS
4/86	4-S-4.01	BREAKAWAY POST LOCATION GUIDE SIGNS
4/86	4-S-4.02	BREAKAWAY POST LOCATIONS WARNING & REGULATORY
8/86	4-S-4.03	TENSION FUSE PLATE AND HINGE
8/86	4-S-4.04	BREAKAWAY POST DETAILS W-SHAPE GUIDE SIGNS
8/86	4-S-4.05	BREAKAWAY POST DETAILS S-SHAPES
6/74	4-S-4.06	EXIT NUMBER PANELS INSTALLATION DETALS
6/74	4-S-4.07	AUXILIARY SIGN INSTALLATION DETAILS
7/76	4-S-4.08	SIGN INSTALLATION DETAILS WING CHANNEL
6/74	4-S-4.09	SIGN INSTALLATION DETAILS WARNING & REGULATORY
8/86	4-S-4.10	SIGN INSTALLATION ON POLE
6/74	4-S-4.11	SIGN INSTALLATION ON SIGNAL POLE
6/74	4-S-4.12	CROSSROAD SIGN MOUNTING DETAILS BREAKAWAY POSTS
11/74	4-S-4.13	CROSSROAD AUX. SIGN PANEL MOUNTING DETAIL BREAKAWAY POSTS
11/74	4-S-4.14	TYPICAL STANDARD SIGN LOCATIONS FOR CROSSROAD SIGNING
1/83	4-S-4.16	FOUNDATION DETAILS FOR P-1 PERFORATED POST (SINGLE)
11/74	4-S-4.17	FOUNDATION DETAILS FOR P-2 PERFORATED POST (TELESCOPING)
6/80	4-S-4.18	SIGN PANEL MOUNTING ON PERFORATED POSTS
8/86	4-S-4.19	MILEPOST DETAILS
6/74	4-S-4.20	OVERHEAD SIGN LIGHTS
1/83	4-S-5.01	TAPERED TUBE SIGN STRUCTURE
3/83	4-C-1.01	SAND BARREL CRASH CUSHION
8/86	4-C-1.02	SAND BARREL CRASH CUSHION TYPICAL INSTALLATION
11/80	4-C-1.03	SAND BARREL CRASH CUSHION MODULE COMPONENTS
3/83	4-C-2.01	TEMPORARY CONCRETE BARRIER
3/83	4-C-2.02	TEMPORARY CONCRETE BARRIER TYPICAL INSTALLATIONS
3/83	4-C-2.03	TEMPORARY CONCRETE BARRIER TYPICAL INSTALLATIONS
11/80	2-S-5.01	OVERHEAD SIGN STRUCT. 8 PANEL TRUSS #1 TO #3 ONE WAY TRAFFIC
6/74	2-S-5.02	OVERHEAD SIGN STRUCT. 10 PANEL TRUSS #4 TO #10 ONE WAY TRAFFIC & TWO WAY TRAFFIC
6/74	2-S-5.03	OVERHEAD SIGN STRUCT. 16 PANEL TRUSS #11 TO #16 ONE WAY TRAFFIC
6/74	2-S-5.04	OVERHEAD SIGN STRUCT. 16 PANEL TRUSS #11 TO #16 TWO WAY TRAFFIC
6/74	2-S-5.05	OVERHEAD SIGN STRUCT. 16 PANEL TRUSS #17 TO #25 FIELD SPLICE-TWO WAY TRAFFIC
6/74	2-S-5.06	OVERHEAD SIGN STRUCT. 16 PANEL TRUSS #17 TO #25 FIELD SPLICE-ONE WAY TRAFFIC
11/74	2-S-5.07	OVERHEAD SIGN STRUCT. GENERAL RECAP SHEET
11/74	2-S-5.08	OVERHEAD SIGN STRUCT. TRUSS DETAILS
6/74	2-S-5.09	OVERHEAD SIGN STRUCT. TRUSS DETAILS
11/74	2-S-5.10	OVERHEAD SIGN STRUCT. COLUMN DETAILS
11/74	2-S-5.11	OVERHEAD SIGN STRUCT. COLUMN DETAILS
6/74	2-S-5.12	OVERHEAD SIGN STRUCT. WALKWAY SUPPORT-GRATING-HDRL & DRIP PAN DETAILS
11/74	2-S-5.13	OVERHEAD SIGN STRUCT. WALKWAY SUPPORT-GRATING-HDRL & DRIP PAN DETAILS
11/74	2-S-5.14	OVERHEAD SIGN STRUCT. WALKWAY SUPPORT-HANDRAIL & SIGN CONNECTION DETAILS
11/74	2-S-5.15	OVERHEAD SIGN STRUCT. GRATING SIGN CONNECTION DETAILS
8/86	2-S-5.16	OVERHEAD SIGN STRUCT. FOUNDATION DETAILS
5/87	2-S-5.17	CANTILEVER TRAFFIC SIGN STRUCTURE
5/87	2-S-5.18	CANTILEVER SIGN LAYOUT DETAILS
5/87	2-S-5.19	CANTILEVER SIGN TOWER DETAILS
5/87	2-S-5.20	CANTILEVER SIGN TRUSS DETAILS NO. 1
5/87	2-S-5.21	CANTILEVER SIGN TRUSS DETAILS NO. 2
5/87	2-S-5.22	CANTILEVER SIGN HANDRAIL DETAILS
5/87	2-S-5.23	CANTILEVER SIGN HANDRAIL SUPPORT DETAILS
5/87	2-S-5.24	CANTILEVER SIGN LADDER AND GRATING DETAILS
5/87	2-S-5.25	CANTILEVER SIGN SIGN CONNECTION DETAILS
5/87	2-S-5.26	CANTILEVER SIGN OVERHEAD LIGHT SUPPORT MOUNTING DETAILS
5/87	2-S-5.27	CANTILEVER SIGN FOUNDATION DETAILS

TRAFFIC SIGNALS & LIGHTING DETAILS

REVISION DATE	STANDARD NO.	SUBJECT
	T.S. 0	SYMBOLS
7/85	0-1	PLAN SYMBOLS
	T.S. 1	PULL BOXES
7/85	1-1	NO. 3 1/2 PULL BOX
7/85	1-2	NO. 5 PULL BOX
7/85	1-3	NO. 5 PULL BOX EXTENSION
7/85	1-4	NO. 7 PULL BOX
7/85	1-5	NO. 7 PULL BOX EXTENSION
10/86	1-6	TYPICAL PULL BOX INSTALLATION AND WIRING DETAILS
	T.S. 2	FOUNDATIONS
7/85	2-1	FOUNDATION FOR TYPE II LOAD CENTER CABINET
7/85	2-2	FOUNDATION FOR TYPE III CONTROL CABINET
7/85	2-3	FOUNDATION FOR TYPE IV & V CONTROL CABINETS
	T.S. 3	CABINETS
7/85	3-1	TYPE I LOAD CENTER CABINET
10/86	3-2	TYPE II LOAD CENTER CABINET
10/86	3-3	TYPE II LOAD CENTER CABINET CIRCUIT DETAILS
10/86	3-4	TYPE III LOAD CENTER CABINET AND FOUNDATION
7/85	3-5	TYPE III LOAD CENTER CABINET CIRCUIT DETAILS
10/86	3-6	TYPE IV LOAD CENTER CABINET AND FOUNDATION
7/85	3-7	TYPE IV LOAD CENTER CABINET CIRCUIT DETAILS
7/85	3-8	TYPE I PEDISTAL CABINET AND FOUNDATION
7/85	3-9	TYPE I CONTROL CABINET
7/85	3-10	TYPE II CONTROL CABINET
10/86	3-11	TYPE III CONTROL CABINET
10/86	3-12	TYPE IV CONTROL CABINET
10/86	3-13	TYPE V CONTROL CABINET
7/85	3-14	CONTROL CABINET MOUNTED SERVICE ENCLOSURE
7/85	3-15	JACK MOUNTED COMPONENTS
7/85	3-16	METER PEDISTAL CABINET
10/86	3-17	CONTROL CABINET MOUNTED SERVICE EQUIPMENT
	T.S. 4	POLES AND POSTS
10/86	4-1	TYPE 'A' POLE
10/86	4-2	TYPE 'B' POLE AND MAST ARM
10/86	4-3	TYPE 'C' POLE AND MAST ARM
10/86	4-4	TYPE 'D' POLE AND MAST ARM
10/86	4-5	TYPE 'E' POLE AND MAST ARM
10/86	4-6	TYPE 'F' POLE AND MAST ARMS
10/86	4-7	TYPE 'G' POLE AND MAST ARM
10/86	4-8	TYPE 'H' POLE AND MAST ARM
10/86	4-9	TYPE 'I' POLE AND MAST ARM
10/86	4-10	TYPE 'J' POLE AND MAST ARM
10/86	4-11	TYPE 'K' POLE AND MAST ARM
10/86	4-12	TYPE 'Q' POLE AND MAST ARMS
10/86	4-13	TYPE 'R' POLE AND MAST ARMS
10/86	4-14	TYPE 'S' POLE
10/86	4-15	TYPE 'T' POLE AND LUMINAIRE MOUNTING BRACKET
10/86	4-16	TYPE 'U' POLE AND ANCHORAGE DETAIL
10/86	4-17	POLE HAND HOLE DETAIL
10/86	4-18	POLE DRILLING DETAIL
7/85	4-19	PEDESTRIAN PUSH BUTTON POST
10/86	4-20	ANCHOR BOLTS
	T.S. 5	POLE BASES - SPECIAL
7/85	5-1	BREAK-AWAY BASE FOR 30' POLE
10/86	5-2	SLIP -AWAY BASE FOR 30' POLE
10/86	5-3	SLIP -AWAY BASE FOR 40' - 50' POLES
	T.S. 6	LIGHTING - POLE OFFSETS
7/85	6-1	HIGHWAY LIGHTING OFFSETS IN CUT AND FILL SECTIONS
	T.S. 7	DETECTORS
7/85	7-1	LOOP DETECTOR LOCATION AND INSTALLATION DETAILS
7/85	7-2	MAGNETOMETER DETECTOR
6/86	7-3	LOOP DETECTORS FOR TRAFFIC COUNTERS
7/85	7-4	TYPICAL LOOP INSTALLATION FOR RAMP METERING
	T.S. 8	SIGNAL ASSEMBLIES
10/86	8-1	SIGNAL FACES WITH BACKPLATES
7/85	8-2	VISORS FOR 8" AND 12" SIGNALS
	T.S. 9	MOUNTING ASSEMBLIES - SIGNAL
7/85	9-1	TYPE I & II MOUNTING ASSEMBLIES
7/85	9-2	TYPE III & IV MOUNTING ASSEMBLIES
7/85	9-3	TYPE V MOUNTING ASSEMBLY
7/85	9-4	TYPE VI MOUNTING ASSEMBLY
7/85	9-5	TYPE VII MOUNTING ASSEMBLY
7/85	9-6	TYPE VIII MOUNTING ASSEMBLY
7/85	9-7	TYPE IX MOUNTING ASSEMBLY
7/85	9-8	TYPE X MOUNTING ASSEMBLY
7/85	9-9	TYPE XI MOUNTING ASSEMBLY
	T.S. 10	MOUNTING CASTINGS - SIGNAL
7/85	10-1	MISCELLANEOUS SIGNAL MOUNTING PARTS
7/85	10-2	MAST ARM PLUMBIZER
7/85	10-3	POLE PLATE DETAIL
7/85	10-4	TERMINAL COMPARTMENT, SIDE MOUNTED AND POLE TOP MOUNTED
	T.S. 11	PEDESTRIAN DETAILS
7/85	11-1	TYPE I PEDESTRIAN PUSH BUTTON
7/85	11-2	TYPE II PEDESTRIAN PUSH BUTTON
7/85	11-3	SIGNS FOR PEDESTRIAN PUSH BUTTON
7/85	11-4	SIGNS FOR INTERNATIONAL SYMBOL PUSH BUTTON
	T.S. 12	FLASHERS
7/85	12-1	POLE FLASHER
7/85	12-2	OVERHEAD FLASHER DETAIL
	T.S. 13	ILLUMINATION - SIGNS
7/85	13-1	OVERHEAD SIGN LIGHTING & FLUORESCENT FIXTURE DETAIL
7/85	13-2	SIGN LIGHTING & FLUORESCENT FIXTURE DETAILS
7/85	13-3	PLACEMENT OF LIGHTING FIXTURES FOR OVERHEAD SIGNS
	T.S. 14	ILLUMINATION - SPECIAL
7/85	14-1	PEDESTRIAN TUNNEL LIGHT FIXTURE
	T.S. 15	SERVICE
7/85	15-1	120/240 V. SERVICE
7/85	15-2	120/240 V. SERVICE WITH CONTROL ENCLOSURE
7/85	15-3	240/480 V. SERVICE
7/85	15-4	240/480 V. SERVICE WITH CONTROL ENCLOSURE
7/85	15-5	PHOTO ELECTRIC CELL MOUNTING DETAILS
7/85	15-6	POLE MOUNTED BREAKER PANEL & TRANSFORMER
7/85	15-7	SPLIT CIRCUIT BREAKER MAIN DISCONNECT

REV.: 10-22-87

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

DESIGN DATA

1986 ADT = 100
2006 ADT = 150
Minimum Design Speed = 15 mph

Two working days before you dig, CALL FOR THE BLUE STAKES
VERDE/SEDONA AREA
634-2717
Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	2	31	

10/22/87 — DATE
S. Daniel Coen — FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: L.Y., K.B. CHECKED: S.D.C.

COEN ENGINEERING CORPORATION

GENERAL NOTES

1) The roadway plans for this project have been designed utilizing the 1986 Construction Standard Drawings (C-Series) and current revisions.

2) Bench markers will be furnished by the State and placed by the Contractor. Std. C-21.10.

3) The Contractor shall remove all structures and obstruction within the project right-of-way unless otherwise noted on the project plans.

4) The project roadway temporary and final striping shall be performed by the Contractor in accordance with the details shown on the plans or as directed by the Engineer.

5) Pavement thicknesses shown on the project plans are 'nominal thicknesses'.

6) Information shown herein concerning type and location of underground and other utilities is not represented to be accurate or all inclusive. The information is made available to provide the Contractor with ready access to the same information used in the preparation of the plans. It shall be the Contractor's responsibility to verify type, size, and location of utilities as may be necessary to avoid damage.

7) R/W markers consisting of only survey monuments (std. C-21.10) shall be furnished and placed by the Contractor as directed by the Engineer.

8) Changes in location or length of spillway installation may be made by the Engineer to improve drainage conditions.

9) All signs, and sign posts within the project limits shall be removed and reinstalled per the project plans as directed by the Engineer.

10) The Contractor shall trim pavement to neat vertical line 1' back from existing edge of pavement as shown.

11) AC turnouts shall be constructed using Pavement Structural Section No. 1.

12) It is the Contractor's responsibility to verify all quantities.

13) All materials which are required to be removed but not salvaged shall become the property of the Contractor.

14) Prior to Bidding the work the Contractor shall thoroughly satisfy himself as to the actual conditions, Earthwork Quantities & Requirements of the work & excess or deficiency therein, Actual or Relative.

15) It is not anticipated that blasting and removal of bedrock will be required for the installation of drainage structures or for the removal in overexcavation areas. If rock is discovered to be in contact with planed construction, contact the Engineer, with information on location and elevation, to make appropriate adjustments.

16) The Contractor shall field measure all culverts and pipe sleeves to verify lengths prior to ordering materials.

17) All unsuitable material removed by the contractor in the overexcavation areas shall be legally disposed of offsite.

18) All existing asphalt removed by the contractor may be used as backfill for the overexcavation areas or cribwall provided it is processed to meet standard specifications or special provisions.

19) All existing A.B.C. or subgrade removed by the contractor during rough grading may be used as backfill for the overexcavation areas or cribwall provided it meets standard specifications or special provisions.

20) Contractor shall pothole existing sewer lines called for replacement to verify alignment horizontally and vertically prior to ordering materials.

21) Contractor shall provide a means of storing and disposing sewage and/or a temporary connection for active sewer lines during sewer line replacement construction.

22) NOTE: Centerline control points have been set for this project to aid layout staking. Contact design engineer for information on points set and their coordinates.

LENGTH OF PROJECT

PARK ROAD (ENTRANCE)

Sta. 7+70.12	to	Sta. 16+75.11Bk.	=	904.99'
Sta. 16+75.25 Ahd.	to	Sta. 23+78.19Bk.	=	702.94'
Sta. 23+79.89 Ahd.	to	Sta. 33+16.34Bk.	=	936.37'
Sta. 33+27.15 Ahd.	to	Sta. 48+00.01	=	1472.86'
Sta. 48+04.09 Ahd.	to	Sta. 59+84.00	=	1179.91'
Park Road Gross & Net Length = 5197.07'			=	0.98 Mi.

EAST AVENUE

Sta. 00+00.00	to	Sta. 1+25.27	=	125.27'
East Ave. Gross & Net Length = 125.27'			=	0.02 Mi.

TOTAL LENGTH OF PROJECT
GROSS & NET LENGTH = 5322.34' = 1.00 Mi.

INDEX OF SHEETS

Sheet No.	Sheet Type
1	Face Sheet
1A-1B	A.D.O.T. Standard Drawings
2-3	Design Sheets
4-12	Special Details
13	New Pipe Summmary Sheet
14	New Pipe Sleeve Summary Sheet
15	Barrier Summary Sheet
16	Entrance Plan Sheet
17	Entrance Profile Sheet
18-22	Plan & Profile Sheets
23	Plan Sheet @ Mineral Building
24	Entrance Utility Relocation & Horizontal Layout Sheet
25-26	Little Daisy Road Plan + Profile Sheets
27	Signing & Striping Plan
28-29	Traffic Control Plan
30	Temporary Construction Easement (T.C.E.) Sheet
31	Right of Way & Drainage Easement Sheet

EARTHWORK QUANTITIES

ROADWAY EARTHWORK	SHRINK	GROUND COMPACTION	QUANITY
Excavation	—	—	8,903 C.Y.
Embankment	15%	0.2 FT/FT.	2,153 C.Y.
OVEREXCAVATION AREAS			
Excavation (waste)	—	—	4,925 C.Y.
Embankment	15 %	0.2 FT/FT.	5,821 C.Y.
"CRIBLOCK" RETAINING WALLS			
Structural Excavation	—	—	3,133 C.Y.
Structure Backfill	15%	0.2 FT/FT.	2,521 C.Y.
Wall Backfill	—	—	1,790 C.Y.
CONCRETE RETAINING WALLS			
Structural Excavation	—	—	1,523 C.Y.
Structure Backfill	15%	0.2 FT/FT	1,001 C.Y.
Wall Backfill	—	—	171 C.Y

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

REDUCED SIZE DO NOT SCALE

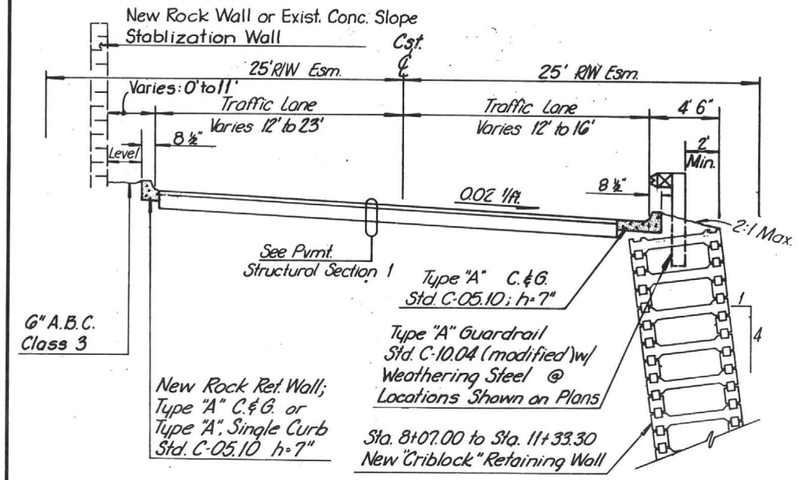
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

DESIGN DATA
1986 ADT = 100
2006 ADT = 150
Min Design Speed 15 MPH

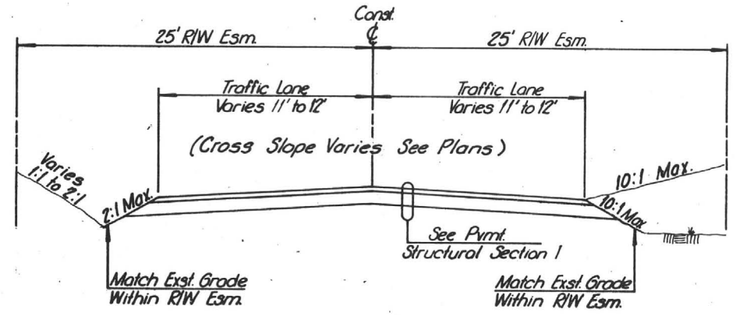
Two working days before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	3	31	

10/22/87 — DATE — FOR THE CONSULTING ENGINEER
DESIGN: DTO, JK DRAWN: KEB CHECKED: SDC
COEN ENGINEERING CORPORATION

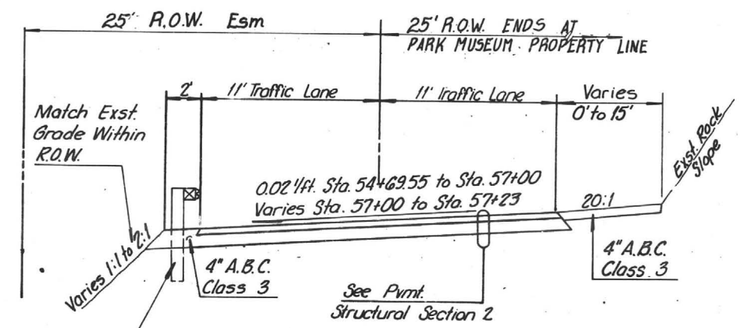


PARK ENTRANCE ROAD (UVX MINE ROAD)
Sta. 7+70.12 to Sta. 10+76.30



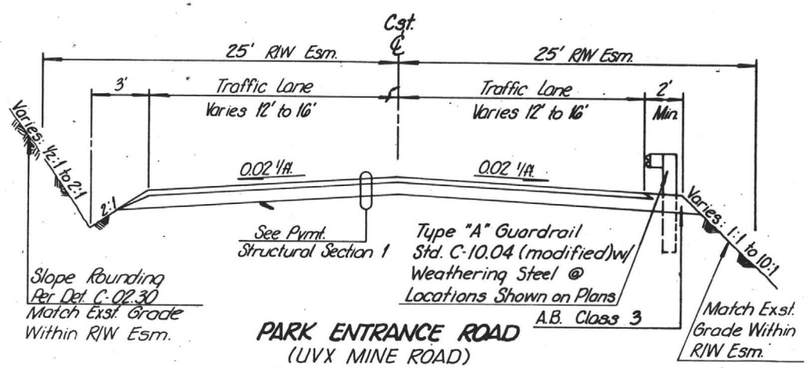
PARK ENTRANCE ROAD
(UVX MINE ROAD)
Sta. 50+50.00 to Sta. 53+37.28

Note: Pavement Structural Section 1 Ends at Sta. 53+37.28 & Pavement Structural Section 2 Begins.

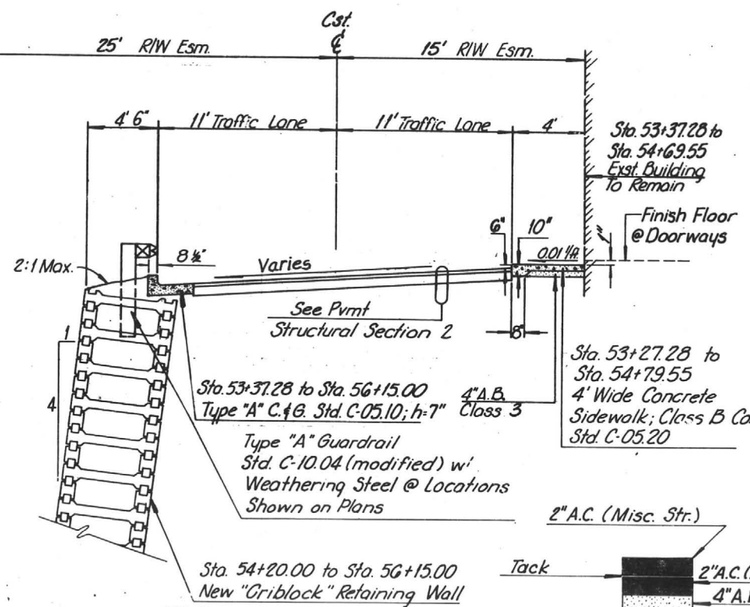


PARK ENTRANCE ROAD
(UVX MINE ROAD)
Sta. 54+69.55 to Sta. 57+23.00

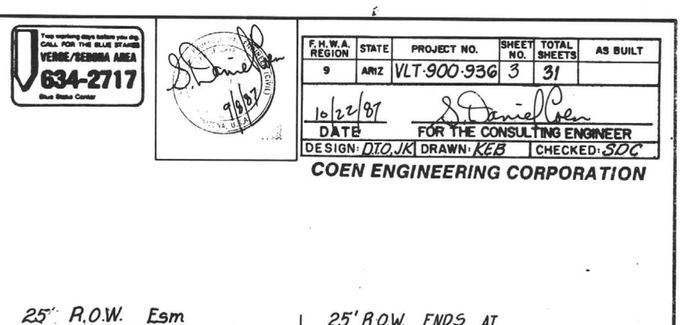
Note: Pavement Structural Section 2 Ends at Sta. 57+23.00 & Pavement Structural Section 4 Begins



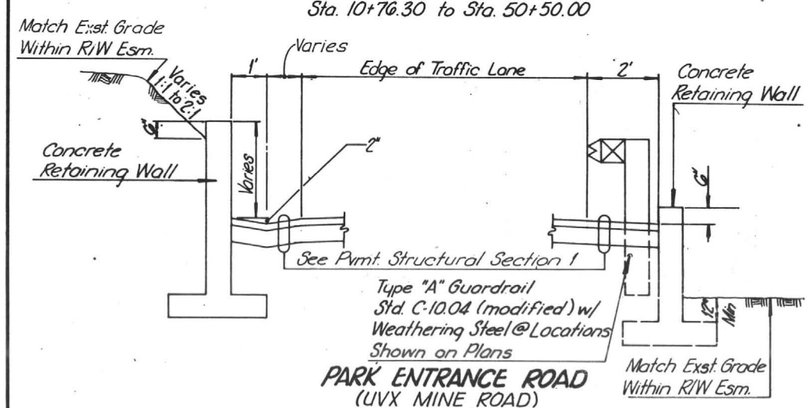
PARK ENTRANCE ROAD
(UVX MINE ROAD)
Sta. 10+76.30 to Sta. 50+50.00



PARK ENTRANCE ROAD
(UVX MINE ROAD)
Sta. 53+37.28 to Sta. 54+69.55

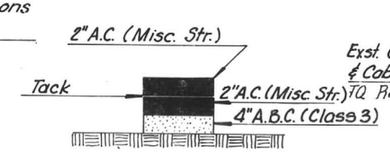


EAST AVENUE
Edge of Park Entrance Road to Sta. 1+25.27

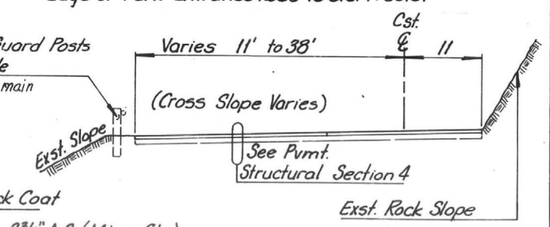


PARK ENTRANCE ROAD
(UVX MINE ROAD)
RETAINING WALL

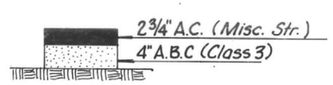
Sta. 48+09.77 to Sta. 49+50.50 (Left) Sta. 48+90.00 to Sta. 50+50.00 (Right)



PAVEMENT STRUCTURAL SECTION 1

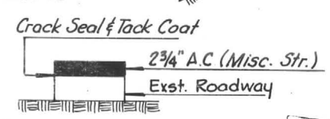


PARKING AREA (MUSEUM)
Sta. 57+23.00 to Sta. 59+84



PAVEMENT STRUCTURAL SECTION 2

PAVEMENT STRUCTURAL SECTION 3



PAVEMENT STRUCTURAL SECTION 4

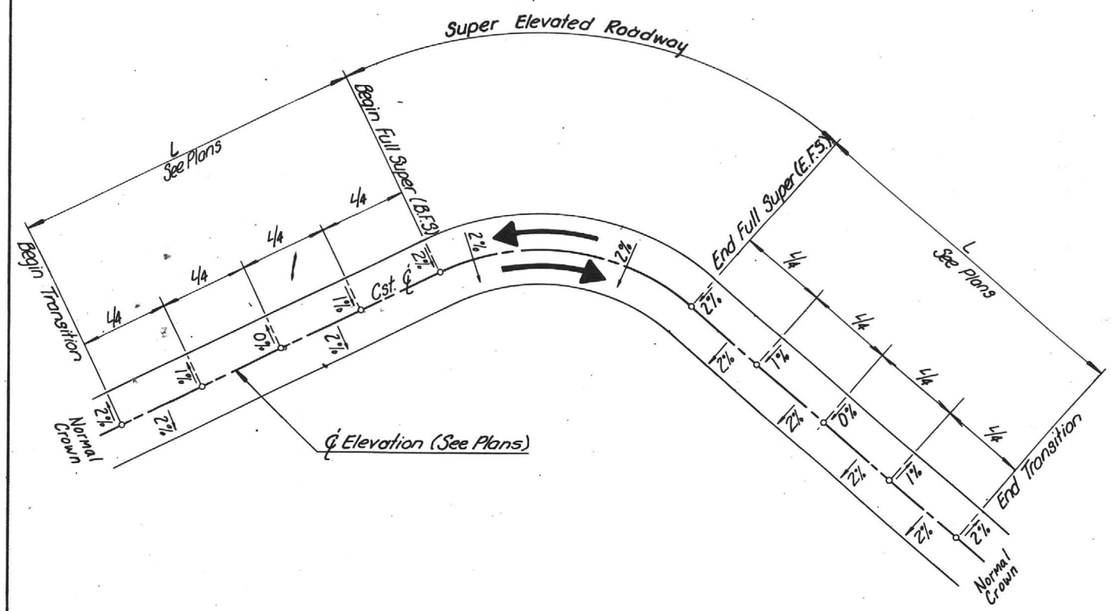
REDUCED SIZE DO NOT SCALE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

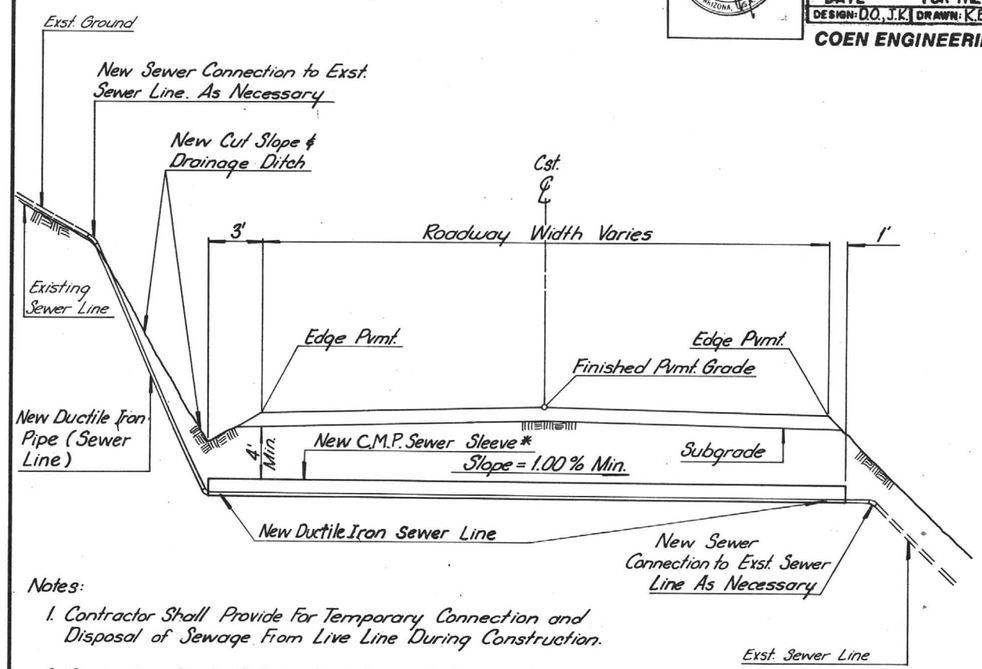
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	4	31	

10/22/87 — DATE — FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.
COEN ENGINEERING CORPORATION



TRANSITONS FROM AND TO NORMAL CROWN

DETAIL A

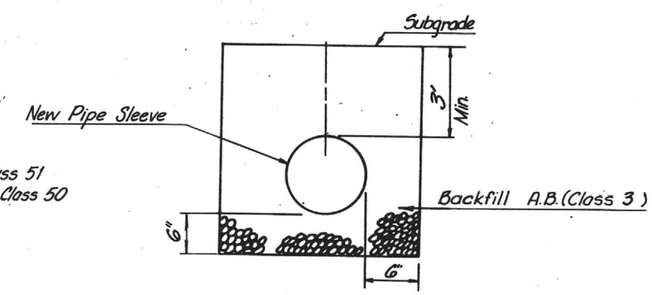


Notes:

1. Contractor Shall Provide For Temporary Connection and Disposal of Sewage From Live Line During Construction.
2. Contractor Shall Pothole Exst. Sewer To Verify Alignment, Grade and Verify Pipe Sleeve and Sewer Line Lengths Prior to Ordering Materials.

*Sleeve is not used for all Sewer Line Installation, See Plans for Specific Locations

Note:
4" Ductile Iron Pipe to be Class 51
6"&8" Ductile Iron Pipe to be Class 50



PIPE SLEEVE

DETAIL B

REDUCED SIZE DO NOT SCALE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

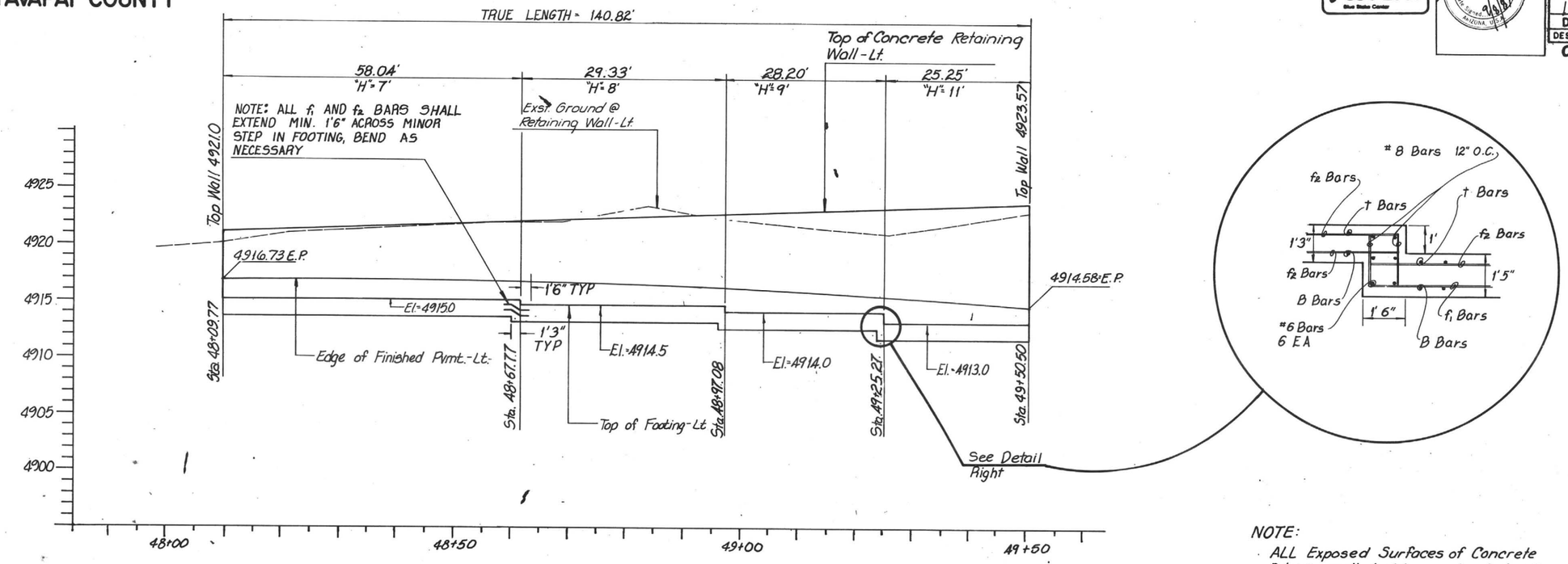
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	5	31	

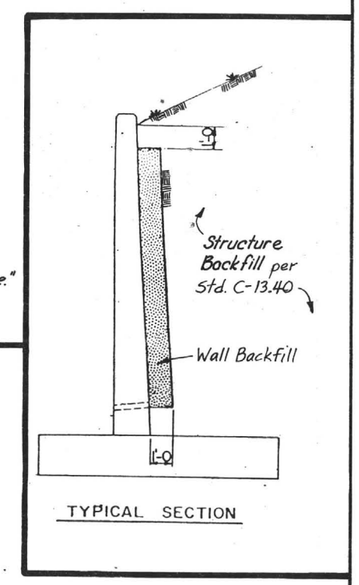
10/12/87 DATE — FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.
COEN ENGINEERING CORPORATION

This marking stays before you dig. CALL FOR THE BLUE STAKES VERDE/BEDONA AREA 634-2717 Blue Stake Center

1,113 S.F. Concrete Retaining Wall



NOTE:
ALL Exposed Surfaces of Concrete Retaining wall shall be constructed with Burk P.V.C. Form Liner # BG 109 "Riverbed, Simulated brush hammered, medium texture."

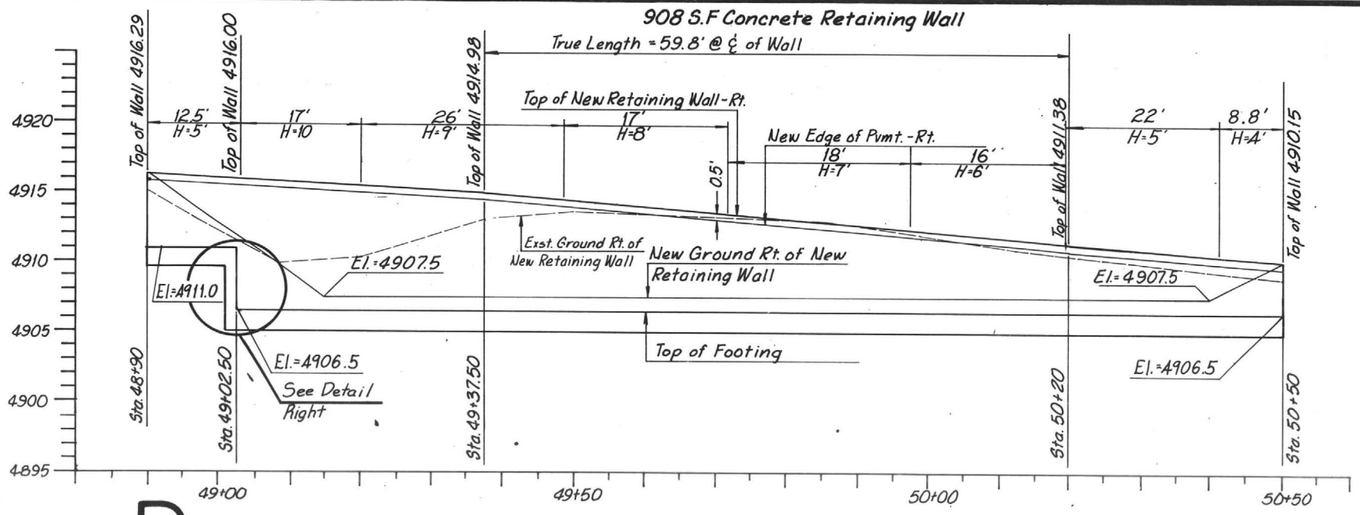


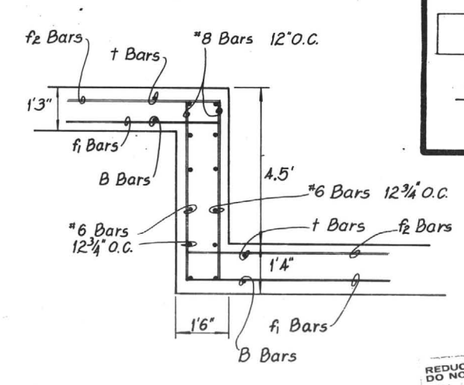
TYPICAL SECTION

DETAIL C

STD. B-18.10 & B-18.20 (CASE IV)

908 S.F Concrete Retaining Wall





NOTE:
All Exposed Surfaces of Concrete Retaining wall shall be constructed with Burk P.V.C. Form Liner # BG 109 "Riverbed, Simulated Brush hammered, medium texture."

REDUCED SIZE DO NOT SCALE

DETAIL D

STD. B-18.10 & B-18.20 (CASE IV)

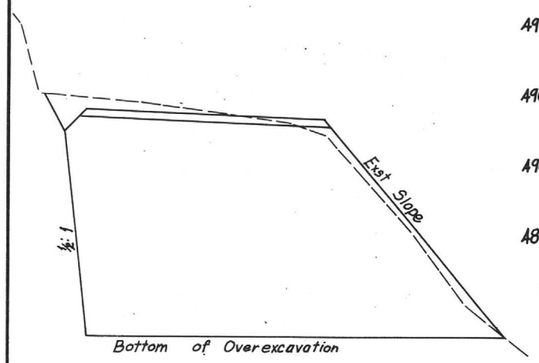
SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

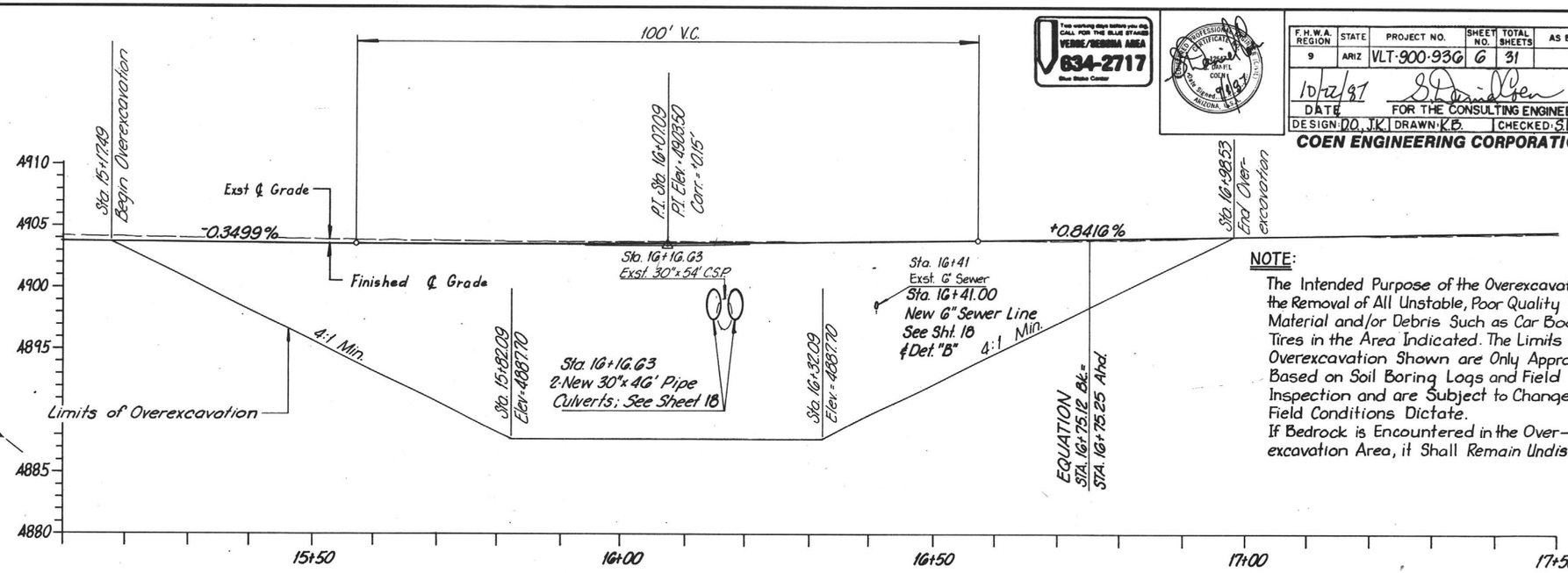
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	6	31	

10/12/87
DATE
FOR THE CONSULTING ENGINEER
DESIGN: DO, JK | DRAWN: KB | CHECKED: SDC.
COEN ENGINEERING CORPORATION



TYP Cross Section

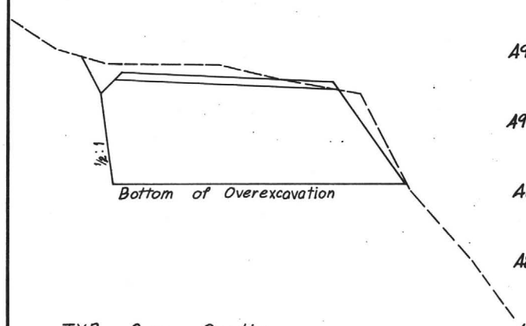


NOTE:

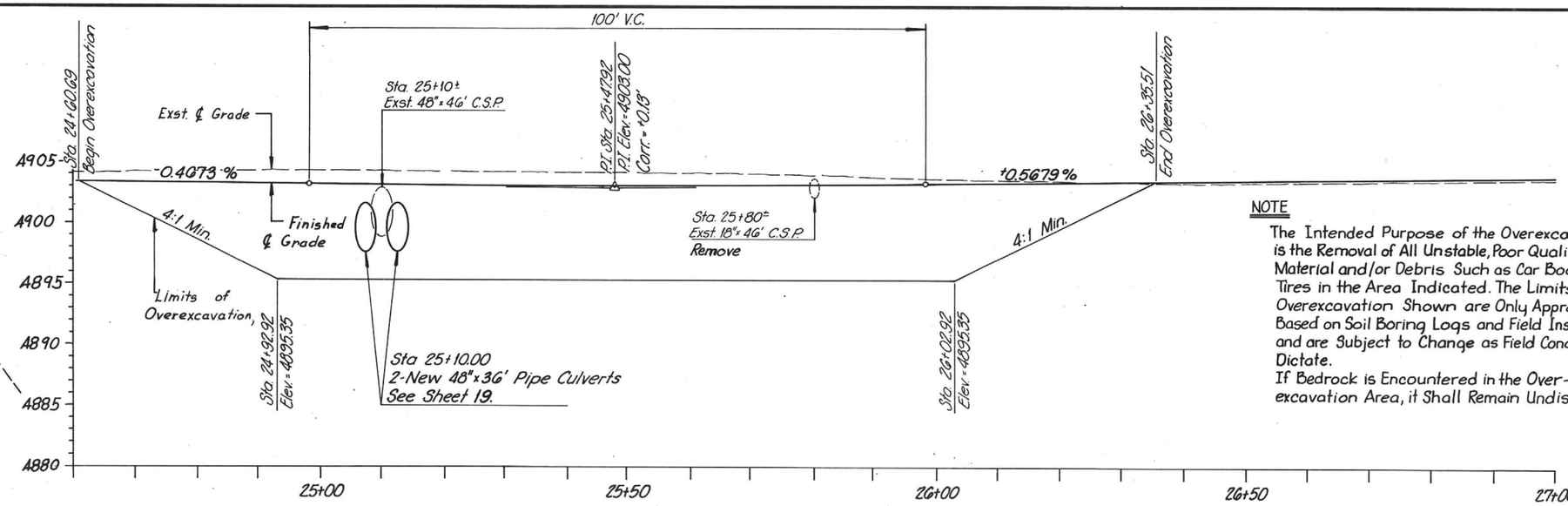
The Intended Purpose of the Overexcavation is the Removal of All Unstable, Poor Quality Fill Material and/or Debris Such as Car Bodies & Tires in the Area Indicated. The Limits of Overexcavation Shown are Only Approximate Based on Soil Boring Logs and Field Inspection and are Subject to Change as Field Conditions Dictate.
If Bedrock is Encountered in the Over-excavation Area, it Shall Remain Undisturbed.

DETAIL E

STA. 15+17.49 to STA. 16+98.53 OVEREXCAVATION AREA



TYP Cross Section



NOTE

The Intended Purpose of the Overexcavation is the Removal of All Unstable, Poor Quality Fill Material and/or Debris Such as Car Bodies & Tires in the Area Indicated. The Limits of Overexcavation Shown are Only Approximate Based on Soil Boring Logs and Field Inspection and are Subject to Change as Field Conditions Dictate.
If Bedrock is Encountered in the Over-excavation Area, it Shall Remain Undisturbed.

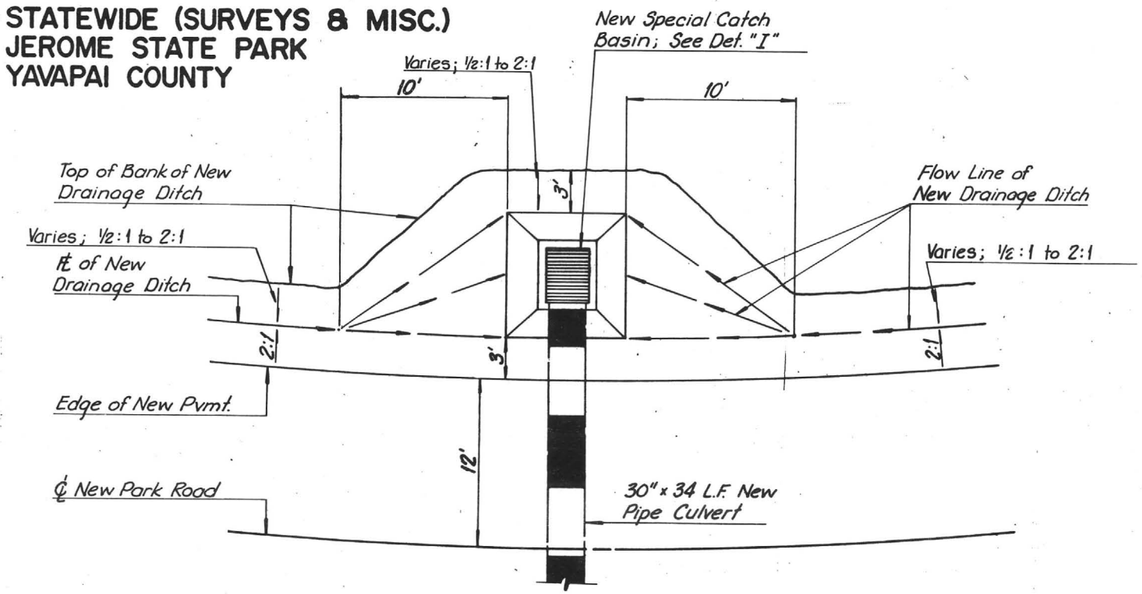
DETAIL F

STA. 24+60.69 to STA. 26+35.51 OVEREXCAVATION AREA

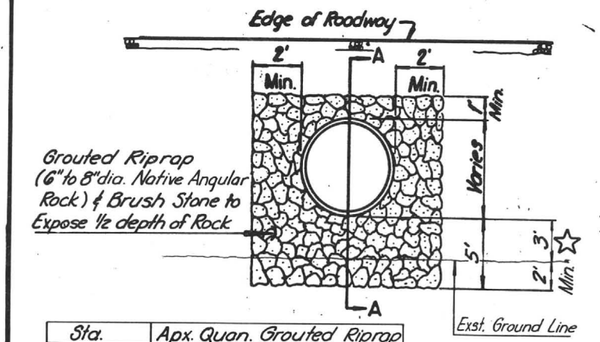
REDUCED SIZE DO NOT SCALE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY



DETAIL G DRAINAGE DITCH at SPECIAL CATCH BASIN



Sta.	Apx. Quan. Grouted Riprap
8+56.86 Rt.	1.70 Cu. Yds.
11+43.30 Rt.	1.70 Cu. Yds.
◪ 16+16.63 Rt.	4.20 Cu. Yds
23+81.00 Rt.	1.70 Cu. Yds
◪ 25+10.00 Rt.	6.20 Cu. Yds.
30+13.00 Rt.	3.10 Cu. Yds.
34+73.54 Rt.	2.40 Cu. Yds.
◪ 53+78.00 Rt.	3.40 Cu. Yds.

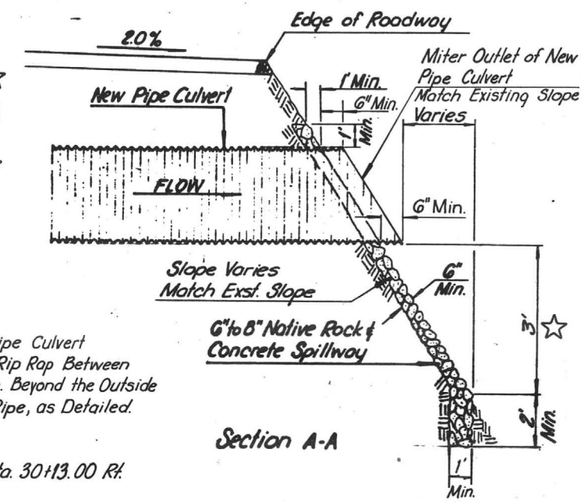
◪ For Double Pipe Culvert Installations, Rip Rap Between Pipes & to 2' Min. Beyond the Outside Edges of Each Pipe, as Detailed.

☆ = 15' @ Sta. 30+13.00 Rt.

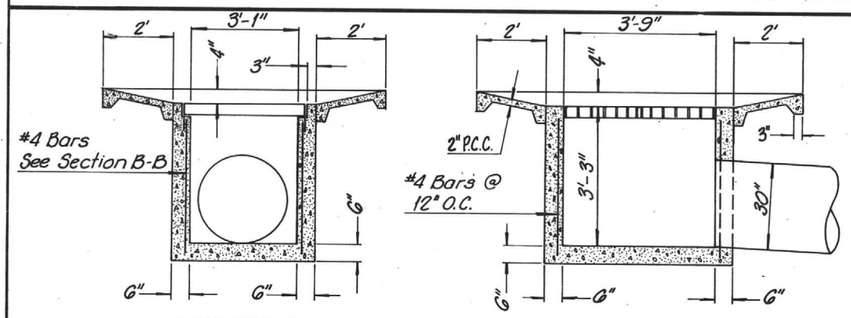
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	7	31	

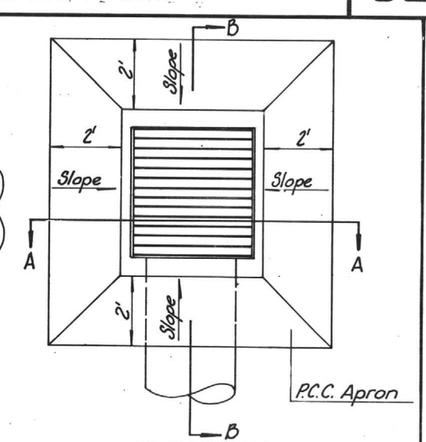
10/22/87 DATE — FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.

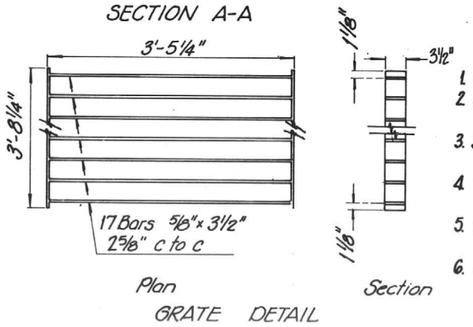
COEN ENGINEERING CORPORATION



DETAIL H PIPE CULVERT OUTLET TREATMENT (SPLASHPAD)

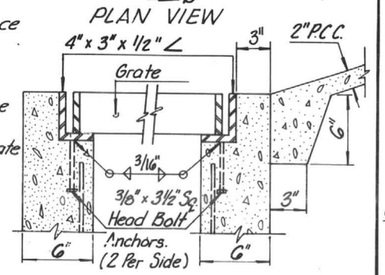






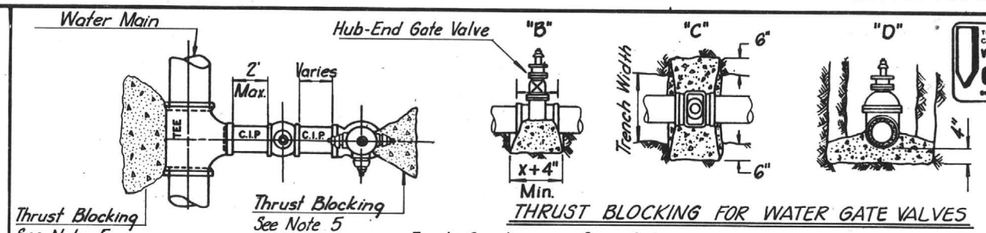
GENERAL NOTES:

1. Concrete Shall be Class B
2. Grating Shall be fabricated of Structural Steel.
3. Structural Steel Shall be in Accordance with A.S.T.M. A36
4. Welding Shall be in Accordance with Standard Welding Specifications.
5. Grating Assembly Shall be given one shop coat of No. 1 Paint.
6. Reinforcing Steel Shall be intermediate grade Conforming to A.S.T.M. designation A615 Grade 40



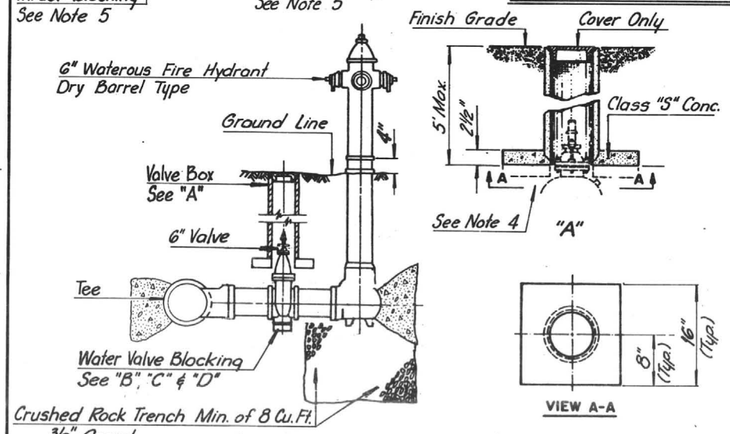
GRATING DETAIL

DETAIL I SPECIAL CATCH BASIN



THRUST BLOCKING FOR WATER GATE VALVES

Two working days before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center



NOTES:

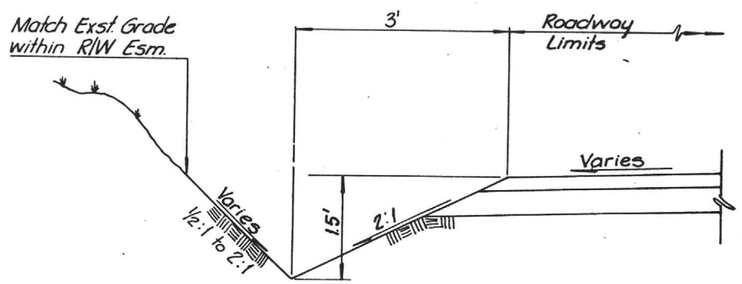
1. All Joints in Hydrant Run-Out to be Mechanical Joints.
2. Valve Box Shall be Adjusted to the Finished Grade Prior to Placing of the Asphaltic Concrete Surface.
3. Use Parkson Tyler, APCO, or Equal Deep Skirted Lid (4" or more) Type, Sliding Adjustable Cast Iron Valve Box. C.I. Min. T.S. 30,000 p.s.i.
4. Ground Below Concrete Pad to be Compacted to 95% of Max. Density.
5. Thrust Blocks are to extend to Undisturbed Ground. Concrete to be Class "S" with 6 sq. ft. of Thrust Area. f'_c = 2500 p.s.i.

DETAIL J FIRE HYDRANT

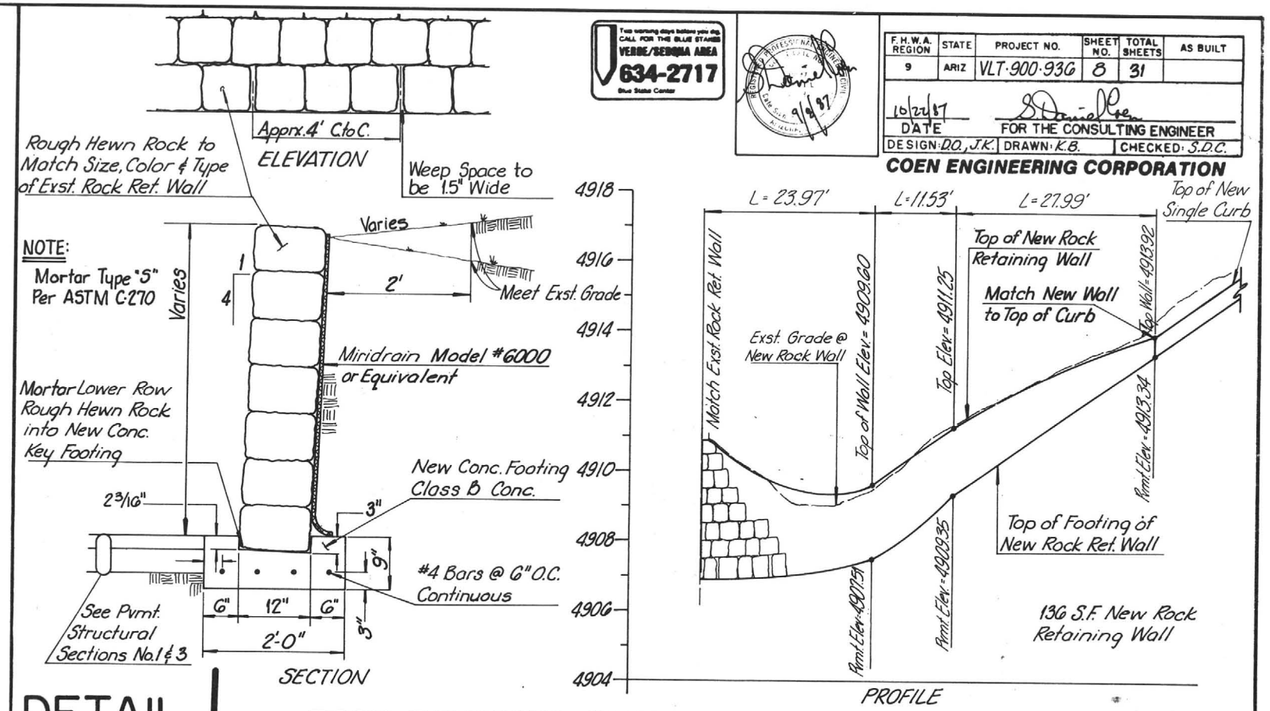
SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

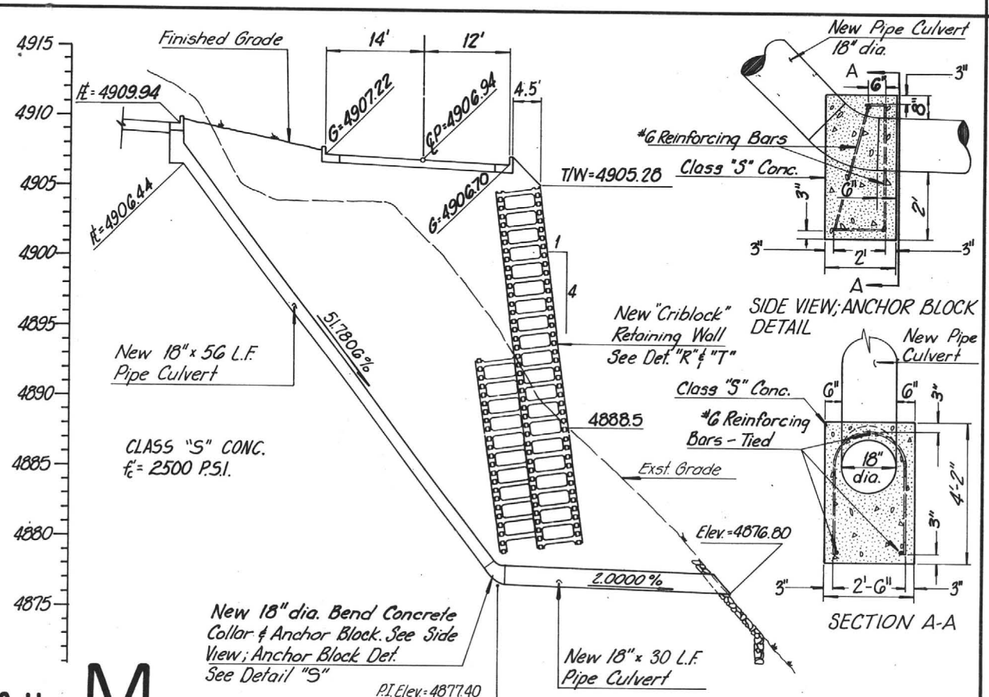
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY



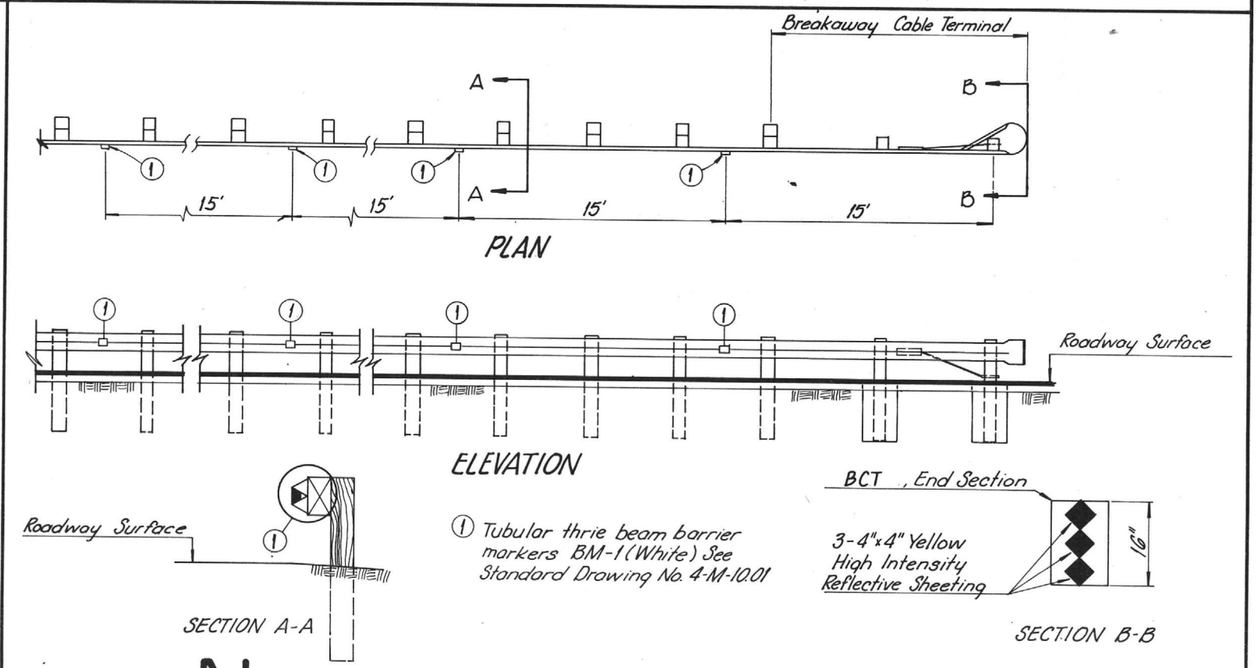
DETAIL K DRAINAGE DITCH



DETAIL L ROCK RETAINING WALL at PARK ENTRANCE ROAD



DETAIL M STA. 8+56.85 PIPE CULVERT



DETAIL N GUARD RAIL DELINEATION

REDUCED SIZE DO NOT SCALE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

Two working days before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	8	31	

10/26/87 DATE — FOR THE CONSULTING ENGINEER

DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.

COEN ENGINEERING CORPORATION

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

NOTE:

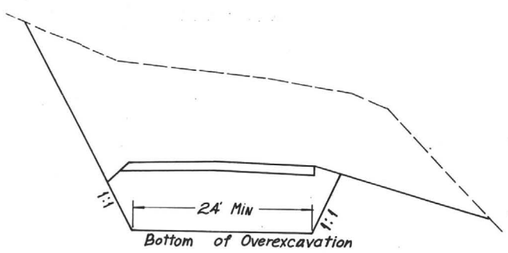
The Intended Purpose of the Overexcavation is Removal of All Unstable, Poor Quality Fill Material, An Existing Highly Plastic Clay Layer, and Debris, in the Area Indicated. The Limits of Overexcavation Shown Are Only Approximate. Based on Soil Boring Logs and Field Inspection and are Subject to Change as Field Conditions Dictate. If Bedrock is Encountered in the Overexcavation Area it Shall Remain Undisturbed.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	9	51	

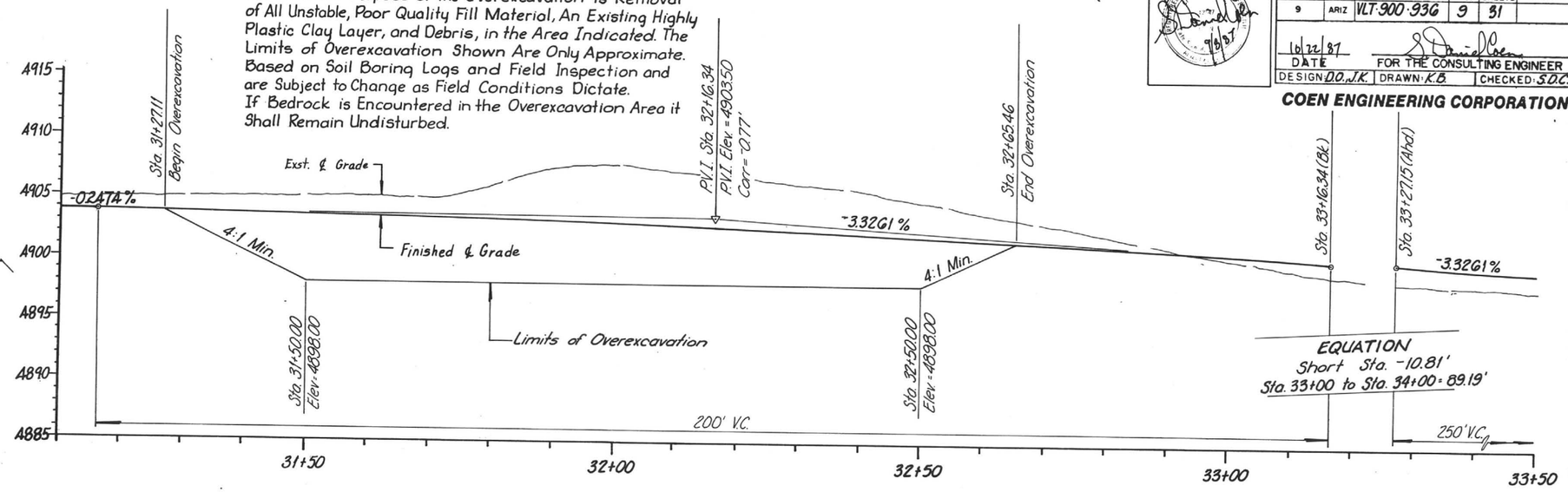
10/22/87 DATE — FOR THE CONSULTING ENGINEER

DESIGN: D.O., J.K. | DRAWN: K.B. | CHECKED: S.D.C.

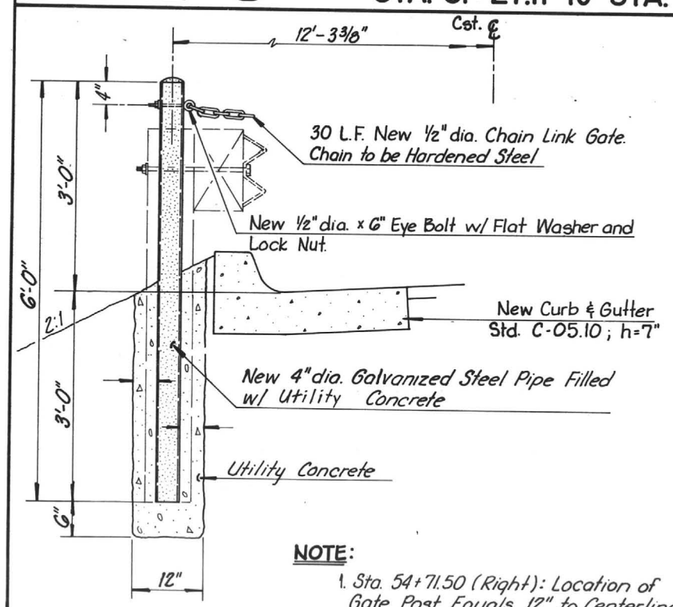
COEN ENGINEERING CORPORATION



TYP Cross Section



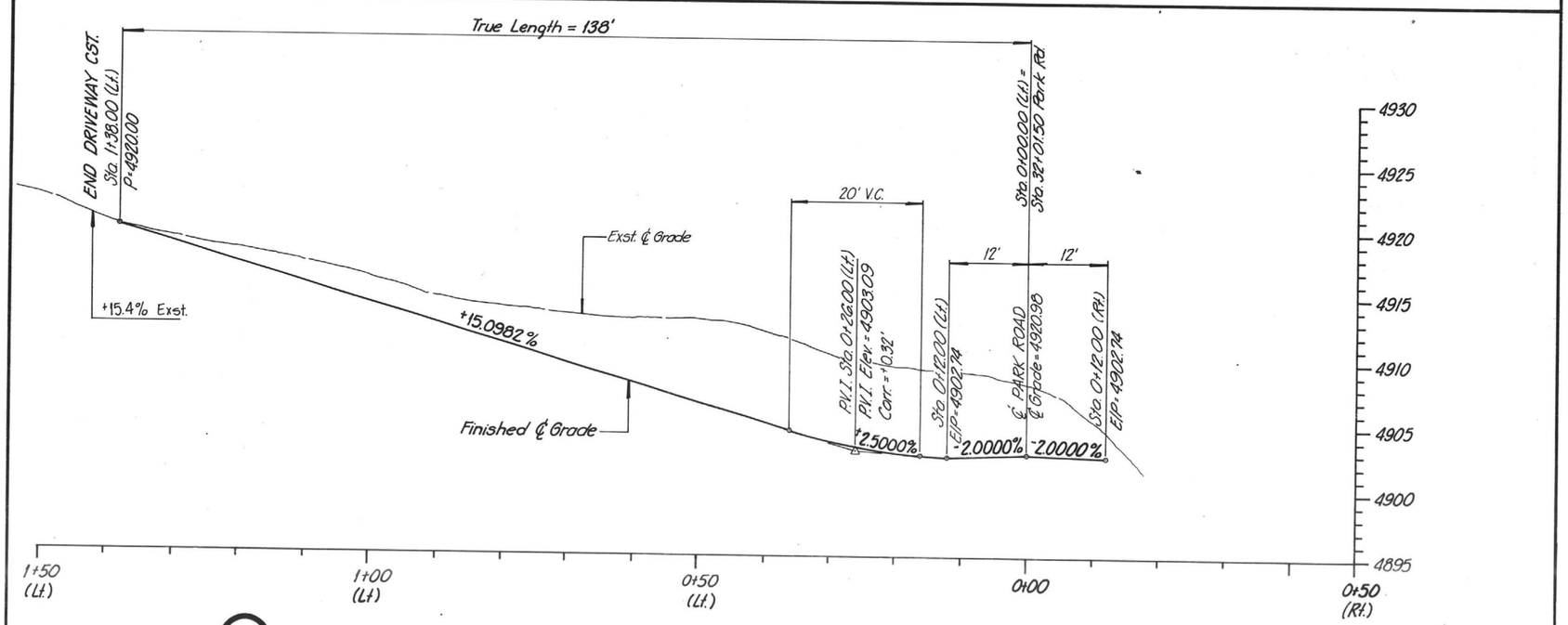
DETAIL O — STA. 31+27.11 to STA. 32+65.46 OVEREXCAVATION AREA



NOTE:

1. Sta. 54+71.50 (Right): Location of Gate Post Equals 12" to Centerline of Post from Back of Sidewalk

DETAIL P — STA. 54+71.50 (Lt. & Rt.) GATE POST with CHAIN



DETAIL Q — DRIVEWAY (STA. 32+01.50 PARK ROAD) A.C.T.O.

REDUCED SIZE DO NOT SCALE

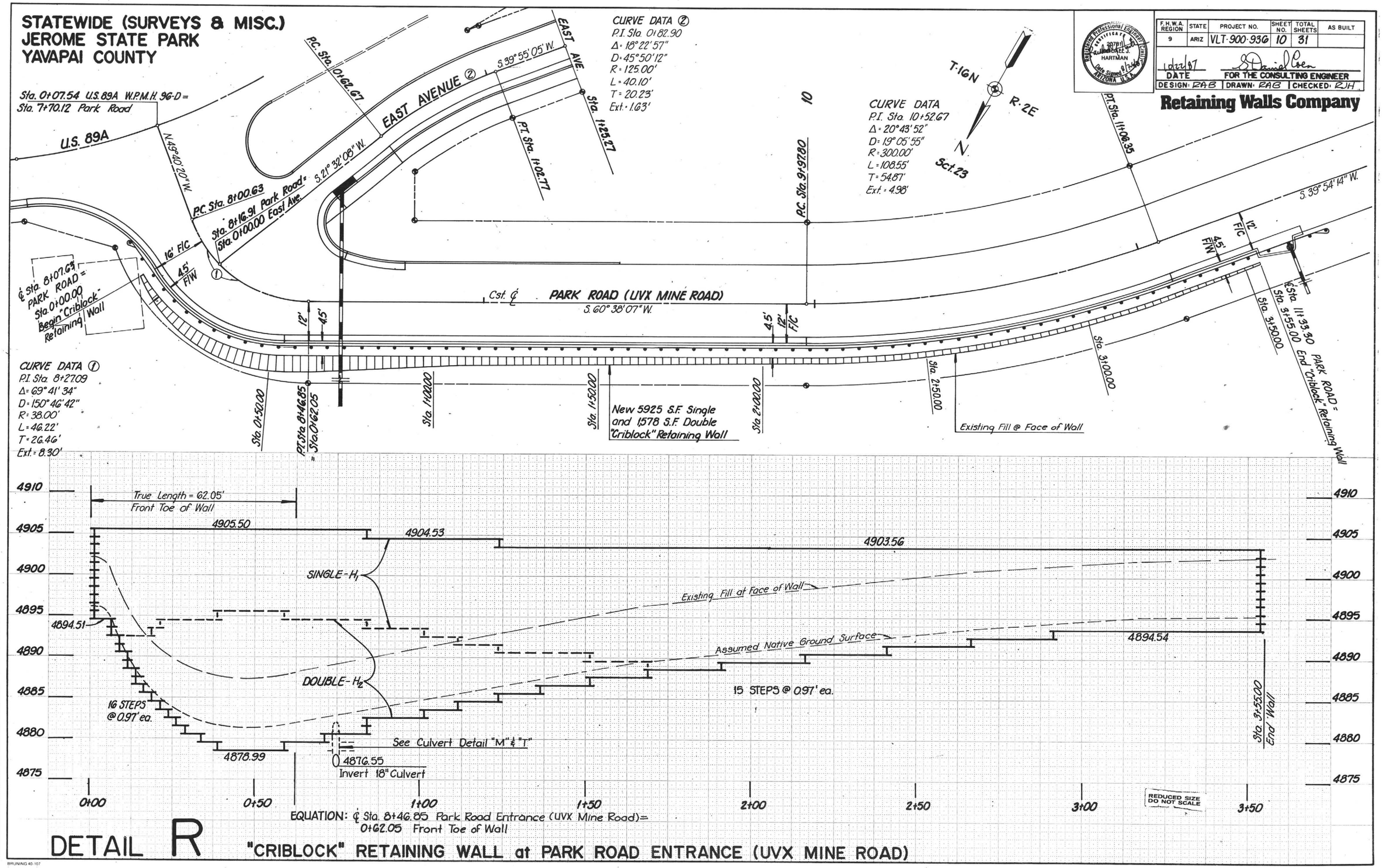
FINISHED PLANS	REVISIONS	LOCATION	DATE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	10	31	

10/22/07 — DATE
FOR THE CONSULTING ENGINEER
DESIGN: RAB | DRAWN: RAB | CHECKED: RJH

Retaining Walls Company



EQUATION: ℄ Sta. 8+46.85 Park Road Entrance (UVX Mine Road) = 0+62.05 Front Toe of Wall

DETAIL R

"CRIBLOCK" RETAINING WALL at PARK ROAD ENTRANCE (UVX MINE ROAD)

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

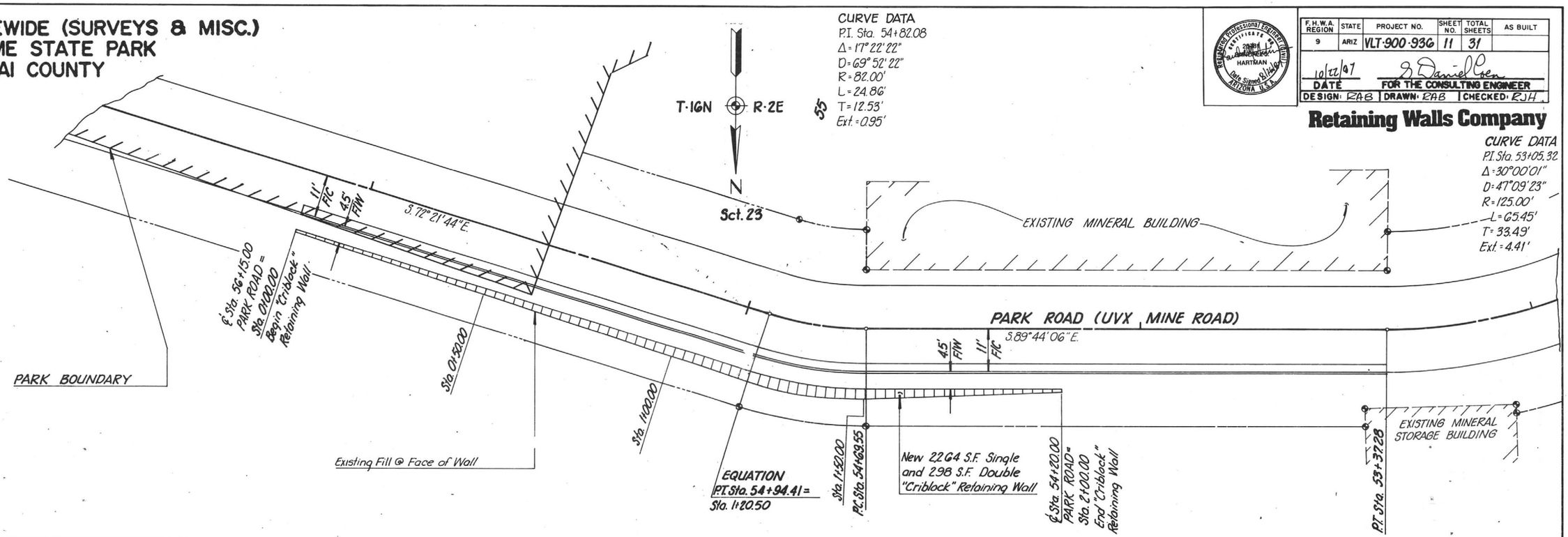
BRUNING 40-107

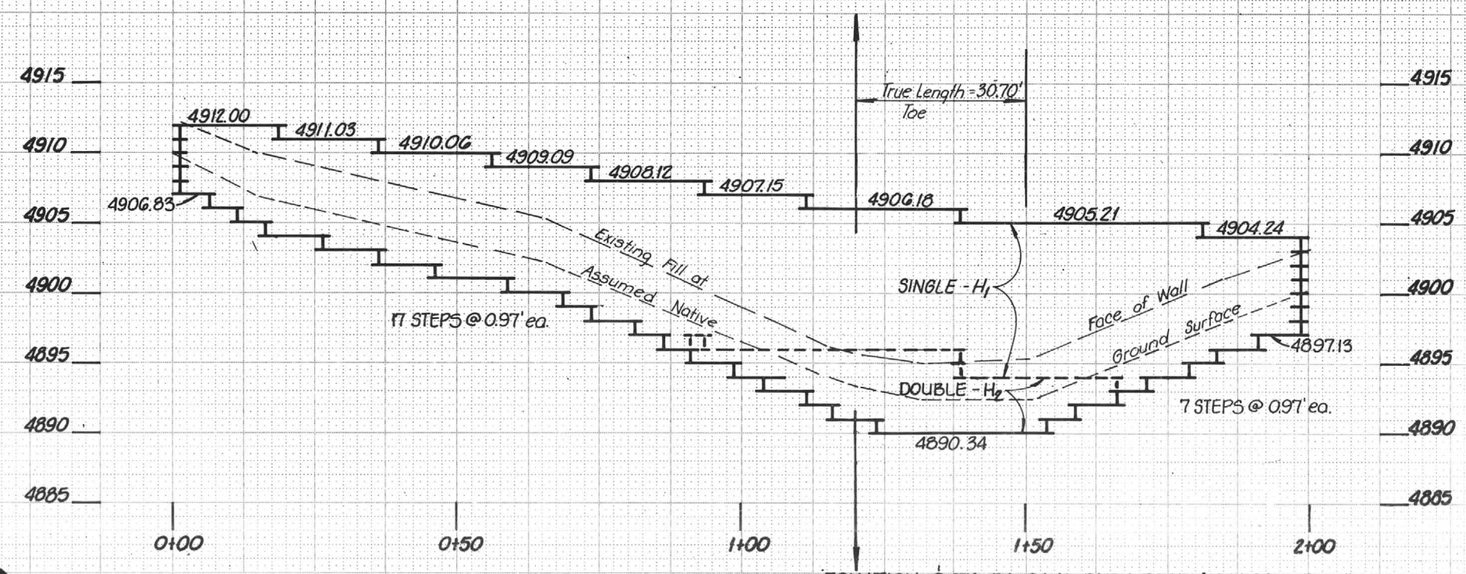
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	11	31	

10/22/97 — DATE
FOR THE CONSULTING ENGINEER
DESIGN: RAB | DRAWN: RAB | CHECKED: RJH

Retaining Walls Company





REDUCED SIZE DO NOT SCALE

DETAIL S

"CRIBLOCK" RETAINING WALL at MUSEUM

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

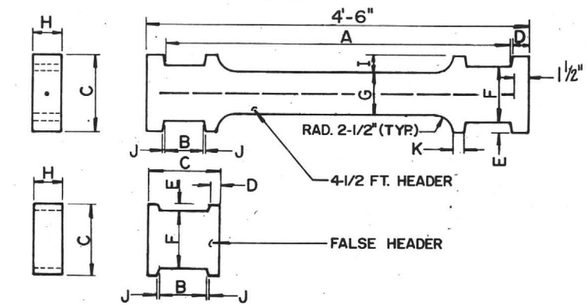
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	12	31	

10/22/87 DATE — FOR THE CONSULTING ENGINEER
DESIGN: RAB DRAWN: RAB CHECKED: RJH

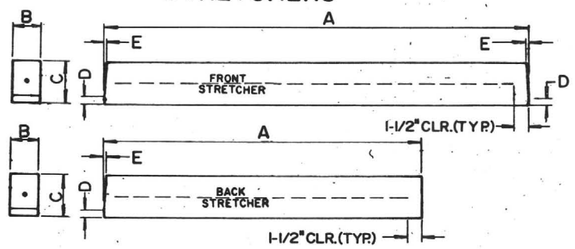
Retaining Walls Company

HEADERS



END VIEWS — SIDE VIEWS

STRETCHERS

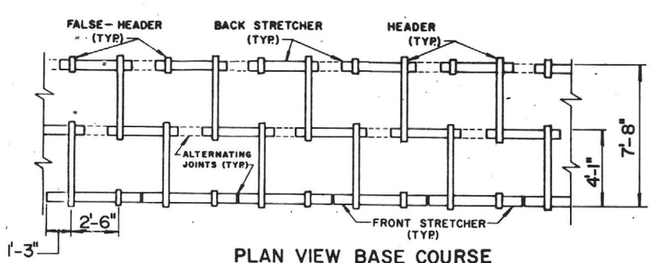


END VIEWS — TOP VIEWS

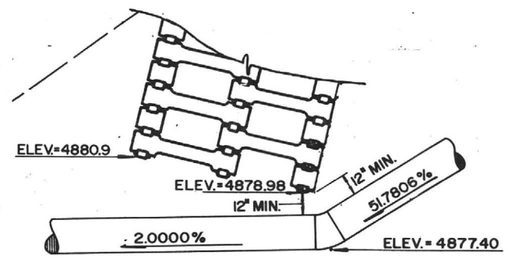
DIMENSIONS	FALSE HEADER	4½ FT. HEADER	FRONT STRETCHER	BACK STRETCHER
A	–	–		
B	7"	7"	4"	4"
C	10"	11"	6"	6"
D	1-1/4"	2-1/2"	1"	1"
E	1"	1-1/2"	3/8"	3/8"
F	8"	8"	–	–
G	–	6"	–	–
H	4"	4"	–	–
I	–	2-1/2"	–	–
J	1/4"	1/4"	–	–
K	–	1-1/2"	–	–
RE-BAR SIZES	–	#4	#4	#4
UNIT WEIGHTS	30 LBS.	135 LBS.	125 LBS.	95 LBS.

NOTES:

1. STRENGTH OF MATERIALS
   A. COMPRESSIVE STRENGTH OF CONCRETE f'_c = 3250 PSI
   B. YIELD STRENGTH OF STEEL f_Y = 60,000 PSI

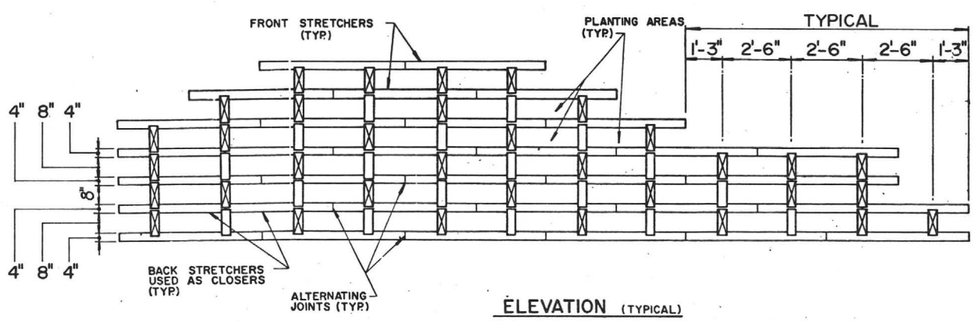


PLAN VIEW BASE COURSE
(TYPICAL MULTIPLE DEPTH WALL)

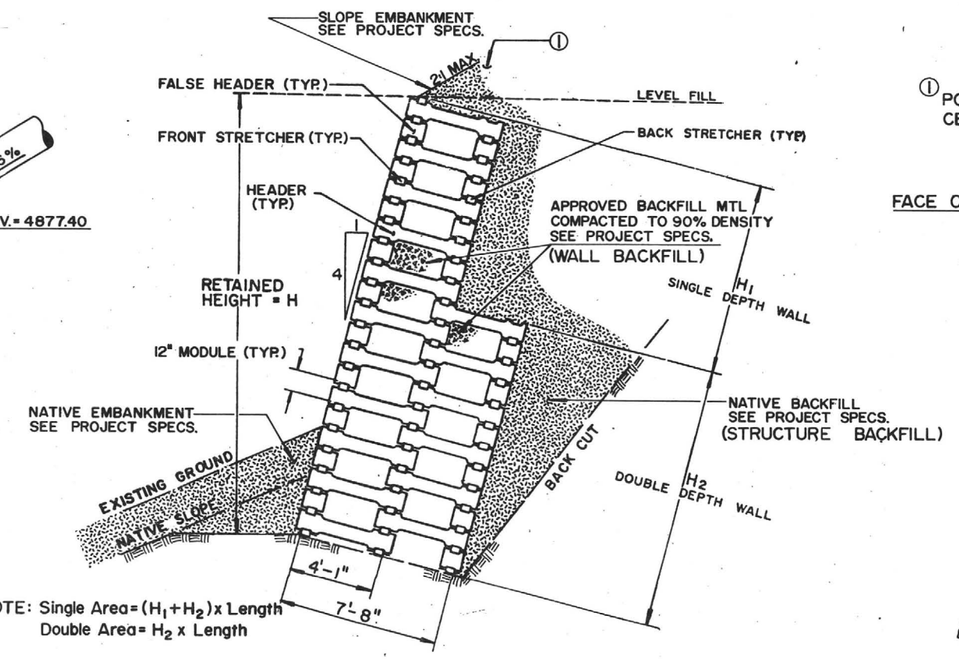


(SEE DETAIL "M")

DETAIL AT CULVERT



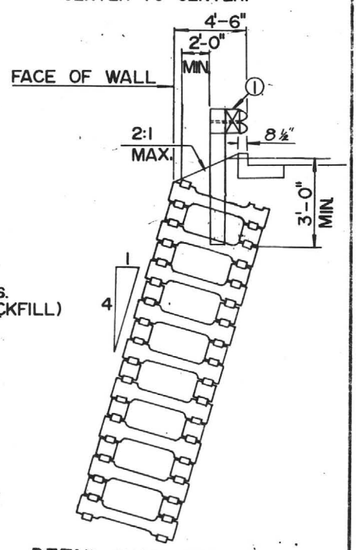
ELEVATION (TYPICAL)



NOTE: Single Area = $(H_1 + H_2)$ x Length
Double Area = H_2 x Length

CROSS SECTION
(TYPICAL MULTIPLE DEPTH WALL)

① POST SPACING AT 5'-0" CENTER TO CENTER.



DETAIL GUARD RAIL

REDUCED SIZE DO NOT SCALE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

DETAIL T "CRIBLOCK" RETAINING WALL COMPONENTS & CONSTRUCTION

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

STATION	PH	RESISTIVITY (OHM-CM)
8+50	8.3	3150
11+50	8.1	3360
16+16	8.1	1820
19+00	8.5	1160

NEW PIPE SUMMARY

STATION	PH	RESISTIVITY (OHM-CM)
23+80	8.2	2770
25+10	8.1	5700
30+20	8.0	1120
34+75	8.1	1720

Free warning signs before you dig. CALL FOR THE BLUE STAKES. VERDE/SEDONA AREA 634-2717 Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	13	31	

COEN ENGINEERING CORPORATION

Station	Plan Ref No.	Design Type	Size, (In.) Corrugated	Size, (In.) Smooth	Length (Ft)	Skew (Degree)	CSP Corrugation	CSP Wall Thickness (In.)	CSP Alternate Coating: Zinc	CSP Alternate Coating: Aluminum	CSP Alternate Coating: Bituminous	CAP Corrugation	CAP Wall Thickness (In.)	CAP Uncoated	CAP Bit Coated	RCP Class	RCP Non Trench ■ Min D-Load	RCP ● Trench Class	RCP ● Trench ■ Min D-Load	NR CP Class	NR CIP CP Min Wall Thickness (In.)	▲ End Section	Catch Basins Standard	Catch Basins H (Ft-In.)	Catch Basins Slotted Drn. Length (Ft)	Catch Basins Grate ◪ Type	Catch Basins Grate ◪ Elev	Catch Basins Gutter Depression D (In.)	Catch Basins Gutter Depression L (Ft)	Catch Basins Apron	Hdwl Standard	Pipe Ex (CY)	Pipe Bkfl (CY)	Drn Ex (CY)	REMARKS
Sta. 8+56.85 Park Rd.	1	7	18"	18"	80	0°	2 2/3" x 1/2"	0.064	✓	✓	✓	2 2/3" x 1/2"	0.060	✓	✓	V	2500					—	Dbl. C-15.10 Lt.	3'-6"	—	LW-2.0	4909.94	2	—	—	—	110	105		Splash pad Rt.; See Det. "H"
Sta. 11+43.30 Rt. Park Rd.	2	1	18"	18"	8	0°	2 2/3" x 1/2"	0.064	✓	✓	✓	2 2/3" x 1/2"	0.060	✓	✓	IV	1515					—	C-04.20 Rt.	4'-0"	—	—	4904.12	—	—	—	—	4	3		Replace Std. Outlet with Det. "H" & Replace 12" dia. pipe with 18" dia. Outlet Pipe
Sta. 16+16.63 Park Rd.	3	3	2-30"	2-30"	92	13° Rt.	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	✓	II	880					2 Lt.	—	—	—	—	—	—	—	—	—	—	45		Splash pad Rt.; See Det. "H"
Sta. 23+81.00 Park Rd.	4	2	18"	18"	36	8° Lt.	2 2/3" x 1/2"	0.064	✓	✓	✓	2 2/3" x 1/2"	0.060	✓	✓	I	680					Lt.	—	—	—	—	—	—	—	—	—	10	8		Splash pad Rt.; See Det. "H"
Sta. 25+10.00 Park Rd.	5	3	2-48"	2-48"	72	0°	2 2/3" x 1/2"	0.064	✓	✓	✓	6" x 1"	0.060	✓	✓	II	845					2 Lt.	—	—	—	—	—	—	—	—	—	—	70		Splash pad Rt.; See Det. "H"
Sta. 30+22.00 Park Rd.	6	1	24"	24"	38	20° Rt.	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	✓	III	1315					Lt.	—	—	—	—	—	—	—	—	—	17	13		Splash pad Rt.; See Det. "H".
Sta. 34+73.54 Park Rd.	7	2	30"	30"	34	0°	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	✓	I	620					—	See Remarks	3'-3"	—	Det. "I"	4895.67	—	—	P.C.C.	—	27	21		Splash pad Rt.; See Det. "H" Rt. See Det. "G" and Det. "I" Lt.
Sta. 37+50.00 Lt. Park Rd.	8	1	18"	18"	30	—	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	✓	IV	1515					2	—	—	—	—	—	—	—	—	—	7	5		
Sta. 53+51.30 Park Rd.	9	1	18"	18"	58	45° Rt.	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	✓	IV	1515					—	C-15.80 Rt.	2'-6"	—	C-15.80 Modified	4905.99	—	—	—	—	22	18		Modify Grate w/ 11 Bars 2" C to C No Apron. Splash pad Lt. See Det. "H"
Sta. 53+87.90 Lt. Park Rd.	10	3	18"	18"	14	30° Lt.	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	✓	II	955					—	C-15.30 Lt. Dbl.	6'-0"	—	TW-2.0	4905.09	2	—	—	—	9.0	8.0		Outlet Invert Elev = 4898.81; Slope = 2.000% Splash pad Lt. See Det. "H"

CSP - Corrugated Steel Pipe
CAP - Corrugated Aluminum Pipe
RCP - Reinforced Concrete Pipe
NRCP - Non-Reinforced Concrete Pipe
NRCIPCP - Non-Reinforced Cast-In-Place Concrete Pipe

● When Bituminous Coating Is Specified For Either Structural Plate Pipe Or Corrugated Metal Pipe, It Shall Be Applied In Accordance With AASHTO M 243 Or AASHTO M 190, Type A, Respectively, And Coated On Both The Inside And Outside Of The Pipe Unless Otherwise Specified In These Drawings.

▲ STD. C-13.20 & C-13.25

■ The Minimum D-LOAD Needed To Produce A 0.01 Inch Crack.

● TRENCH CONDITION Shown Only When Different From NON-TRENCH CONDITION

REDUCED SIZE DO NOT SCALE

* PIPE EXCAVATION & PIPE BACKFILL Will Not Be Measured For Payment.

NOTE: FOR PIPE CULVERT PLACEMENT SEE STANDARD DRAWING C-13.15

◪ GRATE ASSY. TO BE GIVEN TWO FINAL COATS OF BUFF ENAMEL PAINT

Rev. 4/23/86 R.G.C.
Rev. 9-9-83 Mfl.
FGB 3-2-83
Revised
URBAN
Revised 7-20-83 NK
Revised 10-4-82 WS

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

NEW PIPE SLEEVE SUMMARY

Two working days before you dig CALL FOR THE BLUE STAKES VERDE/BEDONA AREA 634-2717 Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	14	31	

COEN ENGINEERING CORPORATION

DESCRIPTION						CSP					CAP					BSP	
Station	Plan Ref No	Design Type	Size (In) Corrugated	Length (Ft)	Skew (Degree)	Corrugation	Wall Thickness (In)	Zinc	Alternate Coating: Aluminum	Alternate Coating: Bituminous	Corrugation	Wall Thickness (In)	Uncoated	Bit. Coated	Size (In.)	Wall Thickness (In.)	Detail
Sta. 12+41.74 Park Rd.	1	2	10"	36		1½" x ¼"	0.064	✓	✓	✓	1½" x ¼"	0.060	✓	✓			B
Sta. 13+49.74 Park Rd.	2	2	10"	36		1½" x ¼"	0.064	✓	✓	✓	1½" x ¼"	0.060	✓	✓			B
Sta. 15+21.74 Park Rd.	3	2	12"	40		2⅔" x ½"	0.064			✓	2⅔" x ½"	0.060	✓	✓			B
Sta. 18+33.00 Park Rd.	4	2	12"	36		2⅔" x ½"	0.064			✓	2⅔" x ½"	0.060	✓	✓			B
Sta. 25+80.00 Park Rd.	5	2	15"	50'		2⅔" x ½"	0.064	✓	✓	✓	2⅔" x ½"	0.060	✓	✓			B

CSP - Corrugated Steel Pipe
CAP - Corrugated Aluminum Pipe
BSP - Black Steel Pipe

REDUCED SIZE DO NOT SCALE

WS.1-21-82 Rev 7-22-82 WS

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

BARRIER SUMMARY SHEET ▲

Two working days before you dig, CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	VLT-900-936	15	31	

COEN ENGINEERING CORPORATION

APPROX. BEGINNING STATION		Plan Reference No.	"A" C-10.01, "B" C-10.02 New Guard Rail (Linear Feet)	Reconstruct Guard Rail (Linear Feet)	Construct Guard Rail from Salvage (Linear Feet)	Remove and Salvage Guard Rail (Linear Feet)	Remove Guard Rail (Linear Feet)	Reconstruct BCT	Construct BCT from Salvage	Remove & Salvage BCT	TYPE INSTALLATION — Guard Rail: Timber C-10.04	Steel C-10.05	Full C-10.12,13&14	Half C-10.09,10&11	Linear Feet	Concrete Barrier: Steel C-10.21■	Timber C-10.22	Each	END TREATMENT — Anchor: ● C-10.17 STEEL	● C-10.18 TIMBER	Steel C-10.21■	Each	◨ BCT Assembly: END POSTS Timber C-10.15	Steel C-10.16&17■	Each	MISCELLANEOUS — Bolted Anchor: Timber C-10.23	Steel C-10.24	Each	▲ Buried Anchor: Timber C-10.23	Steel C-10.24	Linear Feet	TRANSITION — W-Beam or Thrie-Beam: Standard or Detail	Each	New	Reconstruct	Rub Rail (Each): Standard or Detail	Linear Feet	Half Barrier: Standard or Detail	Each	ATTENUATOR: Standard or Detail	Linear Feet	GLARE SCREEN	Remarks
Sta. 8+09 ~ Rt.	Park Road	1	"A"	355				240					✓										✓			2																					Post Spacing: Guardrail = 5'-0" C to C ◑ End Treatment = 6'-3" C to C
Sta. 21+45 ~ Rt.	Park Road	2	"A"	225				100					✓										✓			2				✓		12.5															50 L.F. OF Guard Rail with 46' Radius Shop Bend
Sta. 26+85.5 ~ Rt.	Park Road	3	"A"	287.5				268					✓										✓			2																					212.5 L.F. of Guard Rail with 94' Radius Shop Bend
Sta. 48+12.5 ~ Rt.	Park Road	4	"A"	200				—					✓										✓			2																					62.5 L.F. of Guard Rail with 45' Radius Shop Bend
Sta. 53+52 ~ Lt.	Park Road	5	"A"	250				—					✓										✓			2				✓		25															Post Spacing: Guardrail = 5'-0" C to C ◑ End Treatment = 6'-3" C to C 30 L.F. of Guard Rail with 94' Radius Shop Bend
Total																																														

◑ See Det. "T"

▲ Use Galvanized Steel W-Beam Guard Rail Elements for Buried Portion of Buried Anchor.

◨ Provide Flares on B.C.T. Assemblies where Embankment Conditions Permit as Approved by the Engineer.

REDUCED SIZE DO NOT SCALE

◇44 Reference numbers correspond to numbers in diamonds on PLAN SHEETS

■ BCT (STEEL) BEARING PLATES UTILIZED WITH STANDARD DRAWINGS C-10.17 AND C-10.21 SHALL CONFORM TO ARTBA STANDARD F-41-79 EXCEPT THAT THE DIMENSION FROM BOTTOM OF PLATE TO CENTER OF HOLE SHALL BE 2 1/4".

▲ ALL BARRIER ITEMS SHOWN IN THE SUMMARY SHALL BE DELINEATED IN ACCORDANCE WITH STANDARD DRAWING 4-M-10.03 AND OTHER STANDARD DRAWINGS REFERENCED THEREIN. NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR THIS WORK. SEE DETAIL "N"

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	16	31	

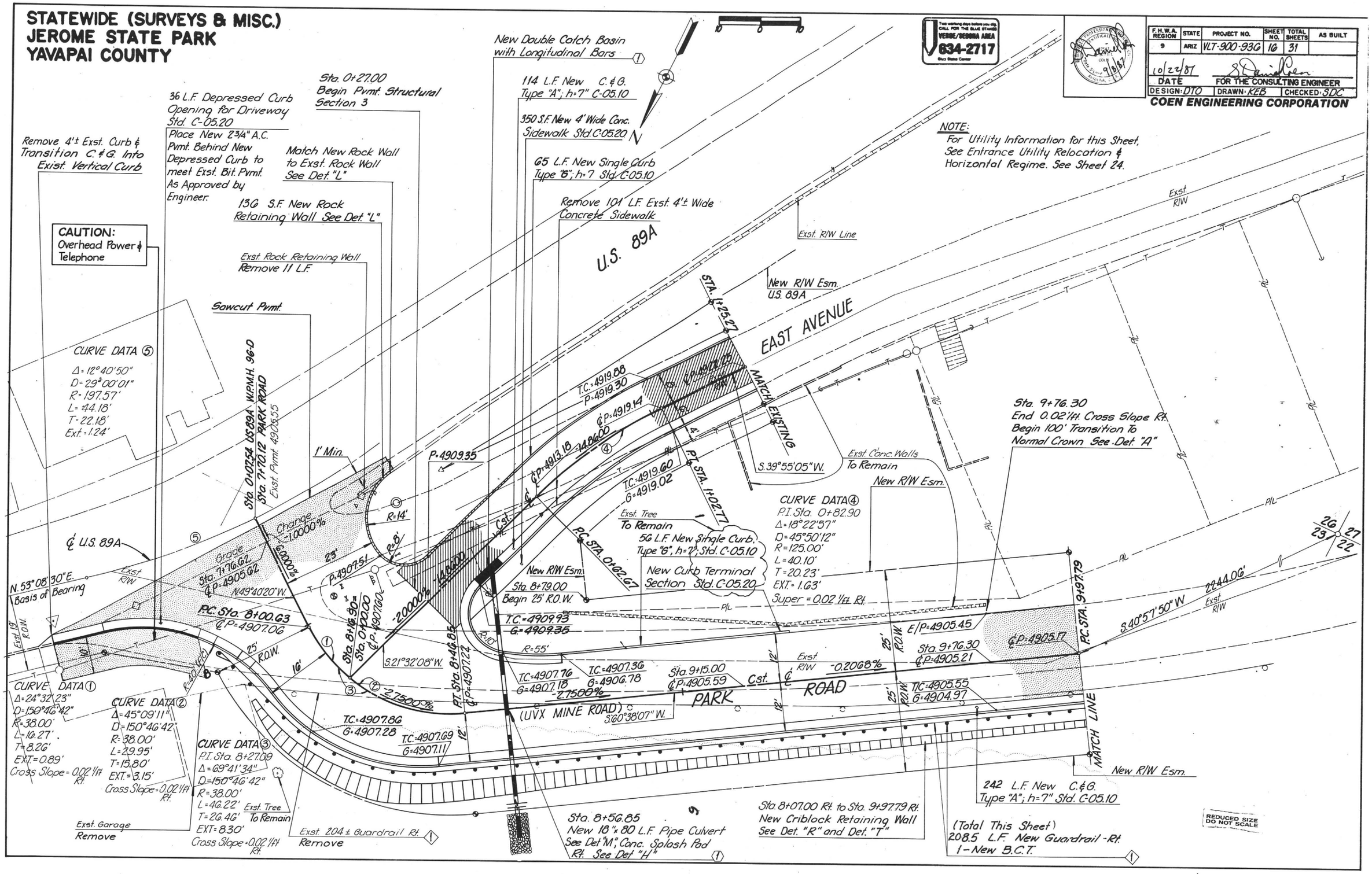
10/22/87 — DATE — FOR THE CONSULTING ENGINEER

DESIGN: DTO — DRAWN: KEB — CHECKED: SDC

COEN ENGINEERING CORPORATION

Two working days before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

NOTE: For Utility Information for this Sheet, See Entrance Utility Relocation & Horizontal Regime. See Sheet 24.



REDUCED SIZE DO NOT SCALE

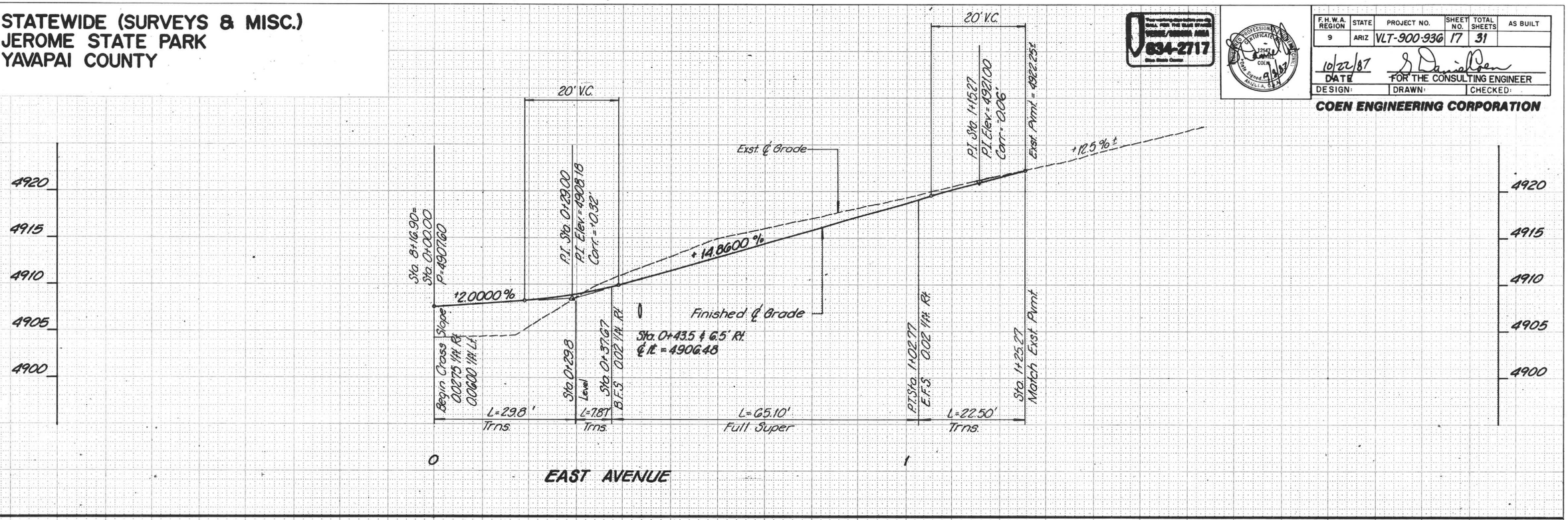
SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

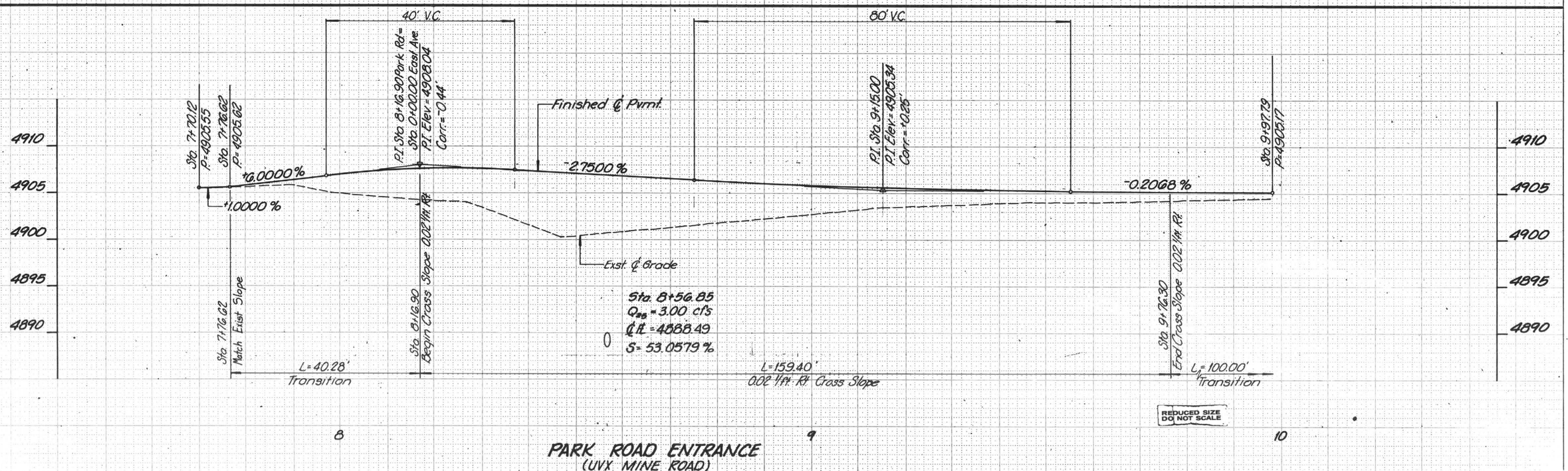
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	17	31	

10/22/87 — DATE
FOR THE CONSULTING ENGINEER
DESIGN: DRAWN: CHECKED:

COEN ENGINEERING CORPORATION



EAST AVENUE



REDUCED SIZE DO NOT SCALE

PARK ROAD ENTRANCE
(UVX MINE ROAD)

BRUNING 40-107
PLATE 3 CROSS SECTION - DOTTED
CHARLES BRUNING COMPANY
MADE IN U.S.A.

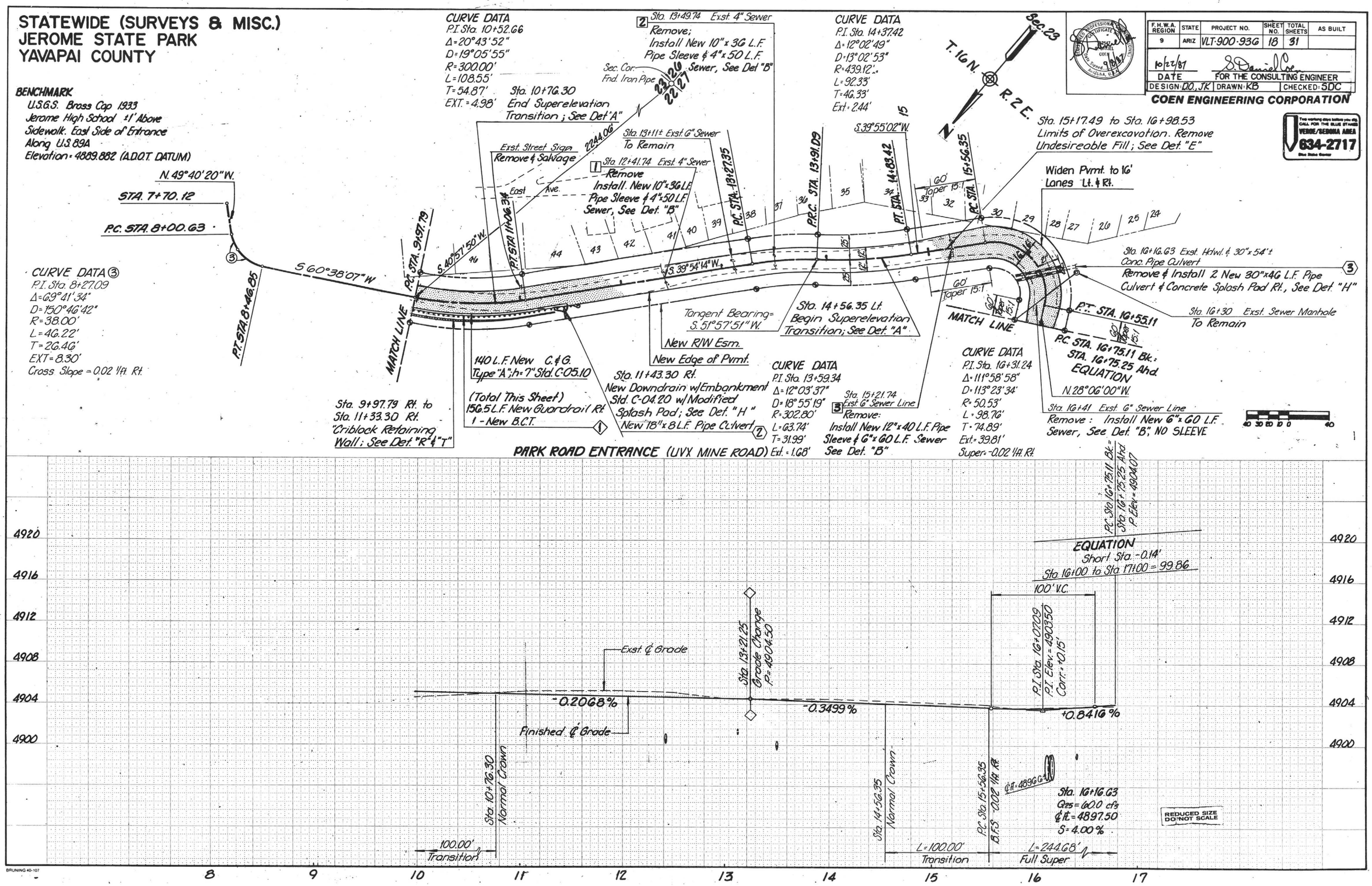
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	18	31	

10/22/87 — DATE
S. Daniel Coen — FOR THE CONSULTING ENGINEER
DESIGN: DO, JK | DRAWN: KB | CHECKED: SDC

COEN ENGINEERING CORPORATION

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above
Sidewalk. East Side of Entrance
Along U.S. 89A
Elevation = 4889.882 (A.D.O.T. DATUM)



REDUCED SIZE DO NOT SCALE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

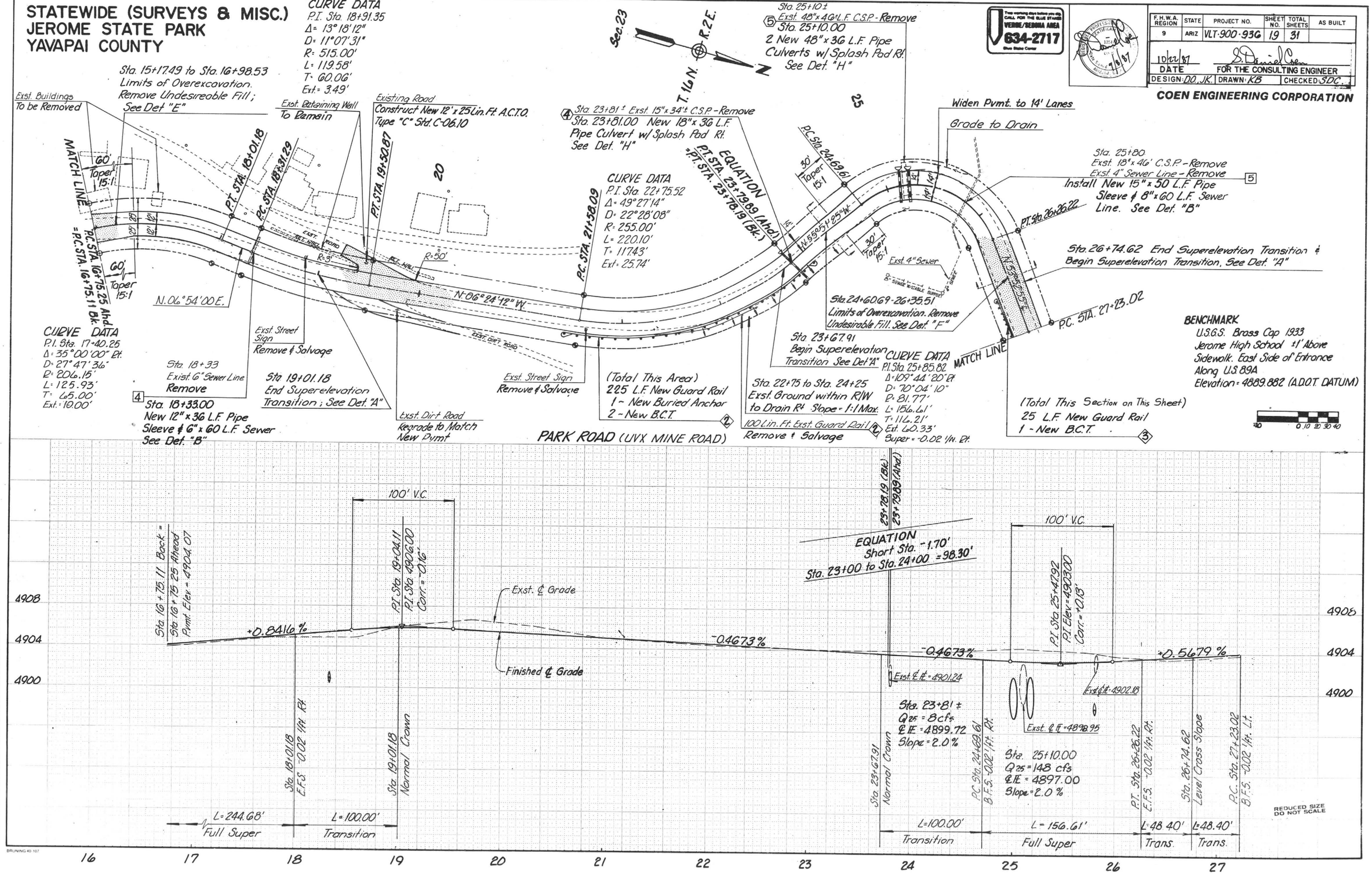
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	19	31	

10/22/87 — DATE — FOR THE CONSULTING ENGINEER

DESIGN: DO, JK | DRAWN: KB | CHECKED: SDC

COEN ENGINEERING CORPORATION

Two working days before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center



SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above
Sidewalk. East Side of Entrance
Along U.S. 89A
Elevation = 4889.882 (A.D.O.T. DATUM)

CURVE DATA
P.I. Sta. 28+88.25
Δ = 128°46'23" Lt.
D = 72° 20'02"
R = 79.21'
L = 178.03'
T = 165.23'
Ext. = 104.02'
Super = -0.02 1/ft Lt.

Sta. 30+31 ±
Exst. 24" x 36' C.S.P. - Remove
Sta. 30+22.00
New 24" x 38' L.F. Pipe Culvert
w/ Splash Pad Rt.; See Det. "H"

Sta. 32+01.50 Lt.
New 12" x 92' A.C.T.O.
Type "C" Std. C-06.10
See Det. "Q"

CURVE DATA
P.I. Sta. 34+57.53
Δ = 38° 16'45"
D = 15° 15'06"
R = 375.67'
L = 250.98'
T = 130.38'
Ext. = 21.98'

New Drainage Ditch
Grade to Drain Min 1%
See Det. "K"

New Drainage Ditch
See Det. "K"

New Drainage Ditch
Grade to Drain
Min. 1%; See Det. "K"

Sta. 31+27.11 to
Sta. 32+65.46 Limits
of Overexcavation;
Remove Undesirable
Fill. See Det. "O"

EQUATION
P.R.C. STA. 33+16.34 Bk. =
P.R.C. STA. 33+27.15 Ahd.

Sta. 34+24 ±
Exst. 30" x 42' ± C.S.P. Culvert
& Exst. 6" x 42' ± Sewer Line
Remove

Exst. Roadway
Regrade to Match New
Pvmt. Grade

Exst. 8" Sewer Line
Remove

Exst. 8" A.C.P. Sewer Line
Remove 15 L.F. & Re-install
to Match Flowline of
New Manhole

MATCH LINE

P.C. STA. 27+23.02

30 Taper 15:1

New R/W Esm.

Exst. Roadway
℄ R = 150'

℄ R = 90'

R20'

Est. ℄

N.74°53'28"W.

P.T. STA. 29+01.05

P.C. STA. 29+63.45

Sta. 29+31.05

30' Taper 15:1

35

P.T. STA. 35+78.13

Lopez St.

N.65°02'00"W.

STA. 38+00.00

MATCH LINE

Sec. 23

R. 2 E.

T. 16 N.

N

(3) 262.8 L.F. Exst. Guardrail
Remove & Salvage

(Total This Section
On This Sheet)
262.5 L.F. New Guardrail
1 - New B.C.T.
(3)

SUPPORT CABLE
EX. 8" SEWER PIPELINE W/ SUPPORT CABLE WHOLE LENGTH

New R/W Esm.

Sta. 30+26
Exst. Sewer Box Structure
Remove; Install New Sewer
Manhole, Std. C-18.10 No. 3
& C-18.20 on Exst.
Sewer Lines
Rim Elev. = 4893.8
Inv. Elev. = 4887.78

Tangent Bearing = N.26°45'15"W.

CURVE DATA
P.I. Sta. 31+51.08
Δ = 48°08'13"
D = 13° 38'31"
R = 420.00'
L = 352.86'
T = 187.60'
Ext. = 39.99'

Sta. 33+93 Exst. Sewer Structure
Remove; Install New Sewer Manhole
Std. C-18.10 No. 3 & C-18.20
Rim Elev. = 4891.5
Inv Elev. = 4889.80

Sta 34+73.54
New 30" x 34 L.F. Pipe Culvert
w/ Splash Pad Rt. See Det "H"
and Det "G" Lt.
(7)

Exst. Street Sign (W1-4)
Remove & Salvage

Install 296 L.F. New 12" P.V.C.
Sewer Line

Sta. 36+83 ~ 8' ± Lt. Exst. Sewer Manhole
Remove; Install New Sewer Manhole
Std. C-18.10 No. 3 & C-18.20
Rim Elev. = 4901.45, Inv. (E) = 4890.98

Sta. 34+25 to Sta. 38+00 Grade Exst. Gnd.
Within R.O.W. to Drain Rt. Slope = 1:1 Max.

Install 80 L.F.
New 6" P.V.C.
Sewer Line &
Cap End.

Exst. Street Sign (W1-2 Rt.)
Remove & Salvage

Sta. 37+50.00 Lt.
New 18" x 30' Pipe Culvert
Install @ 1.30 % Grade
(8)

Sta. 27+25 to Sta. 29+75
Grade Exst. Ground within
R.O.W. or T.C.E. to Drain
Rt. Slope = 1:1 Max

Sta. 30+01.05
End Superelevation
Transition; See Det. "A"

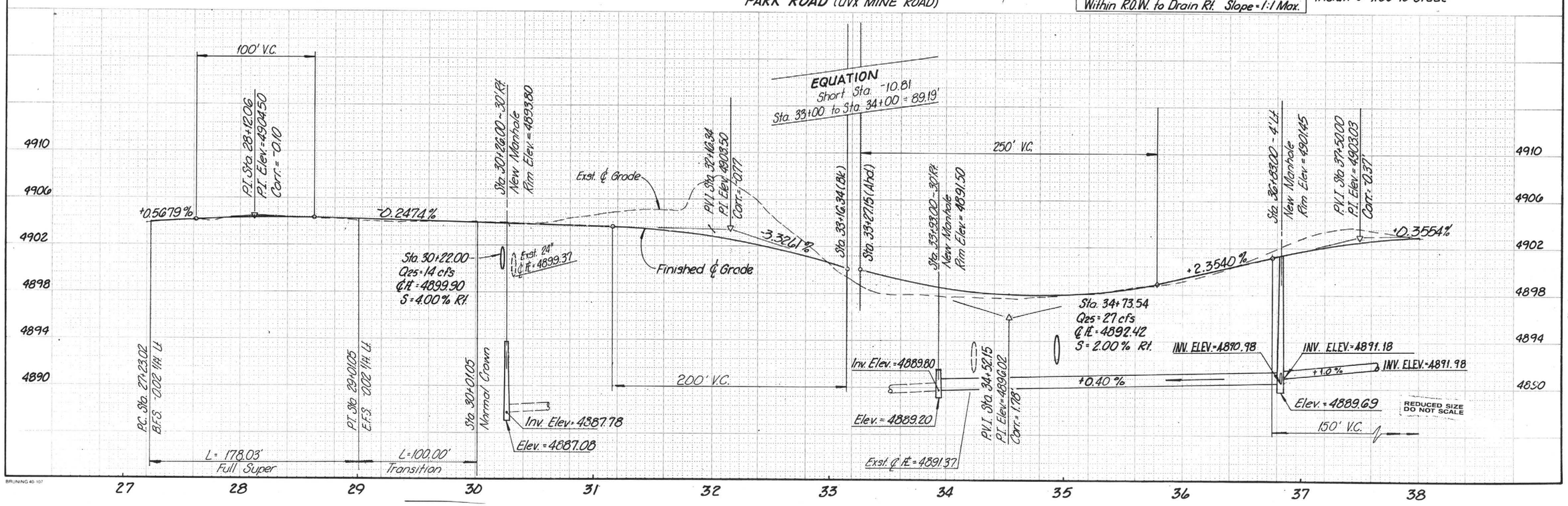
PARK ROAD (UVX MINE ROAD)

CALL FOR THE BLUE STAKES
VERDE/SEDONA AREA
634-2717
Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	20	31	

10/22/87
DATE
FOR THE CONSULTING ENGINEER
DESIGN: D.O. JK | DRAWN: KB | CHECKED: SDC

COEN ENGINEERING CORPORATION



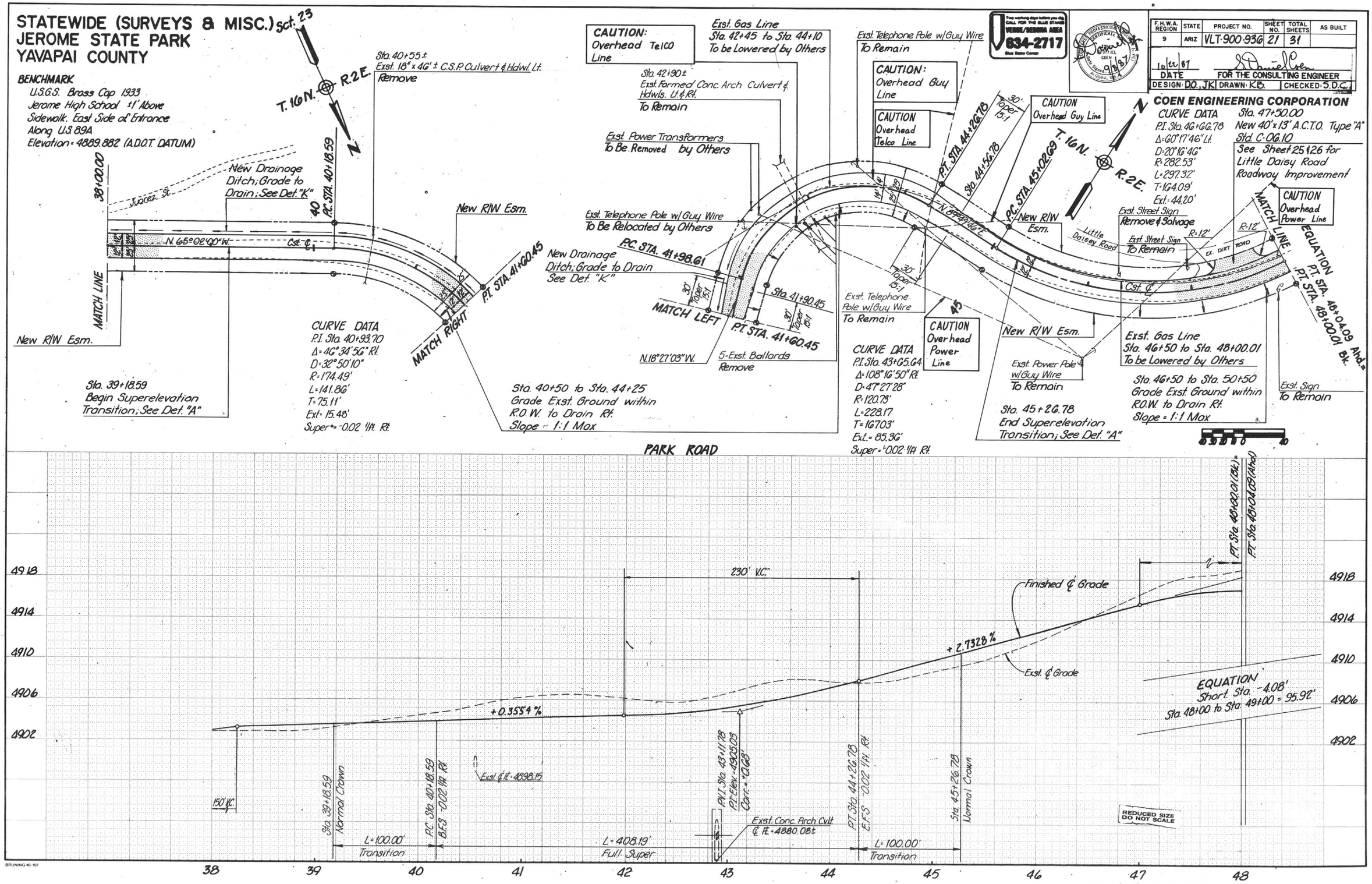
REDUCED SIZE DO NOT SCALE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.) Sct. 23
JEROME STATE PARK
YAVAPAI COUNTY

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above
Sidewalk. East Side of Entrance
Along U.S. 89A
Elevation = 4889.882 (A.D.O.T. DATUM)



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	21	31	

10/21/87 — DATE — FOR THE CONSULTING ENGINEER

DESIGN: D.O., J.K. | DRAWN: K.B. | CHECKED: S.D.C.

COEN ENGINEERING CORPORATION

CURVE DATA
P.I. Sta. 46+66.78
Δ = 60° 17' 46" Lt.
D = 20° 16' 46"
R = 282.53'
L = 297.32'
T = 164.09'
Ext = 44.20'

Sta. 47+50.00
New 40' x 13' A.C.T.O. Type "A"
Std. C-06.10
See Sheet 25 & 26 for Little Daisy Road Roadway Improvement

VERDE/SEDONA AREA 634-2717 Blue Stake Center

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	22	31	

DATE: 10/22/87 — FOR THE CONSULTING ENGINEER
DESIGN: DO, JK. DRAWN: KB. CHECKED: SDC.

COEN ENGINEERING CORPORATION

Free warning stops before you dig. CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

CURVE DATA
P.I. Sta. 49+86.77
Δ = 78°47'04"
D = 95°29'35"
R = 60.00'
L = 82.50'
T = 49.27'
Ext = 17.64'
Super = 0.02 1/ft. Rt.

CURVE DATA
P.I. Sta. 52+12.90
Δ = 48°03'11"
D = 38°11'50"
R = 150.00'
L = 125.80'
T = 66.87'
Ext = 14.23'

Sta. 49+60 Lt. to Sta. 50+64 Rt.
Exst. 4" C.I. Water Line: Remove
New 132 L.F. 4" P.V.C. Water Line with 3.5' Minimum Cover

Sta. 55+94.41 to Sta. 56+15.00
New "Criblock" Retaining Wall; See Det. "S" & Det. "T"

(Total This Area)
32.5 L.F. New Guard Rail
1-New B.C.T. (5)

Sta. 49+60 Lt.
Connect New 4" Water Line to Exst. As Required

Exst. Fire Box Valve To Remain

Widen Pvmt. to 14' Lanes

Exst. C.L. Fence To Remain

Sta. 50+57.50
New 12"x15' A.C.T.O.
Type "M" Std. C-06.10

Exst. Retaining Wall To Remain

Exst. Gas Line
Sta. 48+04.09 to Sta. 52+71.83 To be Lowered by Others

Sta. 48+09.77 to 49+50.50
1,113 S.F. New Conc. Retaining Wall; See Det. "C"

(Total This Section)
200 L.F. New Guard Rail
2-New B.C.T. (4)

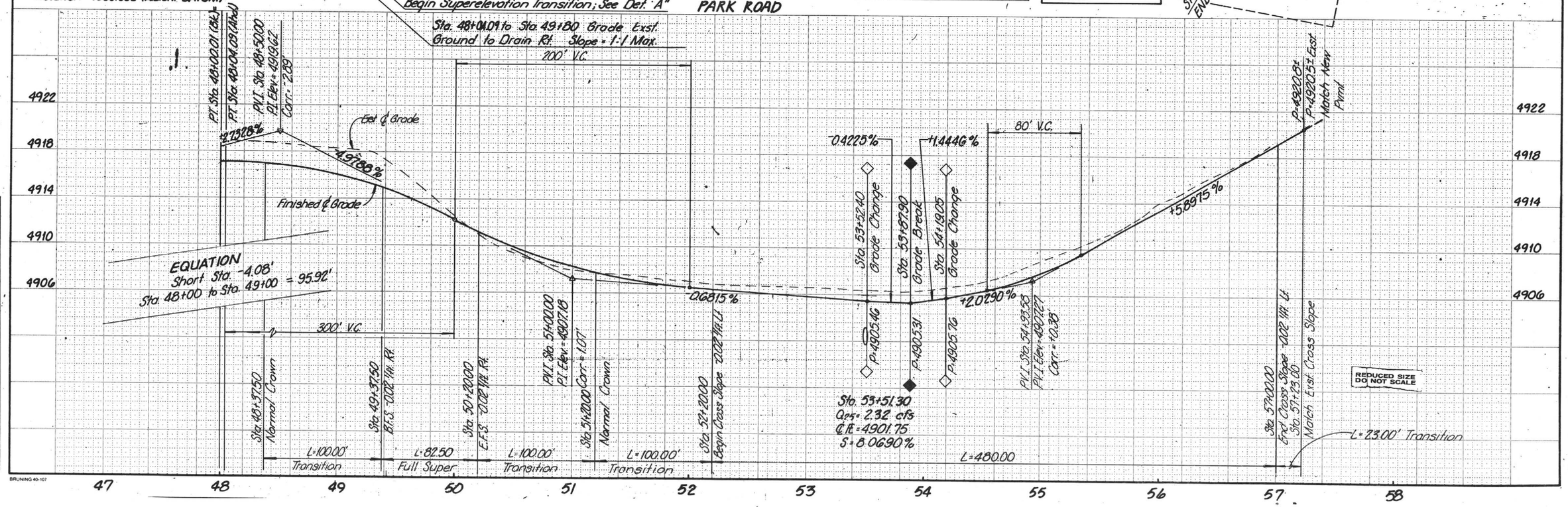
New R/W Esm.

MATCH LINE

EQUATION
P.T. STA. 48+04.09 (Ahd.) =
P.T. STA. 48+00.01 (Bk.)

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above Sidewalk. East Side of Entrance Along U.S. 89A
Elevation = 4889.882 (A.D.O.T. DATUM)

P.C. STA. 49+37.50
P.T. STA. 50+20.00
P.C. STA. 51+46.03
P.T. STA. 53+37.28
P.C. STA. 54+69.55
P.T. STA. 54+94.41
P.C. STA. 52+71.83
MATCH SHEET 19
MATCH SHEET 23
S. 89°44'06" E.
S. 71°40'56" E.
S. 72°21'44" E.
R=20'
30' Taper 15:1
CAUTION: Overhead Power
New R/W Esm.
Grade Exst. Slope to Right of New Retaining Wall Level with Exst. Grade of Conc. Pad.
Exst. Conc. Box Remove
Exst. Conc. Road Support Remove
Sta. 48+90.00 to 50+50.00
908 S.F. New Conc. Retaining Wall; See Det. "D"
Exst. Conc. Retaining Wall To Remain
Sta. 48+37.50
Begin Superelevation Transition; See Det. "A"
Sta. 48+04.09 to Sta. 49+80 Grade Exst. Ground to Drain Rt. Slope = 1:1 Max.
Sta. 50+64 Rt.
Connect New 4" Water Line to Exst. As Required
Tangent Bearing = N. 60°15'53" E.
Exst. Gas Line
Sta. 48+04.09 to Sta. 52+71.83 To be Lowered by Others
New Drainage Ditch. Grade to Drain Min. 1% Slope See Det. "K"
Sta. 51+20.00
End Superelevation Transition; See Det. "A"
Sta. 55+94.41 to Sta. 56+15.00
20.59 L.F. New C.&G., Type "A"
h=7", Std. C-05.10
CAUTION: Overhead Power Lines
PARK ROAD
Exst. Mineral Building
Exst. Power Pole To Be Relocated By Others
Exist. 4" CI Water Line
Exst. Museum
Sta. 57+23.00 END RECONSTRUCTION BEGIN OVERLAY
Sta. 59+84 END OF PROJECT
Sta. 57+23.00 to Sta. 59+84
New 2¾" A.C. Overlay
11' Varies
T. 16 N.
R. 2 E.
Sec. 23
N
40 30 20 10 0 40



REDUCED SIZE DO NOT SCALE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

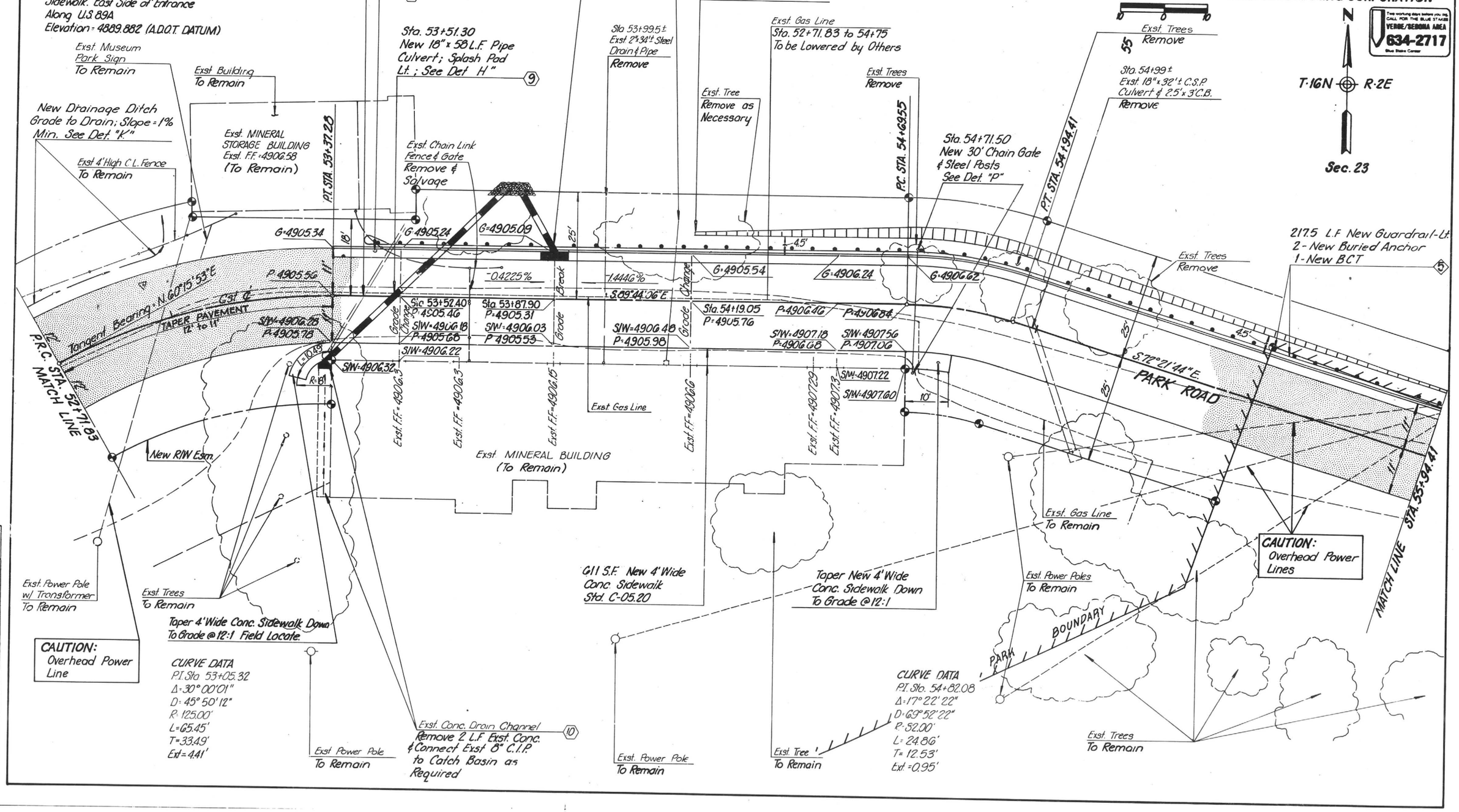
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	23	31	

10/22/87 DATE — FOR THE CONSULTING ENGINEER

DESIGN: DO, JK. DRAWN: K.B. CHECKED: S.D.C.

COEN ENGINEERING CORPORATION



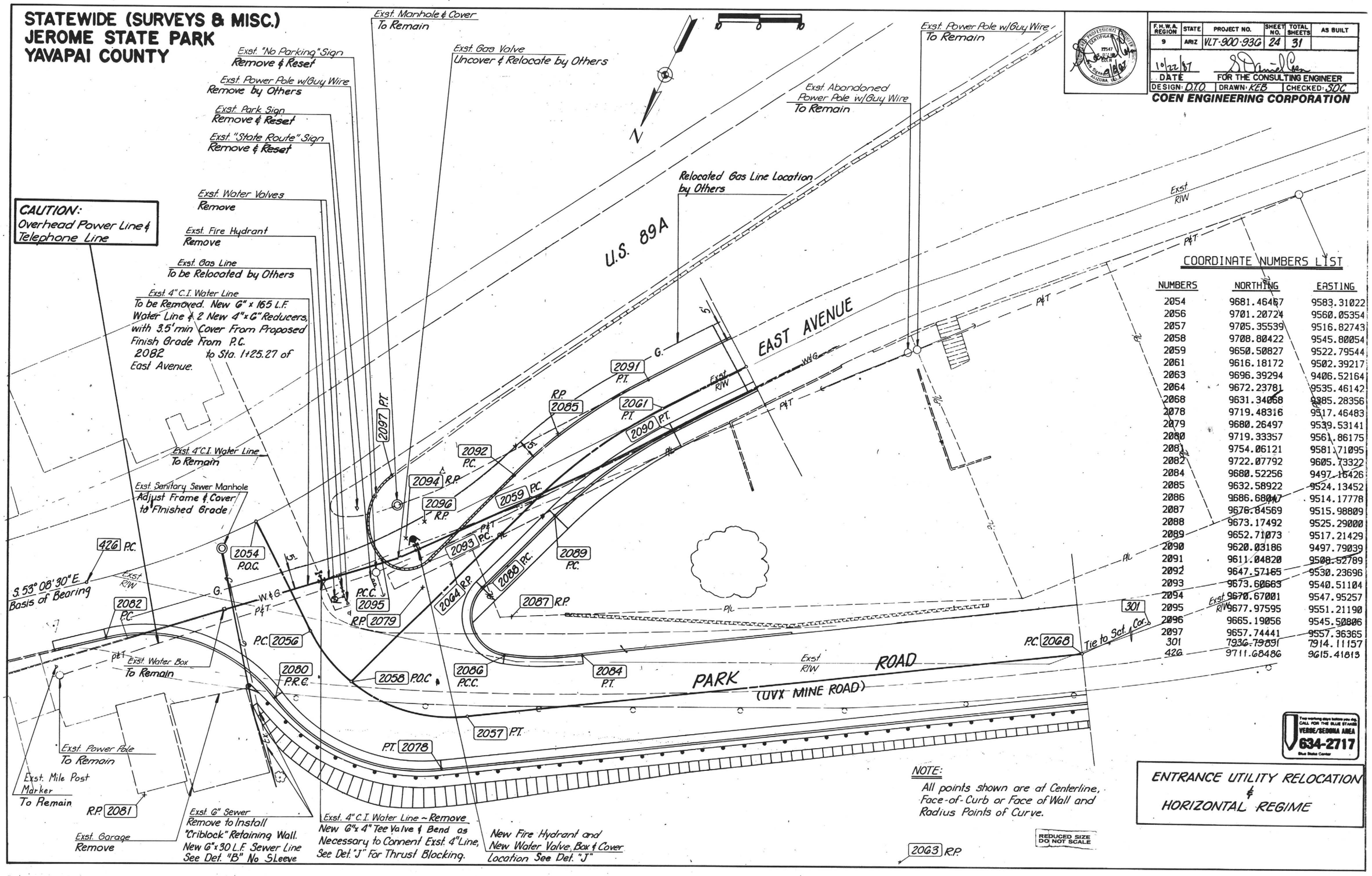
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	24	31	

10/22/87 DATE — FOR THE CONSULTING ENGINEER

DESIGN: D.T.O. DRAWN: KEB CHECKED: SDC

COEN ENGINEERING CORPORATION



COORDINATE NUMBERS LIST

NUMBERS	NORTHING	EASTING
2054	9681.46467	9583.31022
2056	9701.20724	9560.05354
2057	9705.35539	9516.82743
2058	9708.80422	9545.80054
2059	9650.50827	9522.79544
2061	9616.18172	9502.39217
2063	9696.39294	9406.52164
2064	9672.23781	9535.46142
2068	9631.34068	9385.28356
2078	9719.48316	9517.46483
2079	9680.26497	9539.53141
2080	9719.33357	9561.86175
2081	9754.06121	9581.71095
2082	9722.07792	9605.73322
2084	9680.52256	9497.16426
2085	9632.58922	9524.13452
2086	9686.68047	9514.17778
2087	9676.84569	9515.98809
2088	9673.17492	9525.29000
2089	9652.71073	9517.21429
2090	9620.03186	9497.79039
2091	9611.04820	9508.52789
2092	9647.57165	9530.23696
2093	9673.60663	9540.51104
2094	9670.67001	9547.95257
2095	9677.97595	9551.21190
2096	9665.19056	9545.50806
2097	9657.74441	9557.36365
301	7936.79891	7914.11157
426	9711.68486	9615.41813

NOTE:
All points shown are at Centerline, Face-of-Curb or Face of Wall and Radius Points of Curve.

REDUCED SIZE DO NOT SCALE

Two working days before you dig, CALL FOR THE BLUE STAKES
VERDE/SEDONA AREA
634-2717
Blue Stake Center

ENTRANCE UTILITY RELOCATION
&
HORIZONTAL REGIME

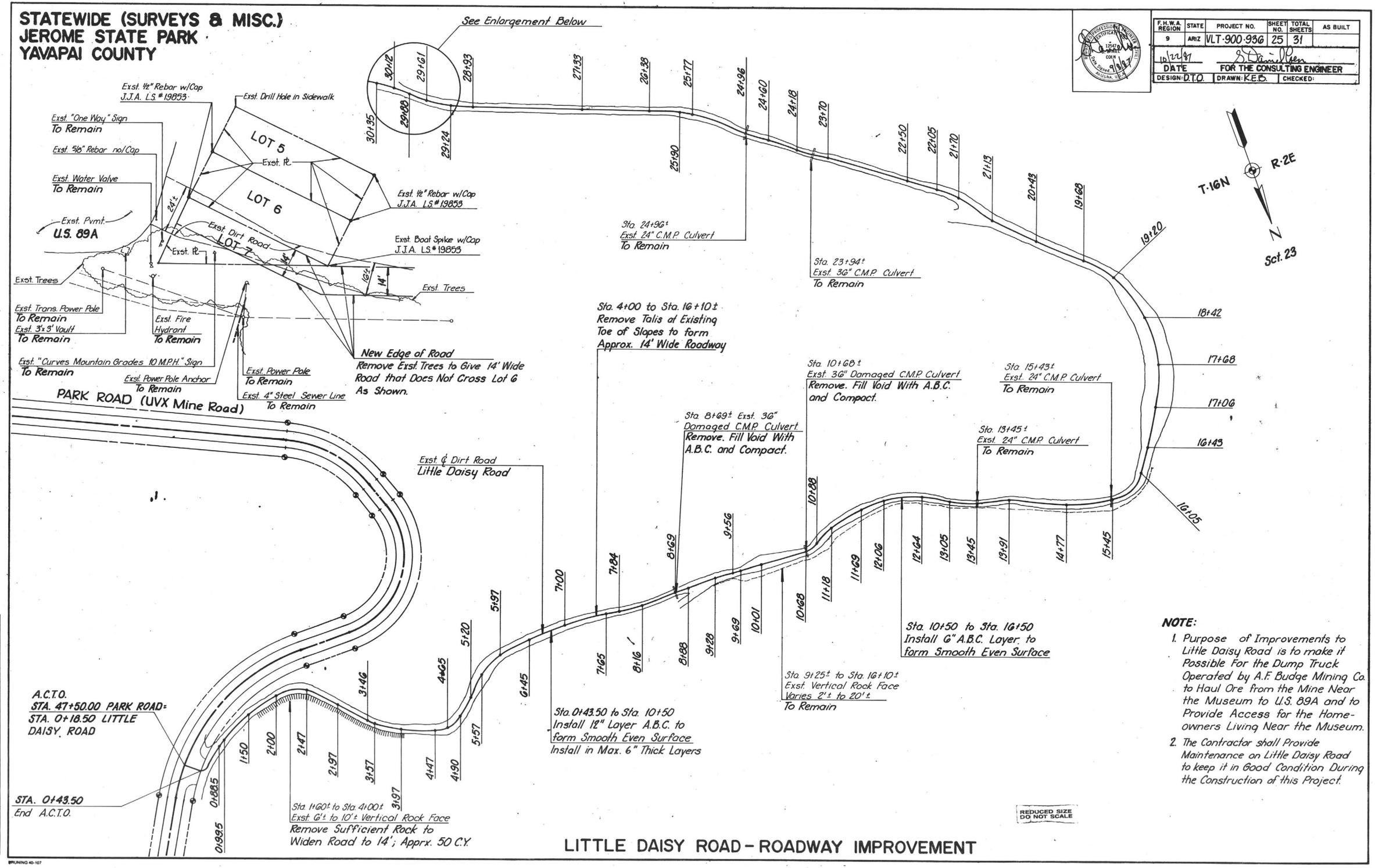
SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	25	31	

10/22/87 — DATE — FOR THE CONSULTING ENGINEER

DESIGN: D.T.O. DRAWN: K.E.B. CHECKED:



NOTE:

1. Purpose of Improvements to Little Daisy Road is to make it Possible For the Dump Truck Operated by A.F. Budge Mining Co. to Haul Ore from the Mine Near the Museum to U.S. 89A and to Provide Access for the Home-owners Living Near the Museum.
2. The Contractor shall Provide Maintenance on Little Daisy Road to keep it in Good Condition During the Construction of this Project.

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

LITTLE DAISY ROAD - ROADWAY IMPROVEMENT

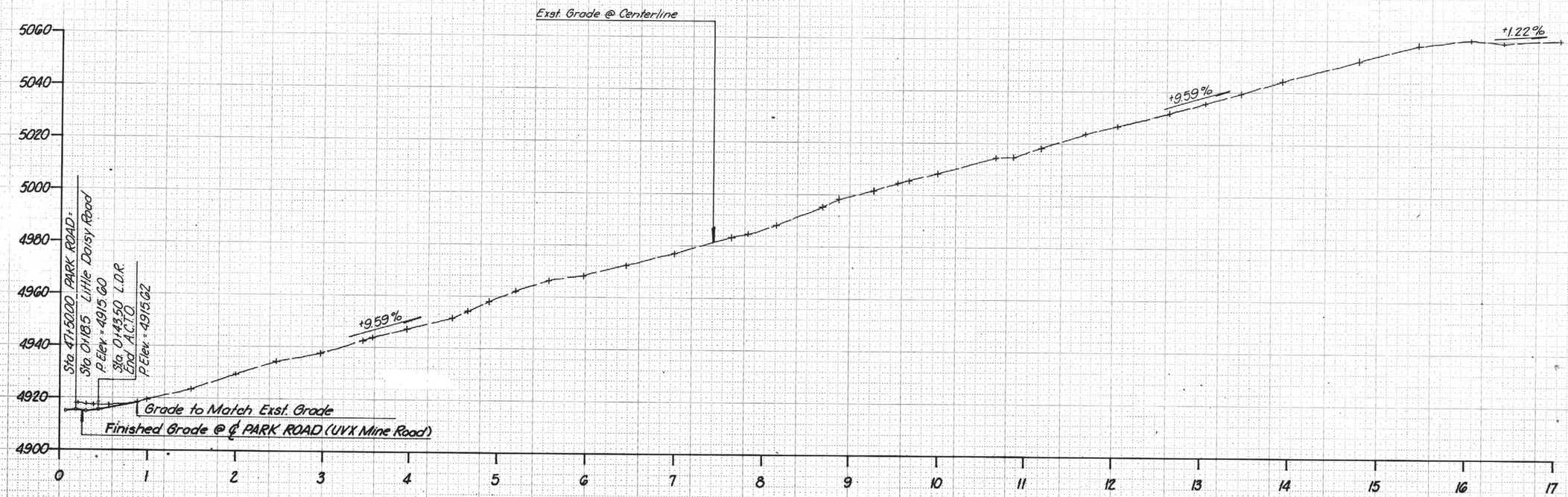
BRUNING 40-107

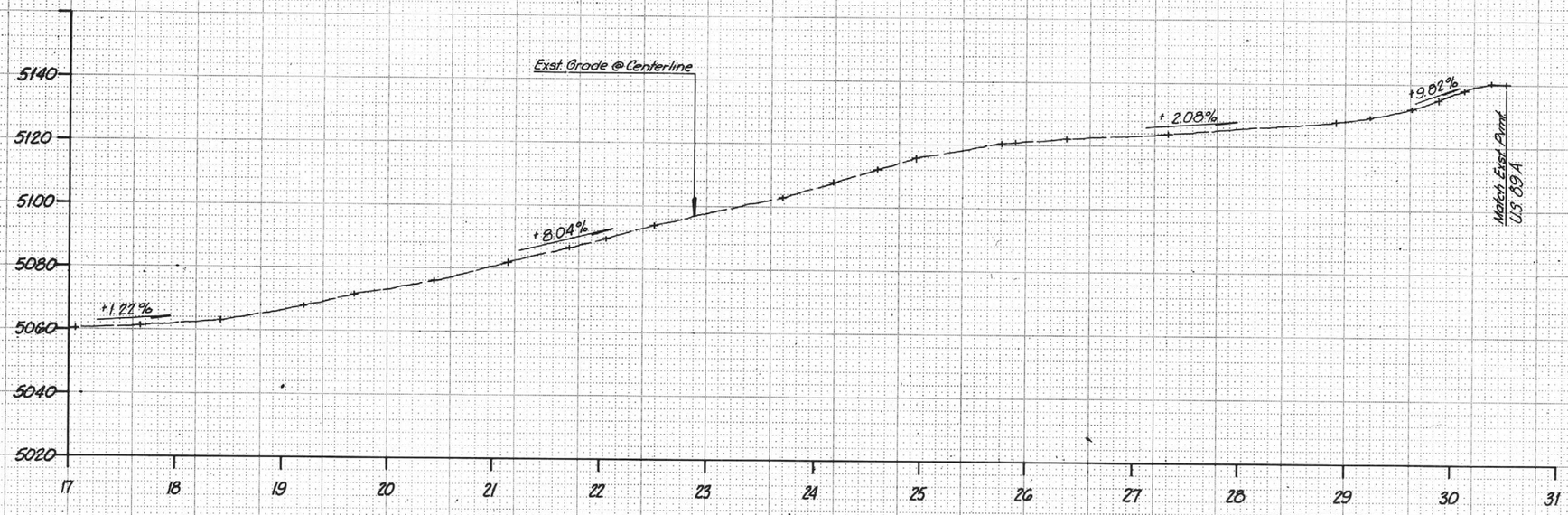
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-930	26	31	

10/22/87 DATE — FOR THE CONSULTING ENGINEER

DESIGN: D.T.O. DRAWN: K.E.B. CHECKED:





LITTLE DAISY ROAD - PROFILE

REDUCED SIZE DO NOT SCALE

BRUNING 45-107

PLATE 3 CROSS SECTION - DOTTED
CHARLES BRUNING COMPANY
MADE IN U.S.A.

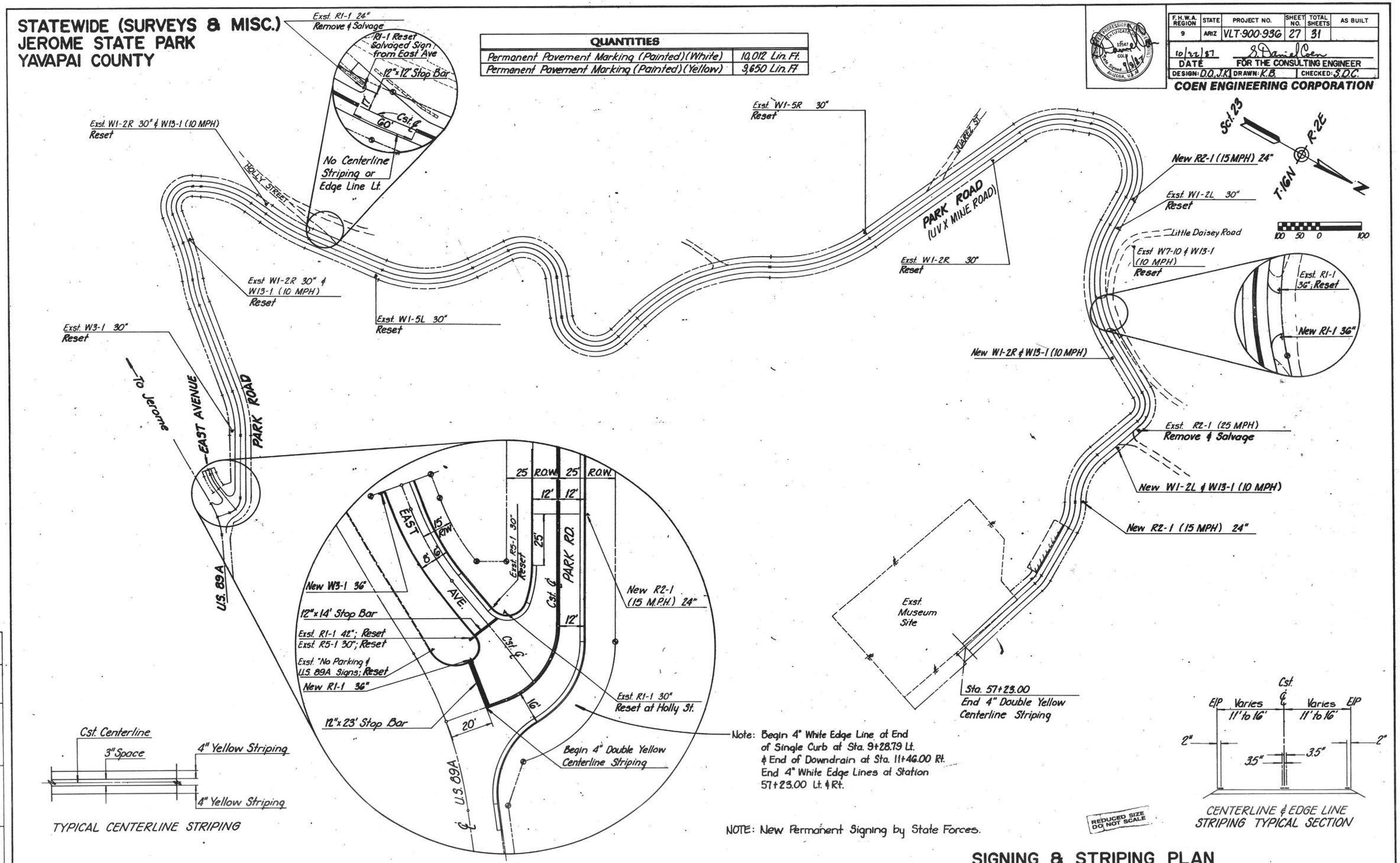
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

QUANTITIES	
Permanent Pavement Marking (Painted)(White)	10,012 Lin. Ft.
Permanent Pavement Marking (Painted)(Yellow)	9,650 Lin. Ft.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	27	31	

10/22/87 — DATE
S. Daniel Coen — FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.

COEN ENGINEERING CORPORATION



Note: Begin 4" White Edge Line at End of Single Curb at Sta. 9+28.79 Lt. & End of Downdrain at Sta. 11+46.00 Rt. End 4" White Edge Lines at Station 57+23.00 Lt. & Rt.

NOTE: New Permanent Signing by State Forces.

REDUCED SIZE DO NOT SCALE

SIGNING & STRIPING PLAN

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

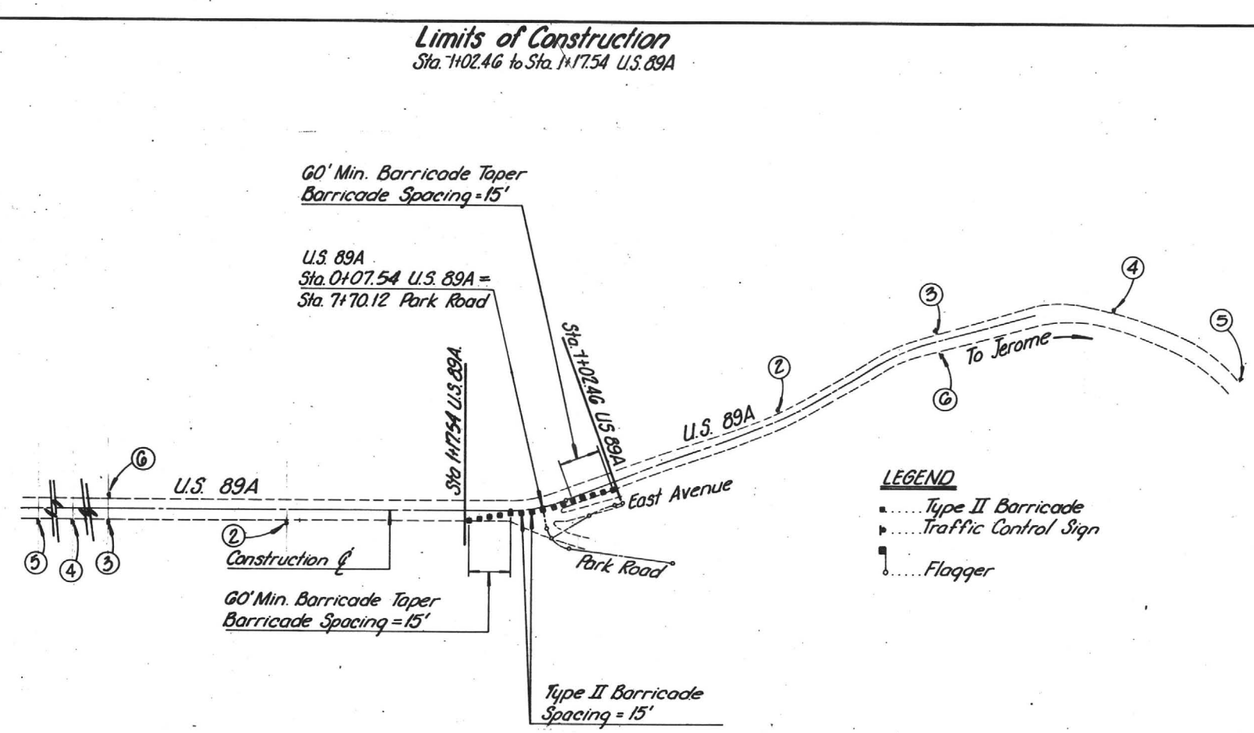
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	28	31	

10/22/97 — DATE
S. Daniel Coen — FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. | DRAWN: K.E.B. | CHECKED: S.D.C.

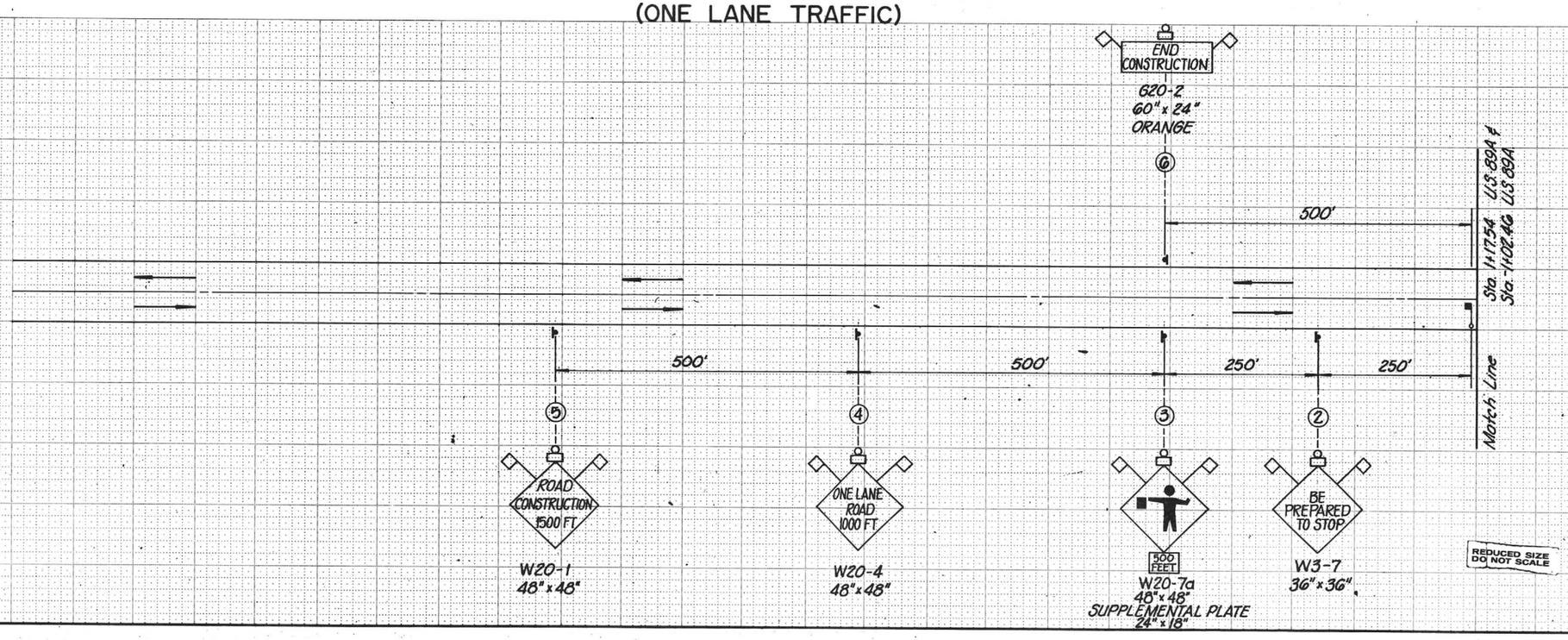
COEN ENGINEERING CORPORATION

TRAFFIC CONTROL GENERAL NOTES:

1. Maintenance and protection of traffic will follow the standards of A.D.O.T. "TRAFFIC CONTROL MANUAL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE".
2. Steady burning yellow light (type C) shall be mounted on every other barricade. (15' spacing tangent, 15' spacing taper.)
3. All orange construction signs shall use high intensity reflective sheeting. All other signs may use standard intensity reflective sheeting.
4. All existing speed limit signs that are in conflict with the construction speed limit shall be covered with plywood or removed.
5. Signs locations maybe adjusted to the conditions as directed by the Engineer.
6. Sign mounting height shall be minimum 5 ft. from the bottom of the sign to the near edge of the pavement.
7. Flashing warning lights (type A) and flags shall be used on all signs.
8. All existing signing in conflict with temporary signing shall be removed, relocated or covered with plywood, as directed by the Engineer.
9. At any time that two-way traffic maybe allowed in the construction area when work is not being done on the road the "ONE LANE ROAD", "FLAGMAN" & "BE PREPARED TO STOP" signs shall be covered & barricades moved to edge of road.
10. The location of the signs and barricdes shown on these plans are for one lane of traffic through the entire construction area.
11. Two way traffic (2-12 feet lanes) shall be maintained during non-working hours, weekends, holidays and as directed by the Engineer.



TRAFFIC CONTROL PLAN
(ONE LANE TRAFFIC)



REDUCED SIZE DO NOT SCALE

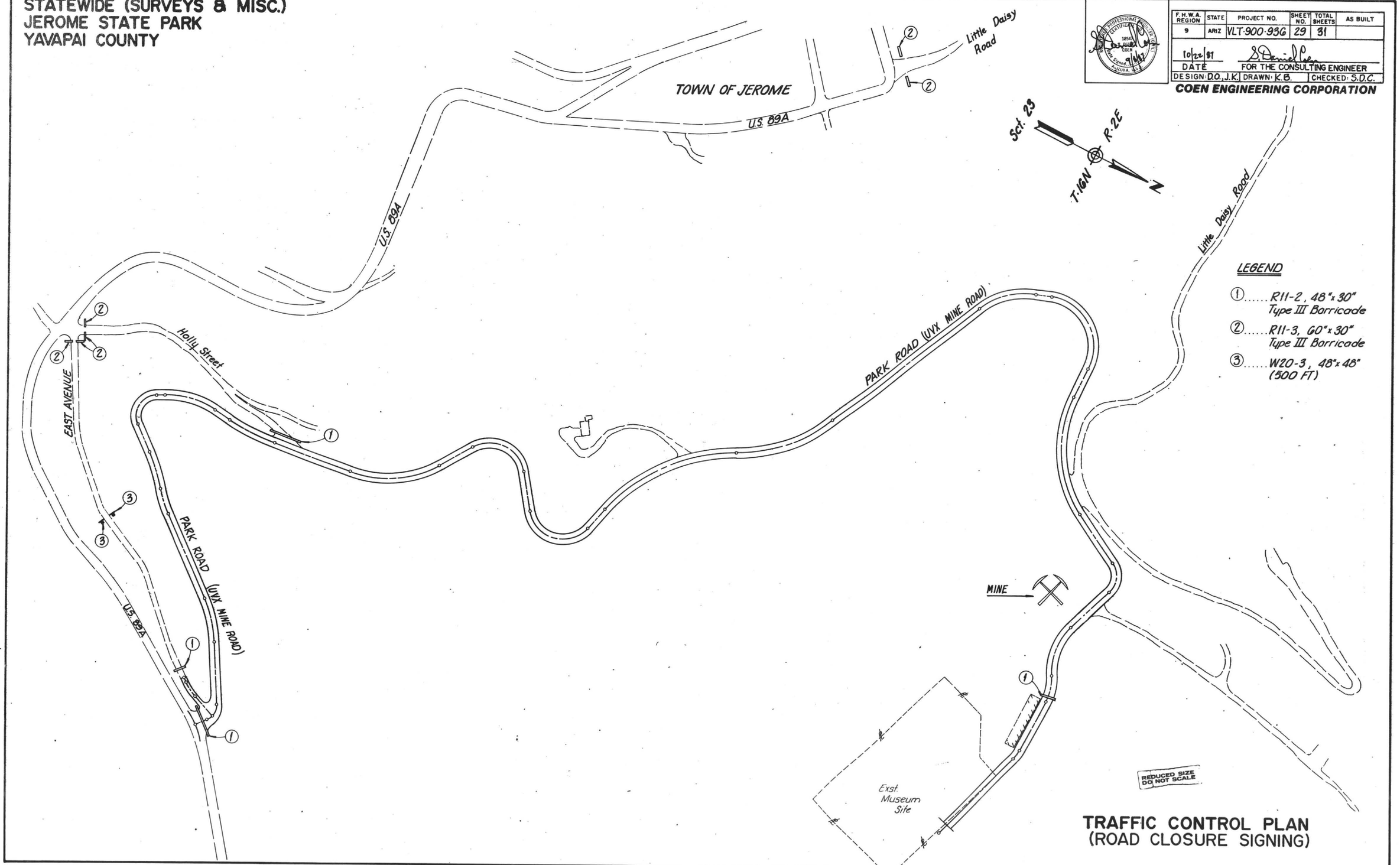
SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	29	31	

10/22/97 — DATE
FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.
COEN ENGINEERING CORPORATION



TRAFFIC CONTROL PLAN
(ROAD CLOSURE SIGNING)

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

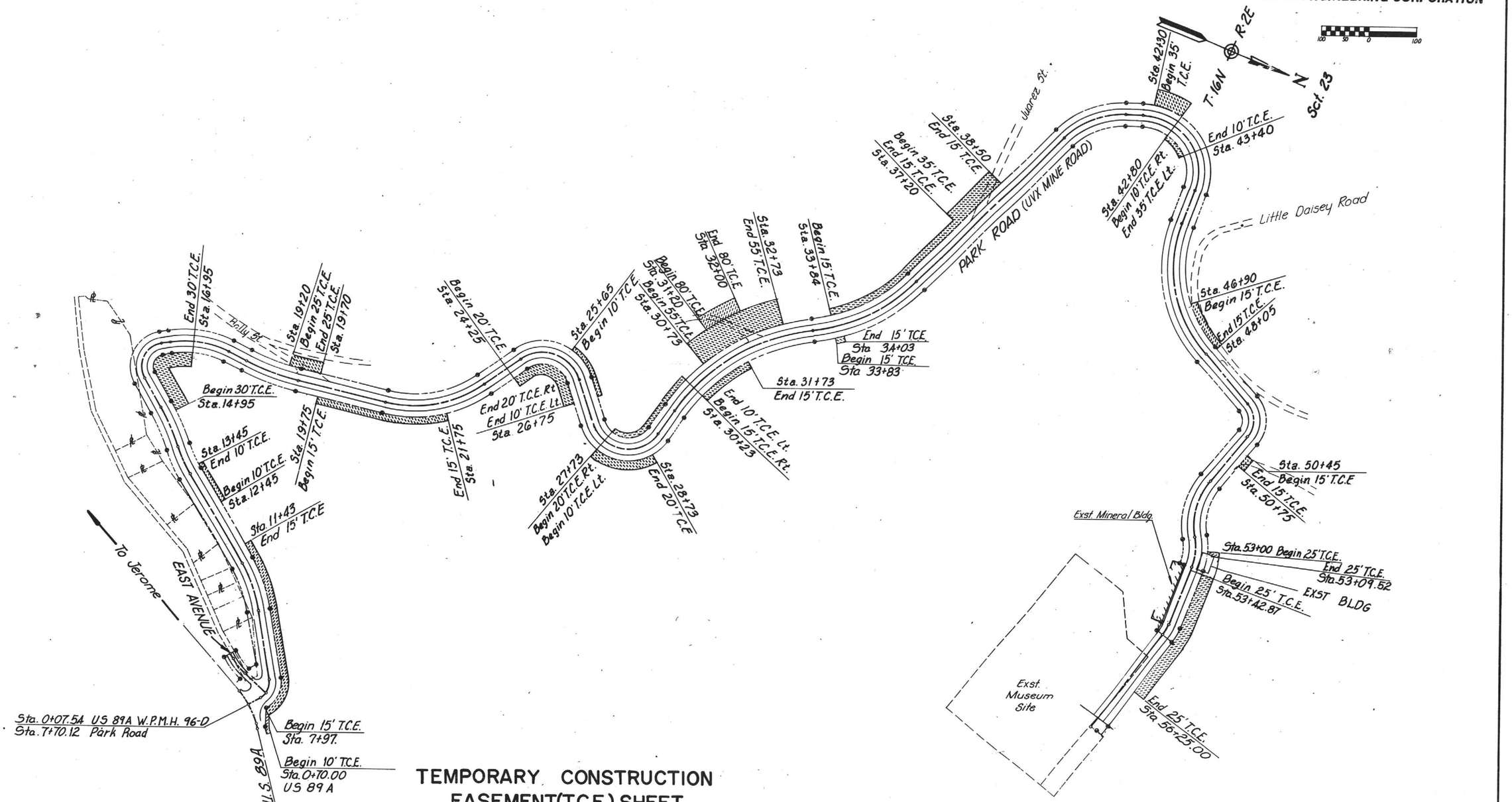
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

This marking stays before you dig
CALL FOR THE BLUE STAKES
VERDE/SEDONA AREA
634-2717
Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	30	31	

10/22/87 — S. Daniel Coen
DATE — FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.

COEN ENGINEERING CORPORATION



TEMPORARY CONSTRUCTION EASEMENT(T.C.E.) SHEET

REDUCED SIZE DO NOT SCALE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	31	31	

10/22/87 — DATE
FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B., L.Y. CHECKED: S.D.C.

COEN ENGINEERING CORPORATION

TANGENT TABLE

	BEARING	DISTANCE
1	N.49 40'20"W.	30.51'
2	S.60 38'07"W.	150.94'
3	S.39 54'14"W.	221.01'
4	S.39 55'02"W.	72.93'
5	N.28 06'00"W.	20.00'
6	N.06 54'00"E.	30.11'
7	N.06 24'12"W.	207.22'
8	N.55 51'25"W.	89.72'
9	N.53 52'55"E.	96.80'
10	N.74 53'28"W.	62.43'
11	N.65 02'00"W.	440.46'
12	N.18 27'03"W.	38.16'
13	N.89 49'46"E.	75.91'
14	N.29 32'00"E.	133.41'
15	S.71 40'56"E.	126.03'
16	S.89 44'06"E.	132.27'
17	S.72 21'44"E.	252.60'
18	S.21 32'08"W.	62.67'
19	S.39 55'05"W.	22.50'

℄ CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT	CHORD
A	12 48'50"	197.57'	44.19'	22.18'	44.09'
B	10 24'40"	197.57'	35.90'	18.00'	35.85'
C	24 32'23"	38.00'	16.27'	8.26'	16.15'
D	45 09'11"	38.00'	29.95'	15.80'	29.18'
E	20 43'52"	300.00'	108.55'	54.87'	107.96'
F	12 03'37"	302.80'	63.74'	31.99'	63.62'
G	12 02'49"	439.12'	92.33'	46.33'	92.16'
H	111 58'58"	50.53'	98.76'	74.89'	83.77'
I	35 00'00"	206.15'	125.93'	65.00'	123.98'
J	13 18'12"	515.00'	119.58'	60.06'	119.31'
K	49 27'14"	255.00'	220.10'	117.43'	213.33'
L	109 44'20"	81.77'	156.61'	116.21'	133.74'
M	128 46'23"	79.21'	178.03'	165.23'	142.86'
N	48 08'14"	420.00'	352.86'	187.60'	342.58'
O	38 16'45"	375.67'	250.99'	130.38'	246.34'
P	46 34'56"	174.49'	141.86'	75.11'	137.99'
Q	108 16'50"	120.73'	228.17'	167.03'	195.70'
R	60 17'46"	282.53'	297.32'	164.09'	283.79'
S	78 47'04"	60.00'	82.50'	49.27'	76.16'
T	48 03'12"	150.00'	125.80'	66.87'	122.15'
U	30 00'01"	125.00'	65.45'	33.49'	64.71'
V	17 22'22"	82.00'	24.86'	12.53'	24.77'
W	18 22'57"	125.00'	40.10'	20.23'	39.93'

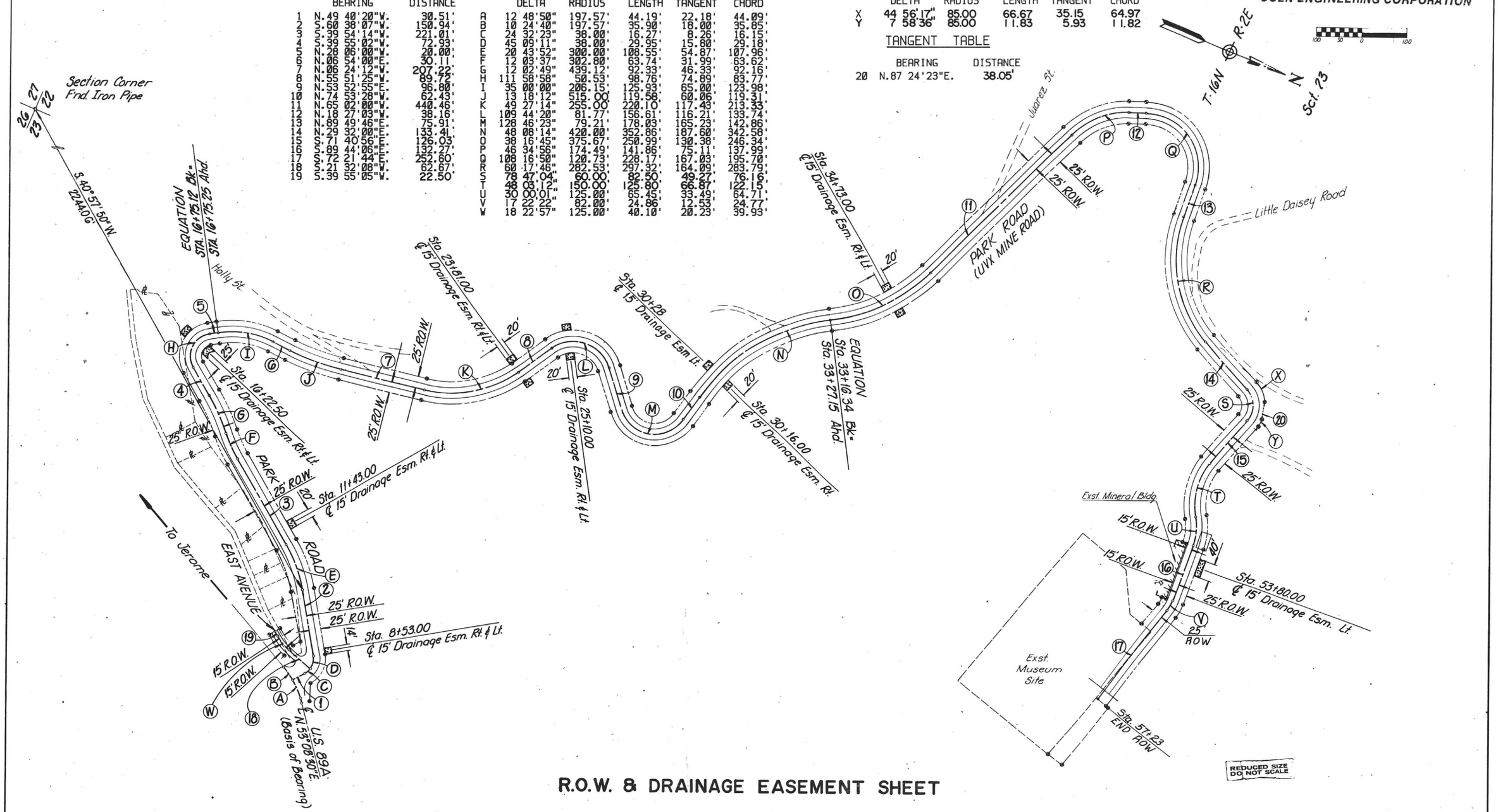
(RIGHT-OF-WAY)

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT	CHORD
X	44 56'17"	85.00	66.67	35.15	64.97
Y	7 58'36"	85.00	11.83	5.93	11.82

TANGENT TABLE

	BEARING	DISTANCE
20	N.87 24'23"E.	38.05'



R.O.W. & DRAINAGE EASEMENT SHEET

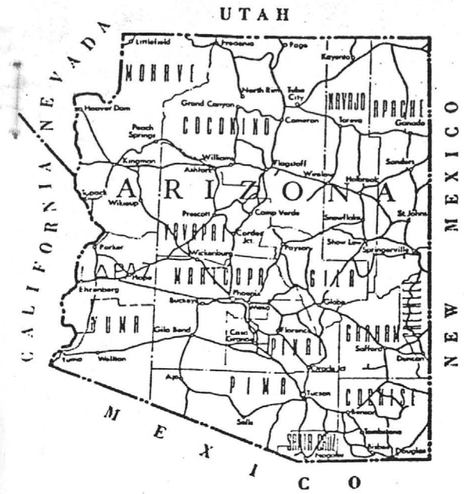
SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

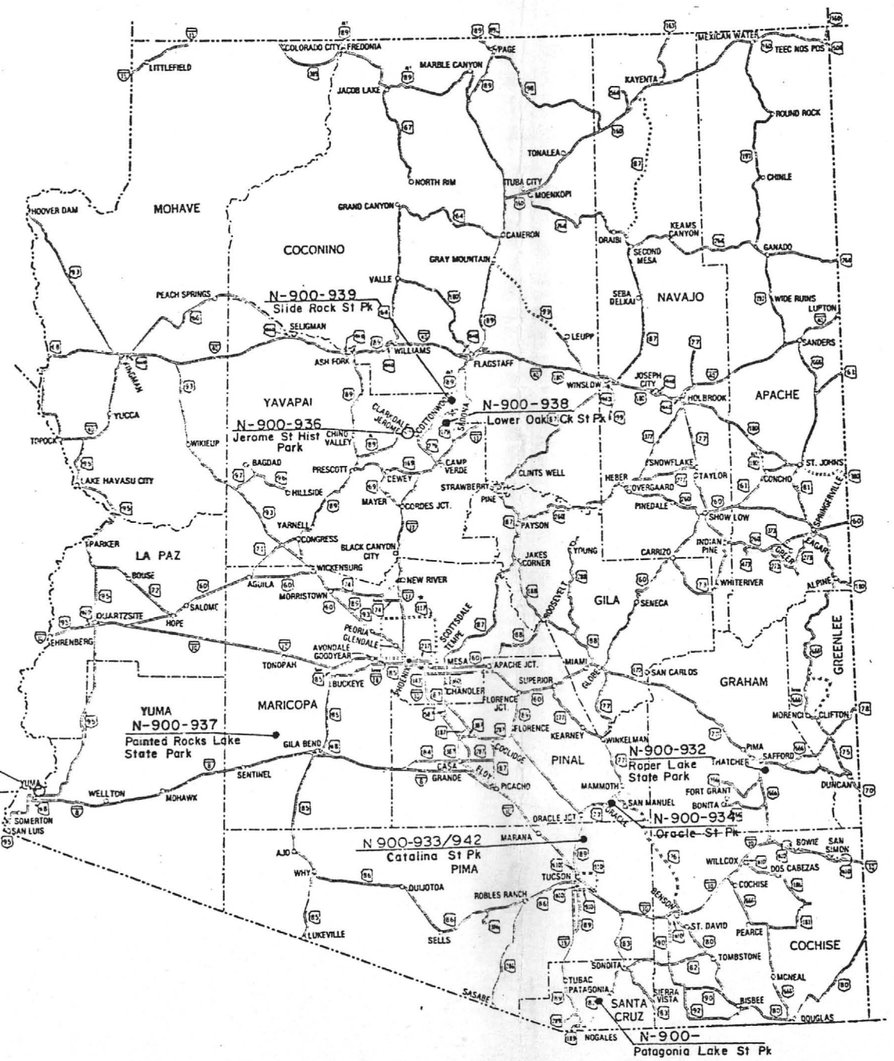
BRUNING 40 107

STATE OF ARIZONA
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND PROFILE OF PROPOSED

STATE PARKS





1985
STATE HIGHWAY SYSTEM
OF
ARIZONA

ARIZONA DEPARTMENT OF TRANSPORTATION

AS OF JANUARY 1, 1985
10 0 10 20 30
SCALE-MILES

LEGEND
STATE HIGHWAYS
SURVEY ONLY (APPROX. ALIGNMENT)
NUMBERS TEMPORARILY ASSIGNED

Design Review: 10:00 A.M. March 31, 1987 -
at the Jerome State Park Museum

PRELIMINARY PRINT

SUBJECT TO DESIGN CHANGES,
ADDITIONS, ALTERATIONS & CORRECTIONS
DATE 3-13-87 BY DJM

Doug Oberg
Coen Engineering
835 1111

ARIZONA DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
APPROVED W. O. FORD
ASSISTANT DIRECTOR
STATE ENGINEER

APPROVED DATE
CHIEF DEPUTY STATE ENGINEER

APPROVED DATE
DEPUTY STATE ENGINEER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

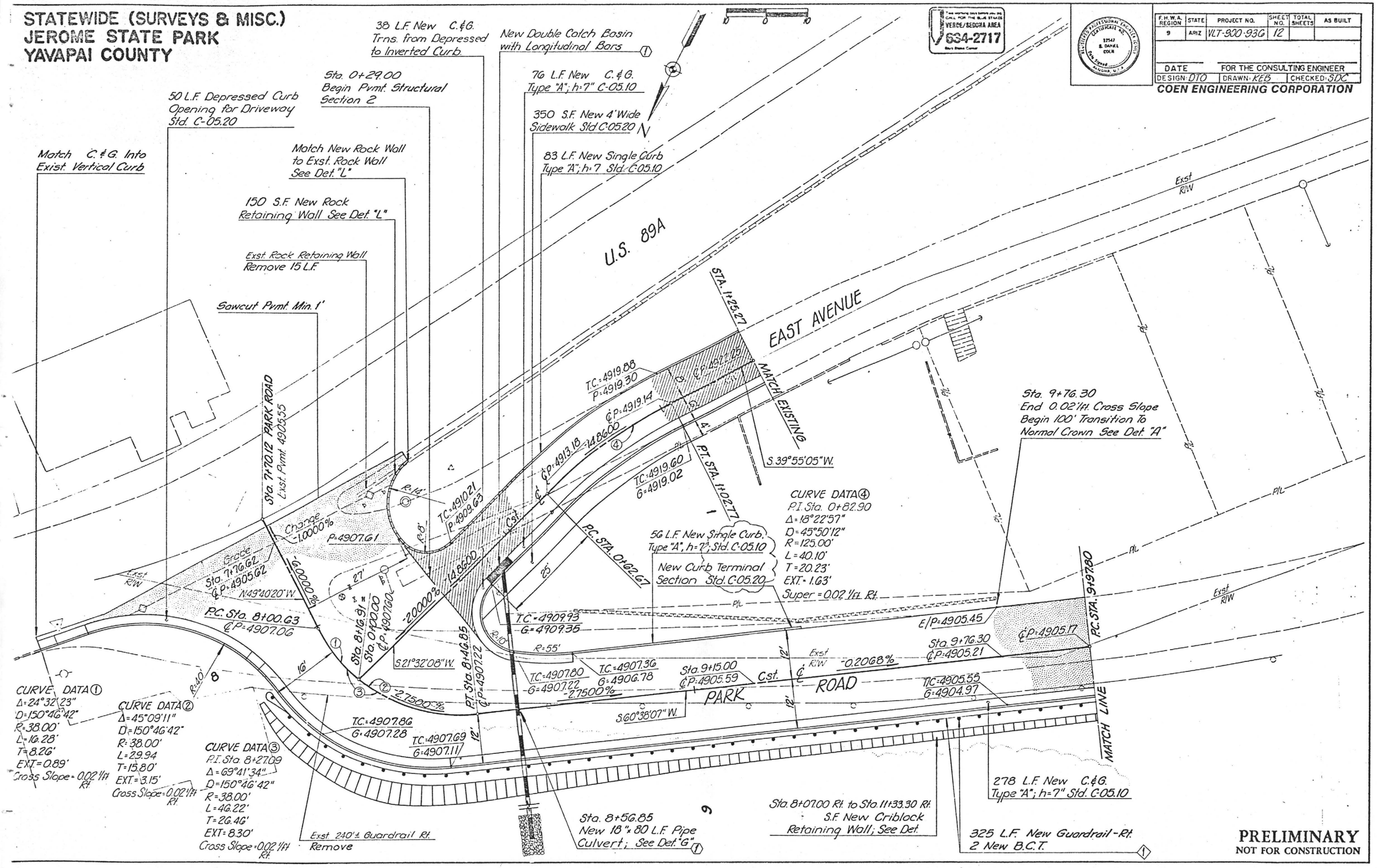
APPROVED DATE
DIVISION ADMINISTRATOR

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	12		

DATE | FOR THE CONSULTING ENGINEER
DESIGN: DTO | DRAWN: KEB | CHECKED: SDC

COEN ENGINEERING CORPORATION



PRELIMINARY
NOT FOR CONSTRUCTION

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	14		

DATE — FOR THE CONSULTING ENGINEER
DESIGN DO, JK | DRAWN KB | CHECKED SDC

COEN ENGINEERING CORPORATION

REGISTERED PROFESSIONAL ENGINEER CERTIFICATE NO. 12547 R. DANIEL COEN Date Signed ..... Arizona, U.S.A.

CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above.
Sidewalk. East Side of Entrance
Along U.S 89A
Elevation = 4889.882 (A.D.O.T. DATUM)

N. 49°40'20" W.
STA. 7+70.12 =
P.C. STA. 8+00.63
S 60°38'07" W
P.T. STA 8+46.86
MATCH LINE

CURVE DATA ③
P.I. Sta 8+27.09
Δ = 69°41'34"
D = 150°46'42"
R = 38.00'
L = 46.22'
T = 26.46'
EXT = 8.30'
Super = 0.02 1/ft. Rt.

③ Sta. 10+20 Exst. 4" Sewer Line - Remove
Sta. 10+18.00 New 10" x 36 L.F. Pipe Sleeve: See Det. "B" & New 4" x L.F. Cast Iron Sewer Line

② Sta 10+11 Exst 4" Sewer Line - Remove
Sta. 10+08.00 New 10" x 36 L.F. Pipe Sleeve: See Det "B" & New 4" x L.F. Cast Iron Sewer Line

① Sta 10+02 Exst. 4" Sewer Line - Remove
Sta. 9+98.00 New 10" x 36 L.F. Pipe Sleeve; See Det. "B" & New 4" x L.F. Cast Iron Sewer Line

P.C. STA. 9+97.80

CURVE DATA
P.I. Sta. 10+52.67
Δ = 20°43'52"
D = 19°05'55"
R = 300.00'
L = 108.55'
T = 54.87'
EXT. = 4.98'

Sta. 10+76.30
End Superelevation Transition; See Det "A"

Exst. Street Sign
Remove & Salvage

East Ave.

P.T. STA. 11+06.35

⑥ Sta. 13+43.74 Exst 4" Sewer
To Remain: Sta. 13+52.00
New 10" x 36 L.F. Pipe Sleeve; See Det. "B"

23 26 / 22 27
Sec. Cor. Fnd. Iron Pipe

⑤ Sta. 13+11± Exst. 6" Sewer
To Remain:
Sta. 13+14.00 New 12" x 36 L.F. Pipe Sleeve: See Det. "B"

④ Sta. 12+41.74 Exst. 4" Sewer
To Remain:
Sta. 12+45.00 New 10" x 36 L.F. Pipe Sleeve; See Det. "B"

P.C. STA. 13+27.36
P.C. STA. 13+91.10
S 39°54'14" W.
Tangent Bearing = S 51°57'51" W.
New R/W Esm.
New Edge of Pvmt.

140 L.F. New V.C.G. Type "A"; h = 7" Std. C-05.10

325 L.F. New Guardrail Rt.
2 - New B.C.T.

Sta. 8+07.00 Rt. to Sta. 11+33.30 Rt. New "Criblock Retaining Wall; See Det.

Sta. 11+43.30 Rt.
New Downdrain w/Embankment Std. C-04.20 w/Modified Splash Pad; See Det. "H"
New 18" x 8 L.F. Pipe Culvert

PARK ROAD ENTRANCE

CURVE DATA
P.I. Sta. 13+59.35
Δ = 12°03'37"
D = 18°55'19"
R = 302.80'
L = 63.74'
T = 31.99'
Ext. = 1.68'

⑦ Sta. 15+21.74 Exst. 6" Sewer Line
To Remain:
Sta. 15+18.00 New 12" x 40 L.F. Pipe Sleeve; See Det. "B"

Sta. 14+83.43 Lt.
Begin Superelevation Transition; See Det. "A"

P.T. STA. 14+83.43
S 39°55'02" W.
P.C. STA. 15+56.36

CURVE DATA
P.I. Sta. 14+37.43
Δ = 12°02'49"
D = 13°02'53"
R = 439.12'
L = 92.33'
T = 46.33'
Ext = 2.44'

Sec. 23
T. 16 N.
R. 2 E.
N

Sta. 15+17.49 to Sta. 16+98.53
Limits of Overexcavation. Remove Undesireable Fill; See Det. "E"

Widen Pvmt. to 16' Lanes Lt. & Rt.

60' Taper 15:1

Sta. 16+16.63 Exst. Hdwl. & 30" x 54"±
Conc. Pipe Culvert
Remove & Install 2 New 30" x 46' Pipe Culvert & Concrete Splashpad Rt.
See Det. "H"

P.T. STA. 16+55.12
P.C. STA. 16+75.12 Bk. = STA. 16+75.25 Ahd.
EQUATION

MATCH LINE

CURVE DATA
P.I. Sta. 16+31.25
Δ = 111°58'58"
D = 113°23'34"
R = 50.53'
L = 98.76'
T = 74.89'
Ext = 39.81'
Super = -0.02 1/ft. Rt.

N. 28°06'00" W.

40 30 20 10 0 40

P.C. Sta. 16+75.12 Bk. = Sta. 16+75.25 Ahd.
P. Elev. = 4904.07

EQUATION
Short Sta. -0.13'
Sta. 16+00 to Sta. 17+00 = 99.87

100' V.C.

P.T. Sta. 16+07.09
P.T. Elev. = 4903.50
Corr. = +0.15'

Exst. ℄ Grade
Finished ℄ Grade

Sta. 13+21.25
Grade Change
P = 4904.50

-0.2068 %
-0.3499 %
+0.8416 %

Sta. 10+76.30
Normal Crown

P.T. Sta. 14+83.43
Normal Crown

P.C. Sta. 15+56.36
0.02 1/ft. Rt.

℄ Ft. = 4896.66

Sta. 16+16.63
Q25 = 60.0 cfs
℄ Ft. = 4897.50
S = 4.00 %

100.00' Transition
L = 72.93 Transition
L = 187.89' Full Super

4920
4916
4912
4908
4904
4900

8 9 10 11 12 13 14 15 16 17

PRELIMINARY
NOT FOR CONSTRUCTION

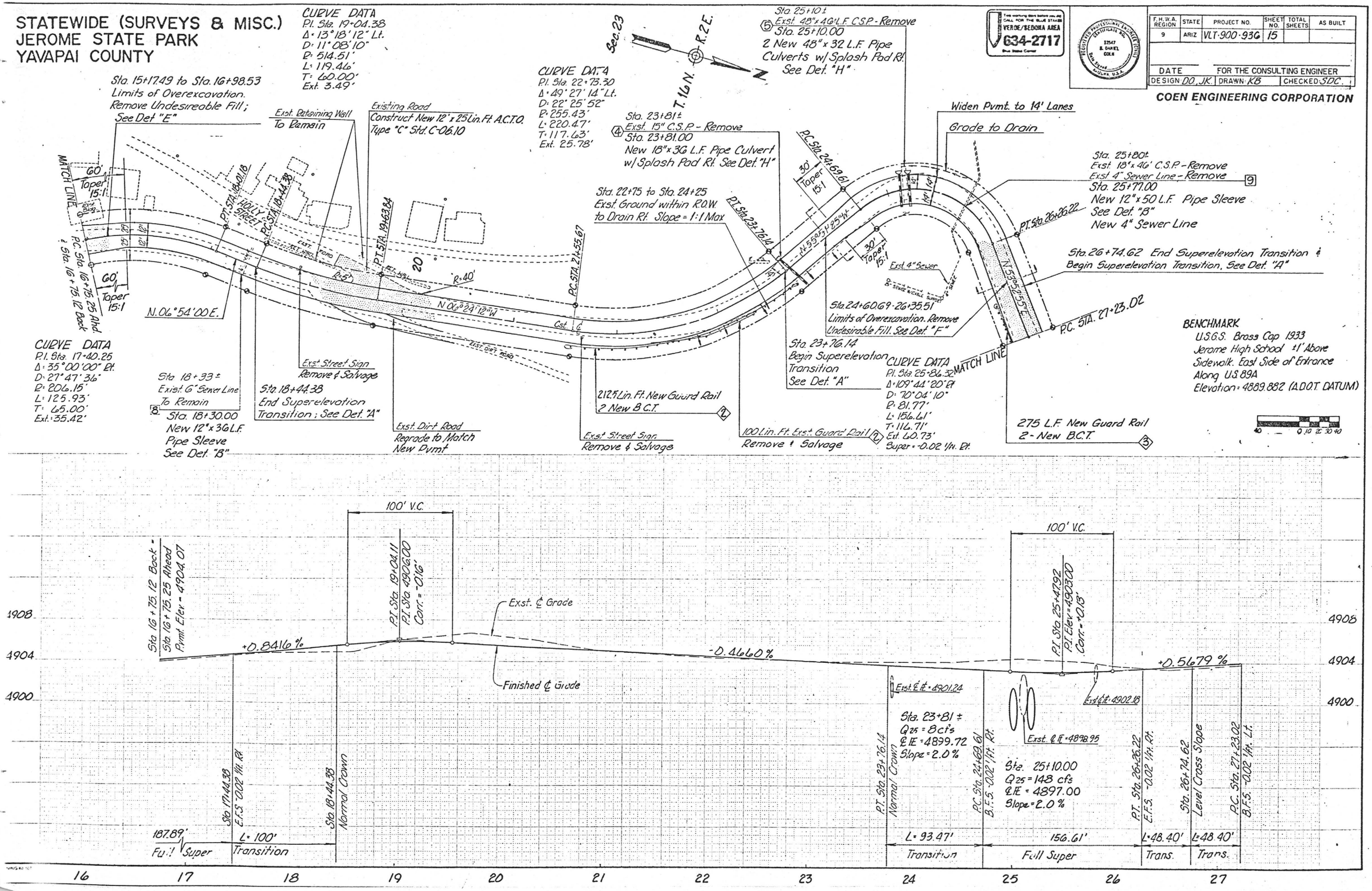
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	15		

DATE — FOR THE CONSULTING ENGINEER

DESIGN: DO, JK. DRAWN: KB CHECKED: SDC.

COEN ENGINEERING CORPORATION



STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above
Sidewalk. East Side of Entrance
Along U.S 89A
Elevation = 4889.882 (A.D.O.T. DATUM)

CURVE DATA
P.I. Sta 28+88.25
Δ = 128°46'23" Lt.
D = 72° 20'02"
R = 79.21'
L = 178.03'
T = 165.23'
Ext. = 104.02'
Super = -0.02 ft/ft Lt.

Sta. 30+31 ±
Exst. 24" x 36' C.S.P. - Remove (6)
Sta. 30+31.00
New 24" x 34' L.F. Pipe Culvert
w/Splash Pad Rt.; See Det. "H"

Sta. 32+00.00 Lt.
New 12" x 60' A.C.T.O.
Type "C" Std. C-06.10

CURVE DATA
P.I. Sta. 34+57.53
Δ = 36°16'45"
D = 15°15'06"
R = 375.67'
L = 250.98'
T = 130.38'
Ext. = 21.98'

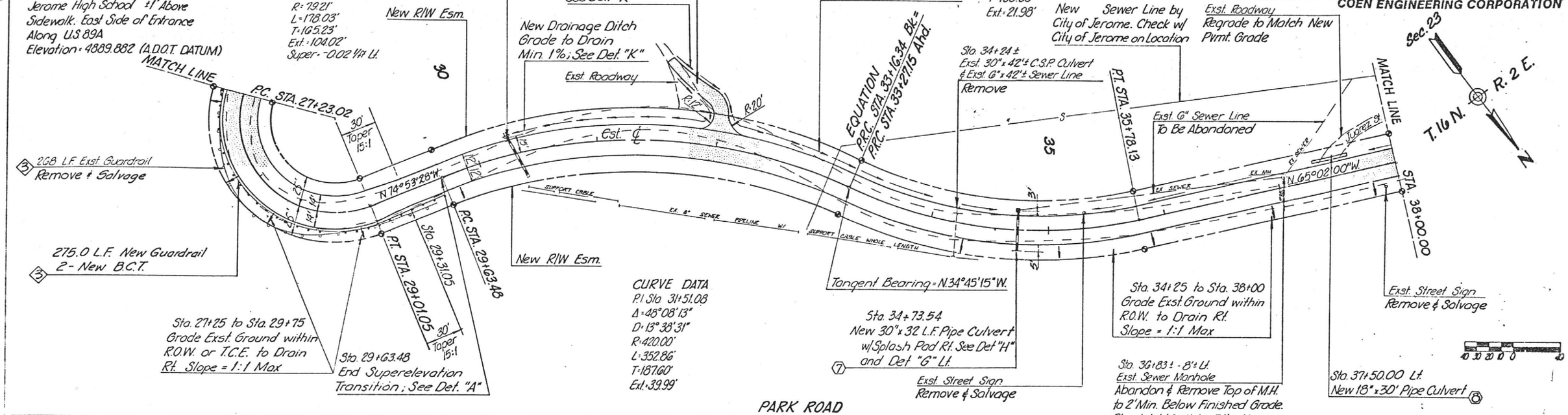
VERDE/SEDONA AREA
634-2717
Blue Stake Center

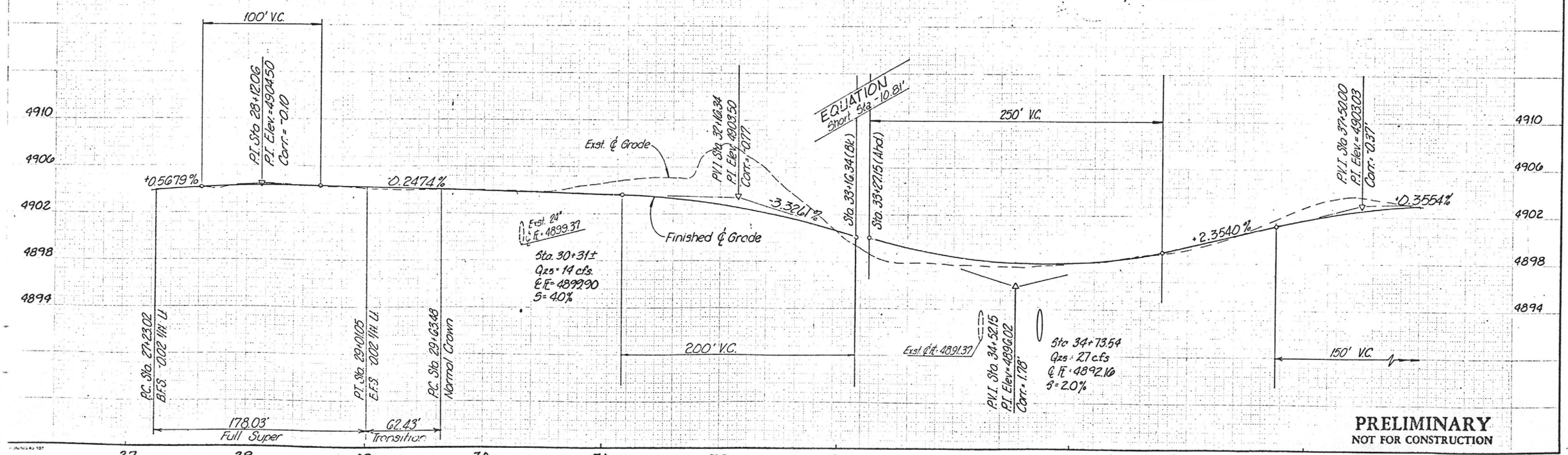
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 12547
S. DANIEL COEN
Date Signed
ARIZONA, U.S.A.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	16		

DATE
FOR THE CONSULTING ENGINEER
DESIGN: D.O. JK | DRAWN: KB | CHECKED: SOC

COEN ENGINEERING CORPORATION





PRELIMINARY
NOT FOR CONSTRUCTION

STATEWIDE (SURVEYS & MISC.) Sct. 23
JEROME STATE PARK
YAVAPAI COUNTY

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above
Sidewalk. East Side of Entrance
Along U.S. 89A
Elevation = 4889.882 (A.D.O.T. DATUM)

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	17		

DATE — FOR THE CONSULTING ENGINEER
DESIGN D.O., J.K. | DRAWN: K.B. | CHECKED: S.D.C.

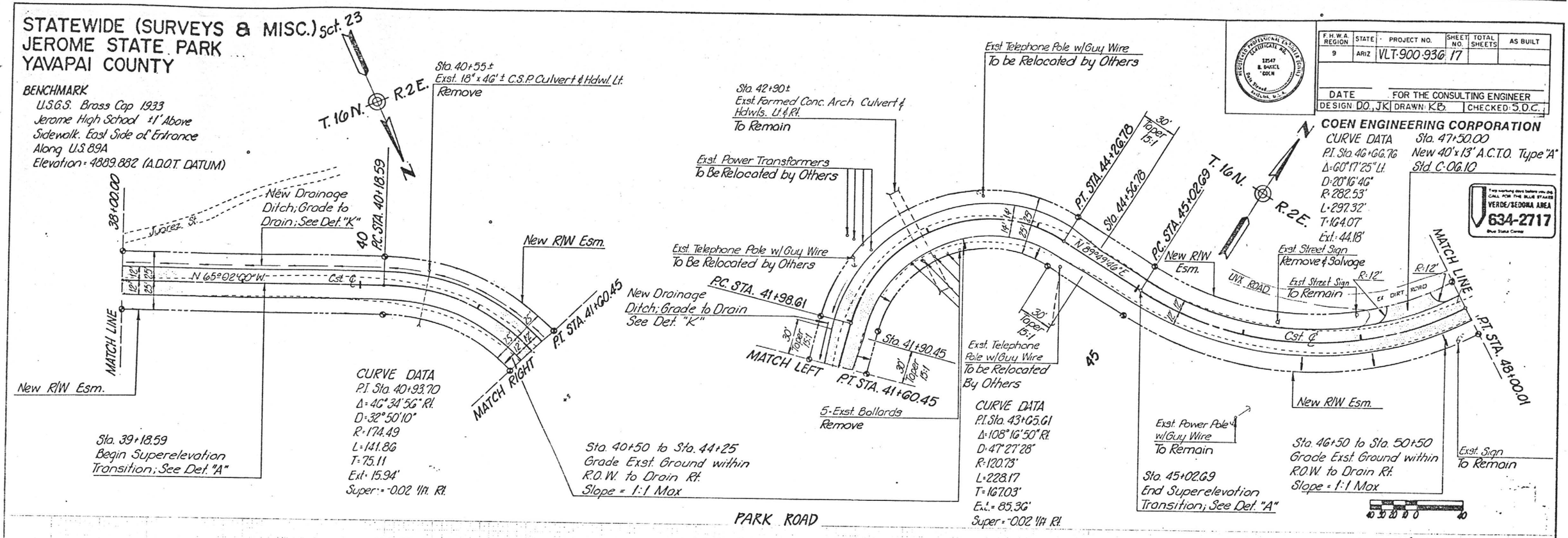
REGISTERED PROFESSIONAL ENGINEER CERTIFICATE NO. 12547 B. DANIEL COEN Date Signed ..... Sedona, Ariz. U.S.A.

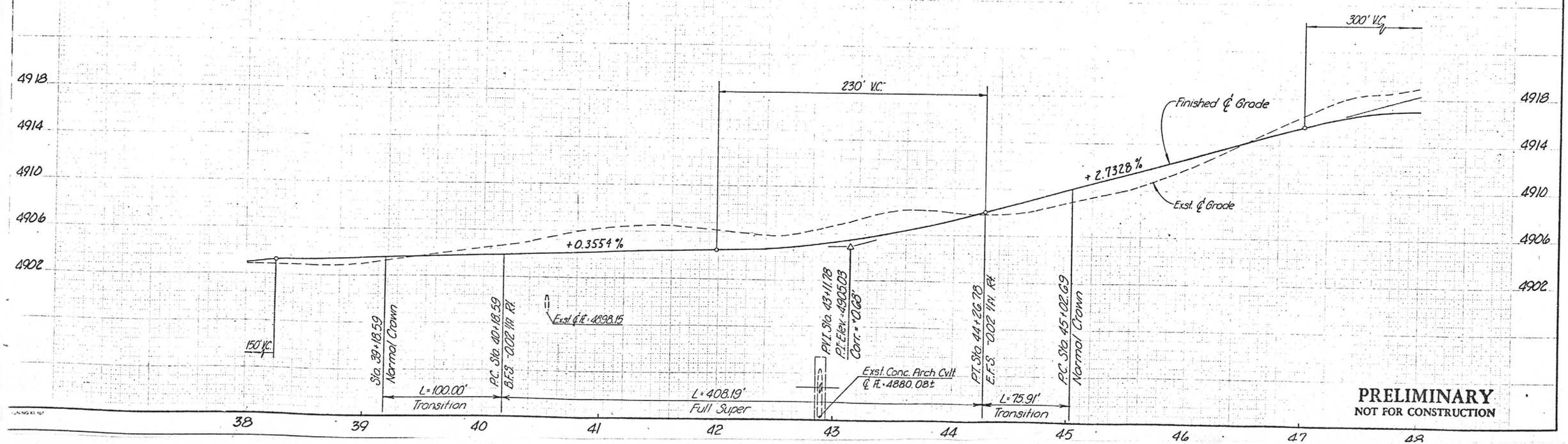
COEN ENGINEERING CORPORATION

CURVE DATA
P.I. Sta. 46+66.76
Δ = 60°17'25" Lt.
D = 20°16'46"
R = 282.53'
L = 297.32'
T = 164.07'
Ext. = 44.18'

Sta. 47+50.00
New 40' x 13' A.C.T.O. Type "A"
Std. C-06.10

For warning signs before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center





PRELIMINARY
NOT FOR CONSTRUCTION

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

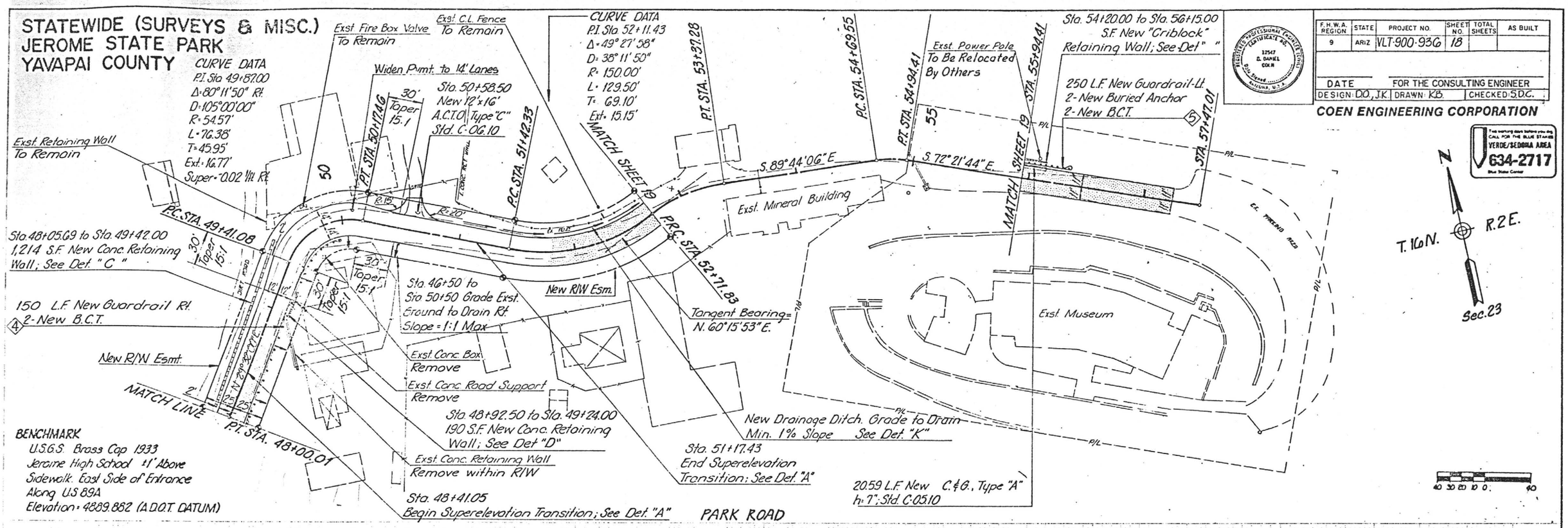
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	18		

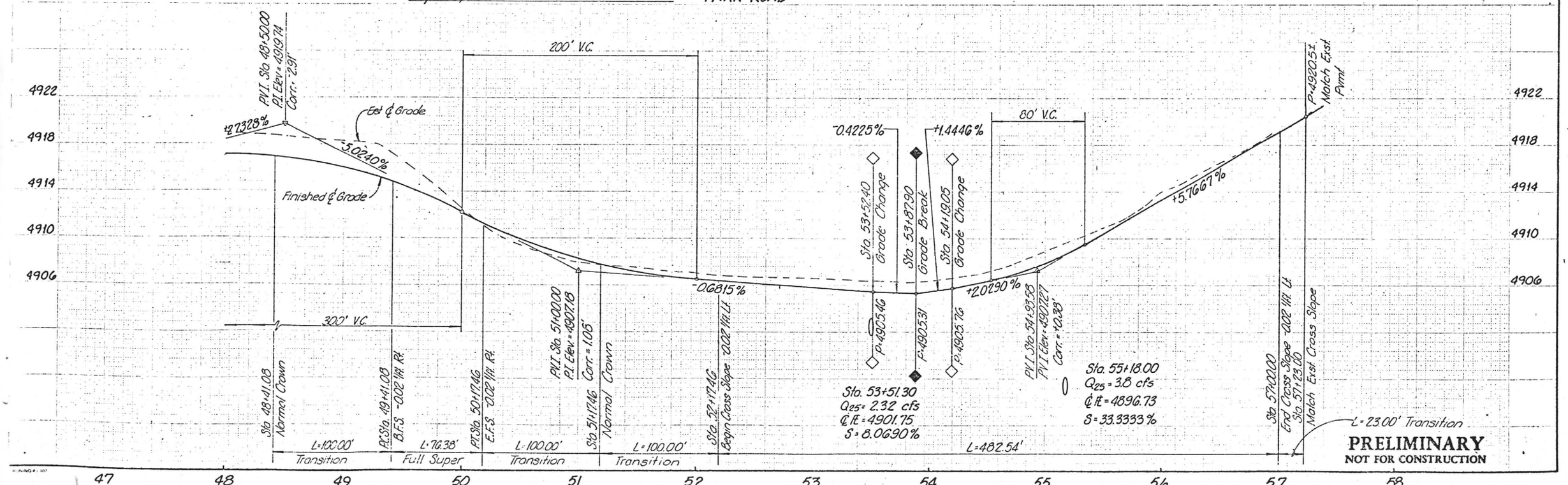
DATE — FOR THE CONSULTING ENGINEER
DESIGN: DO., J.K. DRAWN: K.B. CHECKED: S.D.C.

COEN ENGINEERING CORPORATION

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 12547 D. DANIEL COEN State of Arizona

This warning sign protects you and your family. CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

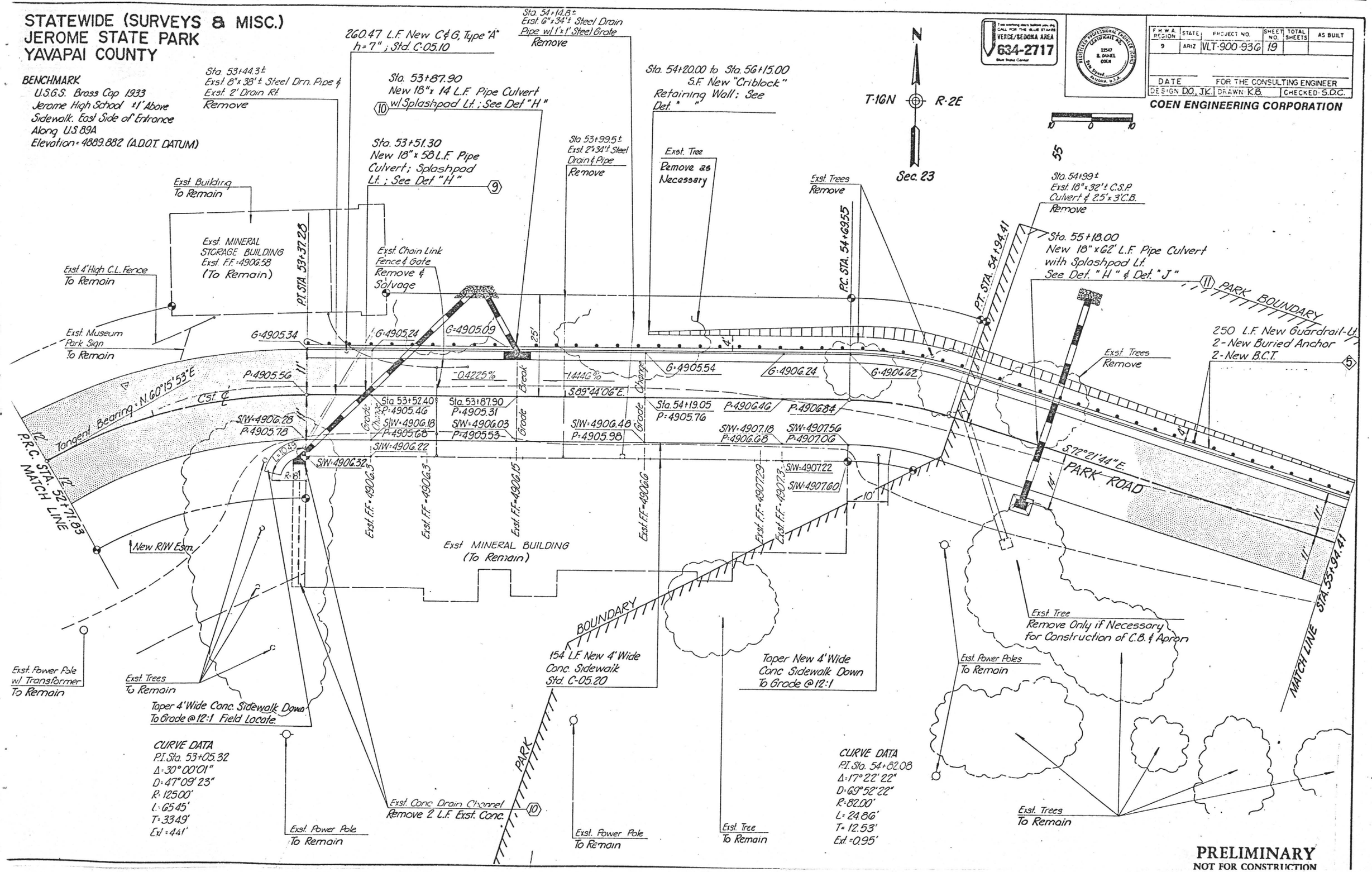




PRELIMINARY
NOT FOR CONSTRUCTION

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above
Sidewalk. East Side of Entrance
Along U.S. 89A
Elevation = 4889.882 (A.D.O.T. DATUM)



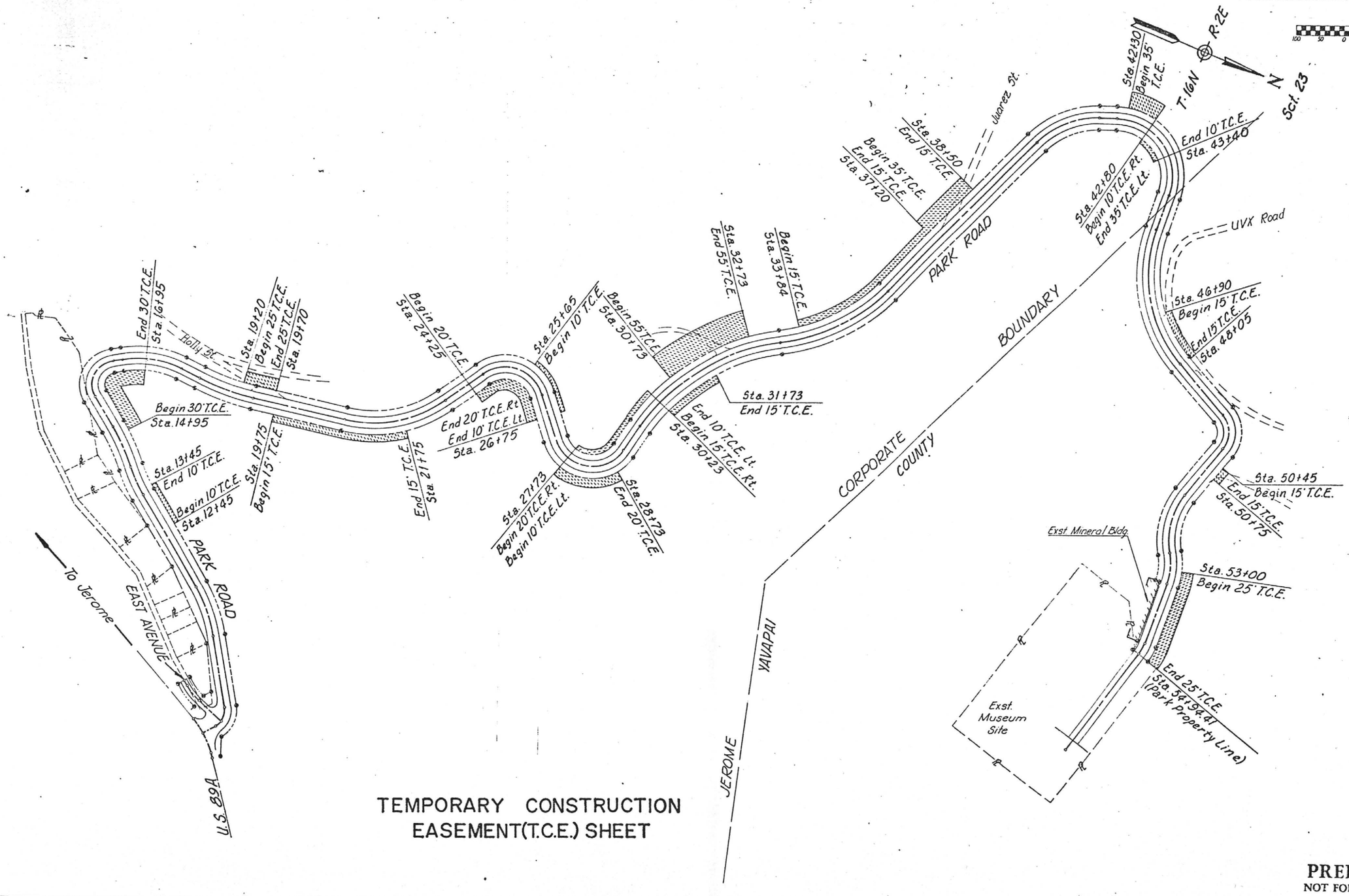
PRELIMINARY
NOT FOR CONSTRUCTION

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	21		

DATE FOR THE CONSULTING ENGINEER
DESIGN D.O., J.K. DRAWN K.B. CHECKED: S.D.C.

COEN ENGINEERING CORPORATION



TEMPORARY CONSTRUCTION
EASEMENT(T.C.E.) SHEET

PRELIMINARY
NOT FOR CONSTRUCTION

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

STATE	FEDERAL AID PROJECT NO.	SHEET NO.
9	APZ VLT 900 956	22

DATE | FOR THE CONSULTING ENGINEER
DESIGN DO, JK | DRAWN KB, LY | CHECKED SDC

COEN ENGINEERING CORPORATION

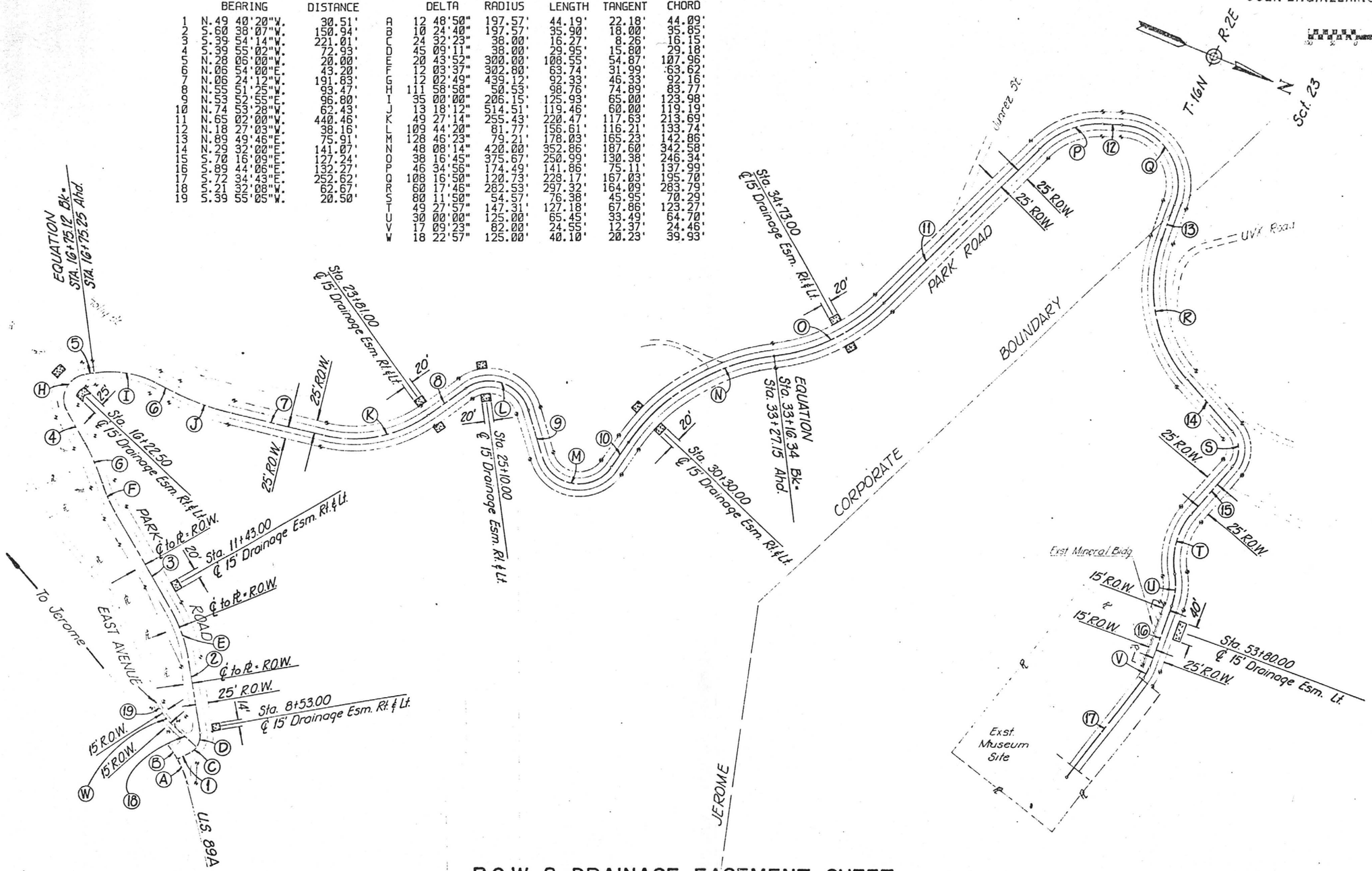
REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 12547 R. DANIEL COEN Date Signed ARIZONA, U.S.A.

TANGENT TABLE

	BEARING	DISTANCE
1	N.49 40'20"W.	30.51'
2	S.60 38'07"W.	150.94'
3	S.39 54'14"W.	221.01'
4	S.39 55'02"W.	72.93'
5	N.28 06'00"W.	20.00'
6	N.06 54'00"E.	43.20'
7	N.06 24'12"W.	191.63'
8	N.55 51'25"W.	93.47'
9	N.53 52'55"E.	96.80'
10	N.74 53'28"W.	62.43'
11	N.65 02'00"W.	440.46'
12	N.18 27'03"W.	38.16'
13	N.89 49'46"E.	75.91'
14	N.29 32'00"E.	141.07'
15	S.70 16'09"E.	127.24'
16	S.89 44'06"E.	132.27'
17	S.72 34'43"E.	252.62'
18	S.21 32'08"W.	62.67'
19	S.39 55'05"W.	20.50'

CURVE DATA

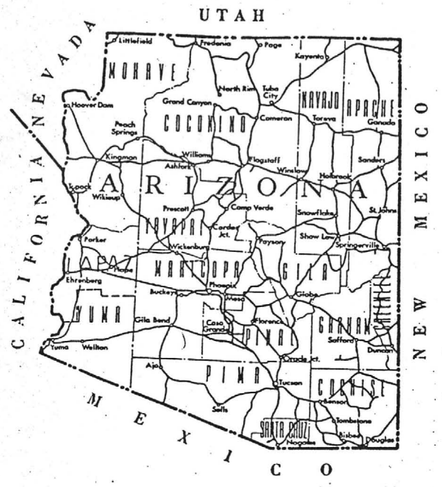
	DELTA	RADIUS	LENGTH	TANGENT	CHORD
A	12 48'50"	197.57'	44.19'	22.18'	44.09'
B	10 24'40"	197.57'	35.90'	18.00'	35.85'
C	24 32'23"	38.00'	16.27'	8.26'	16.15'
D	45 09'11"	38.00'	29.95'	15.80'	29.18'
E	20 43'52"	300.00'	108.55'	54.87'	107.96'
F	12 03'37"	302.80'	63.74'	31.99'	63.62'
G	12 02'49"	439.12'	92.33'	46.33'	92.16'
H	111 58'58"	50.53'	98.76'	74.89'	83.77'
I	35 00'00"	206.15'	125.93'	65.00'	123.98'
J	13 18'12"	514.51'	119.46'	60.00'	119.19'
K	49 27'14"	255.43'	220.47'	117.63'	213.69'
L	109 44'20"	81.77'	156.61'	116.21'	133.74'
M	128 46'23"	79.21'	178.03'	165.23'	142.86'
N	48 08'14"	420.00'	352.86'	187.60'	342.58'
O	38 16'45"	375.67'	250.99'	130.38'	246.34'
P	46 34'56"	174.49'	141.86'	75.11'	137.99'
Q	108 16'50"	120.73'	228.17'	167.03'	195.70'
R	60 17'46"	282.53'	297.32'	164.09'	283.79'
S	80 11'50"	54.57'	76.38'	45.95'	70.29'
T	49 27'57"	147.31'	127.18'	67.86'	123.27'
U	30 00'00"	125.00'	65.45'	33.49'	64.70'
V	17 09'23"	82.00'	24.55'	12.37'	24.46'
W	18 22'57"	125.00'	40.10'	20.23'	39.93'



R.O.W. & DRAINAGE EASEMENT SHEET

PRELIMINARY
NOT FOR CONSTRUCTION

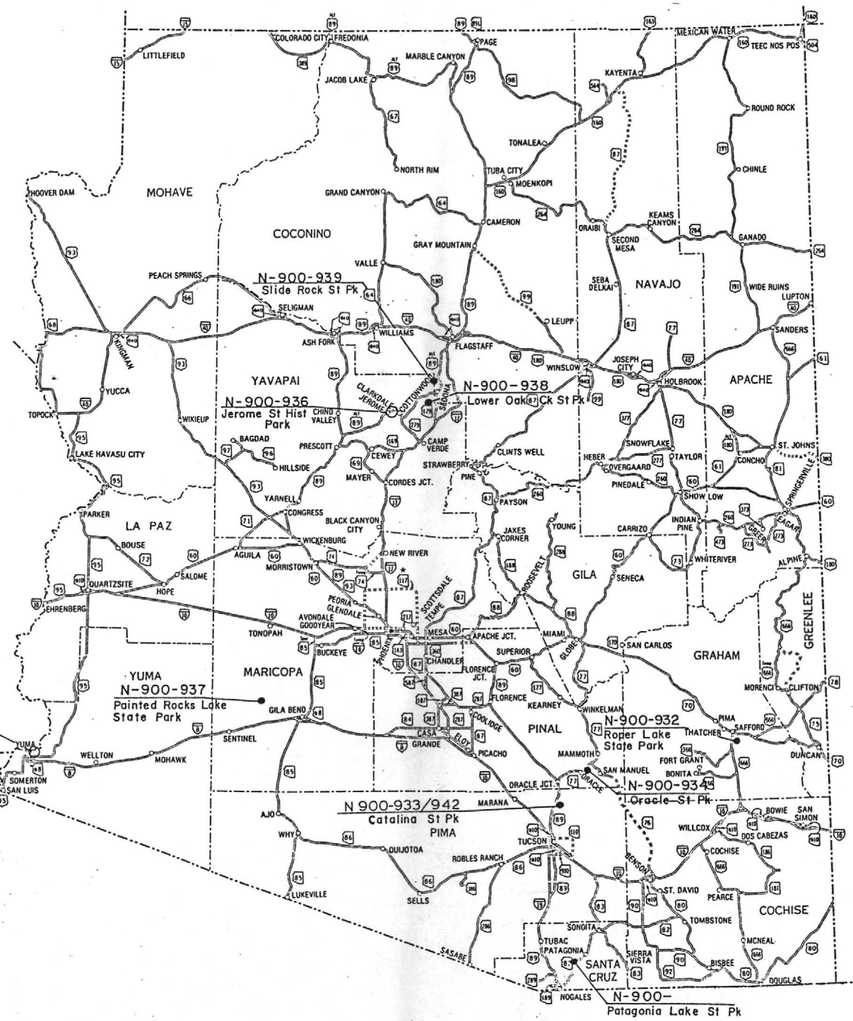
9/2



STATE OF ARIZONA
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND PROFILE OF PROPOSED

STATE PARKS



Office Review 10:00 A.M.
Thursday Sept 24, 1987
ADOT Facilities Bldg.
Room 109

PRELIMINARY PRINT

SUBJECT TO DESIGN CHANGES, ADDITIONS, ALTERATIONS & CORRECTIONS
DATE 9-11-87 BY DJM

255-8629
DAVE

1985
STATE HIGHWAY SYSTEM
OF
ARIZONA

ARIZONA DEPARTMENT OF TRANSPORTATION

AS OF JANUARY 1, 1985
10 0 10 20 30
SCALE-MILES

LEGEND
STATE HIGHWAYS
SURVEY ONLY (APPROX. ALIGNMENT)
* NUMBERS TEMPORARILY ASSIGNED

ARIZONA DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
APPROVED: W. O. FORD
ASSISTANT DIRECTOR
STATE ENGINEER

APPROVED DATE
CHIEF DEPUTY STATE ENGINEER

APPROVED DATE
DEPUTY STATE ENGINEER

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED DATE
DIVISION ADMINISTRATOR

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

DESIGN DATA

1986 ADT =
2006 ADT =
Minimum Design Speed = 15 mph

Two working days before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	2	31	

DATE FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: L.Y., K.B. CHECKED: S.D.C.

COEN ENGINEERING CORPORATION

GENERAL NOTES

1) The roadway plans for this project have been designed utilizing the 1986 Construction Standard Drawings (C-Series) and current revisions.

2) R/W markers shall be furnished and placed by the Contractor as directed by the Engineer Std. C-21.10

3) Bench markers will be furnished by the State and placed by the Contractor. Std. C-21.10.

4) The Contractor shall remove all structures and obstruction within the project right-of-way unless otherwise noted on the project plans.

5) The project roadway temporary and final striping shall be performed by the Contractor in accordance with the details shown on the plans or as directed by the Engineer.

6) Pavement thicknesses shown on the project plans are 'nominal thicknesses'.

7) Information shown herein concerning type and location of underground and other utilities is not represented to be accurate or all inclusive. The information is made available to provide the Contractor with ready access to the same information used in the preparation of the plans. It shall be the Contractor's responsibility to verify type, size, and location of utilities as may be necessary to avoid damage.

8) The Contractor shall contact Blue Stake (634-2717) a minimum of two (2) working days prior to the start of digging to locate and flag all underground utilities. It shall further be the Contractor's responsibility to contact Blue Stake in sufficient time to allow flagging to be completed so as not to impede construction.

9) Changes in location or length of spillway installation may be made by the Engineer to improve drainage conditions.

10) All signs, delineators, and sign posts within the project limits shall be removed and reinstalled as directed by the Engineer.

11) The Contractor shall trim pavement to neat vertical line 1' back from existing edge of pavement as shown. No seperate payment will be made for this work.

12) AC turnouts shall be constructed using Pavement Structural Section No. 1.

13) It is the Contractor's responsibility to verify all quantities.

14) All materials which are required to be removed but not salvaged shall become the property of the Contractor.

15) The Contractor shall contact all Utitlity Companies, Municipalities, A. F. Budge Mining, Ltd. & the State Parks Department a minimum of two (2) weeks prior to construction.

16) The Engineer makes no Representation or Guarantee regarding Earthwork Quantities or that the Earthwork for this Project will balance due to the varying field Conditions, Changing Soil Type, Allowable Construction Tolerances & Construction Methods that are beyond the control of the Engineer.

17) Prior to Bidding the work the Contractor shall thoroughly satisfy himself as to the actual conditions, Earthwork Quantities & Requirements of the work & excess or deficiency therein, Actual or Relative.

18) It is not anticipated that blasting and removal of bedrock will be required for the installation of drainage structures or for the removal in overexcavation areas. If rock is discovered to be in contact with planed construction, contact the Engineer, with information on location and elevation, to make appropriate adjustments.

19) The Contractor shall field measure all culverts to verify lengths prior to ordering materials.

20) All unsuitable material removed by the contractor in the overexcavation areas shall be legally disposed of offsite.

21) All existing asphalt removed by the contractor may be used as backfill for the overexcavation areas or cribwall provided it is processed to meet standard specifications or special provisions.

22) All existing A.B.C. or subgrade removed by the contractor buring rough grading may be used as backfill for the overexcavation areas or cribwall provided if meets standard specifications or special provisions.

23) Contractor shall pothole existing sewer lines called for replacement to verify alignment horizontally and vertically prior to ordering materials.

24) Contractor shall provide a means of storing and disposing sewage in active sewer lined during sewer line replacement construction.

25) NOTE: Centerline control points have been set for this project to aid layout staking. Contact design engineer for information on points set and their coordinates.

LENGTH OF PROJECT

PARK ROAD (ENTRANCE)
Sta. 7+70.12 to Sta. 16+75.11Bk. = 904.99'
Sta. 16+75.25 Ahd. to Sta. 23+78.19Bk. = 702.94'
Sta. 23+79.89 Ahd. to Sta. 33+16.34Bk. = 936.37'
Sta. 33+27.15 Ahd. to Sta. 8+00.01 = 1472.86'
Sta. 48+04.09 Ahd. to Sta. 9+84.00 = 1179.91'
Park Road Gross & Net Length = 5195.07' = 0.98 Mi.

EAST AVENUE
Sta. 00+00.00 to Sta. 1+25.27 = 125.27'
East Ave. Gross & Net Length = 125.27' = 0.02 Mi.

LITTLE DAISY ROAD
STA. 0+00.00 to Sta. 30+35.00 = 3035.00'
Little Daisy Road Gross & Net Length = 3035.00 = 0.57 Mi.

INDEX OF SHEETS

Sheet No.	Sheet Type
1	Face Sheet
1A-1B	A.D.O.T. Standard Drawings
2-3	Design Sheets
4-12	Special Details
13	New Pipe Summmary Sheet
14	New Pipe Sleeve Summary Sheet
15	Barrier Summary Sheet
16	Entrance Plan Sheet
17	Entrance Profile Sheet
18-22	Plan & Profile Sheets
23	Plan Sheet @ Mineral Building
24	Entrance Utility Relocation & Horizontal Layout Sheet
25-26	Little Daisy Road Plan †Profile Sheets
27	Signing & Striping Plan
28-29	Traffic Control Plan
30	Temporary Construction Easement (T.C.E.) Sheet
31	Right of Way & Drainage Easement Sheet

EARTHWORK QUANTITIES

ROADWAY EARTHWORK	SHRINK	GROUND COMPACTION	QUANITY
Excavation	—	—	8,903 C.Y.
Embankment	15%	0.2 FT/FT.	2,153 C.Y.
OVEREXCAVATION AREAS			
Excavation (waste)	—	—	4,925 C.Y.
Embankment	15 %	0.2 FT/FT.	5,821 C.Y.
"CRIBLOCK" RETAINING WALLS			
Structural Excavation	—	—	3,133 C.Y.
Structural Embankment	15%	0.2 FT/FT.	2,521 C.Y.
Structural Backfill	—	—	1,403 C.Y.
CONCRETE RETAINING WALLS			
Structural Excavation	—	—	1,523 C.Y.
Structural Embankment	15%	0.2 FT/FT	1,001 C.Y.
Structural Backfill	—	—	171 C.Y

MISC. PAVEMENT QUANITITIES

DISCRIPTION	QUANITY	
Existing Pvmt. Removal	10,535	S.Y.
PARK ROAD		
Asphaltic Concrete (4")	2,718	Tons
Asphaltic Concrete (2¾")	255	Tons
EAST AVENUE		
Portland Conc. Cement (6")	136	S.Y.
A.B.C. (12") Little Daisy Road	529	C.Y.
A.B.C. (6") Little Daisy Road	156	C.Y.
A.B.C. (4") Park Road	1,521	C.Y.
A.B.C. (2") East Ave	8	C.Y.
Crack Seal Coat	3,981	S.F.

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

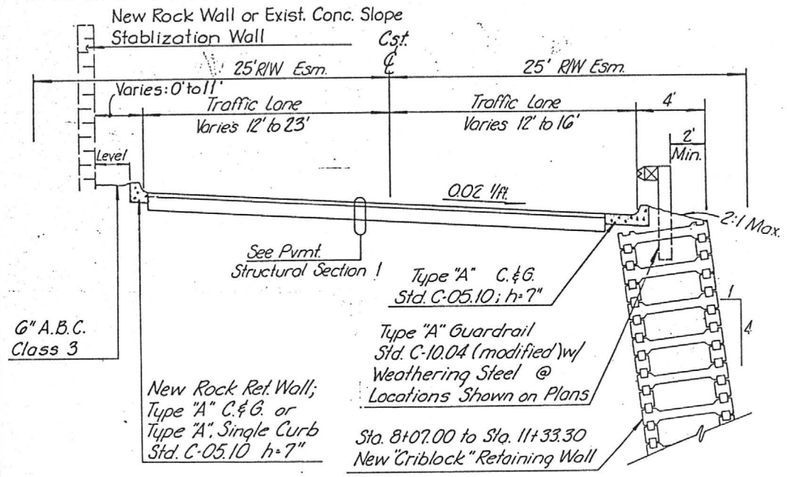
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

DESIGN DATA
1986 ADT =
2006 ADT =
Min Design Speed 15 MPH

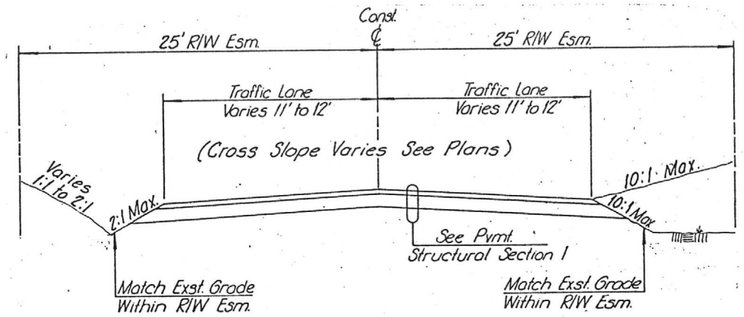
CALL FOR THE BLUE STAKES
VERDE/SEDONA AREA
634-2717
Blue Stake Corner

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	3	31	

DATE — FOR THE CONSULTING ENGINEER
DESIGN: DTO, JK | DRAWN: KEB | CHECKED: SDC
COEN ENGINEERING CORPORATION

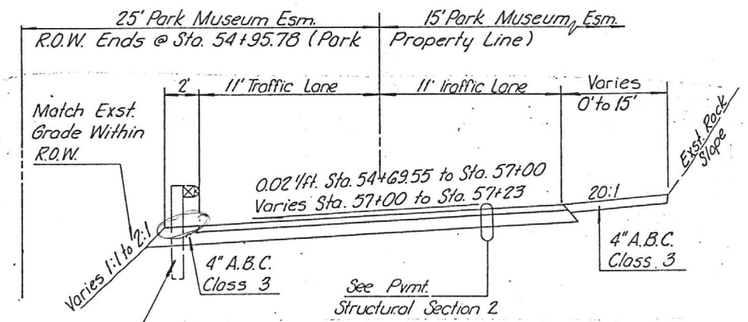


PARK ENTRANCE ROAD (UVX MINE ROAD)
Sta. 7+70.12 to Sta. 10+76.30



PARK ENTRANCE ROAD
(UVX MINE ROAD)
Sta. 50+50.00 to Sta. 53+37.28

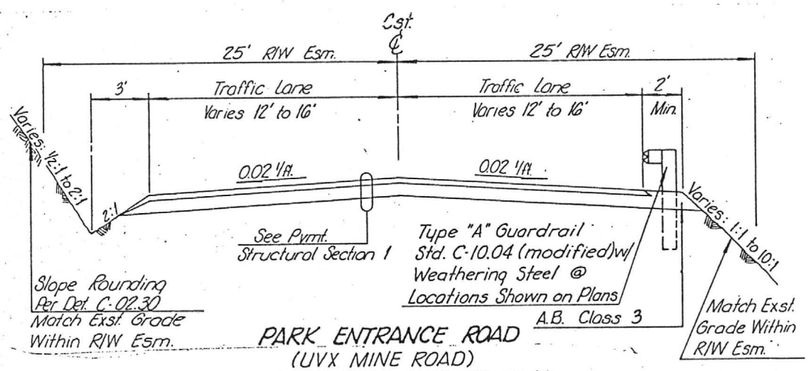
Note: Pavement Structural Section 1 Ends at Sta. 53+37.28 & Pavement Structural Section 2 Begins.



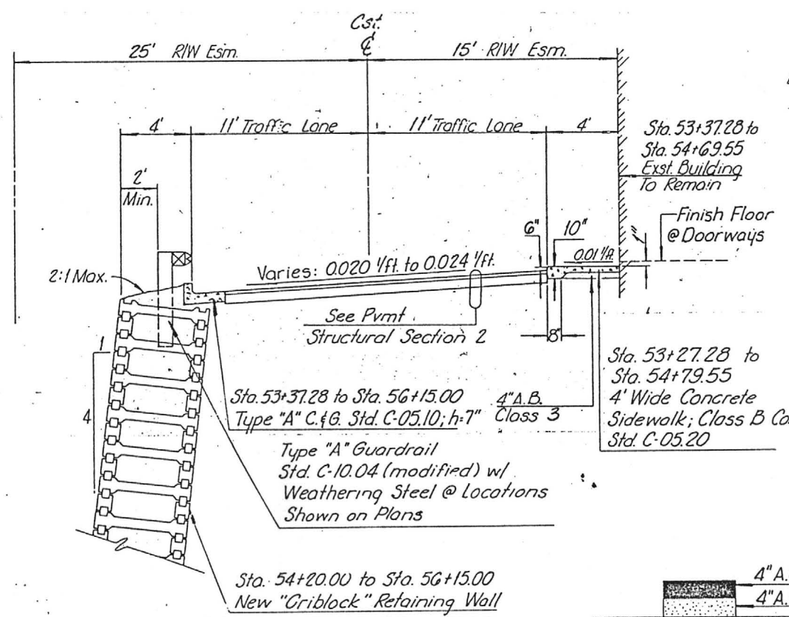
PARK ENTRANCE ROAD
(UVX MINE ROAD)
Sta. 54+69.55 to Sta. 57+23.00

Type "A" Guardrail Std. C-10.04 (modified) w/ Weathering Steel @ Locations Shown on Plans

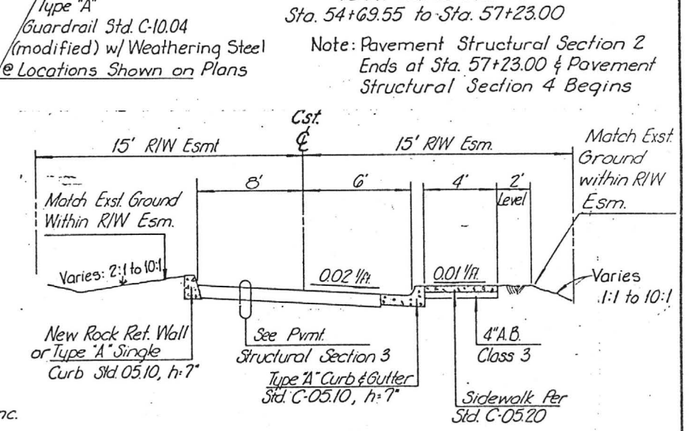
Note: Pavement Structural Section 2 Ends at Sta. 57+23.00 & Pavement Structural Section 4 Begins



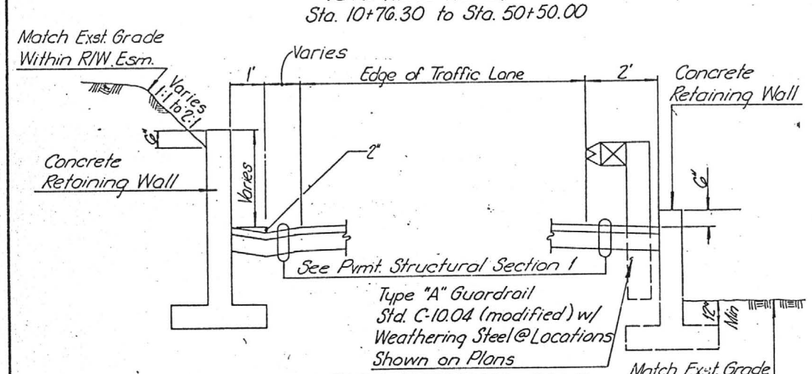
PARK ENTRANCE ROAD
(UVX MINE ROAD)
Sta. 10+76.30 to Sta. 50+50.00



PARK ENTRANCE ROAD
(UVX MINE ROAD)
Sta. 53+37.28 to Sta. 54+69.55

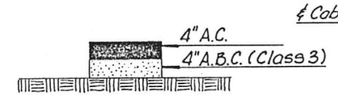


EAST AVENUE
Edge of Park Entrance Road to Sta. 1+25.27

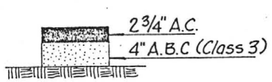


PARK ENTRANCE ROAD
(UVX MINE ROAD)
RETAINING WALL

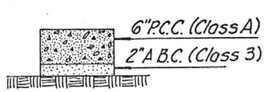
Sta. 48+09.77 to Sta. 49+50.50 (Left) Sta. 48+90.00 to Sta. 50+50.00 (Right)



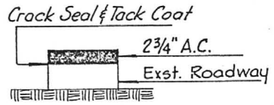
PAVEMENT STRUCTURAL SECTION 1



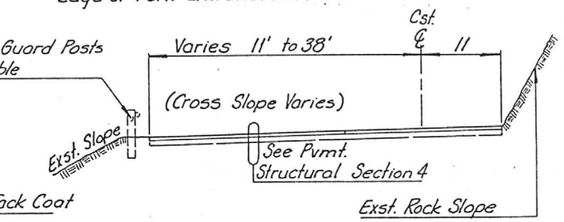
PAVEMENT STRUCTURAL SECTION 2



PAVEMENT STRUCTURAL SECTION 3



PAVEMENT STRUCTURAL SECTION 4

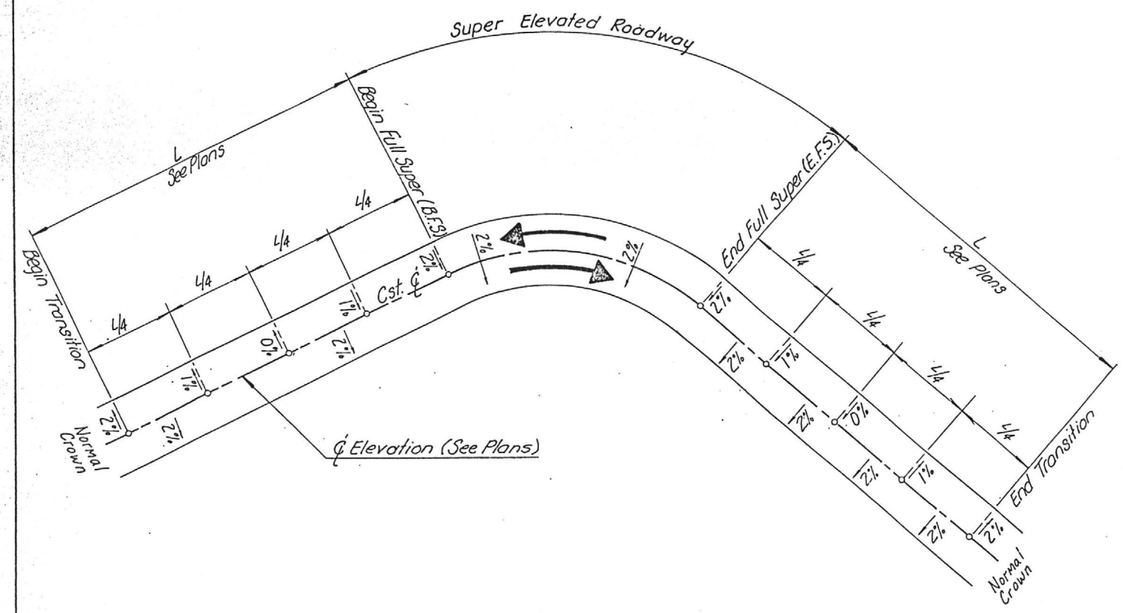


PARKING AREA (MUSEUM)
Sta. 57+23.00 to Sta. 59+84

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

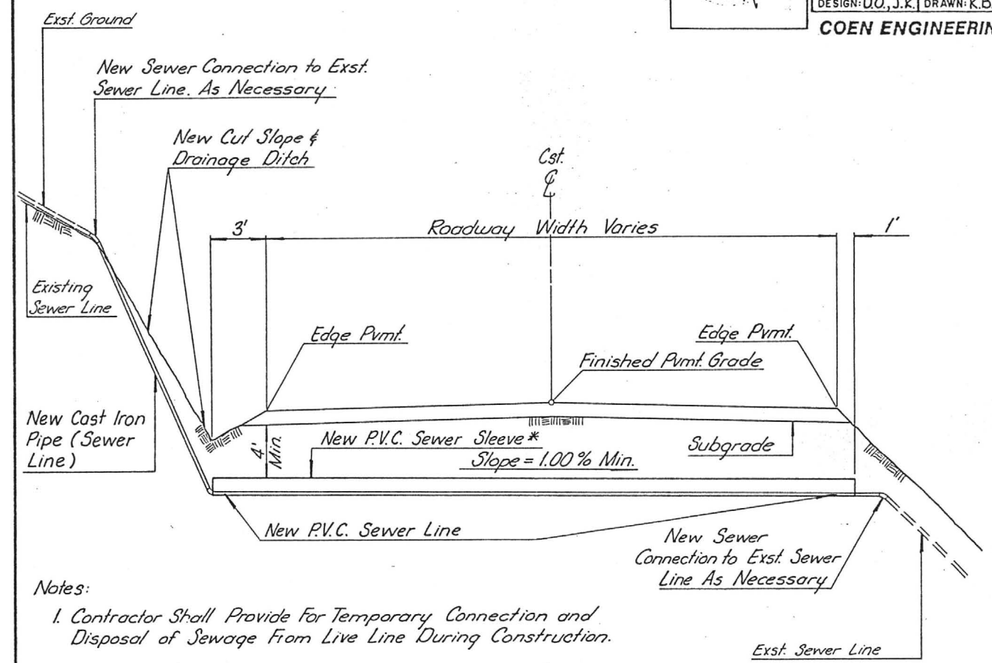
SCHEMATIC
NOT FOR CONSTRUCTION USE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY



TRANSITONS FROM AND TO
NORMAL CROWN

DETAIL A

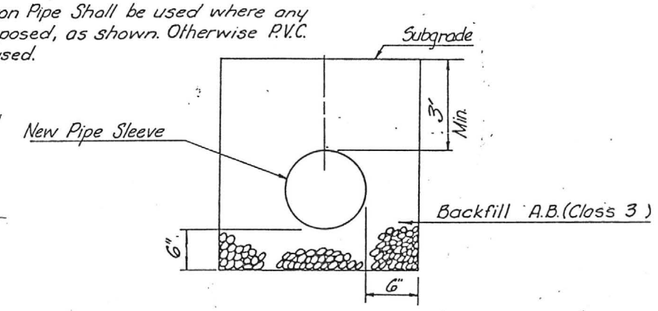


Notes:

1. Contractor Shall Provide For Temporary Connection and Disposal of Sewage From Live Line During Construction.
2. Contractor Shall Pothole Exst. Sewer To Verify Alignment, Grade and Verify Pipe Sleeve and Sewer Line Lengths Prior to Ordering Materials.

*Sleeve is not used for all Sewer Line Installation, See Plans for Specific Locations

3. Cast Iron or Ductile Iron Pipe Shall be used where any Sewer Line may be exposed, as shown. Otherwise P.V.C. Sewer Line Shall be used.



PIPE SLEEVE

DETAIL B

SCHEMATIC
NOT FOR CONSTRUCTION USE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-930	4	31	

DATE FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.
COEN ENGINEERING CORPORATION

This warning sign is your sign. CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

9/9/87

SURVEY	NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

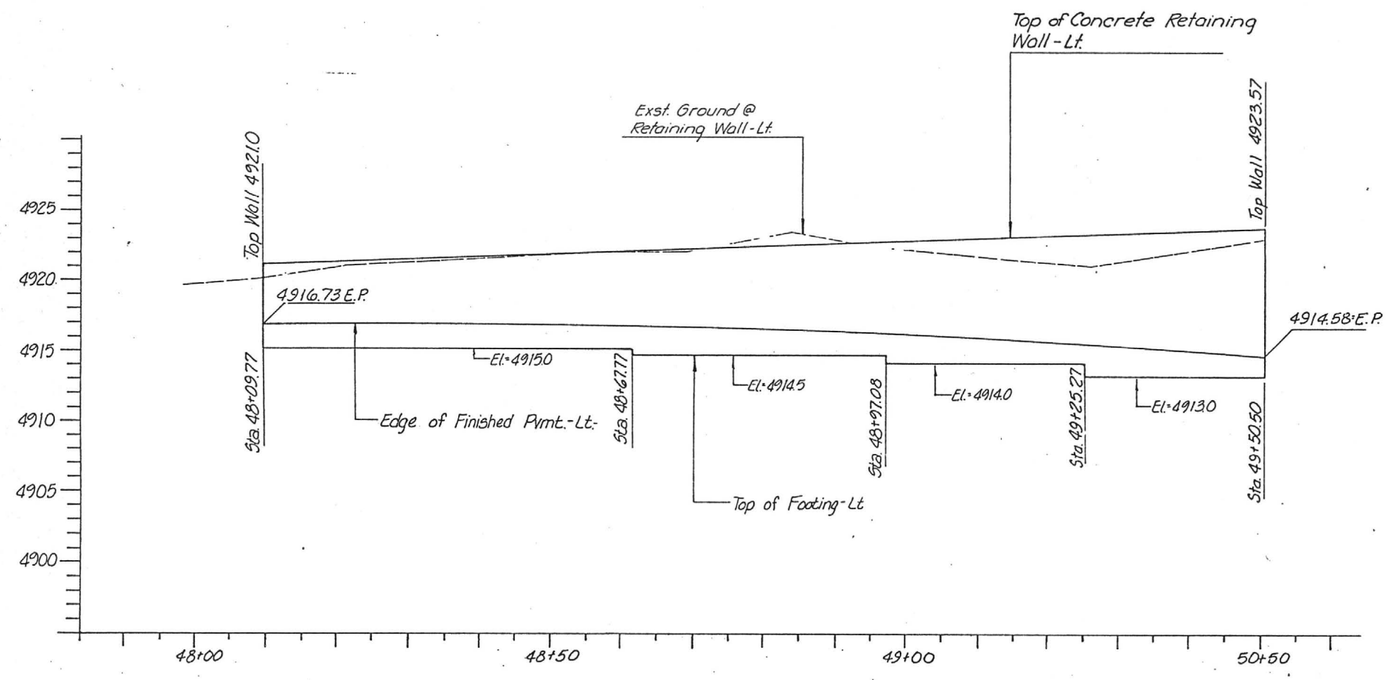
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	5	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. | DRAWN: K.B. | CHECKED: S.D.C.
COEN ENGINEERING CORPORATION

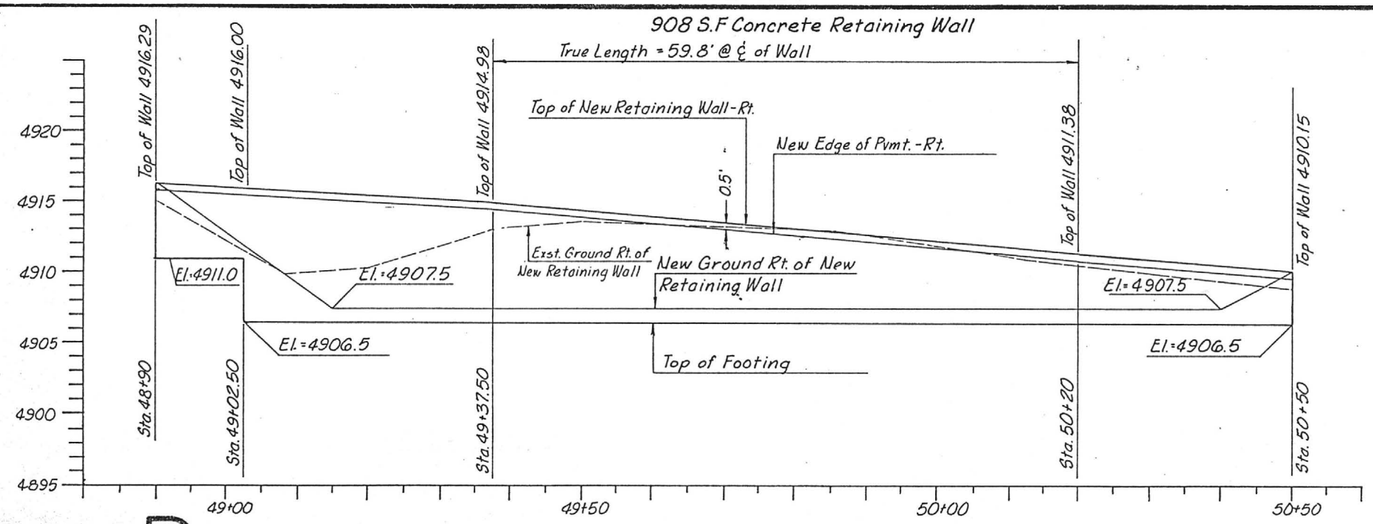
CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717

1,113 S.F. Concrete Retaining Wall



DETAIL C STD. B-18.10 & B-18.20 (CASE IV)

908 S.F Concrete Retaining Wall



DETAIL D STD. B-18.10 & B-18.20 (CASE IV)

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

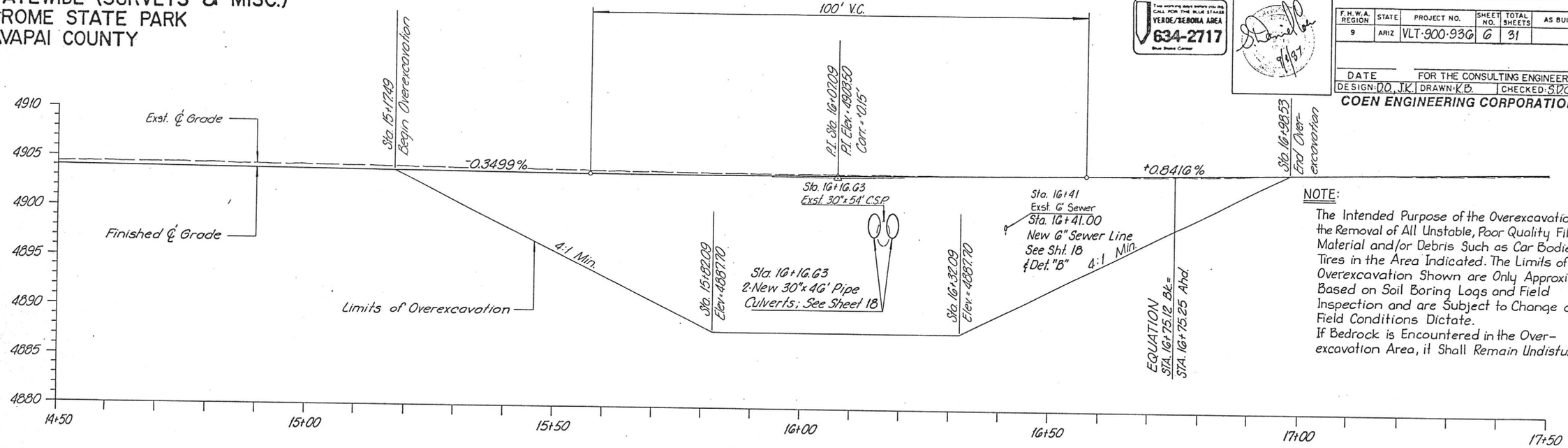
SCHEMATIC
NOT FOR CONSTRUCTION USE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	6	31	

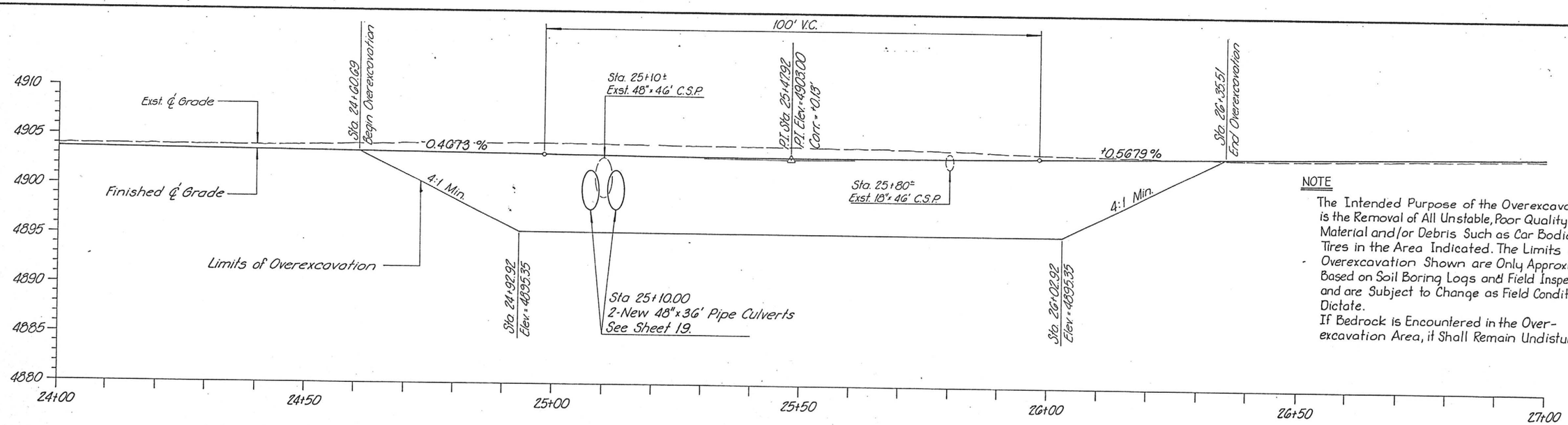
DATE FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.
COEN ENGINEERING CORPORATION



NOTE:
The Intended Purpose of the Overexcavation is the Removal of All Unstable, Poor Quality Fill Material and/or Debris Such as Car Bodies & Tires in the Area Indicated. The Limits of Overexcavation Shown are Only Approximate Based on Soil Boring Logs and Field Inspection and are Subject to Change as Field Conditions Dictate.
If Bedrock is Encountered in the Over-excavation Area, it Shall Remain Undisturbed.

DETAIL E

STA. 15+17.49 to STA. 16+98.53 OVEREXCAVATION AREA



NOTE
The Intended Purpose of the Overexcavation is the Removal of All Unstable, Poor Quality Fill Material and/or Debris Such as Car Bodies & Tires in the Area Indicated. The Limits of Overexcavation Shown are Only Approximate Based on Soil Boring Logs and Field Inspection and are Subject to Change as Field Conditions Dictate.
If Bedrock is Encountered in the Over-excavation Area, it Shall Remain Undisturbed.

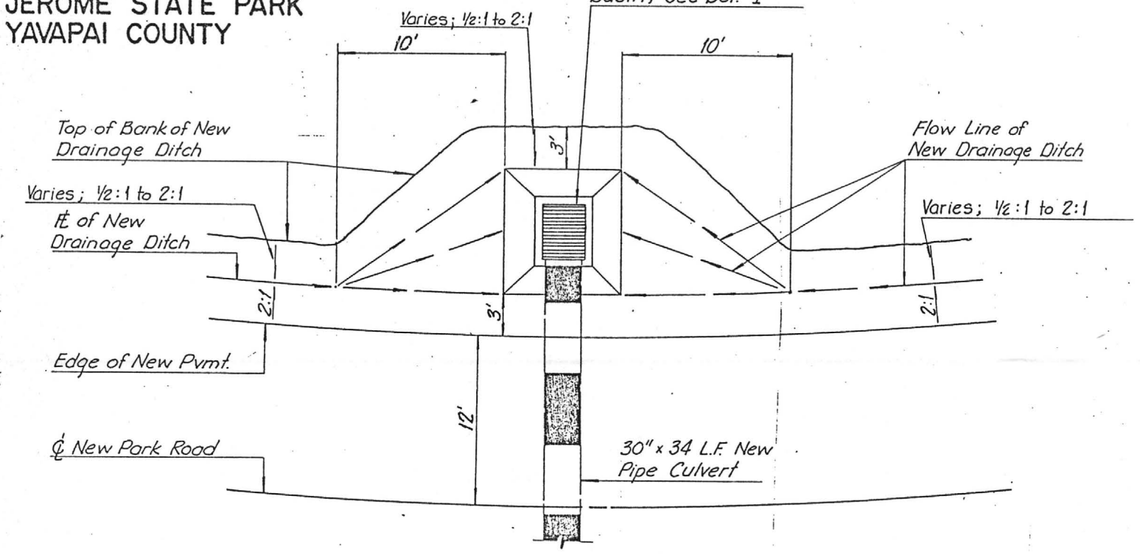
DETAIL F

STA. 24+60.69 to STA. 26+35.51 OVEREXCAVATION AREA

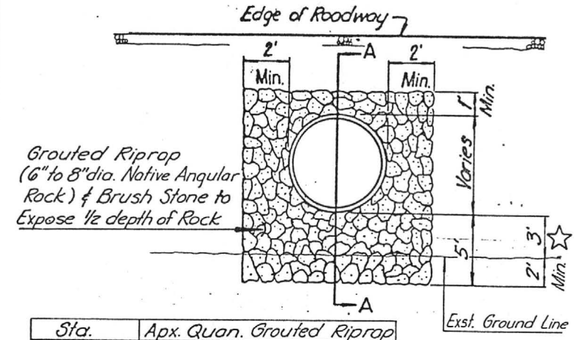
SCHEMATIC
NOT FOR CONSTRUCTION USE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

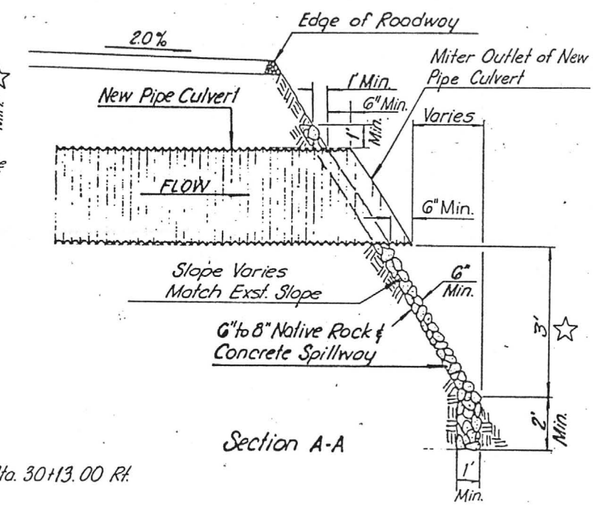


DETAIL G DRAINAGE DITCH at SPECIAL CATCH BASIN



Sta.	Apx. Quan. Grouted Riprap
8+56.86 Rt.	1.70 Cu. Yds.
11+43.30 Rt.	1.70 Cu. Yds.
16+16.63 Rt.	4.20 Cu. Yds
23+81.00 Rt.	1.70 Cu. Yds
25+10.00 Rt.	6.20 Cu. Yds.
30+13.00 Rt.	3.10 Cu. Yds.
34+13.54 Rt.	2.40 Cu. Yds.
53+78.00 Rt.	3.40 Cu. Yds.

☆ = 15' @ Sta. 30+13.00 Rt.



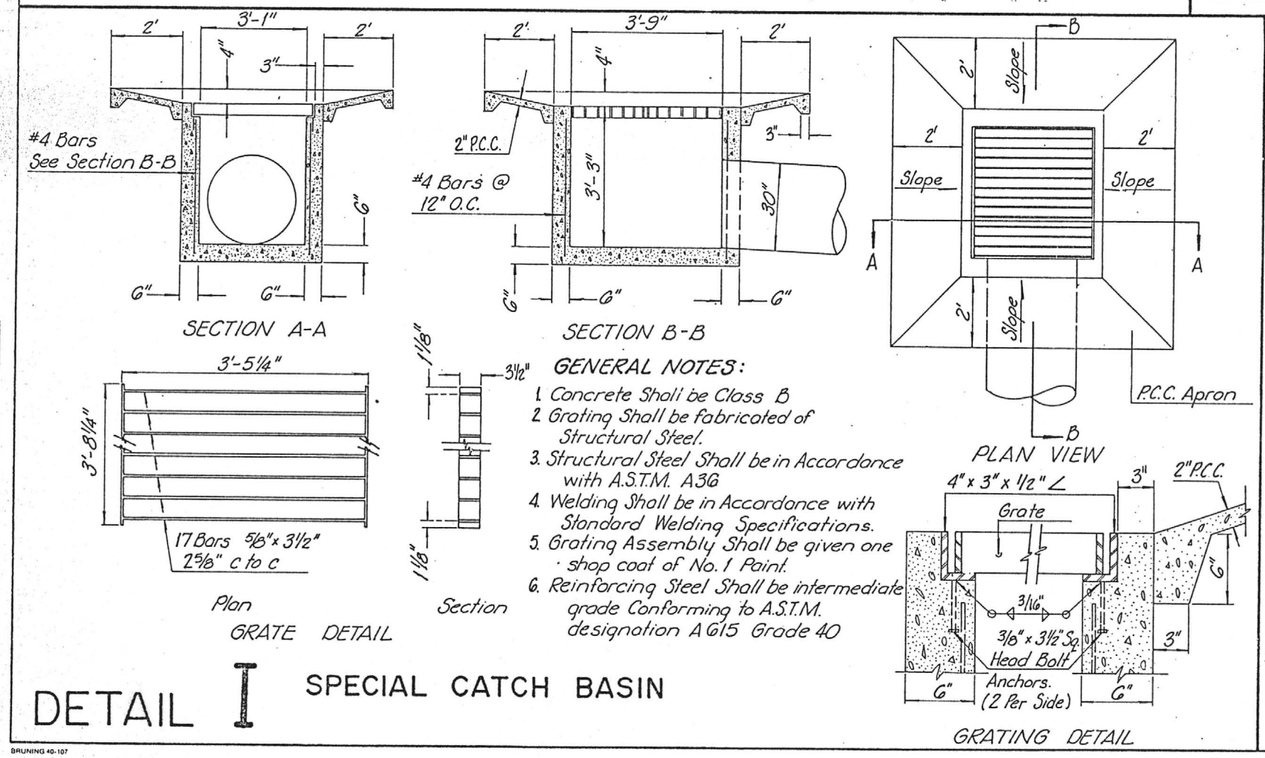
DETAIL H PIPE CULVERT OUTLET TREATMENT (SPLASHPAD)

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	7	31	

DATE FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.

9/5/87

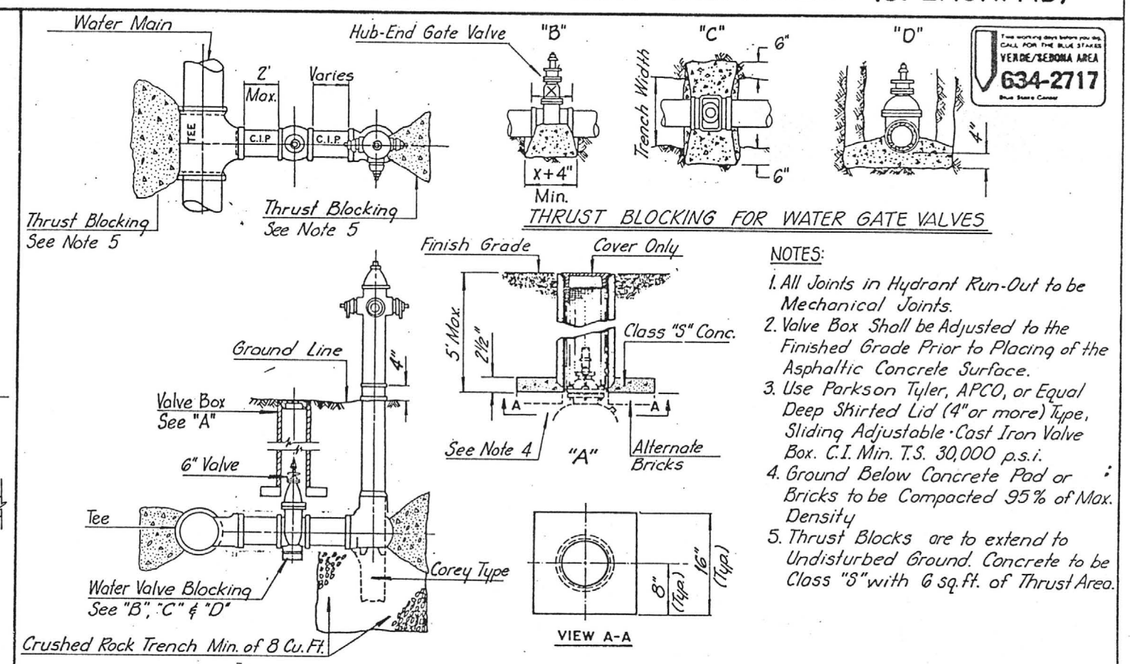
COEN ENGINEERING CORPORATION



GENERAL NOTES:

1. Concrete Shall be Class B
2. Grating Shall be fabricated of Structural Steel.
3. Structural Steel Shall be in Accordance with A.S.T.M. A36
4. Welding Shall be in Accordance with Standard Welding Specifications.
5. Grating Assembly Shall be given one shop coat of No. 1 Paint.
6. Reinforcing Steel Shall be intermediate grade Conforming to A.S.T.M. designation A615 Grade 40

DETAIL I SPECIAL CATCH BASIN



TWO WORKING DAYS BEFORE YOU DIG CALL FOR THE BLUE STAKES
VERDE/SEDONA AREA
634-2717
Blue Stake Center

NOTES:

1. All Joints in Hydrant Run-Out to be Mechanical Joints.
2. Valve Box Shall be Adjusted to the Finished Grade Prior to Placing of the Asphaltic Concrete Surface.
3. Use Parkson Tyler, APCO, or Equal Deep Skirted Lid (4" or more) Type, Sliding Adjustable Cast Iron Valve Box. C.I. Min. T.S. 30,000 p.s.i.
4. Ground Below Concrete Pad or Bricks to be Compacted 95% of Max. Density
5. Thrust Blocks are to extend to Undisturbed Ground. Concrete to be Class "S" with 6 sq. ft. of Thrust Area.

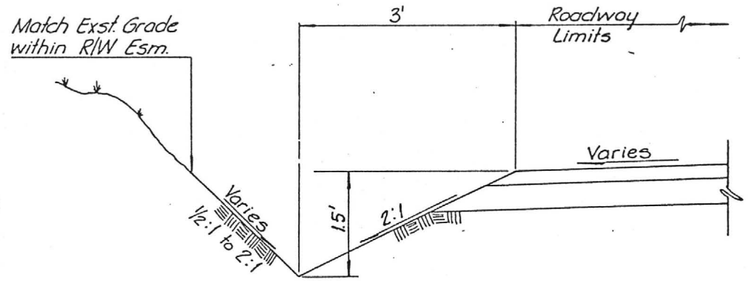
DETAIL J FIRE HYDRANT

SCHEMATIC
NOT FOR CONSTRUCTION USE

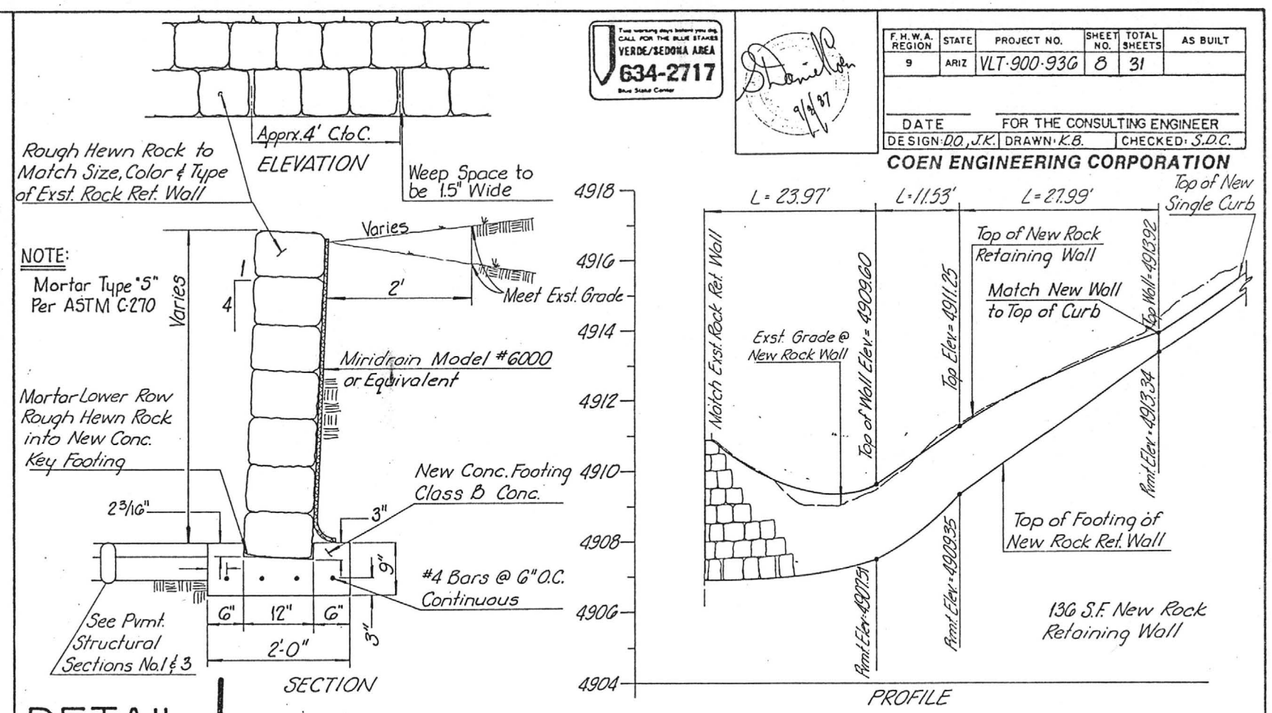
SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

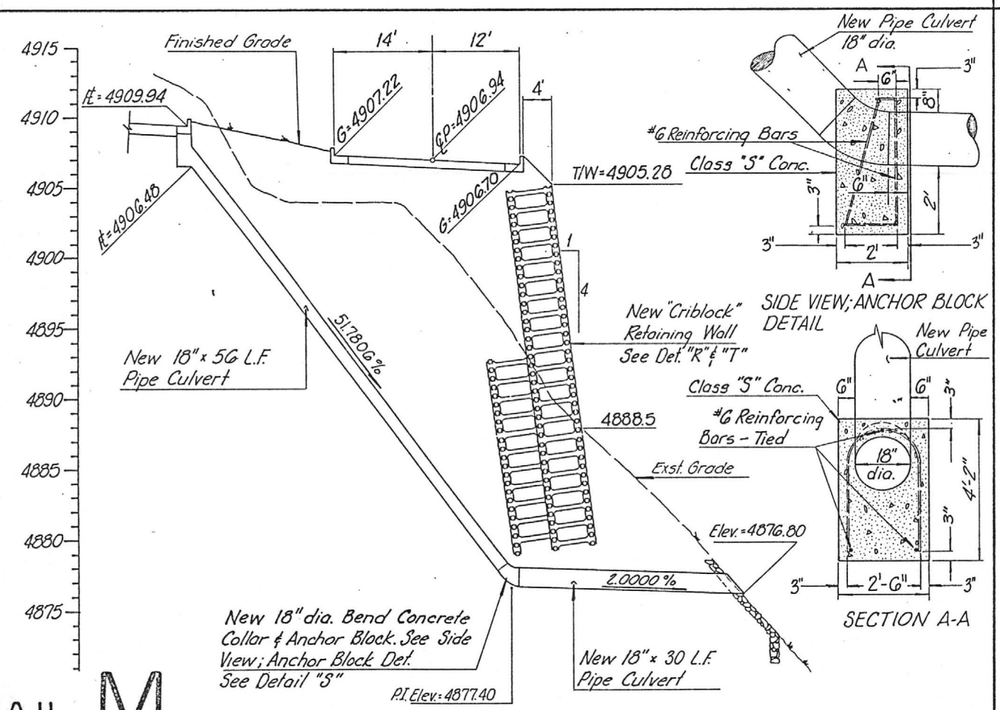
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY



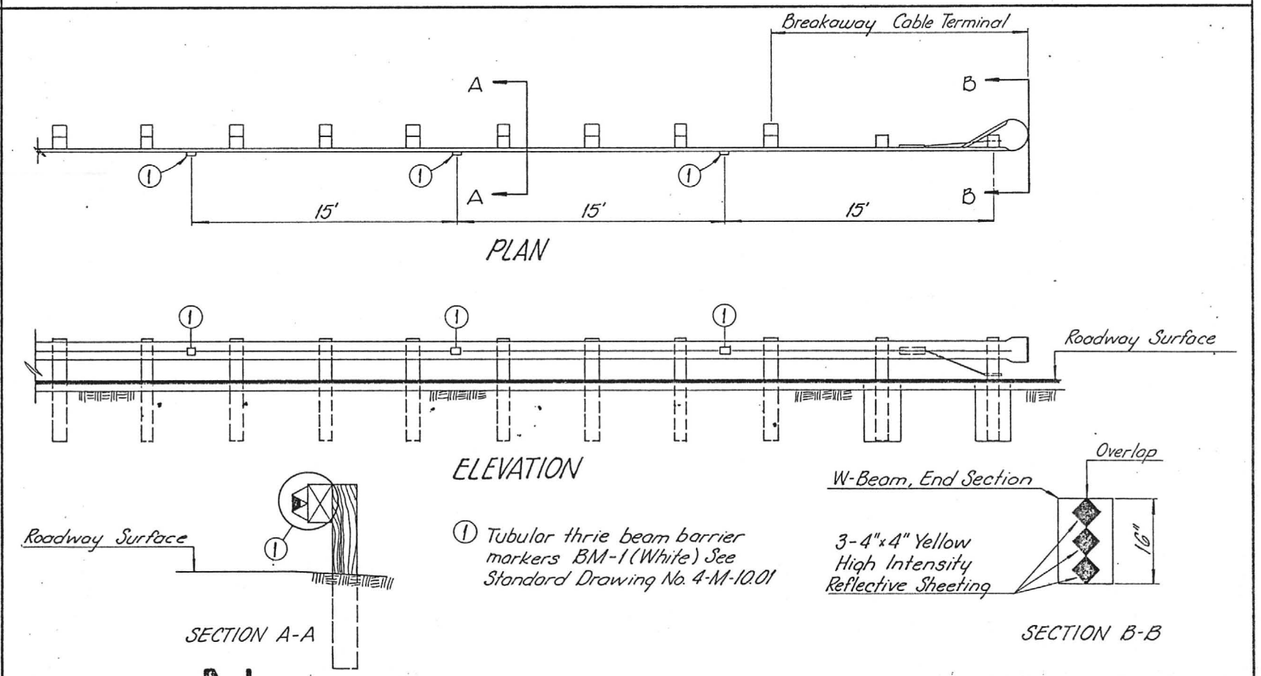
DETAIL K DRAINAGE DITCH



DETAIL L ROCK RETAINING WALL at PARK ENTRANCE ROAD



DETAIL M STA. 8+56.85 PIPE CULVERT



DETAIL N GUARD RAIL DELINEATOR

SCHEMATIC
NOT FOR CONSTRUCTION USE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	8	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. | DRAWN: K.B. | CHECKED: S.D.C.
COEN ENGINEERING CORPORATION

CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	9	31	

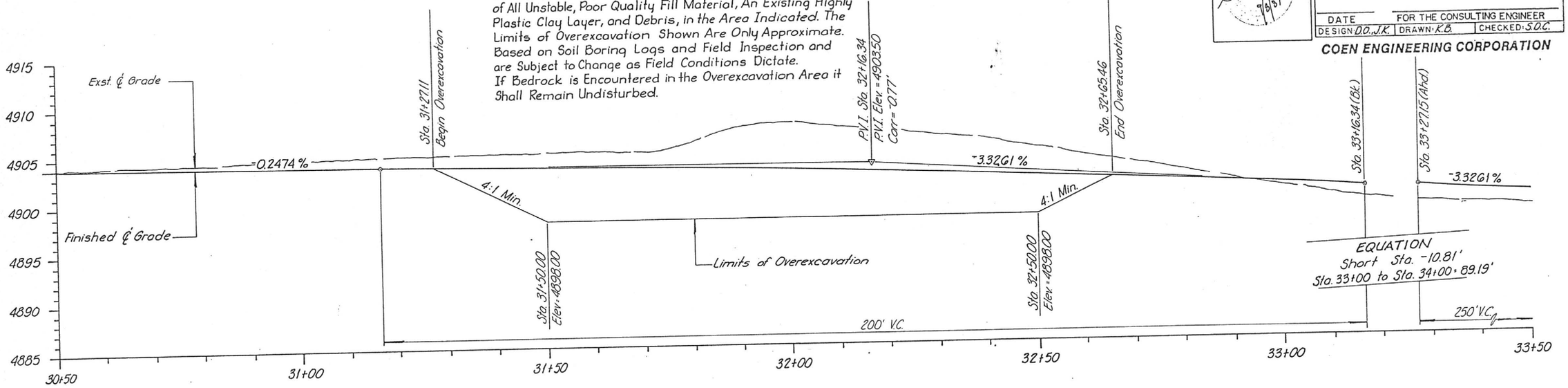
DATE — FOR THE CONSULTING ENGINEER

DESIGN: D.O., J.K. | DRAWN: K.B. | CHECKED: S.D.C.

COEN ENGINEERING CORPORATION

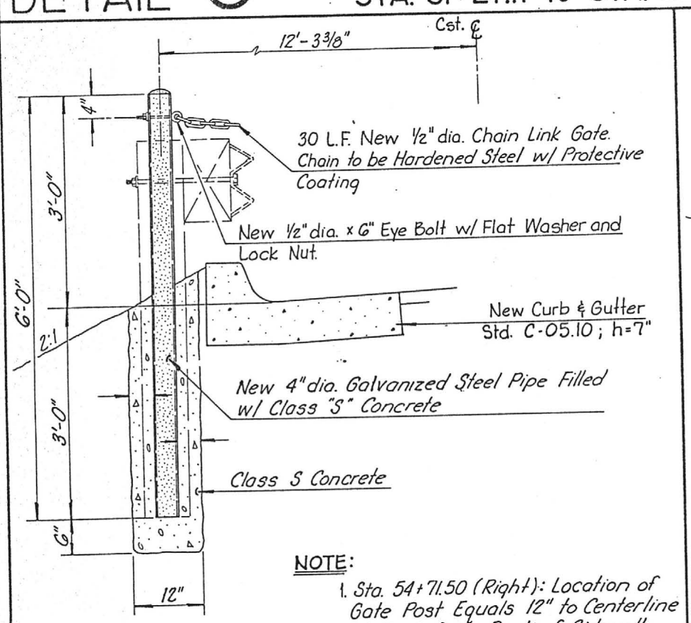
NOTE:

The Intended Purpose of the Overexcavation is Removal of All Unstable, Poor Quality Fill Material, An Existing Highly Plastic Clay Layer, and Debris, in the Area Indicated. The Limits of Overexcavation Shown Are Only Approximate. Based on Soil Boring Logs and Field Inspection and are Subject to Change as Field Conditions Dictate. If Bedrock is Encountered in the Overexcavation Area it Shall Remain Undisturbed.



DETAIL O

STA. 31+27.11 to STA. 32+65.46 OVEREXCAVATION AREA

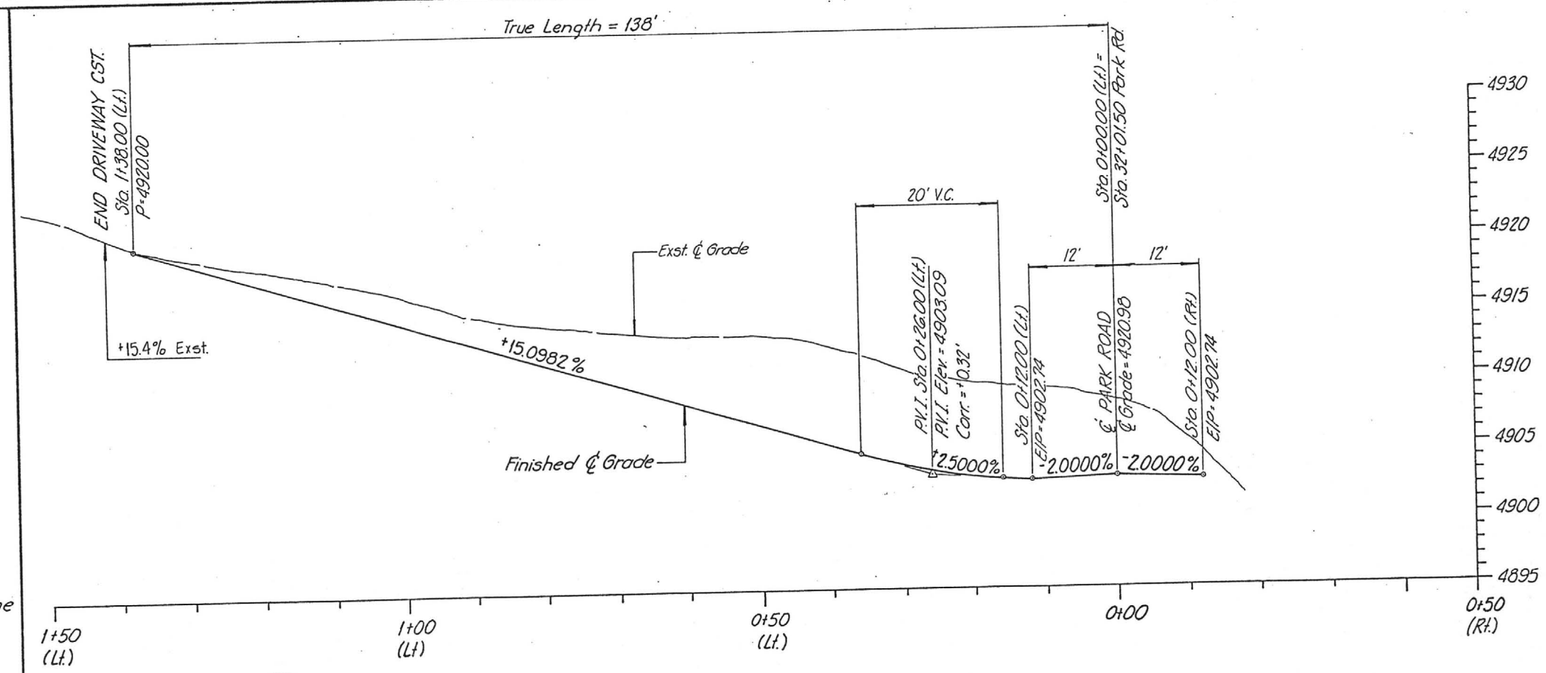


NOTE:

1. Sta. 54+71.50 (Right): Location of Gate Post Equals 12" to Centerline of Post from Back of Sidewalk

DETAIL P

STA. 54+71.50 (Lt. & Rt.) GATE POST with CHAIN



DETAIL Q

DRIVEWAY (STA. 32+01.50 PARK ROAD) A.C.T.O.

FINISHED PLANS	REVISIONS	LOCATION	DATE

SCHEMATIC

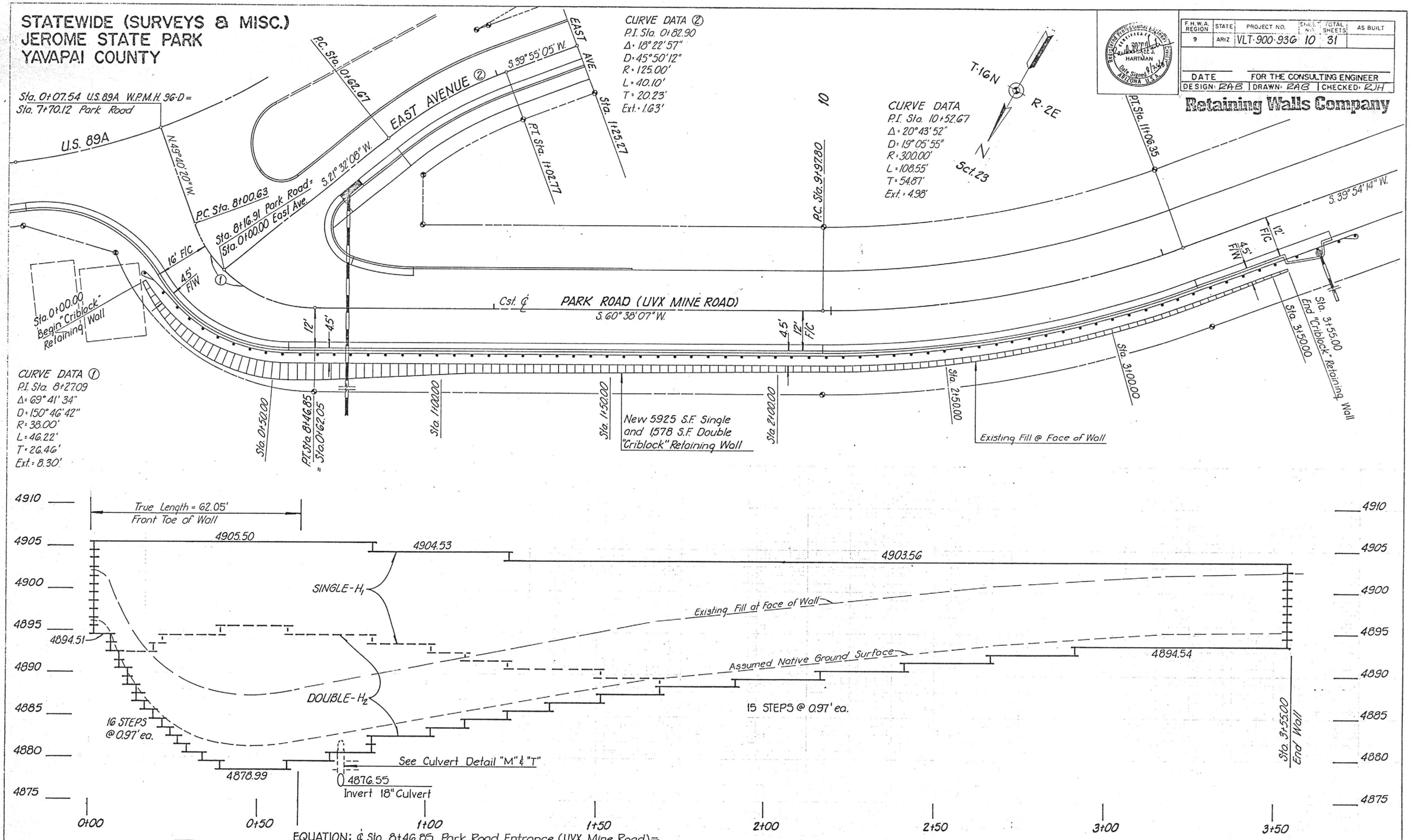
NOT FOR CONSTRUCTION USE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	10	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN: RAB | DRAWN: RAB | CHECKED: RJH

Retaining Walls Company



EQUATION: ℄ Sta. 8+46.85 Park Road Entrance (UVX Mine Road) = 0+62.05 Front Toe of Wall

DETAIL R

"CRIBLOCK" RETAINING WALL at PARK ROAD ENTRANCE (UVX MINE ROAD)

SCHEMATIC
NOT FOR CONSTRUCTION USE

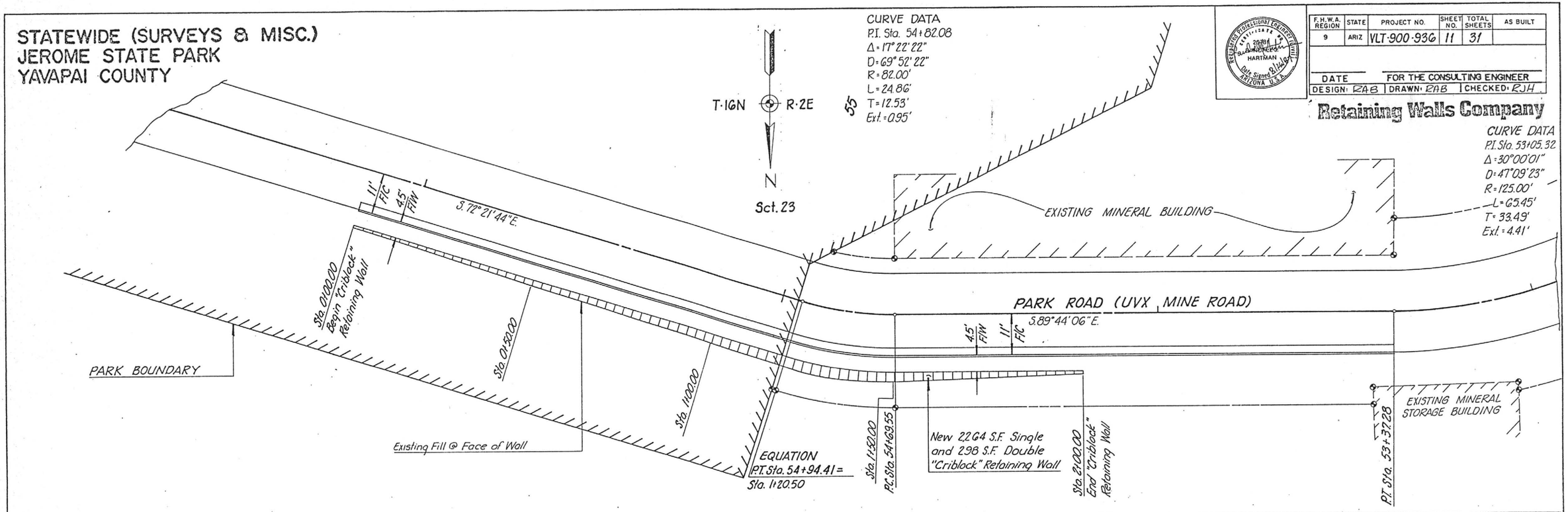
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

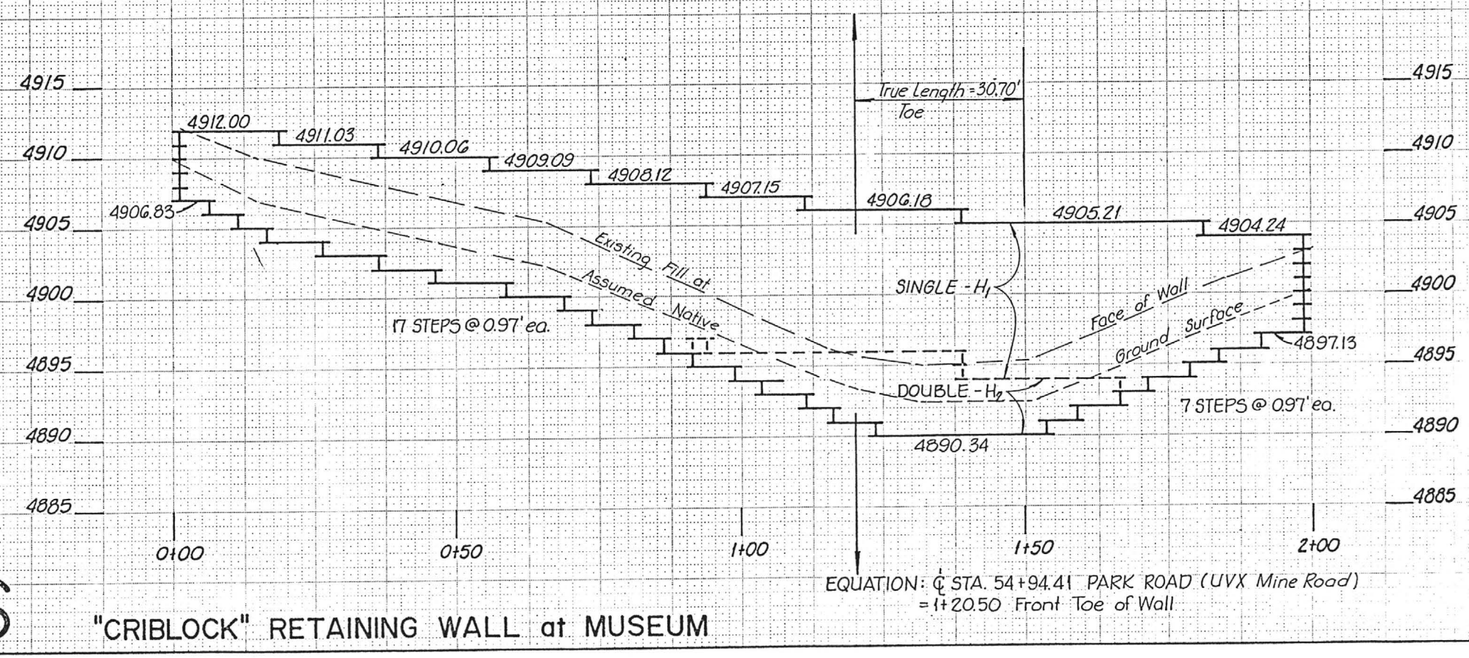
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	11	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN: RAB | DRAWN: RAB | CHECKED: RJH

REGISTERED PROFESSIONAL ENGINEER — HARTMAN — ARIZONA U.S.A. — Date Signed 8/14/89

Retaining Walls Company





DETAIL S "CRIBLOCK" RETAINING WALL at MUSEUM

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

SCHEMATIC
NOT FOR CONSTRUCTION USE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

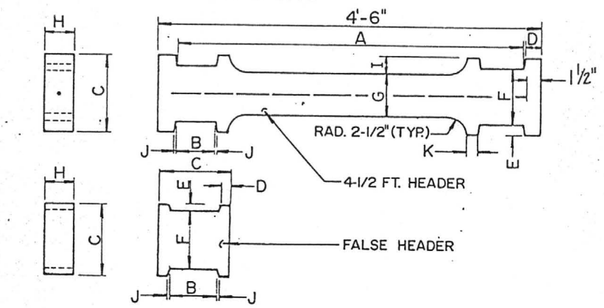
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	12	31	

DATE — FOR THE CONSULTING ENGINEER
DESIGN: RAB | DRAWN: RAB | CHECKED: RJH

Registered Professional Engineer (Civil) — CERTIFICATE NO. 28281 — RANDALL J. HARTMAN — Date Signed 8/24/94 — ARIZONA U.S.A.

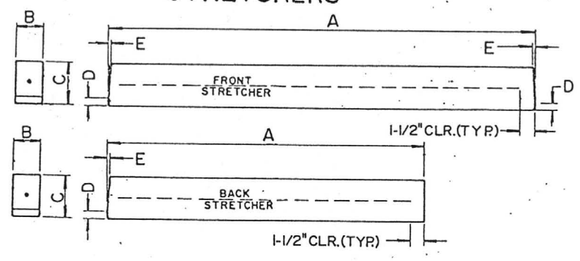
Retaining Walls Company

HEADERS



END VIEWS — SIDE VIEWS

STRETCHERS

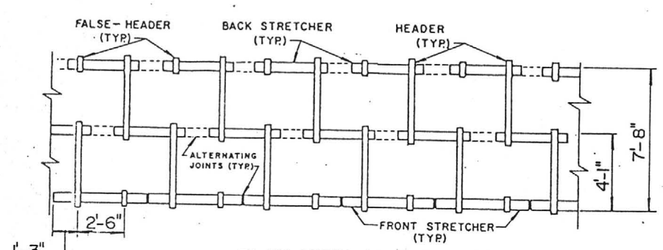


END VIEWS — TOP VIEWS

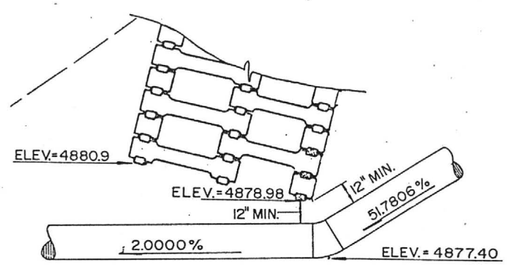
DIMENSIONS				
	FALSE HEADER	4½ FT. HEADER	FRONT STRETCHER	BACK STRETCHER
A	–	–		
B	7"	7"	4"	4"
C	10"	11"	6"	6"
D	1-1/4"	2-1/2"	1"	1"
E	1"	1-1/2"	3/8"	3/8"
F	8"	8"	–	–
G	–	6"	–	–
H	4"	4"	–	–
I	–	2-1/2"	–	–
J	1/4"	1/4"	–	–
K	–	1-1/2"	–	–
RE-BAR SIZES	–	#4	#4	#4
UNIT WEIGHTS	30 LBS.	135 LBS.	125 LBS.	95 LBS.

NOTES:

1. STRENGTH OF MATERIALS
   A. COMPRESSIVE STRENGTH OF CONCRETE f'_c = 3250 PSI
   B. YIELD STRENGTH OF STEEL f_Y = 60,000 PSI

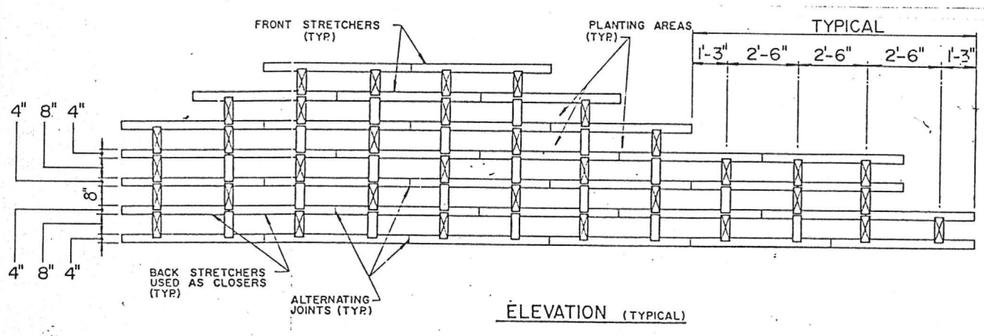


PLAN VIEW BASE COURSE
(TYPICAL MULTIPLE DEPTH WALL)

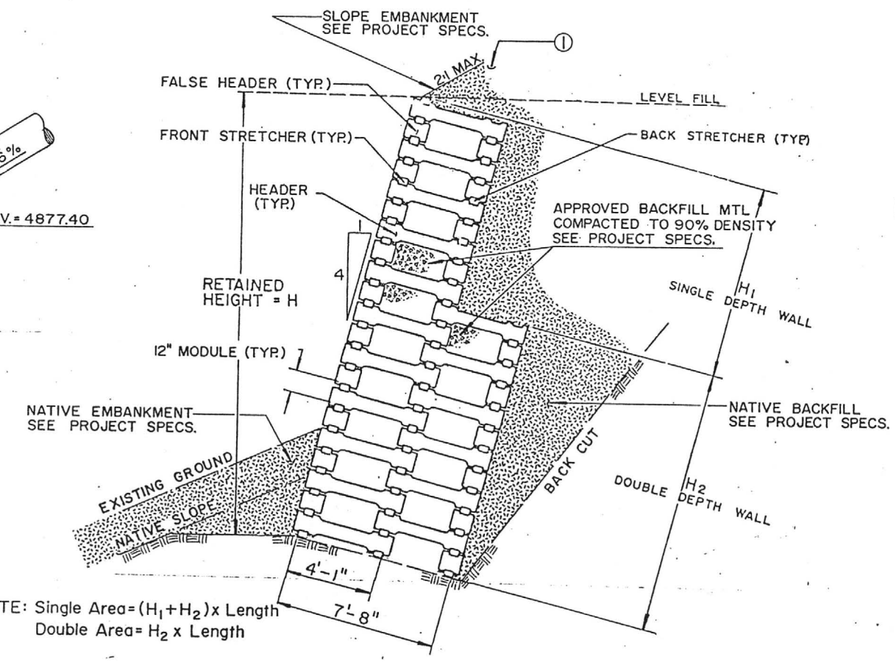


(SEE DETAIL "M")

DETAIL AT CULVERT



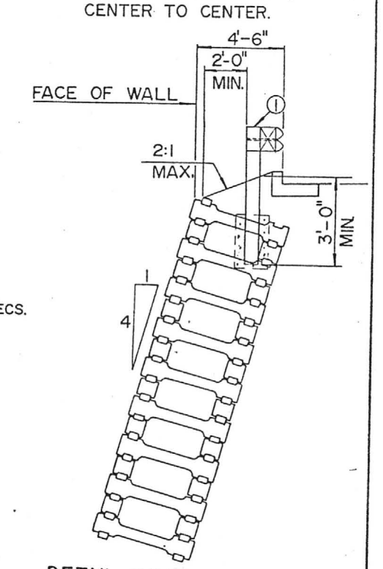
ELEVATION (TYPICAL)



NOTE: Single Area = $(H_1 + H_2)$ x Length
Double Area = H_2 x Length

CROSS SECTION
(TYPICAL MULTIPLE DEPTH WALL)

① POST SPACING AT 5'-0" CENTER TO CENTER.



DETAIL GUARD RAIL

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

DETAIL T "CRIBLOCK" RETAINING WALL COMPONENTS & CONSTRUCTION

SCHEMATIC
NOT FOR CONSTRUCTION USE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

STATION	PH	RESISTIVITY (OHM-CM)
8+50	8.3	3150
11+50	8.1	3360
16+16	8.1	1820
19+00	8.5	1160

NEW PIPE SUMMARY

STATION	PH	RESISTIVITY (OHM-CM)
23+80	8.2	2770
25+10	8.1	5700
30+20	8.0	1120
34+75	8.1	1720

Free warning stickers available upon request. CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	13	31	

COEN ENGINEERING CORPORATION

Station	Plan Ref No.	Design Type	Size, (In.) Corrugated	Size, (In.) Smooth	Length (Ft)	Skew (Degree)	CSP Corrugation	CSP Wall Thickness (In.)	CSP Zinc	CSP Alternate Coating: Aluminum	CSP Alternate Coating: Bituminous	CAP Corrugation	CAP Wall Thickness (In.)	CAP Uncoated	CAP Bit Coated	RCP Class (Non Trench)	RCP Min D-Load (Non Trench)	RCP Class (Trench)	RCP Min D-Load (Trench)	RCP Class	NR CP / NR CIP CP Min Wall Thickness (In.)	End Section	Catch Basins Standard	Catch Basins H (Ft-In.)	Catch Basins Slotted Drn Length (Ft)	Grate Type	Grate Elev	Gutter Depression D (In.)	Gutter Depression L (Ft)	Hdwl Apron	Hdwl Standard	Pipe Ex (CY)	Pipe Bkfl (CY)	Drn Ex (CY)	REMARKS
Sta. 8+56.85 Park Rd.	1	7	18"	18"	80	0°	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	V	2500					—	Dbl. C-15.10 Lt.	4'-0"	—	LW-1.0	4910.48	2	—	—	—	110	105			Splash pad Rt.; See Det. "H"
Sta. 11+43.30 Rt. Park Rd.	2	1	18"	18"	8	0°	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	IV	1515					—	C-0420 Rt.	4'-0"	—	—	4904.12	9	—	P.C.C.	—	4	3			Replace Std. Outlet with Det. "H" & Replace 12" dia. pipe with 18" dia. Outlet Pipe
Sta. 16+16.63 Park Rd.	3	3	2-30"	2-30"	92	13° Rt.	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	II	880					2 Lt.	—	—	—	—	—	—	—	—	—	—	45			2-Splash pads Rt.; See Det. "H"
Sta. 23+81.00 Park Rd.	4	2	18"	18"	36	8° Lt.	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	I	680					Lt.	—	—	—	—	—	—	—	—	—	10	8			Splash pad Rt.; See Det. "H"
Sta. 25+10.00 Park Rd.	5	3	2-48"	2-48"	72	0°	2 2/3" x 1/2"	0.064			✓	6" x 1"	0.060	✓	II	845					2 Lt.	—	—	—	—	—	—	—	—	—	—	70			2-Splash pads Rt.; See Det. "H"
Sta. 30+22.00 Park Rd.	6	1	24"	24"	38	20° Rt.	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	III	1315					Lt.	—	—	—	—	—	—	—	—	—	17	13			Splash pad Rt.; See Det. "H"
Sta. 34+73.54 Park Rd.	7	2	30"	30"	34	0°	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	I	620					—	See Remarks	3'-3"	—	Det. "I"	4895.67	—	—	P.C.C.	—	27	21			Splash pad Rt.; See Det. "H" Rt. See Det. "G" and Det. "I" Lt.
Sta. 37+50.00 Lt. Park Rd.	8	1	18"	18"	30	—	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	IV	1515					2	—	—	—	—	—	—	—	—	—	7	5			
Sta. 53+51.30 Park Rd.	9	1	18"	18"	58	45° Rt.	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	IV	1515					—	C-15.80 Rt.	2'-6"	—	C-15.80 Modified	4905.99	—	—	—	—	22	18			Modify Grate w/ 11 Bars 2" C to C No Apron
Sta. 53+87.90 Lt. Park Rd.	10	3	18"	18"	14	30° Lt.	2 2/3" x 1/2"	0.064			✓	2 2/3" x 1/2"	0.060	✓	II	955					—	C-1530 Lt. Dbl.	6'-0"	—	TW-2.0	4905.09	2	—	—	—	9.0	8.0			Outlet Invert Elev = 4898.81; Slope = 2.000%

CSP - Corrugated Steel Pipe
CAP - Corrugated Aluminum Pipe
RCP - Reinforced Concrete Pipe
NRCP - Non-Reinforced Concrete Pipe
NRCIPCP - Non-Reinforced Cast-In-Place Concrete Pipe

When Bitminous Coating Is Specified For Either Structural Plate Pipe Or Corugated Metal Pipe, It Shall Be Applied In Accordance With AASHTO M 243 Or AASHTO M 190, Type A, Respectively, And Coated In Both The Inside And Outside Of The Pipe Unless Otherwise Specified In These Drawings.

▲ STD. C-13.20 & C-13.25

TRENCH CONDITION Shown Only When Different From NON-TRENCH CONDITION

The Minimum D-LOAD Needed To Produce A 0.01 Inch Crack.

* PIPE EXCAVATION & PIPE BACKFILL Will Not Be Measured For Payment.

NOTE: FOR PIPE CULVERT PLACEMENT SEE STANDARD DRAWING C-13.15

GRATE ASSY. TO BE GIVEN TWO FINAL COATS OF BUFF ENAMEL PAINT

Rev. 4/23/86 R.G.C.
Rev. 9-9-83 Mfl.
Revised 3-2-83 FGB
Revised 7-20-83 NK
Revised 10-4-82 WS

URBAN

SCHEMATIC
NOT FOR CONSTRUCTION USE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

NEW PIPE SLEEVE SUMMARY

Two working days before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

9/8/87

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	14	31	

COEN ENGINEERING CORPORATION

DESCRIPTION						CSP					CAP				BSP	
Station		Plan Ref No	Design Type	Size (In) Corrugated	Length (Ft)	Skew (Degree)	Corrugation	Wall Thickness (In)	Alternate Coating: Zinc	Alternate Coating: Aluminum	Alternate Coating: Bituminous	Corrugation	Wall Thickness (In)	Uncoated	Bit. Coated	Size (In)	Wall Thickness (In)	Detail
Sta. 12+41.74	Park Rd.	1	2	10"	36		1½" × ¼"	0.064		✓		1½" × ¼"	0.060	✓				B
Sta. 13+49.74	Park Rd.	2	2	10"	36		1½" × ¼"	0.064		✓		1½" × ¼"	0.060	✓				B
Sta. 15+21.74	Park Rd.	3	2	12"	40		1½" × ¼"	0.064		✓		1½" × ¼"	0.060	✓				B
Sta. 18+33.00	Park Rd.	4	2	12"	36		1½" × ¼"	0.064		✓		1½" × ¼"	0.060	✓				B
Sta. 25+80.00	Park Rd.	5	2	15"	50'		1½" × ¼"	0.064		✓		1½" × ¼"	0.060	✓				B

CSP - Corrugated Steel Pipe
CAP - Corrugated Aluminum Pipe
BSP - Black Steel Pipe

(Rev WS 1-2-82 Rev. 7-22-82 WS)

SCHEMATIC
NOT FOR CONSTRUCTION USE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

BARRIER SUMMARY SHEET

Two working days before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	VLT-900-930	15	31	

COEN ENGINEERING CORPORATION

APPROX. BEGINNING STATION	Plan Reference No.	"A" C-10.01, "B" C-10.02	New Guard Rail (Linear Feet)	Reconstruct Guard Rail (Linear Feet)	Construct Guard Rail from Salvage (Linear Feet)	Remove and Salvage Guard Rail (Linear Feet)	Remove Guard Rail (Linear Feet)	Reconstruct BCT	Construct BCT from Salvage	Remove & Salvage BCT	Guard Rail: Timber C-10.04	Guard Rail: Steel C-10.05	Guard Rail: Full C-10.12, 13 & 14	Guard Rail: Half C-10.09, 10 & 11	Guard Rail: Linear Feet	Concrete Barrier: Steel C-10.21 A	Concrete Barrier: Timber C-10.22 A	Concrete Barrier: Each	Anchor: ⊙ C-10.17 STEEL	Anchor: ⊙ C-10.18 TIMBER	Anchor: END POSTS Timber C-10.15	Anchor: END POSTS Steel C-10.16 & 170	Anchor: Each	BCT Assembly: Timber C-10.23	BCT Assembly: Steel C-10.24	BCT Assembly: Each	Bolted Anchor: Timber C-10.23	Bolted Anchor: Steel C-10.24	Bolted Anchor: Linear Feet	Buried Anchor: ▲ Standard or Detail	Buried Anchor: Each	W-Beam or Thrie-Beam: New	W-Beam or Thrie-Beam: Reconstruct	Rub Rail (Each): Standard or Detail	Rub Rail (Each): Linear Feet	Half Barrier: Standard or Detail	Half Barrier: Each	ATTEN-UATOR: Standard or Detail	GLARE SCREEN: Linear Feet	Remarks
Sta. 8+09 ~ Rt. Park Road	1	"A"	355			240					✓								✓		2																				Post Spacing: Guardrail = 5'-0" C.-C. End Treatment = 6'-3" C.-C. 40 L.F. OF Guard Rail with 46' Radius Shop Bend
Sta. 21+45 ~ Rt. Park Road	2	"A"	225			100					✓								✓		2					✓		12.5												
Sta. 26+85.5 ~ Rt. Park Road	3	"A"	287.5			268					✓								✓		2																			212.5 L.F. of Guard Rail with 94' Radius Shop Bend
Sta. 48+12.5 ~ Rt. Park Road	4	"A"	200			—					✓								✓		2																			62.5 L.F. of Guard Rail with 45' Radius Shop Bend
Sta. 53+52 ~ Lt. Park Road	5	"A"	250			—					✓								✓		2					✓		25												Post Spacing: Guardrail = 5'-0" C to C End Treatment = 6'-3" C to C 30 L.F. of Guard Rail with 94' Radius Shop Bend ◧ NO FLARES ON B.C.T. ASSEMBLIES ▲ Use Galvanized Steel W-Beam Guard Rail Elements for Buried Portion of Buried Anchor.
Total																																									

SCHEMATIC
NOT FOR CONSTRUCTION USE

44 Reference numbers correspond to numbers in diamonds on PLAN SHEETS

⊙ C-10.17 & C-10.18, Detail A requires eight $\frac{5}{8}$"-11UNC x $1\frac{1}{2}$" Hex Bolts and Hex Nuts with wide Type A plain washers.

▲ C-10.21 & C-10.22, Detail B requires eight $\frac{5}{8}$"-11UNC x $1\frac{1}{2}$" Hex Bolts and Hex Nuts with wide Type A plain washers.

◆ C-10.25, C-10.30 & C-10.35 - Rectangular Plate Washers (⊙) 7 Required Along Guard Rail, W-Beam, Transition To Concrete Half Barrier.

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

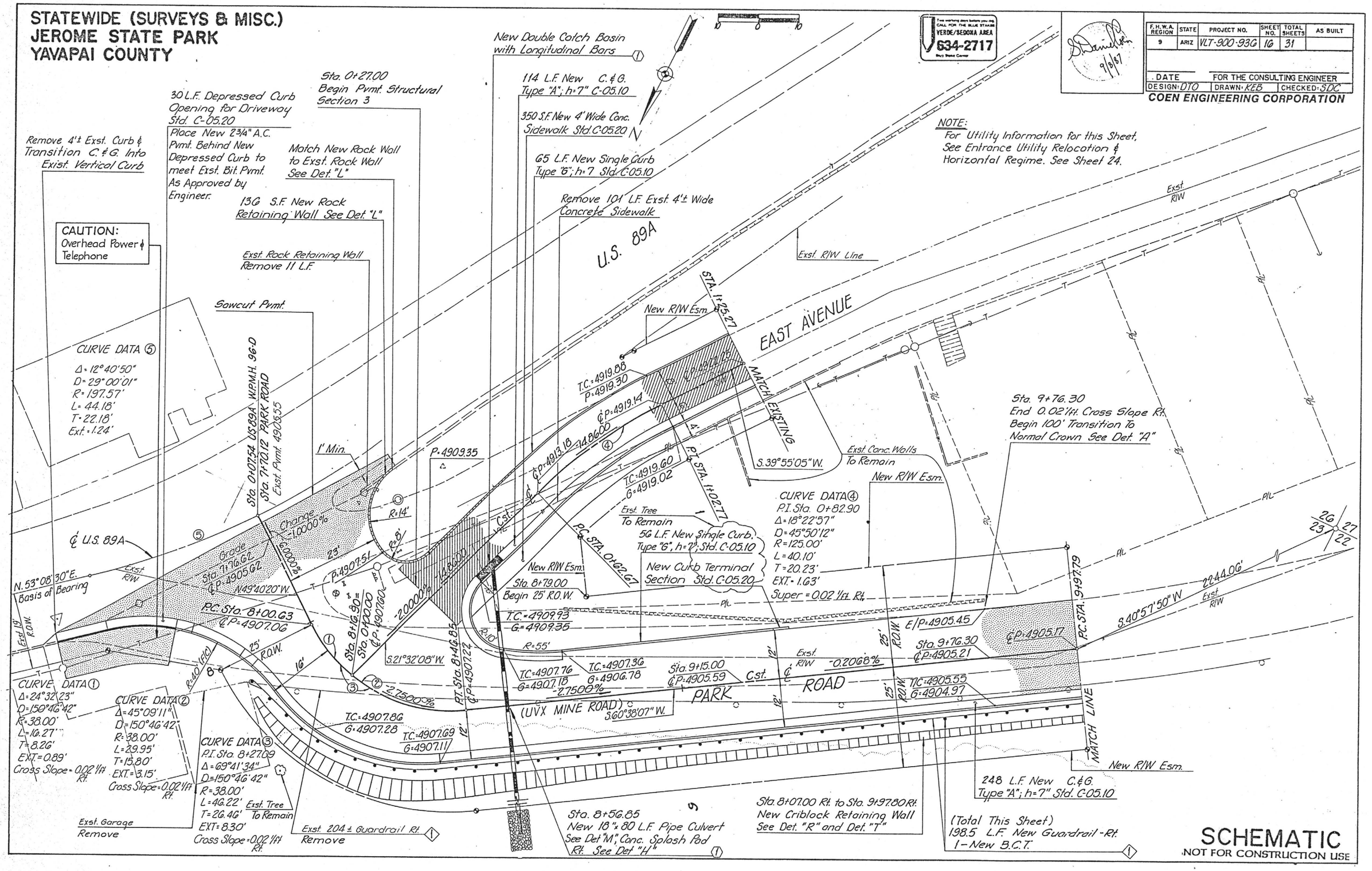
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	16	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN: DTO | DRAWN: KEB | CHECKED: SDC

COEN ENGINEERING CORPORATION

9/8/97

CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717



SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

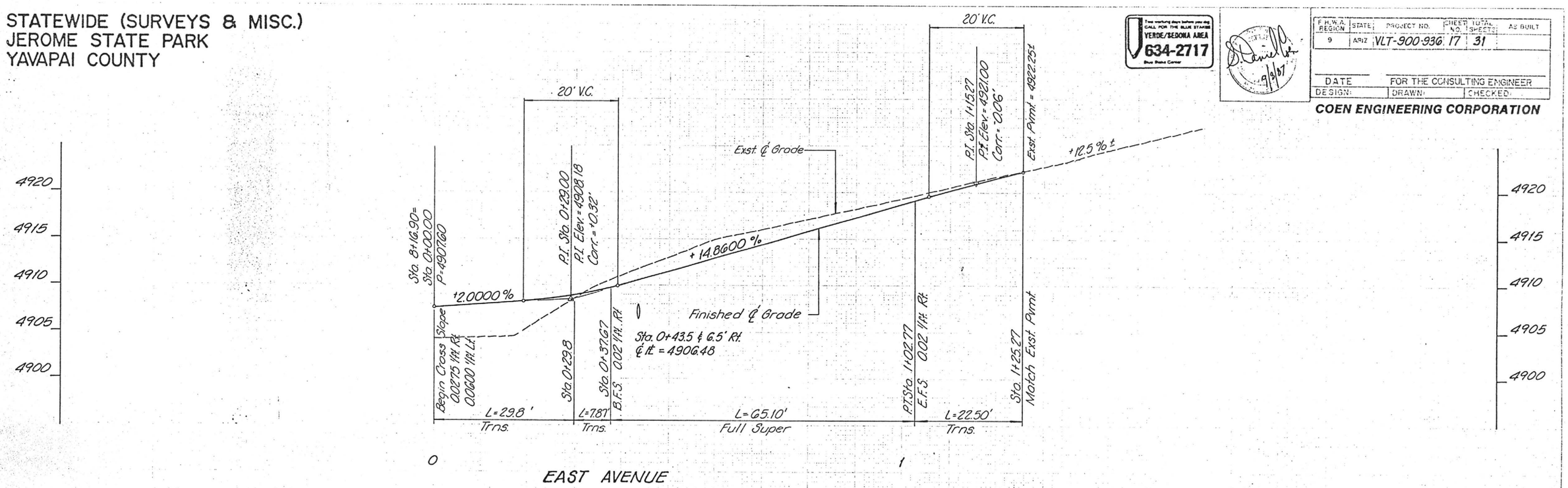
SCHEMATIC
NOT FOR CONSTRUCTION USE

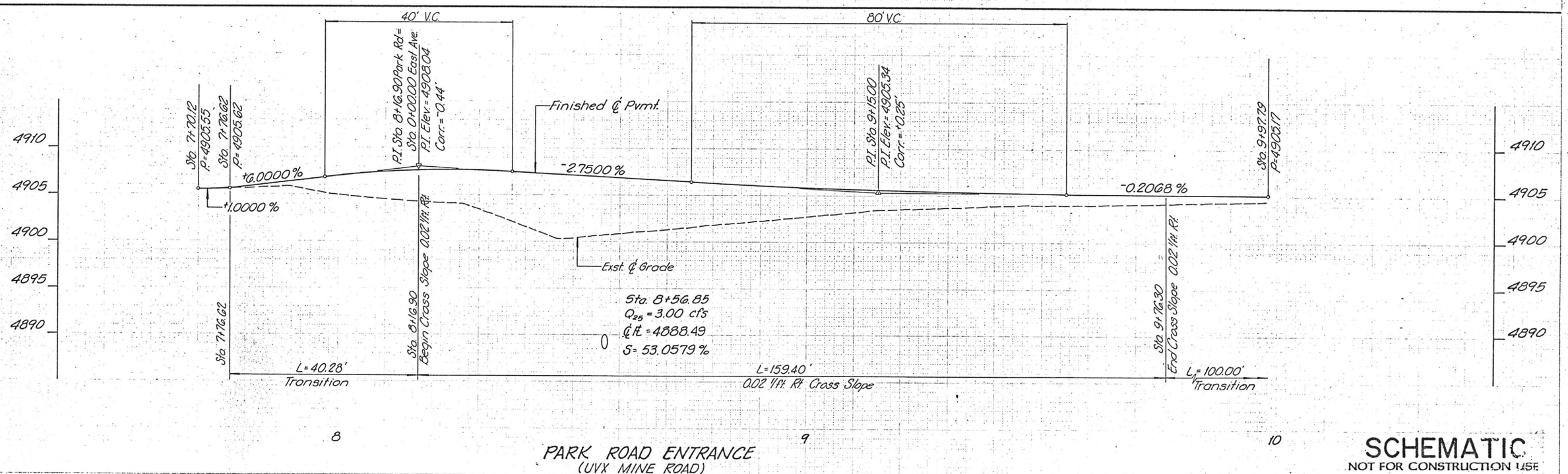
STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	17	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN: | DRAWN: | CHECKED:

COEN ENGINEERING CORPORATION





SCHEMATIC
NOT FOR CONSTRUCTION USE

PLATE 3 CROSS SECTION - DOTTED
CHARLES BRUNING COMPANY
MADE IN U.S.A.

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	18	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN: DO, JK | DRAWN: KB | CHECKED: SDC

COEN ENGINEERING CORPORATION

Two working days before you dig, CALL FOR THE BLUE STAKES
VERDE/SEDONA AREA 634-2717 Blue Stake Center

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above
Sidewalk. East Side of Entrance
Along U.S. 89A
Elevation = 4889.882 (A.D.O.T. DATUM)

N.49°40'20"W.
STA. 7+70.12
P.C. STA. 8+00.63
S.60°38'07"W.
P.T. STA. 8+46.85
P.C. STA. 9+97.79
S.40°57'50"W.
P.T. STA. 11+06.34
S.39°54'14"W.
P.C. STA. 13+27.35
P.C. STA. 13+91.09
S.39°55'02"W.
P.T. STA. 14+83.42
P.C. STA. 15+56.35
P.T. STA. 16+55.11
P.C. STA. 16+75.11 Bk.:
STA. 16+75.25 Ahd.
EQUATION
N.28°06'00"W.
MATCH LINE
MATCH LINE

CURVE DATA ③
P.I. Sta. 8+27.09
Δ = 69°41'34"
D = 150°46'42"
R = 38.00'
L = 46.22'
T = 26.46'
EXT = 8.30'
Cross Slope = 0.02'/ft. Rt.

CURVE DATA
P.I. Sta. 10+52.66
Δ = 20°43'52"
D = 19°05'55"
R = 300.00'
L = 108.55'
T = 54.87'
EXT. = 4.98'

Sta. 10+76.30
End Superelevation
Transition; See Det "A"

Sec. Cor.
Fnd. Iron Pipe
23 26
22 27

② Sta. 13+49.74 Exst. 4" Sewer
Remove;
Install New 10" x 36 L.F.
Pipe Sleeve & 4" x 50 L.F.
Sewer, See Det "B"

Sta. 13+11± Exst. 6" Sewer
To Remain

Exst. Street Sign
Remove & Salvage
East Ave.

① Sta. 12+41.74 Exst. 4" Sewer
Remove
Install. New 10" x 36 L.F.
Pipe Sleeve & 4" x 50 L.F.
Sewer, See Det. "B"

140 L.F. New C. & G.
Type "A"; h = 7" Std. C-05.10
(Total This Sheet)
156.5 L.F. New Guardrail Rt.
1 - New B.C.T.

Sta. 9+97.80 Rt. to
Sta. 11+33.30 Rt.
"Criblock Retaining
Wall; See Det. "R" & "T"

Sta. 11+43.30 Rt.
New Downdrain w/Embankment
Std. C-04.20 w/Modified
Splash Pad; See Det. "H"
New 18" x 8 L.F. Pipe Culvert ②

New Edge of Pvmt.
New R/W Esm.

Tangent Bearing =
S.51°57'51" W.

Sta. 14+56.35 Lt.
Begin Superelevation
Transition; See Det. "A"

CURVE DATA
P.I. Sta. 13+59.34
Δ = 12°03'37"
D = 18°55'19"
R = 302.80'
L = 63.74'
T = 31.99'
Ext. = 1.68'

③ Sta. 15+21.74 Exst. 6" Sewer Line
Remove:
Install New 12" x 40 L.F. Pipe
Sleeve & 6" x 60 L.F. Sewer
See Det. "B"

CURVE DATA
P.I. Sta. 14+37.42
Δ = 12°02'49"
D = 13°02'53"
R = 439.12'
L = 92.33'
T = 46.33'
Ext. = 2.44'

CURVE DATA
P.I. Sta. 16+31.24
Δ = 111°58'58"
D = 113°23'34"
R = 50.53'
L = 98.76'
T = 74.89'
Ext. = 39.81'
Super = -0.02'/ft. Rt.

Sec. 23
T. 16 N.
R. 2 E.
N

Sta. 15+17.49 to Sta. 16+98.53
Limits of Overexcavation. Remove
Undesireable Fill; See Det. "E"

Widen Pvmt. to 16'
Lanes Lt. & Rt.

60' Taper 15:1

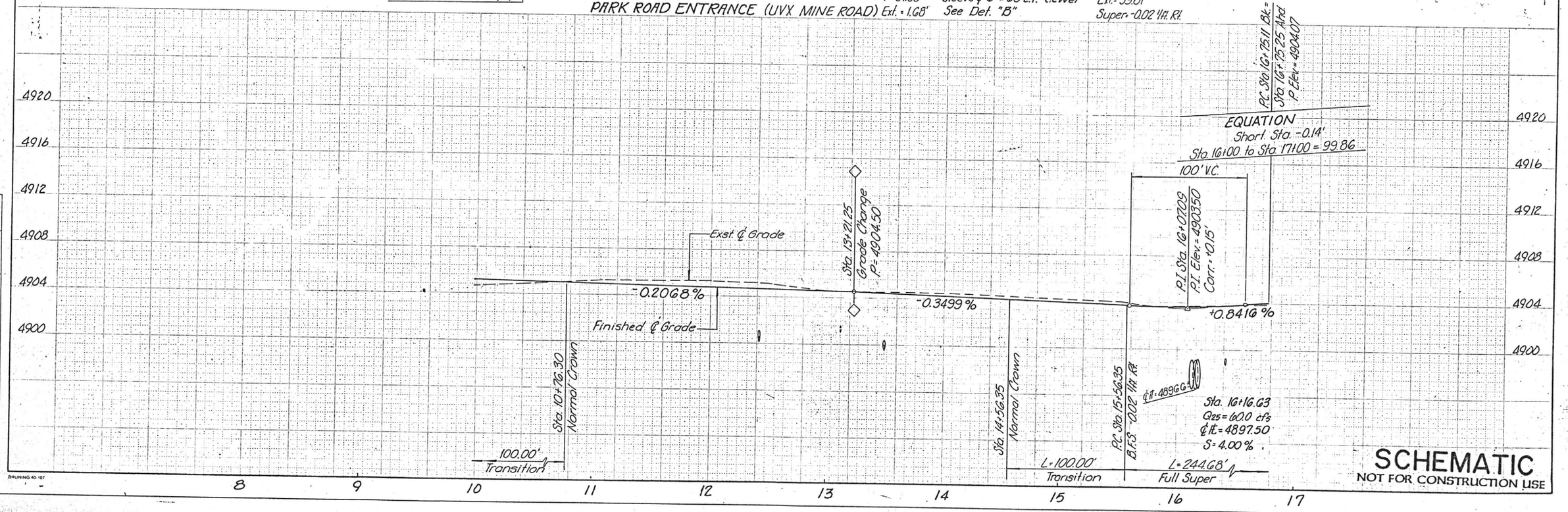
Sta. 16+16.63 Exst. Hdwl. & 30" x 54'±
Conc. Pipe Culvert
Remove & Install 2 New 30" x 46 L.F. Pipe
Culvert & Concrete Splash Pad Rt., See Det. "H"

Sta. 16+30 Exst. Sewer Manhole
To Remain

Sta. 16+41 Exst. 6" Sewer Line
Remove: Install New 6" x 60 L.F.
Sewer, See Det. "B"

40 30 20 10 0 40

PARK ROAD ENTRANCE (UVX MINE ROAD)



SCHEMATIC
NOT FOR CONSTRUCTION USE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

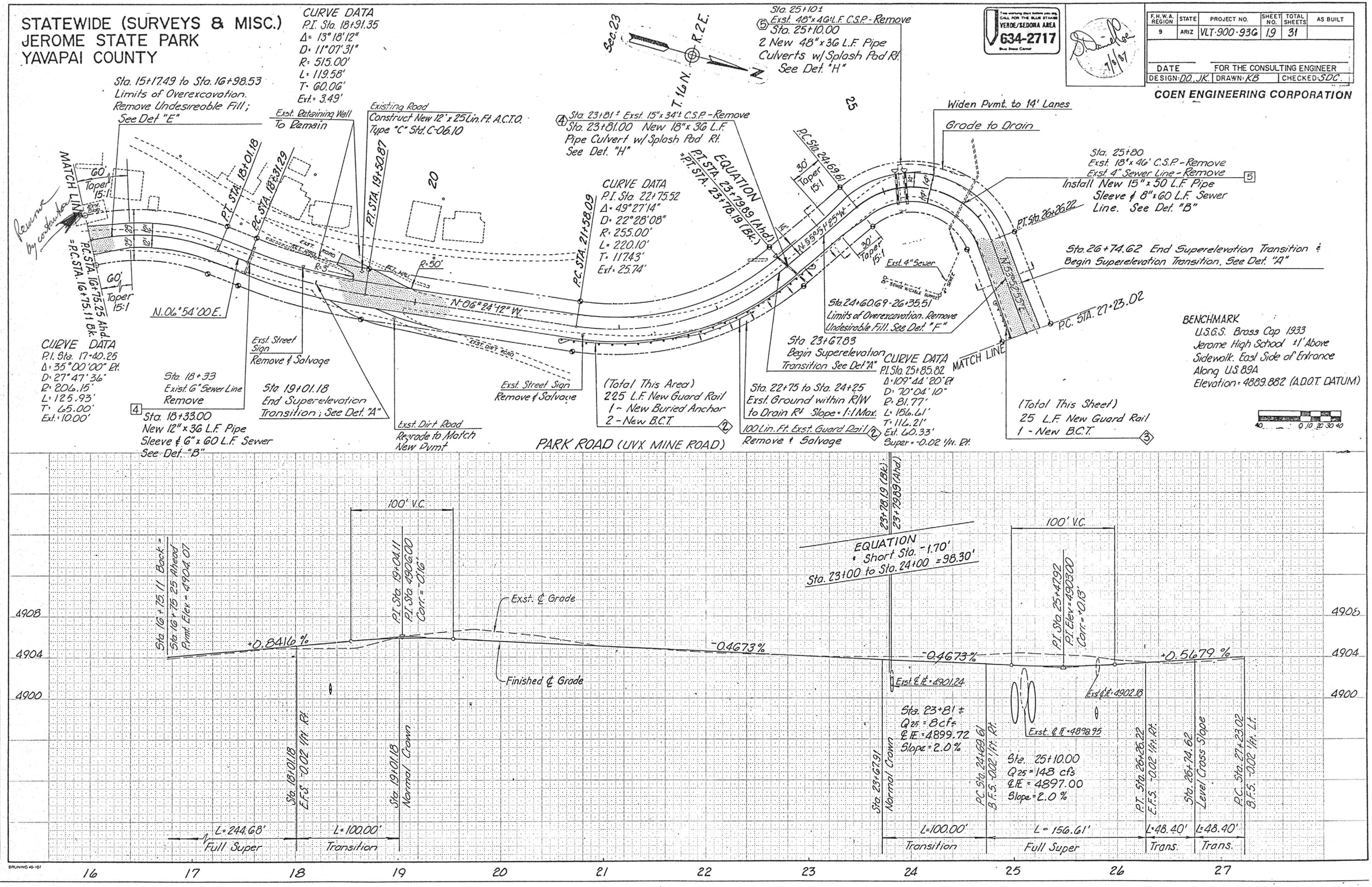
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	19	31	

DATE 7/8/87 — FOR THE CONSULTING ENGINEER

DESIGN: DD, JK. DRAWN: KB CHECKED: SDC.

COEN ENGINEERING CORPORATION

CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717



SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

SCHEMATIC
NOT FOR CONSTRUCTION USE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above
Sidewalk. East Side of Entrance
Along U.S. 89A
Elevation = 4889.882 (A.D.O.T. DATUM)

CURVE DATA
P.I. Sta 28+88.25
Δ = 128°46'23" Lt.
D = 72° 20'02"
R = 79.21'
L = 178.03'
T = 165.23'
Ext. = 104.02'
Super = -0.02 ft/ft Lt.

Sta. 30+31 ±
Exst. 24" x 36' C.S.P. - Remove

Sta. 30+22.00
New 24" x 38' L.F. Pipe Culvert
w/Splash Pad Rt.; See Det. "H"

New Drainage Ditch
See Det. "K"

New Drainage Ditch
Grade to Drain
Min. 1%; See Det. "K"

Exst. Roadway
℄ R = 150'

New R/W Esm.

℄ R = 90'

Sta. 32+01.50 Lt.
New 12" x 92' A.C.T.O.
Type "C" Std. C-06.10

See Det. "Q"
(1,550 Sq. Ft. A.C.T.O.)

Sta. 31+27.11 to
Sta. 32+65.46 Limits
of Overexcavation;
Remove Undesirable
Fill. See Det. "O"

New Drainage Ditch
Grade to Drain. Min 1%
See Det. "K"

EQUATION
P.R.C. STA. 33+16.34 Bk.=
P.R.C. STA. 33+27.15 Ahd.

CURVE DATA
P.I. Sta. 34+57.53
Δ = 38°16'45"
D = 15°15'06"
R = 375.67'
L = 250.98'
T = 130.38'
Ext. = 21.98'

Sta. 34+24 ±
Exst. 30" x 42' ± C.S.P. Culvert
& Exst. 6" x 42' ± Sewer Line
Remove

Exst. 8" Sewer Line
To be Abandoned

Exst. 8" A.C.P. Sewer Line
Remove 15 L.F. & Re-install
to Match Flowline of
New Manhole

Exst. Roadway
Regrade to Match New
Pvmt. Grade

MATCH LINE

Sec. 23
R. 2 E.
T. 16 N.
N

Juarez St.

STA. 38+00.00

Exst. Street Sign (W1-2 Rt.)
Remove & Salvage

Sta. 37+50.00 Lt.
New 18" x 30' Pipe Culvert
Install @ 1.30% Grade

MATCH LINE

PC. STA. 27+23.02

30' Taper 15:1

N 74°53'26" W.

Est. ℄

30

35

P.T. STA. 35+78.13

N 65°02'00" W.

(3) 268 L.F. Exst. Guardrail
Remove & Salvage

(Total This Sheet)
262.5 L.F. New Guardrail
1 - New B.C.T.
(3)

P.T. STA. 29+01.05

Sta. 29+31.05

PC. STA. 29+63.48

Sta. 27+25 to Sta. 29+75
Grade Exst. Ground within
R.O.W. or T.C.E. to Drain
Rt. Slope = 1:1 Max

30' Taper 15:1

Sta. 30+01.05
End Superelevation
Transition; See Det. "A"

Sta. 30+26
Exst. Sewer Box Structure
Remove; Install New Sewer
Manhole, Std. C-18.10 No. 3
& C-18.20 on Exst.
Sewer Lines
Rim Elev. = 4893.8
Inv. Elev. = 4887.78

SUPPORT CABLE
EX. 8" SEWER PIPELINE W/ SUPPORT CABLE WHOLE LENGTH

Tangent Bearing = N 26°45'15" W.

CURVE DATA
P.I. Sta 31+51.08
Δ = 46°08'13"
D = 13°38'31"
R = 420.00'
L = 352.86'
T = 187.60'
Ext. = 39.99'

Sta. 33+93 Exst. Sewer Structure
Remove; Install New Sewer Manhole
Std. C-18.10 No. 3 & C-18.20
Rim Elev. = 4891.5
Inv Elev. = 4889.80

Sta 34+73.54
New 30" x 34' L.F. Pipe Culvert
w/Splash Pad Rt. See Det. "H"
and Det. "G" Lt.
(7)

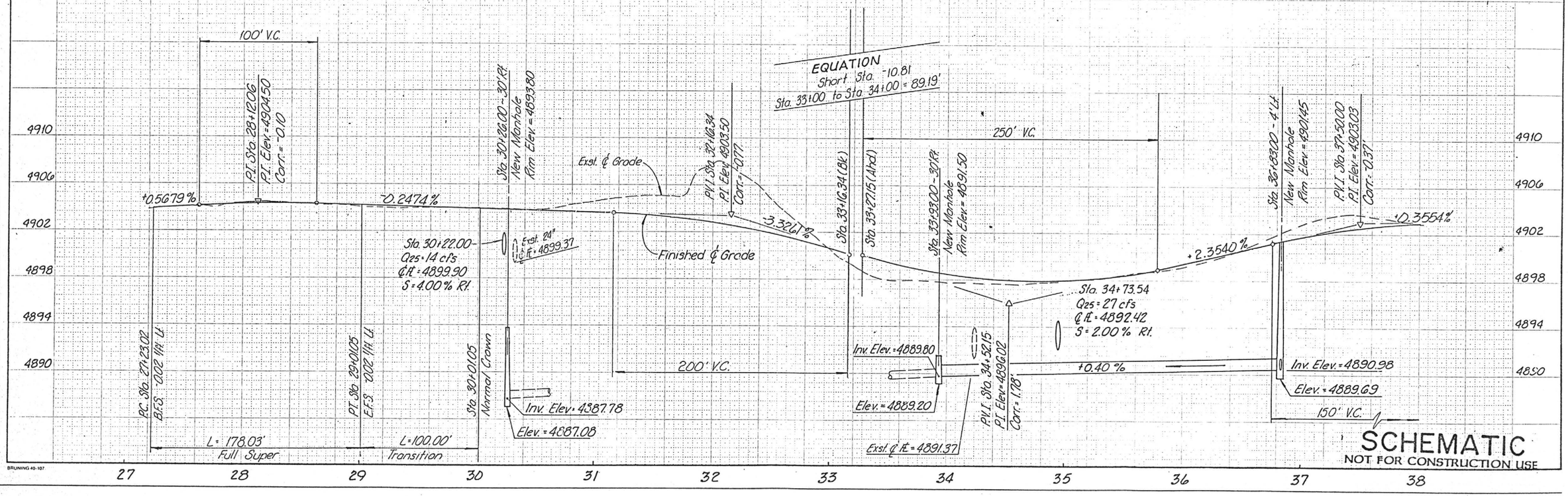
Exst. Street Sign (W1-4)
Remove & Salvage

Install 296 L.F. New 12" P.V.C.
Sewer Line

Sta. 36+83 ~ 8' ± Lt. Exst. Sewer Manhole
Remove; Install New Sewer Manhole
Std. C-18.10 No. 3 & C-18.20
Rim Elev. = 4901.45, Inv. (E) = 4890.98

Sta. 34+25 to Sta. 38+00 Grade Exst. Gnd.
Within R.O.W. to Drain Rt. Slope = 1:1 Max.

PARK ROAD (UVX MINE ROAD)



SCHEMATIC
NOT FOR CONSTRUCTION USE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	20	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN: DO, JK | DRAWN: KB | CHECKED: SDC

COEN ENGINEERING CORPORATION

7/8/87

CALL FOR THE BLUE STAKES
VERDE/SEDONA AREA
634-2717
Blue Stake Center

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	21	31	

DATE — FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.

9/8/87

VERDE/SEDONA AREA 634-2717

COEN ENGINEERING CORPORATION

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above
Sidewalk. East Side of Entrance
Along U.S. 89A
Elevation = 4889.882 (A.D.O.T. DATUM)

Sct. 23 — T. 16 N. — R. 2 E.

Sta. 40+55 ±
Exst. 18" x 46' ± C.S.P. Culvert & Hdwl. Lt.
Remove

CAUTION: Overhead Power Line

Exst. Gas Line
Sta. 42+45 to Sta. 44+10
To be Lowered by Others

Sta. 42+90 ±
Exst. Formed Conc. Arch Culvert & Hdwls. Lt. & Rt.
To Remain

Exst. Power Transformers
To Be Relocated by Others

Exst. Telephone Pole w/Guy Wire
To Remain

CAUTION: Overhead Guy Line

Juarez St.

New Drainage Ditch; Grade to Drain; See Det. "K"

38+00.00

P.C. STA. 40+18.59

New R/W Esm.

N. 65°02'00" W. — Cst. ℄

Exst. Telephone Pole w/Guy Wire
To Be Relocated by Others

P.C. STA. 41+98.61

New Drainage Ditch; Grade to Drain
See Det. "K"

P.I. STA. 41+60.45

MATCH LINE

MATCH RIGHT

MATCH LEFT

30' Taper 15:1

Sta. 41+90.45

P.T. STA. 41+60.45

N. 18°27'03" W.

5-Exst. Bollards
Remove

New R/W Esm.

CURVE DATA
P.I. Sta. 40+93.70
Δ = 46°34'56" Rt.
D = 32°50'10"
R = 174.49'
L = 141.86'
T = 75.11'
Ext. = 15.48'
Super = -0.02 ft/ft Rt.

Sta. 39+18.59
Begin Superelevation Transition; See Det. "A"

Sta. 40+50 to Sta. 44+25
Grade Exst. Ground within R.O.W. to Drain Rt.
Slope = 1:1 Max

PARK ROAD

P.T. STA. 44+26.78

Sta. 44+56.78

N. 89°49'26" E.

P.C. STA. 45+02.69

30' Taper 15:1

Exst. Telephone Pole w/Guy Wire
To Remain

45

CURVE DATA
P.I. Sta. 43+65.64
Δ = 108°16'50" Rt.
D = 47°27'28"
R = 120.78'
L = 228.17
T = 167.03'
Ext. = 85.36'
Super = -0.02 ft/ft Rt.

New R/W Esm.

Exst. Power Pole w/Guy Wire
To Remain

Sta. 45+26.78
End Superelevation Transition; See Det. "A"

Little Daisy Road

Exst. Street Sign
Remove & Salvage

Exst. Street Sign
To Remain

R = 12'

EX. DIRT ROAD

Cst. ℄

MATCH LINE

EQUATION
P.T. STA. 48+04.09 Ahd.
P.T. STA. 48+00.01 Bk.

Exst. Gas Line
Sta. 46+50 to Sta. 48+00.01
To be Lowered by Others

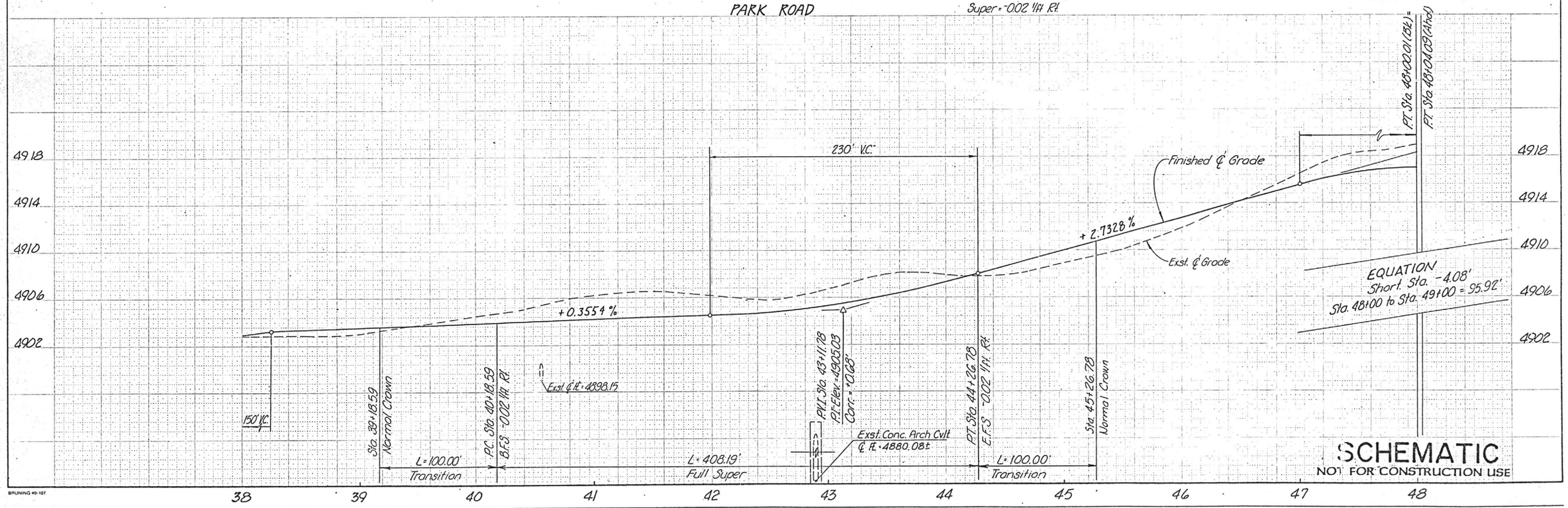
Sta. 46+50 to Sta. 50+50
Grade Exst. Ground within R.O.W. to Drain Rt.
Slope = 1:1 Max

Exst. Sign
To Remain

CURVE DATA
Sta. 47+50.00
New 40' x 13' A.C.T.O. Type "A"
Std. C-06.10
See Sheet for Little Daisy Road Roadway Improvement

P.I. Sta. 46+66.78
Δ = 60°17'46" Lt.
D = 20°16'46"
R = 282.53'
L = 297.32'
T = 164.09'
Ext. = 44.20'

10 0 10 20 30 40



SCHEMATIC
NOT FOR CONSTRUCTION USE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

157 50
35 00
92.50

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	22	31	

DATE 7/3/87 — FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.

COEN ENGINEERING CORPORATION

This warning does before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

CURVE DATA
P.I. Sta. 49+86.77
Δ = 78°47'04"
D = 95°29'35"
R = 60.00'
L = 82.50'
T = 49.27'
Ext = 17.64'
Super = 0.02 1/ft. Rt.

Exst. Fire Box Valve To Remain

Widen Pvmt. to 14' Lanes

Exst. C.L. Fence To Remain

Sta. 50+57.50 New 12"x15' A.C.T.O. Type "d" Std. C-06.10

CURVE DATA
P.I. Sta. 52+12.90
Δ = 48°03'11"
D = 38°11'50"
R = 150.00'
L = 125.80'
T = 66.87'
Ext. 14.23'

MATCH SHEET 19

Exst. Power Pole To Be Relocated By Others

Sta. 55+94.41 to Sta. 56+15.00 New "Criblock" Retaining Wall; See Det. "S" & Det. "T"

(Total This Area) 32.5 L.F. New Guard Rail 1-New B.C.T. (5)

Exst. Retaining Wall To Remain

Exst. Gas Line Sta. 48+04.09 to Sta. 50+00; To be Lowered by Others

P.C. STA. 49+37.50

Sta. 48+09.77 to 49+50.50 1,113 S.F. New Conc. Retaining Wall; See Det. "C"

(Total This Section) 200 L.F. New Guard Rail 2-New B.C.T. (4)

New R/W Esm.

MATCH LINE

EQUATION P.T. STA. 48+04.09 (Ahd.) = P.T. STA. 48+00.01 (Bk.)

BENCHMARK
U.S.G.S. Brass Cap 1933
Jerome High School ±1' Above Sidewalk. East Side of Entrance Along U.S. 89A
Elevation = 4889.882 (A.D.O.T. DATUM)

Grade Exst. Slope to Right of New Retaining Wall Level with Exst. Grade of Conc. Pad.

Exst. Conc. Box Remove

Exst. Conc. Road Support Remove

Sta. 48+90.00 to 50+50.00 908 S.F. New Conc. Retaining Wall; See Det. "D"

Exst. Conc. Retaining Wall To Remain

Sta. 48+37.50 Begin Superelevation Transition; See Det. "A"

Sta. 46+50 to Sta. 49+80 Grade Exst. Ground to Drain Rt. Slope = 1:1 Max.

PARK ROAD

Tangent Bearing = N. 60°15'53" E.

Exst. Gas Line Sta. 51+20 to Sta. 52+71.83 To be Lowered by Others

New Drainage Ditch. Grade to Drain Min. 1% Slope See Det. "K"

Sta. 51+20.00 End Superelevation Transition; See Det. "A"

2059 L.F. New C & G., Type "A" h-7", Std C-05.10

CAUTION: Overhead Power Line

Exst. Mineral Building

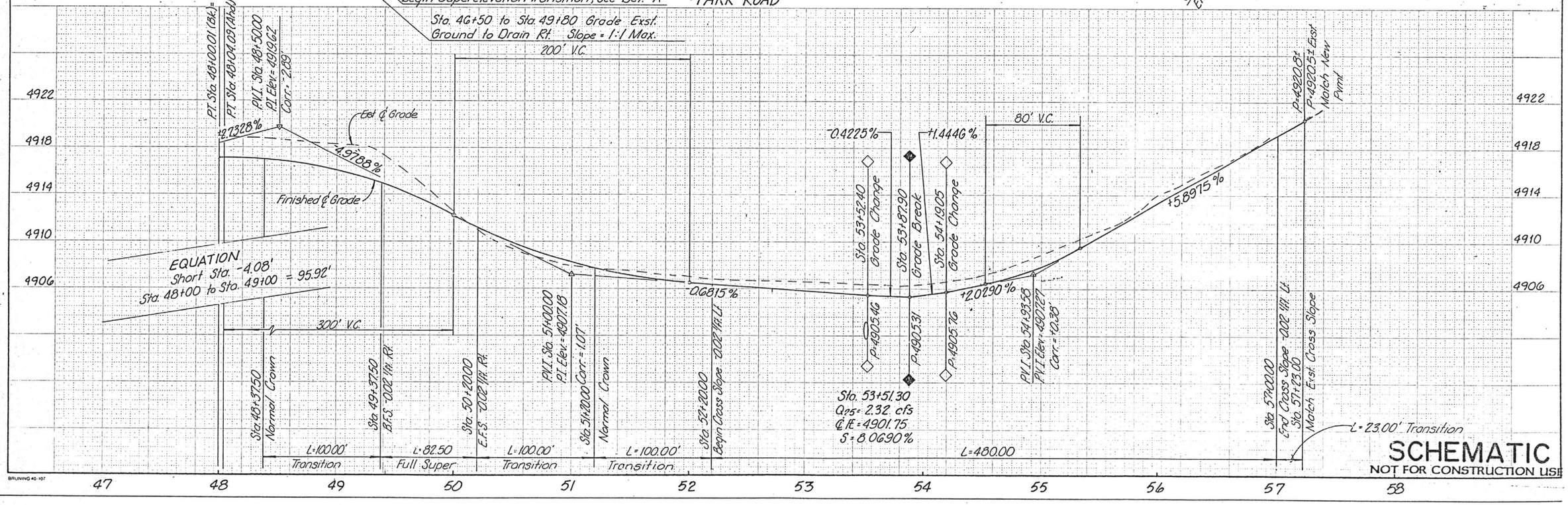
Exst. Museum

Sta. 57+23.00 END RECONSTRUCTION BEGIN OVERLAY

Sta. 57+23.00 to Sta. 59+84 New 2 3/4" A.C. Overlay

Sta. 59+84 END OF PROJECT

T. 16 N. R. 2 E. Sec. 23



SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

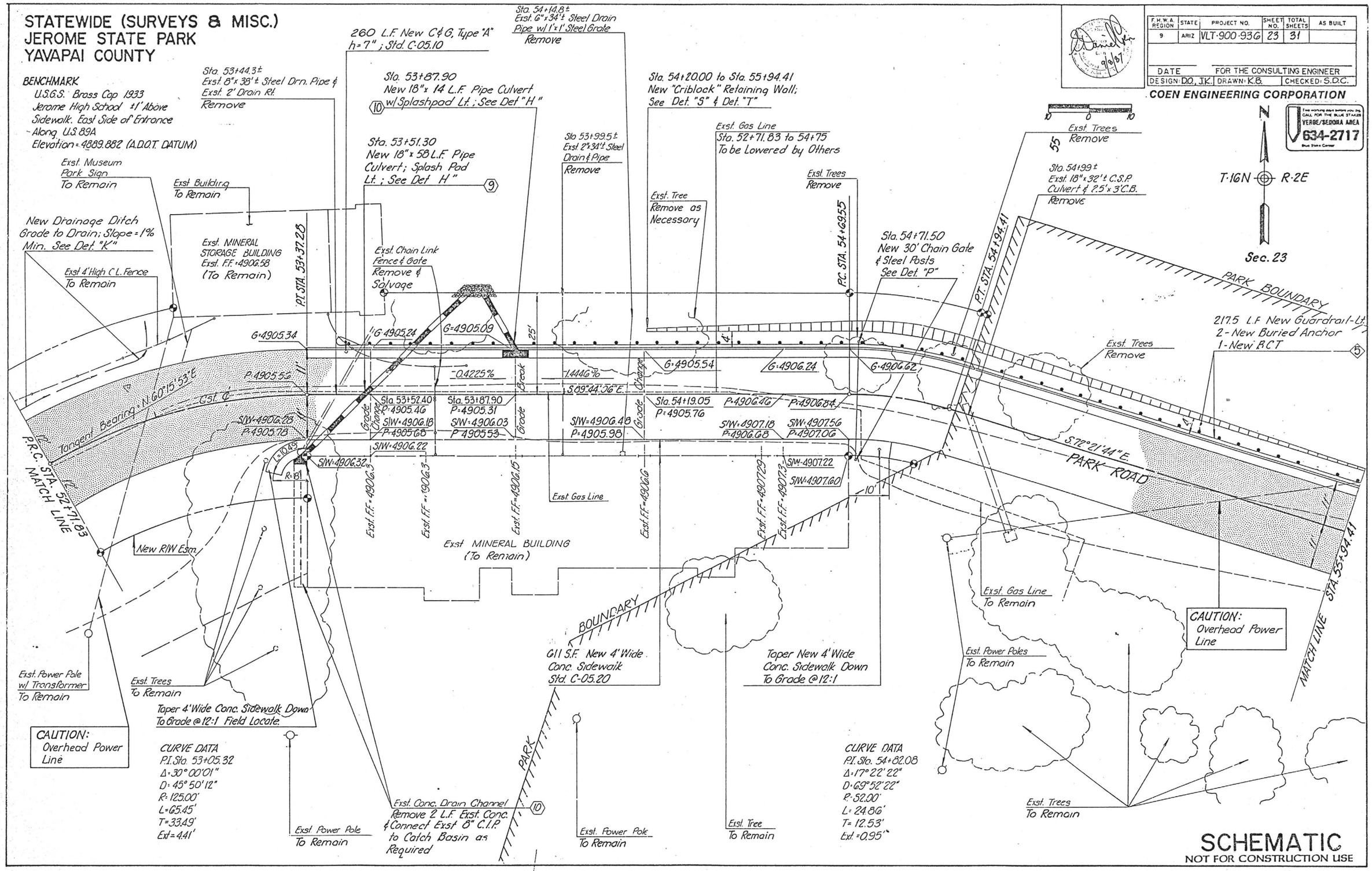
BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	23	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN: DO, JK. | DRAWN: K.B. | CHECKED: S.D.C.

COEN ENGINEERING CORPORATION



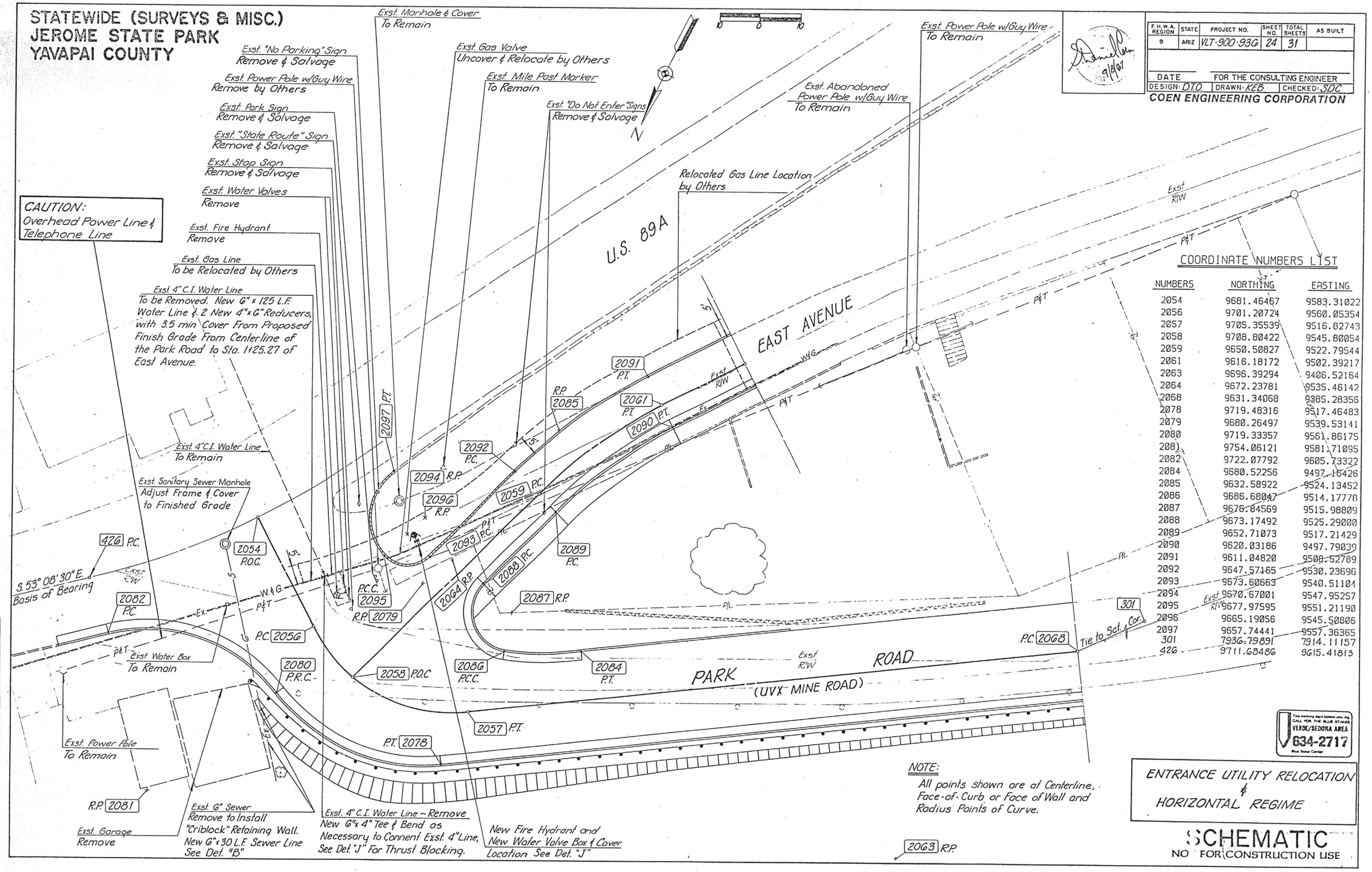
SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-93G	24	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN: DTO | DRAWN: KEB | CHECKED: SDC

COEN ENGINEERING CORPORATION



COORDINATE NUMBERS LIST

NUMBERS	NORTHING	EASTING
2054	9681.46467	9583.31022
2056	9701.20724	9560.05354
2057	9705.35539	9516.82743
2058	9708.80422	9545.80054
2059	9650.50827	9522.79544
2061	9616.18172	9502.39217
2063	9696.39294	9406.52164
2064	9672.23781	9535.46142
2068	9631.34068	9385.28356
2078	9719.48316	9517.46483
2079	9680.26497	9539.53141
2080	9719.33357	9561.86175
2081	9754.06121	9581.71095
2082	9722.07792	9605.73322
2084	9680.52256	9497.16426
2085	9632.58922	9524.13452
2086	9686.68047	9514.17778
2087	9676.84569	9515.98809
2088	9673.17492	9525.29000
2089	9652.71073	9517.21429
2090	9620.03186	9497.79039
2091	9611.04820	9508.52789
2092	9647.57165	9530.23696
2093	9673.60663	9540.51104
2094	9670.67001	9547.95257
2095	9677.97595	9551.21190
2096	9665.19056	9545.50806
2097	9657.74441	9557.36365
301	7936.79891	7914.11157
426	9711.68486	9615.41813

NOTE:
All points shown are at Centerline, Face-of-Curb or Face of Wall and Radius Points of Curve.

CALL FOR THE BLUE STAKES
VERDE/SEDONA AREA
634-2717
Blue Stake Center

ENTRANCE UTILITY RELOCATION & HORIZONTAL REGIME

SCHEMATIC
NO FOR CONSTRUCTION USE

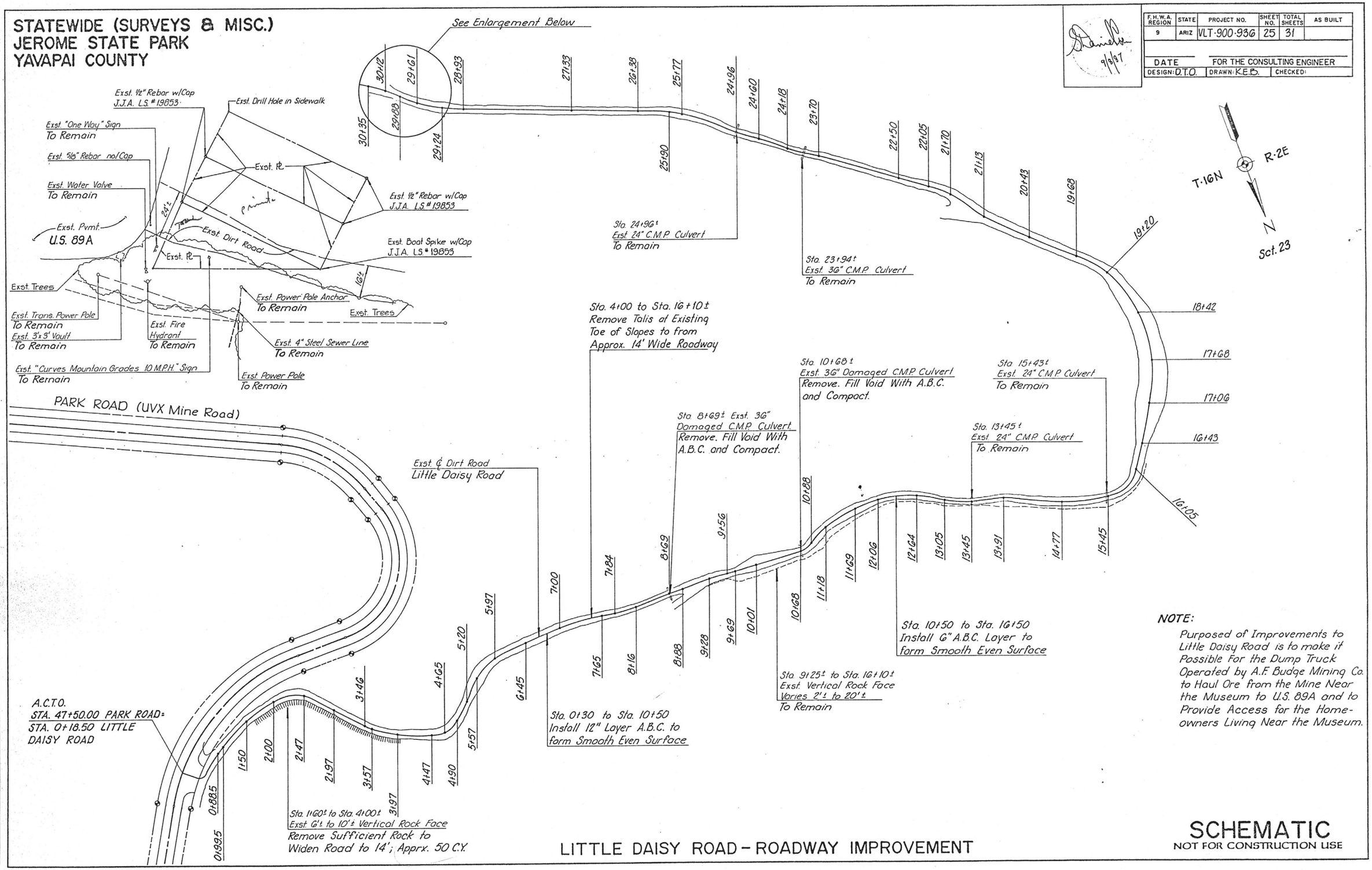
SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	25	31	

DATE 9/8/97 — FOR THE CONSULTING ENGINEER

DESIGN: D.T.O. DRAWN: K.E.B. CHECKED:



LITTLE DAISY ROAD - ROADWAY IMPROVEMENT

SCHEMATIC
NOT FOR CONSTRUCTION USE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

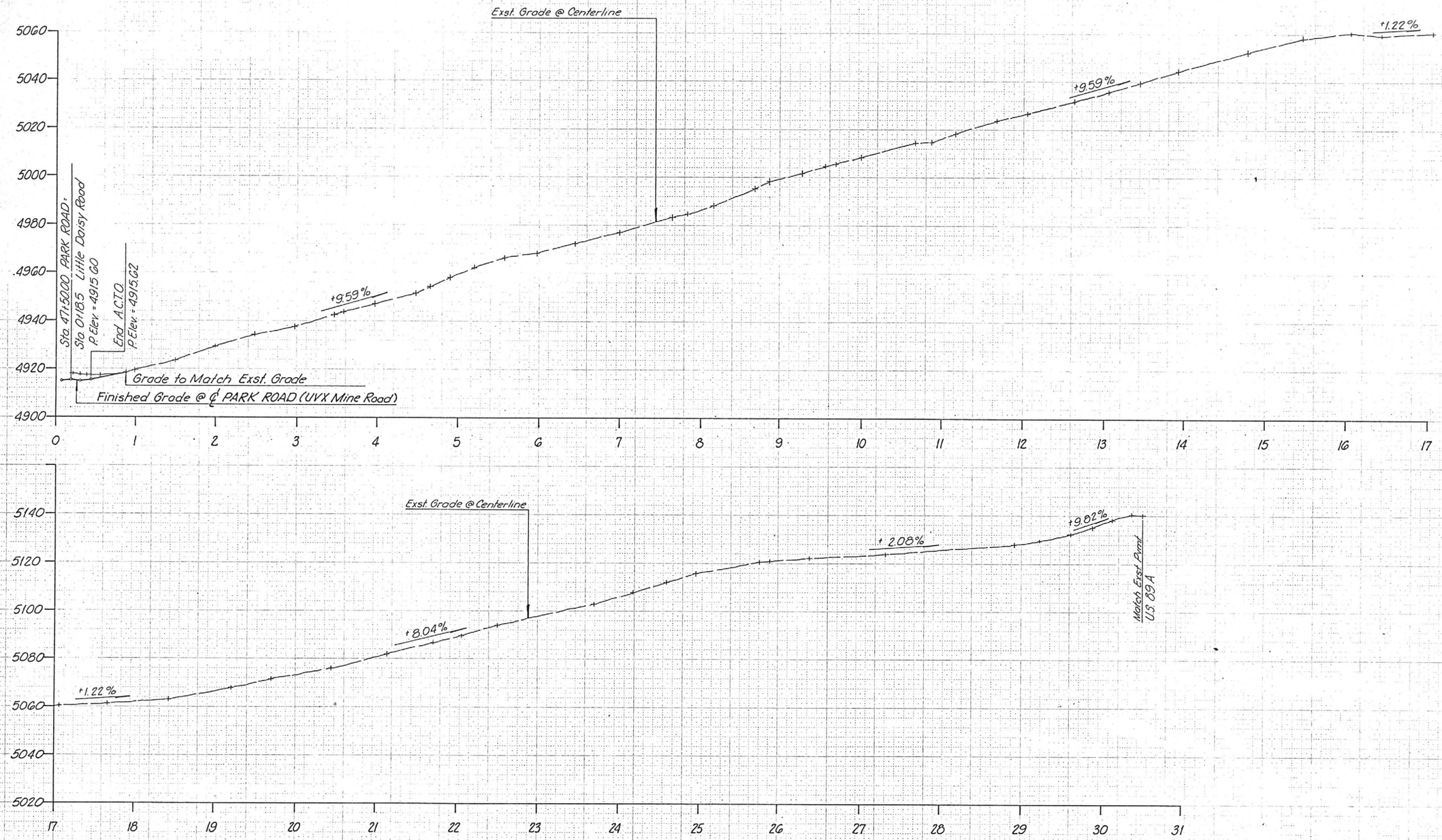
BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	26	31	

Daniel Chen 9/9/87

DATE FOR THE CONSULTING ENGINEER
DESIGN: D.T.O. DRAWN: K.E.B. CHECKED:



LITTLE DAISY ROAD - PROFILE

SCHEMATIC
NOT FOR CONSTRUCTION USE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

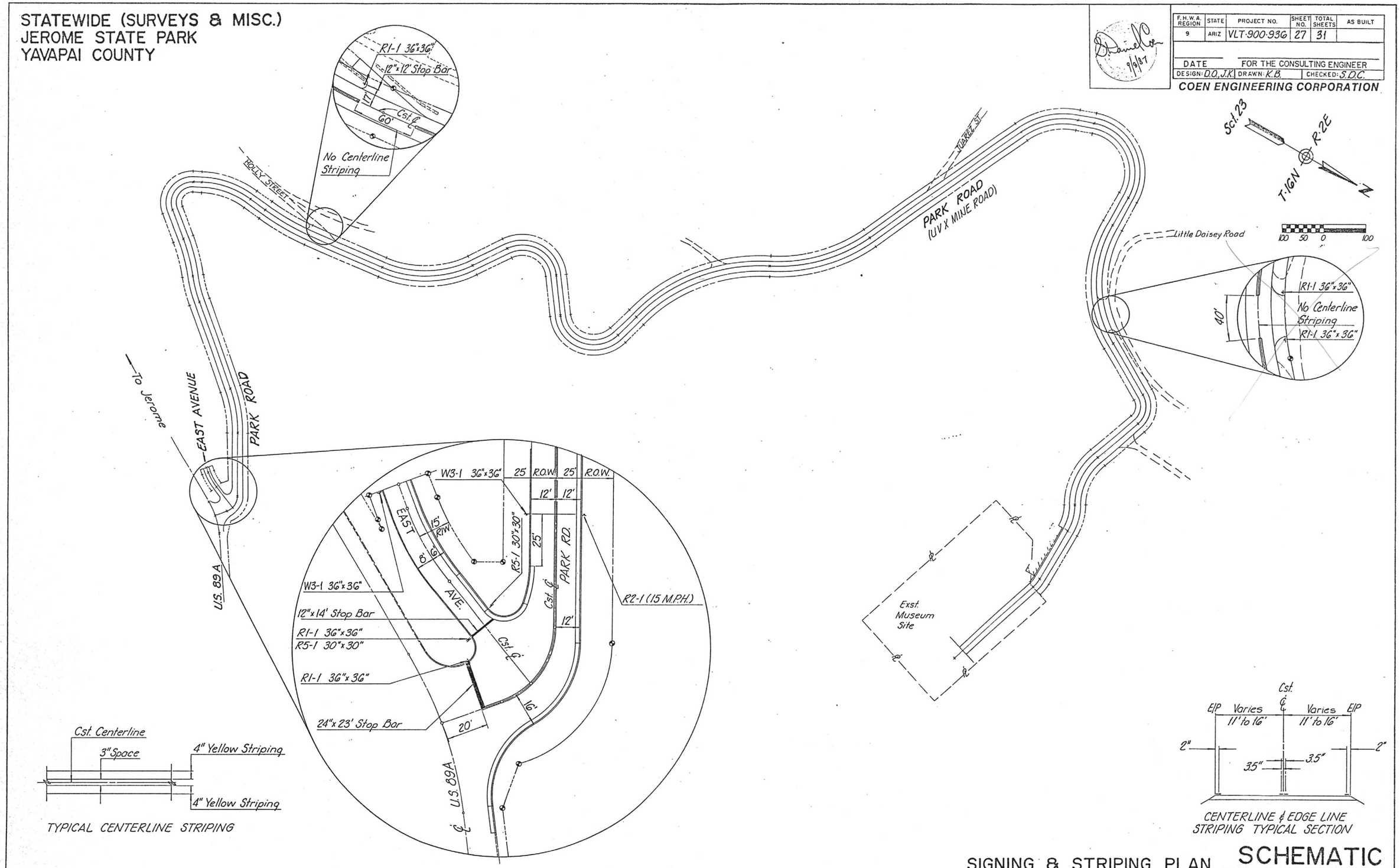
BRUNING 40-107

PLATE 3 CROSS SECTION - DOTTED
CHARLES BRUNING COMPANY
MADE IN U.S.A.

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	27	31	

DATE 9/9/87 FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.
COEN ENGINEERING CORPORATION



SIGNING & STRIPING PLAN

SCHEMATIC
NOT FOR CONSTRUCTION USE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	28	31	

DATE 9/8/87 FOR THE CONSULTING ENGINEER

DESIGN: D.O., J.K. DRAWN: K.E.B. CHECKED: S.D.C.

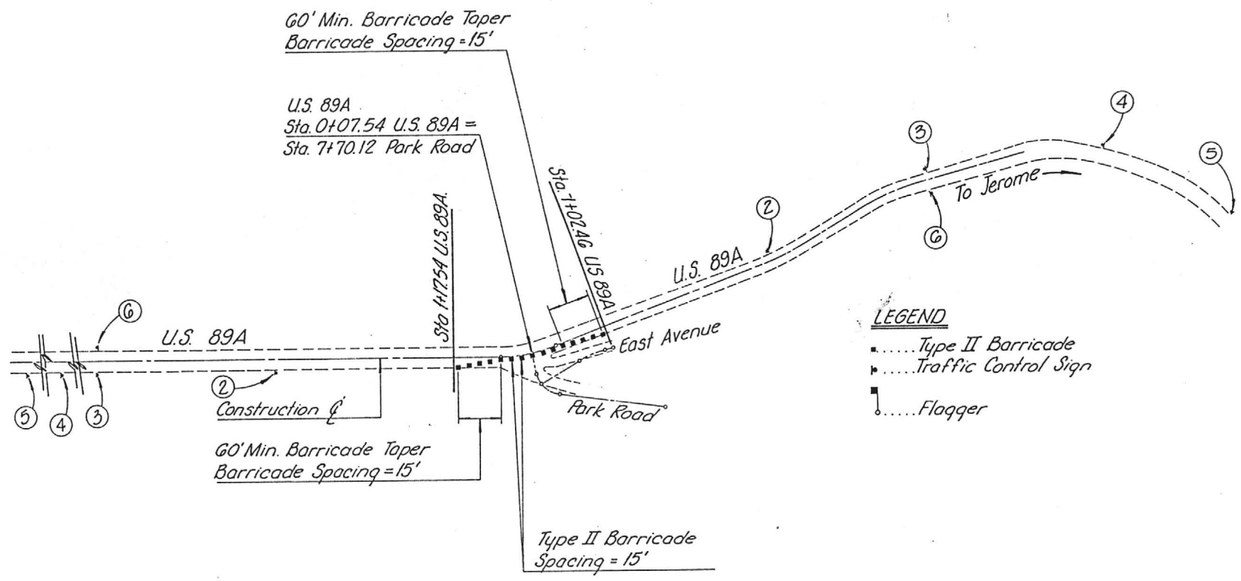
COEN ENGINEERING CORPORATION

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

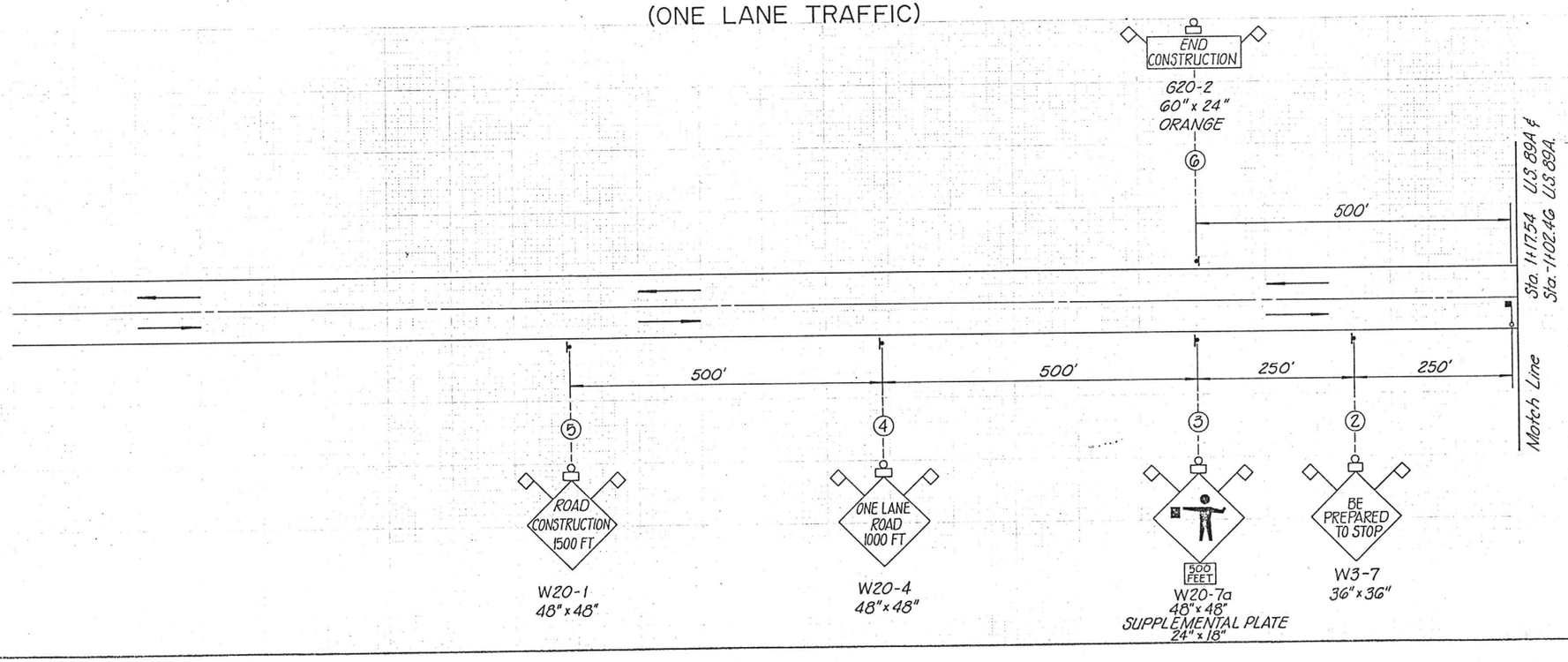
TRAFFIC CONTROL GENERAL NOTES:

1. Maintenance and protection of traffic will follow the standards of A.D.O.T. "TRAFFIC CONTROL MANUAL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE".
2. Steady burning yellow light (type C) shall be mounted on every other barricade. (15' spacing tangent, 15' spacing taper.)
3. All orange construction signs shall use high intensity reflective sheeting. All other signs may use standard intensity reflective sheeting.
4. All existing speed limit signs that are in conflict with the construction speed limit shall be covered with plywood or removed.
5. Signs locations maybe adjusted to the conditions as directed by the Engineer.
6. Sign mounting height shall be minimum 5 ft. from the bottom of the sign to the near edge of the pavement.
7. Flashing warning lights (type A) and flags shall be used on all signs.
8. All existing signing in conflict with temporary signing shall be removed, relocated or covered with plywood, as directed by the Engineer.
9. At any time that two-way traffic maybe allowed in the construction area when work is not being done on the road the "ONE LANE ROAD", "FLAGMAN" & "BE PREPARED TO STOP" signs shall be covered & barricades moved to edge of road.
10. The location of the signs and barricdes shown on these plans are for one lane of traffic through the entire construction area.
11. Two way traffic (2-12 feet lanes) shall be maintained during non-working hours, weekends, holidays and as directed by the Engineer.

Limits of Construction
Sta. 1+02.46 to Sta. 1+17.54 U.S. 89A



TRAFFIC CONTROL PLAN
(ONE LANE TRAFFIC)

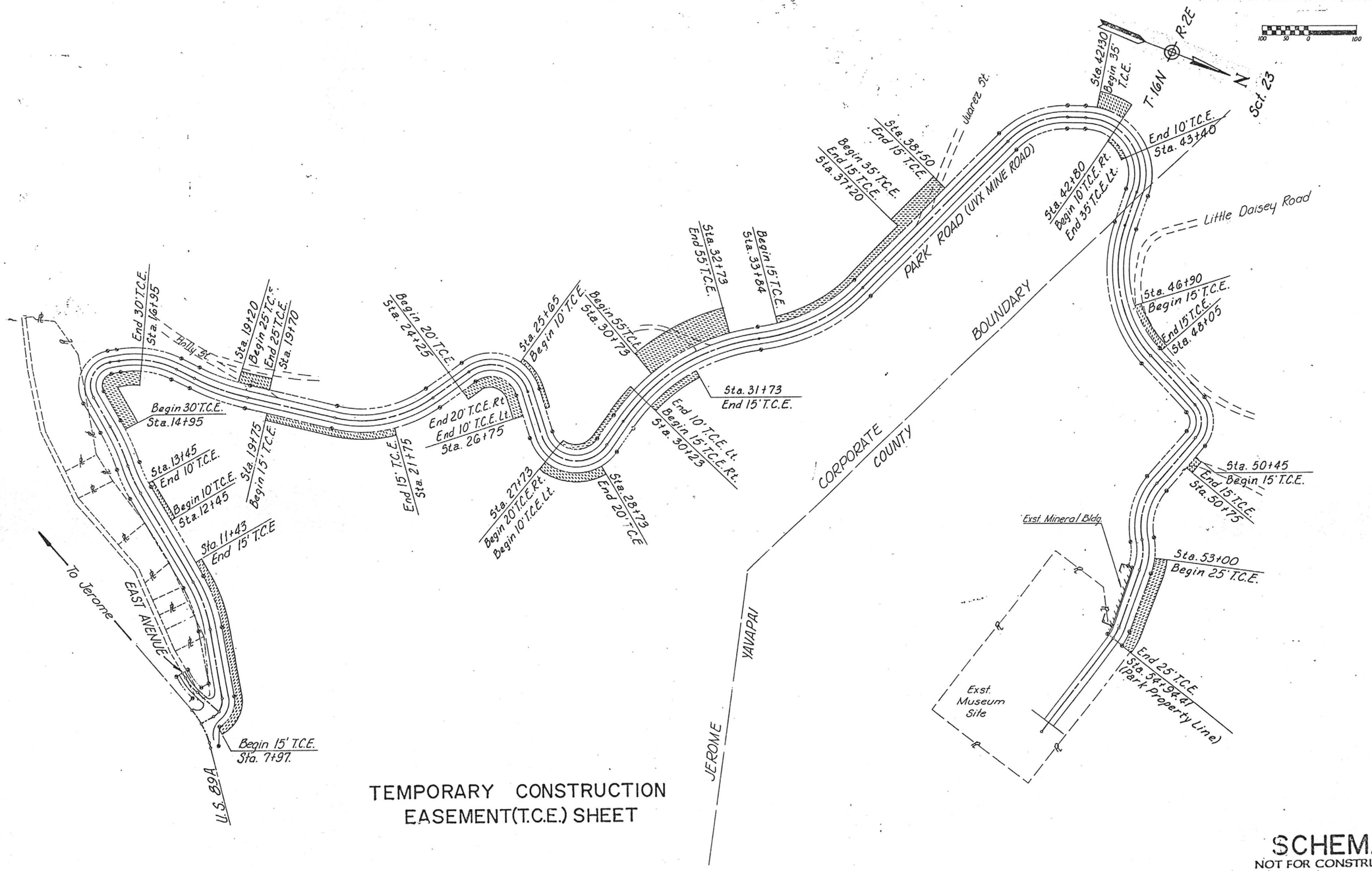


STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

Two working days before you dig CALL FOR THE BLUE STAKES VERDE/SEDONA AREA 634-2717 Blue Stake Center

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT-900-936	30	31	

DATE 9/9/87 FOR THE CONSULTING ENGINEER
DESIGN: D.O., J.K. DRAWN: K.B. CHECKED: S.D.C.
COEN ENGINEERING CORPORATION



TEMPORARY CONSTRUCTION EASEMENT(T.C.E.) SHEET

SCHEMATIC
NOT FOR CONSTRUCTION USE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE

BRUNING 40-107

STATEWIDE (SURVEYS & MISC.)
JEROME STATE PARK
YAVAPAI COUNTY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	VLT 900-936	31	31	

DATE | FOR THE CONSULTING ENGINEER
DESIGN D.O., J.K. | DRAWN K.S., L.Y. | CHECKED S.D.C.

COEN ENGINEERING CORPORATION

TANGENT TABLE

	BEARING	DISTANCE
1	N.49 40'20"W.	30.51'
2	S.60 38'07"W.	150.94'
3	S.39 54'14"W.	221.01'
4	S.39 55'02"W.	72.93'
5	N.28 06'00"W.	20.00'
6	N.06 54'00"E.	30.11'
7	N.06 24'12"W.	207.22'
8	N.55 51'25"W.	89.72'
9	N.53 52'55"E.	96.80'
10	N.74 53'28"W.	62.43'
11	N.65 02'00"W.	440.46'
12	N.18 27'03"W.	38.16'
13	N.89 49'46"E.	75.91'
14	N.29 32'00"E.	133.41'
15	S.71 40'56"E.	126.03'
16	S.89 44'06"E.	132.27'
17	S.72 21'44"E.	252.60'
18	S.21 32'08"W.	62.67'
19	S.39 55'05"W.	22.50'

℄

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT	CHORD
A	12 48'50"	197.57'	44.19'	22.18'	44.09'
B	10 24'40"	197.57'	35.90'	18.00'	35.85'
C	24 32'23"	38.00'	16.27'	8.26'	16.15'
D	45 09'11"	38.00'	29.95'	15.80'	29.18'
E	20 43'52"	300.00'	108.55'	54.87'	107.96'
F	12 03'37"	302.80'	63.74'	31.99'	63.62'
G	12 02'49"	439.12'	92.33'	46.33'	92.16'
H	111 58'58"	50.53'	98.76'	74.89'	83.77'
I	35 00'00"	206.15'	125.93'	65.00'	123.98'
J	13 18'12"	515.00'	119.58'	60.06'	119.31'
K	49 27'14"	255.00'	220.10'	117.43'	213.33'
L	109 44'20"	81.77'	156.61'	116.21'	133.74'
M	128 46'23"	79.21'	178.03'	165.23'	142.86'
N	48 08'14"	420.00'	352.86'	187.60'	342.58'
O	38 16'45"	375.67'	250.99'	130.38'	246.34'
P	46 34'56"	174.49'	141.86'	75.11'	137.99'
Q	108 16'50"	120.73'	228.17'	167.03'	195.70'
R	60 17'46"	282.53'	297.32'	164.09'	283.79'
S	78 47'04"	60.00'	82.50'	49.27'	76.16'
T	48 03'12"	150.00'	125.80'	66.87'	122.15'
U	30 00'01"	125.00'	65.45'	33.49'	64.71'
V	17 22'22"	82.00'	24.86'	12.53'	24.77'
W	18 22'57"	125.00'	40.10'	20.23'	39.93'

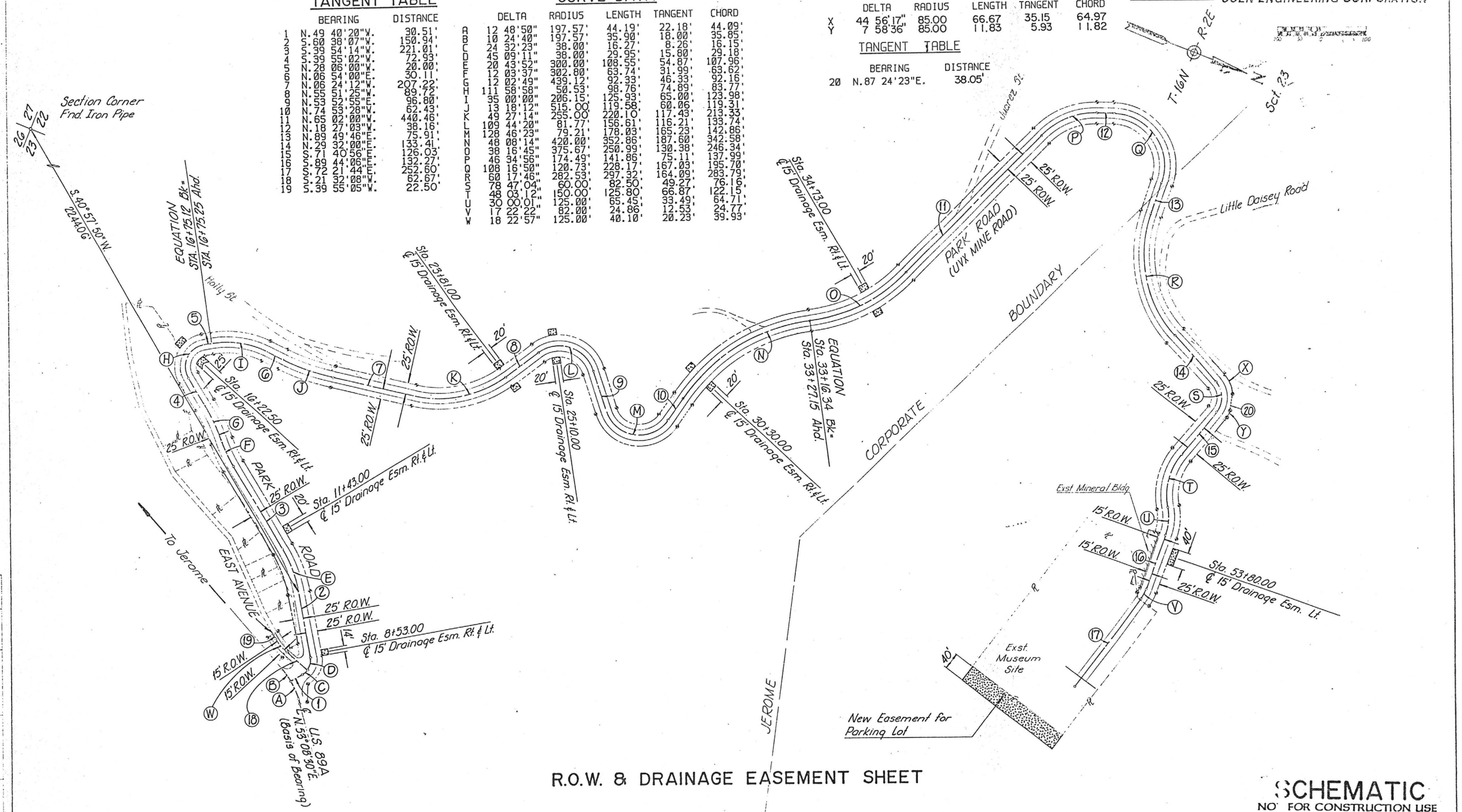
(RIGHT-OF-WAY)

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT	CHORD
X	44 56'17"	85.00	66.67	35.15	64.97
Y	7 58'36"	85.00	11.83	5.93	11.82

TANGENT TABLE

	BEARING	DISTANCE
20	N.87 24'23"E.	38.05'



R.O.W. & DRAINAGE EASEMENT SHEET

SCHEMATIC
NOT FOR CONSTRUCTION USE

SURVEY NOS.	FINISHED PLANS	REVISIONS	LOCATION	DATE