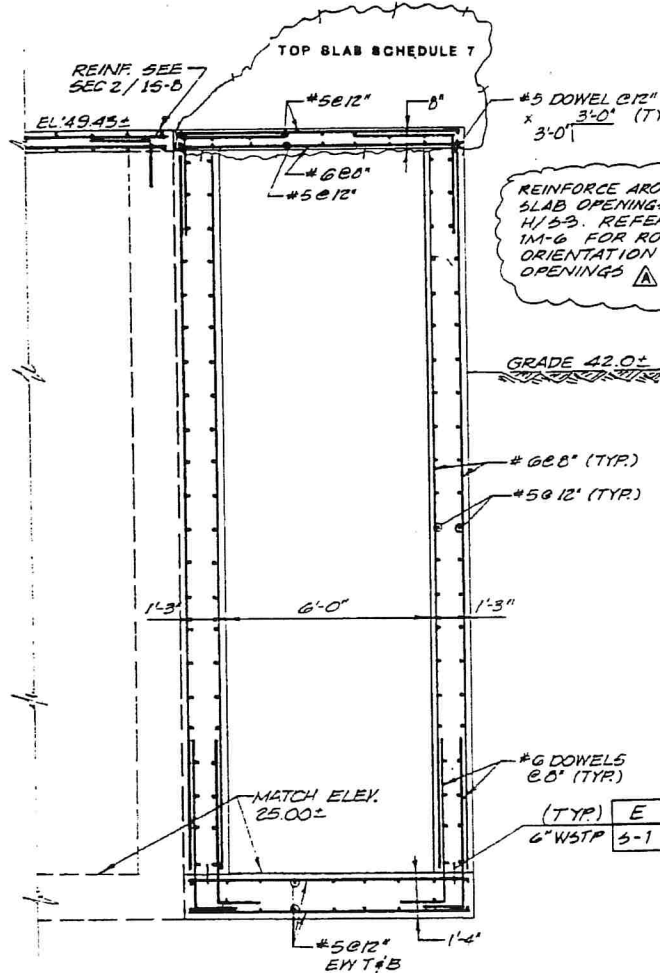


JORDAN VALLEY WATER CONSERVANCY DISTRICT

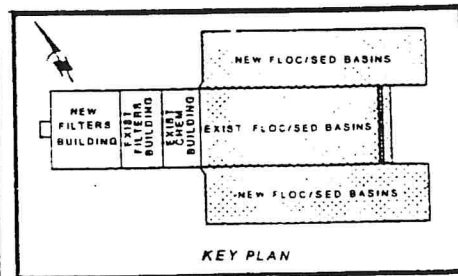
Drawings

**NOTES:**

1. NORTH FLOC/SED BASINS IS A MIRROR IMAGE OF SOUTH FLOC/SED. BASINS UNLESS NOTED ON THIS SHEET.
2. PROVIDE 1" S.S. RAILING AROUND THE PERIMETER OF EACH FLOC/SED BASINS BOTH ON THE NEW AND EXISTING. THE RAILINGS SHALL BE A SINGLE RAIL LOCATED 6" ABOVE WATER SURFACE. IT SHALL CONSIST OF A 6'-0" LONG SECTION W/ 10'-0" SPACE BETWEEN THE NEXT SECTION. MOUNT RAILING AT EACH END TO WALL PER MG/2-5. PROVIDE CAP FOR ENDS OF RAIL. RAIL SHALL BE SECURED TO WALL BRACKET WITH STAINLESS STEEL SCREWS.
3. ELECTRICAL PULL BOXES TO BE LOCATED IN THE SIDEWALKS. SEE ELEC. DRWS FOR SIZES & LOCATION.
4. LIGHTPOLES SHALL BE LOCATED DIRECTLY OVER A WALL. SEE 11/5-22 FOR ANCHOR BOLT DETAILS.

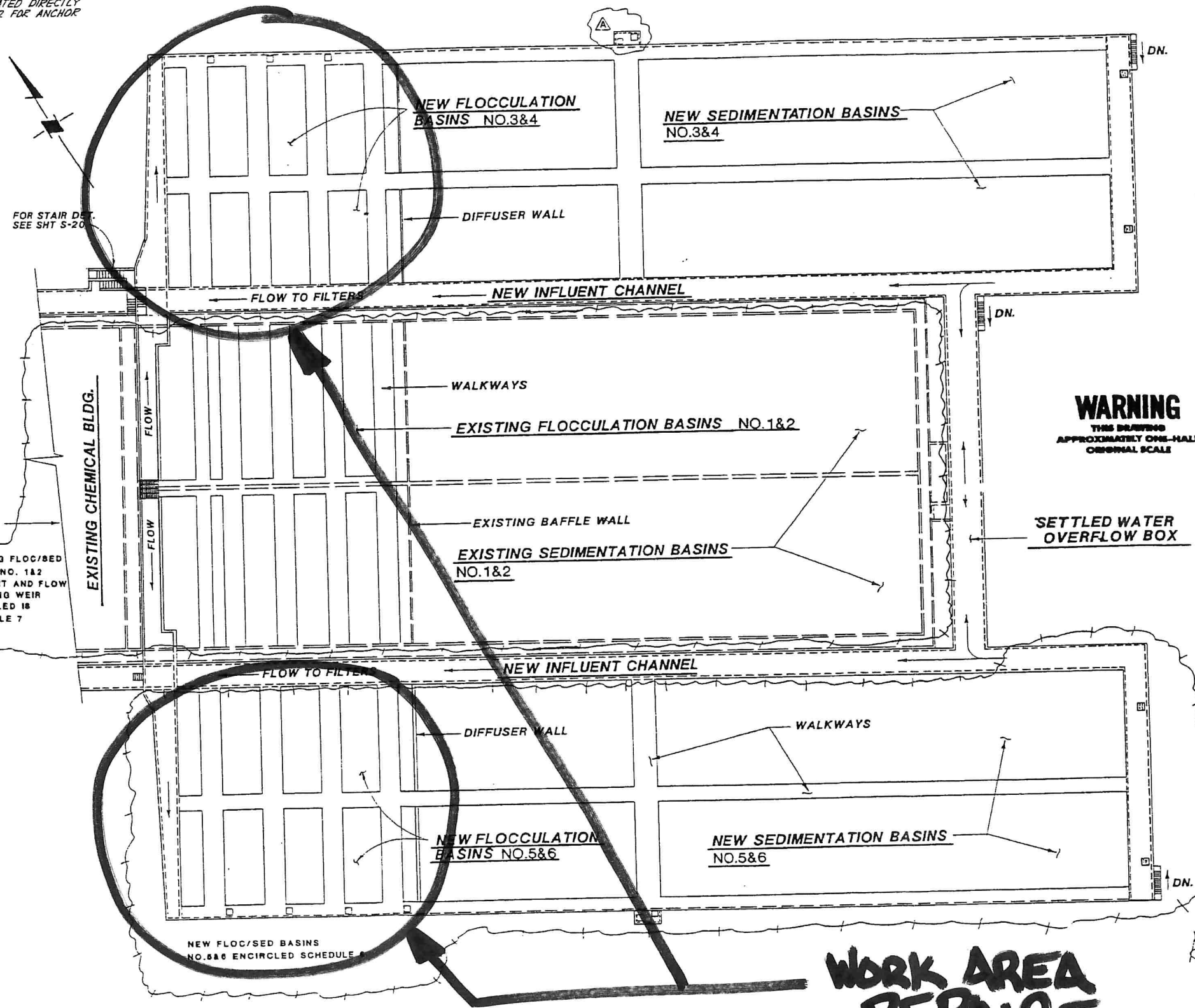


SECTION 1  
SCALE: 3/8" = 1'-0" 15-8



KEY PLAN

ALL WORK THIS SHEET IS SCHEDULE 2 UNLESS NOTED OTHERWISE



**WARNING**  
THIS DRAWING APPROXIMATELY ONE-HALF ORIGINAL SCALE

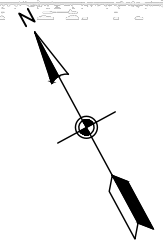
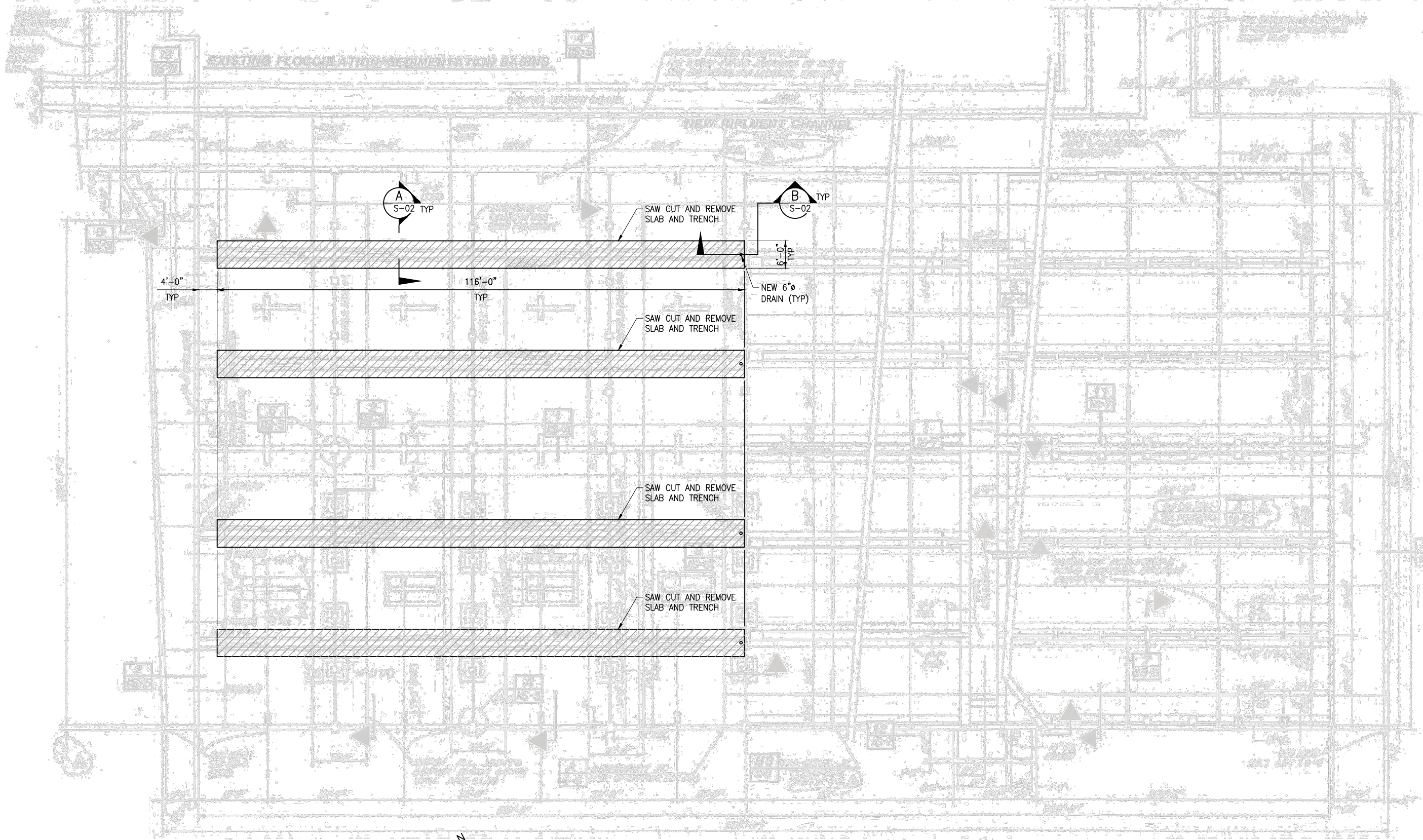
**WORK AREA REPAIRS**



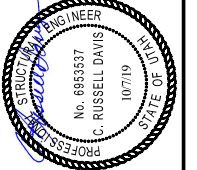
DESIGNED: <i>R.S. Green</i> DRAWN: <i>PAUL LUNA</i> CHECKED: <i>D.M. Hedy</i>		SUBMITTED: <i>Andy Wilson</i> PROJECT ENGINEER RECOMMENDED: <i>Paul Luna</i> JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.		7307 R.C.E. NO. 4980 R.C.E. NO.		7-31-85 DATE 7-31-85 DATE		APPROVED: <i>Don A. Christiansen</i> ADJ. A. CHRISTIANSEN APPROVED: <i>Matthew R. Muschel</i>		7-31-85 DATE 7-31-85 DATE		CENTRAL WATER CONSERVATION DISTRICT JORDAN VALLEY WATER PURIFICATION PLANT EXPANSION FLOCCULATION/SEDIMENTATION BASINS OVERVIEW PLAN		SHEET 1S-1 OF SHEETS	
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**JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.**  
12200 E. ILLIFF AVE., SUITE 108, AURORA, COLORADO 80014





**EXISTING FLOCCULATION BASIN PLAN**  
SCALE: 3/32"=1'-0"



NO.	DATE	REV. BY	DESCRIPTION

JWTP FLOC BASINS REPAIR PROJECT WEST JORDAN, UTAH		<b>VERIFY SCALE</b> BAR IS ONE INCH ON ORIGINAL DRAWING
DESIGN DESIGN R. DAVIS DRAWN R. DAVIS	REVIEW CHECKED R. DAVIS APPROVED R. DAVIS	

STRUCTURAL	DATE: MARCH 2019	PROJECT NUMBER: 010-19-01
<b>DEMOLITION AND REPLACEMENT PLAN</b>		

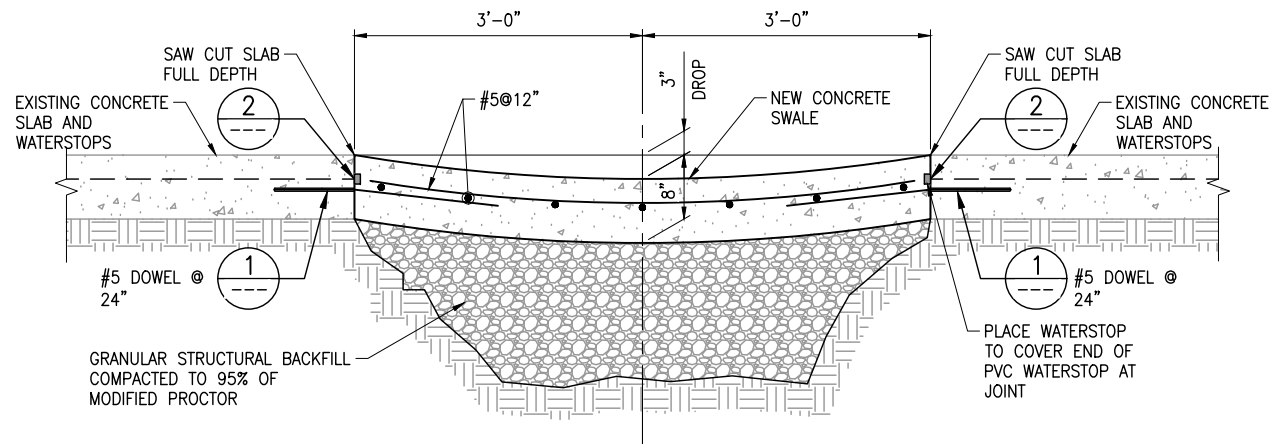
DRAWING NO. <b>S-01</b>
SHEET <b>1</b> OF <b>2</b>



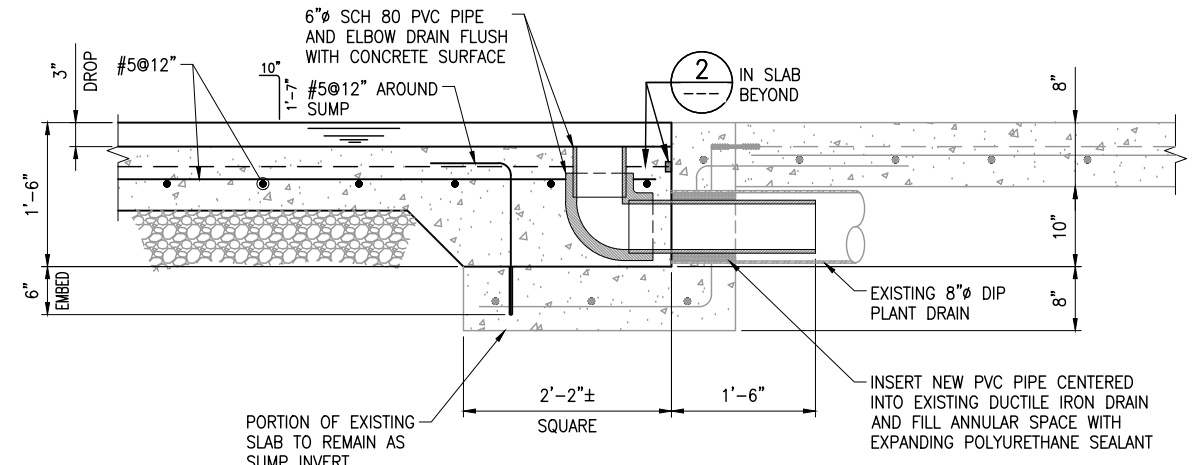
NO.	DATE	REV. BY	DESCRIPTION

JORDAN VALLEY WATER CONSERVANCY DISTRICT WEST JORDAN, UTAH	DESIGN R. DAVIS	CHECKED R. DAVIS	REVIEW R. DAVIS	VERIFIED SCALE BAR IS ONE INCH ON ORIGINAL DRAWING
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STRUCTURAL	PROJECT NUMBER 010-19-01	DATE: MARCH 2019
<b>SECTIONS AND DETAILS</b>		
DRAWING NO. <b>S-02</b>		
SHEET <b>2</b> OF <b>2</b>		



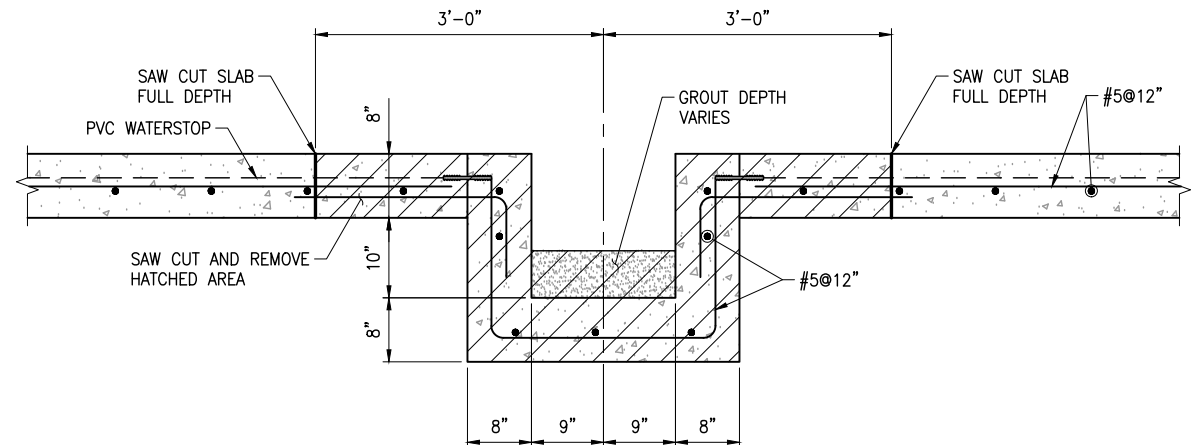
**NEW CONSTRUCTION**



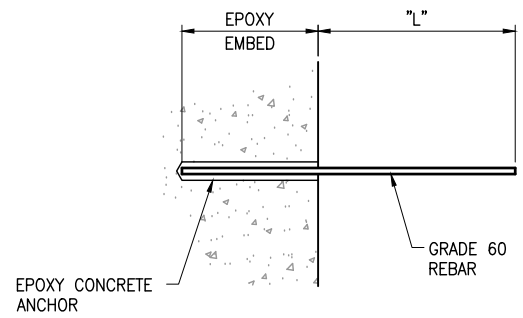
**SECTION B**

SCALE: 1"=1'-0"

B  
S-01



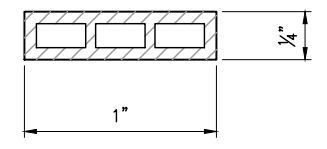
**EXISTING CONSTRUCTION**



**SECTION 1**

SCALE: 1"=1'-0"

1  
---



**SECTION 2**

SCALE: 1"=1'-0"

2  
---

**SECTION A**

SCALE: 1"=1'-0"

A  
S-01

**GENERAL STRUCTURAL NOTES**

**GENERAL**

- THE SPECIFICATIONS AND REQUIREMENTS INDICATED ON THIS SHEET ARE INTENDED AS A BASIC SUMMARY OF THE MATERIAL CONSTRUCTION AND INSPECTION REQUIREMENTS FOR THIS PROJECT, AS INCLUDED IN THE PROJECT SPECIFICATIONS. ADDITIONAL AND MORE STRINGENT REQUIREMENTS ARE GIVEN IN THOSE SPECIFICATIONS. IN THE EVENT OF A CONFLICT BETWEEN THESE GENERAL NOTES AND THE REQUIREMENTS GIVEN IN THE PROJECT SPECIFICATIONS, THE PROJECT SPECIFICATIONS GOVERN.
- DESIGN DETAILS AS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND APPLY TO ALL SIMILAR SITUATIONS OCCURRING ON THE PROJECT, WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED IN EACH LOCATION. CONSULT THE ENGINEER FOR CONCURRENCE PRIOR TO CONSTRUCTION.
- SUBMIT DRAWINGS AND RECEIVE REVIEW OF ALL STRUCTURAL RELATED SHOP DRAWINGS PRIOR TO ERECTION OR CONSTRUCTION.

**FORMWORK, SHORING, AND BRACING**

- CONFORM TO ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK" FOR DESIGN AND CONSTRUCTION OF CONCRETE FORMWORK AND BRACING. CONTRACTOR IS RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF FORMWORK AND BRACING.
- STRUCTURES AS SHOWN ON THESE DRAWINGS INDICATE THE FINAL CONDITION ONLY AND DO NOT INCLUDE THE NECESSARY COMPONENTS OR EQUIPMENT FOR STRUCTURAL STABILITY DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATED TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.

**CONCRETE**

- ALL CONCRETE CONSTRUCTION TO CONFORM TO ACI 350 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE," INCLUDING BAR BENDS AND HOOKS UNLESS SPECIFICALLY DETAILED OTHERWISE ON THESE DRAWINGS.
- CAST-IN-PLACE CONCRETE TO HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,500 PSI.
- USE CEMENT CONFORMING TO ASTM C150, TYPE II OR V, LOW ALKALI.
- ALL CONSTRUCTION JOINTS, EXPANSION JOINTS, AND OTHER TYPES OF JOINTS, OTHER THAN THOSE SPECIFICALLY SHOWN ON THE DRAWINGS TO BE APPROVED BY THE ENGINEER PRIOR TO PLACING CONCRETE.
- INSTALL CONTINUOUS WATERSTOPS IN ALL EXPANSION, CONTRACTION, CONTROL, AND CONSTRUCTION JOINTS OF WATER-HOLDING BASINS, CHANNELS, AND BELOW-GRADE STRUCTURES UNLESS SPECIFICALLY NOTED OTHERWISE.
- PROVIDE 3/4-INCH CHAMFER AT ALL EXPOSED EDGES AND CORNERS UNLESS NOTED OTHERWISE.
- BEFORE PLACING THE SECOND POUR AT CONSTRUCTION JOINTS, THOROUGHLY CLEAN AND ROUGHEN ALL JOINT SURFACES TO MINIMUM AMPLITUDE OF 1/4 INCH.

**REINFORCEMENT STEEL**

- PROVIDE REINFORCEMENT STEEL CONFORMING TO ASTM A615, GRADE 60 EXCEPT WHERE WELDING IS PERMITTED BY THE ENGINEER. PROVIDE STEEL CONFORMING TO ASTM A706 WHEN WELDING IS PERMITTED.
- DIMENSIONS GIVEN FOR REINFORCING BARS ARE TO BAR CENTERS UNLESS NOTED OTHERWISE. BAR COVER IS THE CLEAR DISTANCE BETWEEN BAR AND CONCRETE SURFACE. CLEARANCE FOR REINFORCING BARS PER THE FOLLOWING UNLESS SHOWN OTHERWISE:  
WHEN PLACED AGAINST GROUND.....3"  
INTERIOR SURFACES OF WATER-BEARING STRUCTURES.....2"  
ALL OTHER CONCRETE SURFACES.....2"
- CONTINUE WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS AROUND CORNERS AND THROUGH COLUMNS OR PILASTERS. UNLESS OTHERWISE NOTED, ALL HOOKS SHOWN ARE 90° STANDARD HOOK AS DEFINED IN ACI 350.
- UNLESS OTHERWISE INDICATED, CONTRACTOR MAY SPLICE CONTINUOUS SLAB OR LONGITUDINAL BEAM BARS AT LOCATIONS OF HIS CHOOSING. MINIMUM LAP REQUIREMENTS ARE AS FOLLOWS UNLESS OTHERWISE INDICATED.

GRADE 60 LAP LENGTHS - CONCRETE								
BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE DESIGN STRENGTH = 4500 PSI								
LAP LENGTH	1'-8"	2'-0"	2'-4"	3'-4"	4'-0"	4'-9"	6'-0"	7'-0"



JORDAN VALLEY WATER CONSERVANCY DISTRICT

Specifications

## SECTION 01 01 01 - SUMMARY OF WORK

### PART 1 GENERAL

#### **101.01 SECTION INCLUDES**

- A. This section describes the project and the work to be performed under this Contract. Detailed requirements and extent of work are stated in applicable Specifications sections and shown on the Drawings.

#### **101.02 ORGANIZATION AND INTERPRETATION OF CONTRACT DOCUMENTS**

- A. Specifications and Drawings included in these Contract Documents establish the performance, quality requirements, location and general arrangements of materials and equipment, and establish the minimum standards for quality of workmanship and appearance.
  - 1. Specifications sections have not been divided into groups for work of subcontractors or various trades. Should there be questions concerning the applicability or interpretation of a particular section or part of a section or Drawing, direct questions to the Project Representative.
  - 2. A part of the work that is necessary or required to make each installation satisfactory and operable for its intended purpose, even though it is not specifically included in the Specifications or on the Drawings, shall be performed as incidental work as if it were described in the Specifications and shown on the Drawings.

#### **101.03 REQUIREMENT**

- A. GENERAL:

The CONTRACTOR shall obtain all necessary building permits and furnish all equipment and materials and shall perform all work necessary for JWTP Flocculation Basin Repair Project as described in the Project Drawings and Specifications.

#### **101.04 DESCRIPTION OF PROJECT**

- A. Work includes:
  - a. Original construction of the JWTP included rectangular wash-down trenches in the flocculation basins. Freeze-thaw cycling has resulted in concrete spalling. This project removes approximately 1000 linear feet of damaged trench and replaces it with new structural concrete with a shallow cross-gutter in lieu of a rectangular trench.
  - b. Additional work includes approximately 3630 linear feet of expansion joint repair using Sikaflex-2c. Exact linear feet quantities to be



**SECTION 01 01 01 - SUMMARY OF WORK**

- measured and incorporated into the contract by change order as part of the work.
- c. Additional work includes repair of spalling concrete within the project area as directed by Owner. An allowance is included in the bid schedule for this work. Costs shall be negotiated and incorporated into the contract by Change order.
  - d. All other appurtenant work as indicated in the plans and specifications.
- C. Work will be completed by the contractor Between December 15, 2019 and February 28, 2020 during a planned complete water treatment plant shut down. The owner expects the work areas to be dry with the exception of up to 5 gpm of nuisance water which may require pumpage by the contractor.
- F. The CONTRACTOR shall be responsible for:
- 1. Furnishing all work as indicated in the project documents.
  - 2. Attending bi-weekly project progress meetings with the owner.
  - 3. Cold-weather protection as appropriate for the work conditions during the shut-down window.
  - 4. On-time performance to allow the plant to resume normal operation on March 1, 2020.
  - 5. Operation and Maintenance Manuals will not be required

**PART 2 PRODUCTS - (Not Used)**

**PART 3 EXECUTION (Not Used)**

**PART 4 PAYMENT**

**401.01 GENERAL**

- A. Payment for work in the section will be included as part of the Bid Schedule total price stated in the Bid.

**- END OF SECTION -**

**SECTION 03 30 53  
CAST-IN-PLACE CONCRETE**

**PART 1 - GENERAL**

1.1 SUMMARY

- A. Section includes cast-in-place concrete, including forms, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.2 REFERENCES

- A. American Concrete Institute (ACI) standards, most recent editions:

ACI 117                      Specifications for Tolerances for Concrete Construction and Materials

ACI 301                      Specifications for Structural Concrete

ACI 305R                    Hot Weather Concreting

ACI 306R                    Cold Weather Concreting

ACI 315                      Details of Concrete Reinforcement

ACI 318                      Building Code Requirements for Reinforced Concrete

ACI 347                      Formwork For Concrete

- B. American Welding Society (AWS):

D1.4                          Structural Welding Code – Reinforcing Steel

- C. ASTM International (ASTM) standards, most recent editions:

ASTM A615                    Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

ASTM A706                    Standard Specification for Low Alloy Steel Deformed Bars for Concrete Reinforcement

ASTM C31                    Standard Specification Making and Curing Concrete Test Specimens in the Field

ASTM C33                    Standard Specifications for Concrete Aggregates

ASTM C39                    Test for Compressive Strength of Cylindrical Concrete Specimens



ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C138	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C143	Standard Test Method for Slump of Hydraulic Cement Concrete
ASTM C150	Standard Specifications for Portland Cement
ASTM C156	Standard Test Method for Water Loss [from a Mortar Specimen] Through Liquid Membrane-Forming Curing Compounds for Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C173	Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C920	Standard Specification for Elastomeric Joint Sealants
ASTM C1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D1621	Standard Test Method for Compressive Properties of Rigid Cellular Plastics
ASTM D1622	Standard Test Method for Apparent Density of Rigid Cellular Plastics
ASTM D1751	Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)

ASTM D1752	Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D2842	Standard Test Method for Water Absorption of Rigid Cellular Plastics
ASTM D 4397	Standard Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
ASTM E1745	Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs

D. Concrete Reinforcing Steel Institute (CRSI) standards, most recent editions:

Manual of Standard Practice

### 1.3 SYSTEM DESCRIPTION

A. The Contractor shall be responsible for the design, engineering, construction, maintenance, and safety of all falsework, including staging, walkways, forms, ladders, and similar appurtenances, which shall equal or exceed the applicable requirements of the provisions of the OSHA Safety and Health Standards for Construction, and the requirements specified herein.

### 1.4 SUBMITTALS

- A. Product data: Provide data on joint devices, expansion and control joint materials, attachment accessories, and curing and sealing materials.
- B. Design Mixes: Provide testing data and product information including concrete mix proportions, trial batch test results, statistical analyses, and admixture data sufficient to qualify the proposed mix design for each class of concrete according to these Specifications.
- C. Shop Drawings: Indicate reinforcement sizes, spacing, locations, and quantities of reinforcing steel and wire fabric, bending and cutting schedules, splicing, and supporting and spacing devices in accordance with ACI 315.

### 1.5 QUALITY ASSURANCE

- A. Ready mix concrete manufacturer qualifications: Concrete producer shall be a firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94 requirements for production facilities and equipment.
- B. Perform work in accordance with ACI 301 and the applicable referenced documents.
- C. Welders' Certificates: When welding of reinforcing steel is proposed, submit welders' certificates certifying welders employed on the Work and verifying AWS qualification within the previous 12 months. All welding to be performed in accordance with AWS D1.4.



- D. Conform to ACI 305R and/or ACI 306R when concreting during hot or cold weather as appropriate.

## **PART 2 - PRODUCTS**

### **2.1 FORMWORK**

- A. Conform to ACI 301, ACI 318, and ACI 347, using plywood or metal forms.
- B. Plywood forms: Douglas Fir or Southern Yellow Pine species; solid one side or high density overlaid one side; sound, undamaged sheets designed to support weight of concrete with minimum deflection.
- C. Steel forms: Stiffened to support weight of concrete with minimum deflection.
- D. Glass fiber reinforced resin type: Preformed shape, stiffened to support weight of concrete with minimum deflection.
- E. Form ties: Removable or snap-off metal of fixed length, leaving no metal within 1 inch of finished surface.
- F. Form release agent: Colorless mineral oil that will not stain concrete or absorb moisture.

### **2.2 STEEL REINFORCEMENT**

- A. Reinforcing steel: ASTM A615, Grade 60, deformed billet steel bars, uncoated finish.
  - 1. Tie wire: Minimum 16 gage annealed type.
  - 2. Chairs, bolsters, bar supports and spacers: Sized and shaped for strength and support of reinforcement during concrete placement.
- B. Welding reinforcing steel: When welded reinforcing steel is called for on the Drawings or in these Specifications, provide per ASTM A706.

### **2.3 CONCRETE MATERIALS**

- A. Cement: ASTM C150, Type II or V, grey color.
  - 1. Use one brand of cement throughout the Work unless otherwise acceptable to the Engineer.
  - 2. Portland cement shall not contain more than 0.60 percent alkalis per ASTM C33.
- B. Fly ash: ASTM C618, Class F including supplementary optional requirements relating to reactive aggregates and alkalis, and loss on ignition (LOI) not to exceed 5 percent.
  - 1. Maximum of 25 percent replacement at 1.0 pounds of fly ash per pound of cement replaced.
- C. Coarse aggregate: ASTM C33,
  - 1. Graded Size No. 67.
  - 2. Obtain coarse aggregates from sources approved by Engineer.

- D. Fine aggregate: ASTM C33
  1. Fineness Modulus: Not over 3.00.
  2. Obtain fine aggregates from sources approved by Engineer.
- E. Lightweight aggregates: Not permitted unless specifically allowed by Engineer.
- F. Water
  1. Clean and not detrimental to concrete; potable.
  2. Conform to ASTM C94.

2.4 ADMIXTURES

- A. Air entrainment: ASTM C260.
- B. Water reducing: ASTM C494, Type A.
- C. Water reducing and retarding: ASTM C494, Type D.
- D. Water reducing and accelerating: ASTM C494, Type E.
- E. Water reducing, high range plasticizer: ASTM C494, Type F.
- F. Do not use calcium chloride.

2.5 RELATED MATERIALS

- A. Waterstops, hydrophilic strip type.
  1. Swellable, conformable blended rubber based material free of sodium bentonite.
  2. Waterstop physical properties:

Property	Typical Value
Color	Grey
Size	1.0 in x 1/4 in min
Hydrostatic Head Resistance	150 ft min
Wet - Dry Cycling [25 Cycles @ 150 ft]	No Effect
Adhesion to Concrete	Use Primer if required by Manufacturer

- B. Bonding agent: Polymer resin emulsion acceptable to the Engineer.
- C. Bond breaker: VOC compliant, water or solvent based membrane forming, reactive bond breaker formulated for tilt-up construction.
  1. Provides cure to concrete in accordance with ASTM C309.



- D. Grout: Premixed compound with non-metallic aggregate, cement, water reducing and plasticizing agents, capable of minimum compressive strength of 2500 psi in 3 days and 6000 psi in 28 days.
- E. Construction joints: Locate and install construction joints that are not shown on Drawings so as not to impair strength of concrete, and as acceptable to the Engineer.
- F. Premolded joint filler:
  - 1. Provide expansion joints in concrete construction where shown on Contract Drawings.
  - 2. Expansion Joint Filler: Preformed, non-extruding, resilient type, constructed of cellular neoprene sponge rubber, extending full thickness of slab, in accordance with ASTM D1751 or ASTM D1752, Type I.
- G. Expansion joints: Locate and install where shown on the Drawings.
- H. Joint sealant: 2-component polyurethane conforming to ASTM C920.
- I. Expanding polyurethane foam sealant. Two-component spray polyurethane cellular plastic foam, complying with the following methods and meeting the following physical properties:
  - 1. Core Density: 2 pcf minimum per ASTM D1622.
  - 2. Compressive Strength: 20 psi per ASTM D1621.
  - 3. Closed Cell Content: 90% minimum per ASTM D2856.
  - 4. Water Absorption by Volume: 2.5% maximum.

## 2.6 CURING MATERIALS

- A. Water: Clean and potable.
- B. Polyethylene sheet for use as concrete curing blanket shall be white, and shall have a nominal thickness of 6 mils. The loss of moisture when determined in accordance with the requirements of ASTM C156 shall not exceed 0.055 grams per square centimeter of surface.
- C. Polyethylene-coated waterproof paper sheeting for use as concrete curing blanket shall consist of white polyethylene sheeting free of visible defects, uniform in appearance, having a nominal thickness of 2 mils and permanently bonded to waterproof paper conforming to the requirements of Federal Specification UU-B-790A (1) (2). The loss of moisture, when determined in accordance with the requirements of ASTM C156, shall not exceed 0.055 gram per square centimeter of surface.
- D. Polyethylene-coated burlap for use as concrete curing blanket shall be 4 mils thick, white opaque polyethylene film impregnated or extruded into one side of the burlap. Burlap shall weigh not less than 9 ounces per square yard. The loss of moisture, when determined in accordance with the requirements of ASTM C156, shall not exceed 0.055 gram per square centimeter of surface.
- E. Evaporation retardant to provide thin continuous film over freshly placed flatwork concrete to prevent rapid moisture loss before finishing.

- F. Membrane Curing Compound (with fugitive dye added): ASTM C309, Type 1-D, Class B. Sodium silicate compounds shall not be allowed.

## 2.7 CONCRETE MIXTURES

- A. Normal-weight concrete: Select proportions for normal-weight concrete in accordance with ACI 301 using either the "statistical method" or the "trial batch method".

1. "Statistical method" is preferred with a minimum of 30 tests acceptable to the Engineer.
2. If "trial batches" are used to verify the mix design strength, the proposed mix design shall achieve an average compressive strength of 1200 psi in excess of strengths given in table below.

- B. Concrete strength, cement content and slump per the following table:

Type of Construction	Compressive Strength (psi)	Aggregate Gradation (ASTM C33)	Slump in Inches (Max.)	Max W/C Ratio (by Weight)
All Construction	4,000	#57 (1")	4	0.45

1. Slump as shown above shall be plus or minus 1 inch.
2. Minimum cement content:
  - a. Reinforced Concrete: Six sacks of Portland Cement per cubic yard.
  - b. Unreinforced Concrete: Five sacks of Portland Cement per cubic yard.
3. Air content: Provide air entrainment resulting in a total air content of 5 to 7 percent for all types of construction.
  - a. Air content to be measured in accordance with ASTM C231, ASTM C173, or ASTM C138.
  - b. Air may be omitted from interior slabs to be trowel finished.

## 2.8 CONCRETE MIXING

- A. Measure, batch, mix, and deliver concrete according to ASTM C94 and furnish batch ticket for each truck delivered.

1. Deliver and place concrete within 90 minutes from the time the water is added to the mix.
2. When ambient air temperature is above 90 degrees F, reduce delivery and placement time to 60 minutes.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Earth surfaces shall be thoroughly wetted by sprinkling, prior to the placing of any concrete, and these surfaces shall be kept moist by frequent sprinkling up to the time of placing concrete thereon. Surface shall be free from standing water, mud and debris at the time of placing concrete.

- B. Provide slabs and beams of minimum indicated depth when sloping foundation base slabs or elevated floor slabs to drains.
  - 1. For slabs on grade, slope top of subgrade to provide floor slabs of minimum uniform indicated depth.
  - 2. Do not place floor drains through beams.
- C. Unless otherwise indicated, provide exterior corners in concrete members with 3/4-inch chamfers. Re-entrant corners in concrete members shall not have fillets unless otherwise indicated.

### 3.2 FORMWORK

- A. Verify lines, levels, and measurement before proceeding with formwork.
- B. Hand trim sides and bottom of earth forms. Remove all loose soil.
- C. Align form joints.
- D. Do not apply form release agent where concrete surfaces will receive special finishes or applied coatings that may be affected by the agent.
- E. Coordinate work of other trades in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

### 3.3 WATERSTOPS

- A. Preparation
  - 1. Uncoil waterstop minimum of 24 hours prior to installation for ease of handling and fabrication.
  - 2. Position waterstop to ensure proper distance from steel reinforcing bars and to prevent rock pockets and honeycomb.
- B. Installation
  - 1. Position waterstop across joints as specified herein and as indicated on Drawings.
  - 2. Center waterstops on joint unless shown otherwise.
  - 3. All waterstops fully continuous for the extent of the joint.
  - 4. Secure waterstop in correct position before concrete placement.
  - 5. Carefully place concrete without displacing waterstop from proper position.

### 3.4 STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
  - 1. Do not cut or puncture vapor barrier if used.

### 3.5 CONCRETE PLACEMENT

- A. Notify Engineer a minimum of 24 hours prior to commencement of concreting operations.

- B. Before placing new concrete on or against concrete which has set, existing surfaces shall be roughened and cleaned free from all laitance, foreign matter, and loose particles.
- C. Place concrete in accordance with ACI 301.
- D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301. In no case shall water be added to exceed the specified water-cement ratio of the mix.
- E. Conform to ACI 305R when concreting during hot weather.
- F. Conform to ACI 306R when concreting during cold weather.

### 3.6 FLOOR SLABS

- A. Install control joints in slab by forming or cutting within 4 hours of placement using an early entry saw.
- B. Separate slabs-on-grade from vertical surfaces using full-depth joint filler. Apply joint sealant when shown on Drawings.

### 3.7 FINISHING FORMED SURFACES

- A. Rough-formed finish: As-cast concrete texture imparted by form facing material with tie holes and defective areas repaired and patched.
  - 1. Remove fins and other projections exceeding 1/2 inch.
  - 2. Apply to concrete surfaces not exposed to view after final grading.
- B. Smooth-formed finish: As-cast concrete texture imparted by form facing material, arranged in an orderly and symmetrical manner with a minimum of seams.
  - 1. Repair and patch tie holes and defective areas.
  - 2. Remove fins and other projections exceeding 1/8 inch.
  - 3. Apply to concrete surfaces exposed to view or to be covered with a coating or covering material applied directly to concrete.

### 3.8 FINISHING UNFORMED SURFACES

- A. Steel trowel surfaces at interior floor slabs which are to be exposed.
- B. Steel trowel surfaces that are to receive carpeting, resilient flooring, seamless flooring, thin-set marble, quarry or ceramic tile.
- C. Wood float surfaces that are scheduled to receive quarry, ceramic tile, or terrazzo tile, with full bed setting system.
- D. Broom finish at exterior concrete slabs, paving, and steps.
- E. Broom or wood float finish at exposed concrete filled pan stair treads.

### 3.9 CONCRETE CURING AND PROTECTION

- A. Evaporation retarder.
  - 1. Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. per hour before and during finishing operations.
  - 2. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- B. Cure concrete for not less than 14 days after placing.
- C. Leave forms in place at least 14 days, or until concrete has attained specified 28-day strength, unless otherwise approved by Engineer. If forms are allowed to be removed within 14 days of placing concrete, continue curing in accordance with other methods specified herein or as directed by Engineer.
- D. Strictly follow careful procedures for the removal of forms and perform with care so as to avoid injury to the concrete. No heavy loading on green concrete will be permitted.
- E. Keep encasement concrete, concrete cradles and anchor blocks moist until covered. The surface shall be covered with moist earth not less than 4 hours, or more than 24 hours, after the concrete is placed. Earthwork operations that may damage the concrete shall not begin until at least 7 days after placement of concrete.
- F. Concrete slabs may be cured by either of the following two methods:
  - 1. Method 1:
    - a. After finishing slab, wet surface with a fine spray of water and cover with polyethylene-bonded waterproof paper sheeting.
    - b. Lap sheets 4 inches at sides and ends and seal with adhesive tape to form a continuous watertight joint.
    - c. Weigh sheeting down with wood planks to keep sheeting in contact with concrete.
    - d. Repair or replace sheets immediately if damage occurs.
  - 2. Method 2:
    - a. Cover concrete with water-saturated polyethylene-coated burlap curing mats and keep continuously wet for curing period.
    - b. Lap sheets 4 inches at sides and ends and seal with adhesive tape to form a continuous watertight joint.
    - c. Weigh sheeting down with wood planks to keep sheeting in contact with concrete.
    - d. Repair or replace sheets immediately if damage occurs.
- G. As an alternate to above referenced curing methods for formed and slab concrete, spray surface with liquid curing compound that does not affect bond of paint to concrete surface.
  - 1. Apply curing compound in accordance with manufacturer's instructions as soon as the concrete has hardened enough to prevent marring on unformed surfaces, and within 2 hours after completion of finish or stripping of forms, if stripped in less than 14 days.



- a. Maximum coverage rate of 200 square feet per gallon, applied in such a manner as to cover surface with a uniform film to seal thoroughly.
2. Curing vertical surfaces with a curing compound:
  - a. Cover vertical surfaces with a minimum of two coats of the curing compound.
  - b. Apply the first coat of curing compound immediately after form removal. Vertical surface at the time of receiving the first coat shall be damp with no free water on the surface.
  - c. Allow the preceding coat to completely dry prior to applying the next coat.
  - d. Vertical surface is defined as any surface steeper than 1 vertical to 4 horizontal.
3. Curing Compound: As specified herein.
4. Take care to avoid damage to seal during curing period.
5. Repair broken or damaged seals occurring before expiration of curing period by application of additional curing compound over damaged portion.
6. Do not use curing film method where construction joints are to be made.
7. In hot weather, follow curing procedures outlined in ACI 305R.
8. In Cold Weather, following curing procedures outlined in ACI 306R.

### 3.10 TOLERANCES

- A. Construction Tolerances: Set and maintain concrete forms and perform finishing operations so as to ensure that the completed Work is within the tolerances specified in ACI 117. Surface defects and irregularities are defined as finishes and are to be distinguished from tolerances. Tolerance is the specified permissible variation from lines, grades, or dimensions shown.

### 3.11 FIELD QUALITY CONTROL

#### A. General

1. Tests on component materials and for slump, temperature, air content, and compressive strength will be performed as specified herein.
2. The cost of all laboratory tests for qualification of mix designs on cement, aggregates, and concrete, including strength testing will be borne by the Contractor. The cost of all field testing during construction, including slump, temperature, air, and strength will also be borne by the Contractor. Contractor's testing laboratory shall meet or exceed the requirements of ASTM C1077.
3. Concrete for testing shall be supplied by the Contractor at no additional cost to the Owner, and the Contractor shall provide assistance to the Engineer in obtaining samples, and disposal and cleanup of excess material.
4. Composite samples of concrete placed in the Work shall be taken in accordance with ASTM C172 from the first placement of each class of concrete and at the following minimum frequency for each class:
  - a. Not less than one sample per day on which concrete is placed.
  - b. Not less than one sample for each 100 cubic yards of concrete placed.
  - c. Not less than one sample for each 5,000 square feet of surface area for slabs or walls.
  - d. Not less than 5 samples from randomly selected batches for the Work.

#### B. Slump Tests

1. Perform in accordance with requirements of ASTM C143 at frequency indicated for sampling above.
- C. Temperature Tests
1. Test concrete temperature per ASTM C1064 at frequency indicated for sampling above.
- D. Air Content Tests
1. Test air content per ASTM C231 at frequency indicated for sampling above.
- E. Field Compression Tests
1. Field compression test specimens will be made at the frequency indicated for sampling above.
  2. Each set of test specimens will be a minimum of five cylinders.
  3. Compression test specimens for concrete shall be made in accordance with ASTM C31. Specimens shall be 6-inch diameter by 12-inch high cylinders.
  4. Compression tests shall be performed in accordance with ASTM C 39. One test cylinder will be tested at 7 days and two at 28 days. The remaining cylinders will be held to verify test results, if needed.
- F. Evaluation and Acceptance of Concrete
1. Evaluation and acceptance of the compressive strength of concrete shall be according to the requirements of ACI 318 and as specified herein.
  2. All concrete which fails to meet the ACI requirements and these Specifications, is subject to removal and replacement at no increase in cost to the Owner.

### 3.12 APPLICATION OF LOADS

- A. Do not allow traffic, construction equipment, or materials of any kind to be placed on elevated concrete slabs until the concrete has attained a minimum age of 7 days and 80% of the minimum specified 28-day strength as proven by concrete strength tests.
- B. Do not place backfill against cantilevered walls until the concrete has attained a minimum age of 7 days and 100% of the minimum specified 28-day concrete strength as proven by concrete strength tests.
- C. Do not place backfill against walls that are tied to elevated slabs or decks until the both the slabs and walls have attained a minimum age of 7 days and 80% of the minimum specified 28-day strength as proven by concrete strength tests.

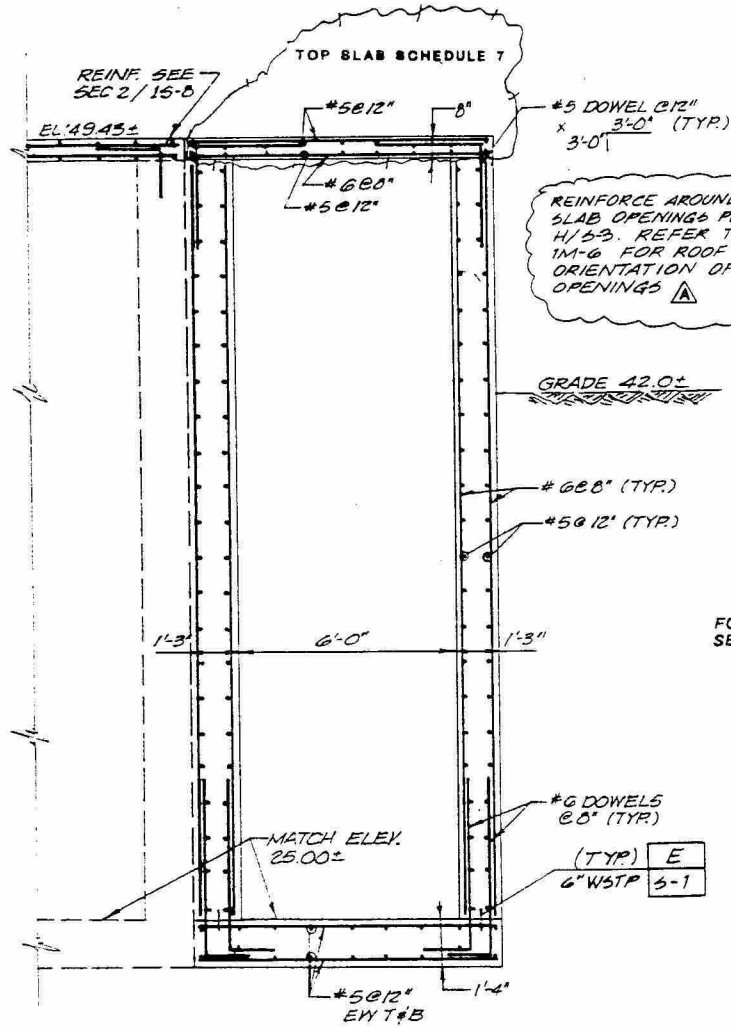
END OF SECTION

JORDAN VALLEY WATER CONSERVANCY DISTRICT

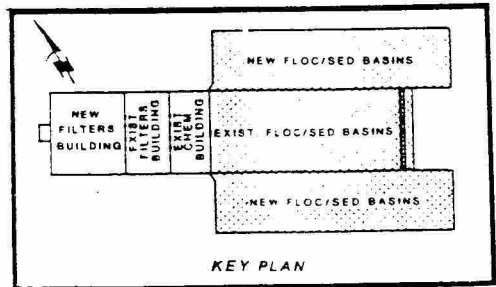
Appendix A  
Original Construction Drawings (reference)

**NOTES:**

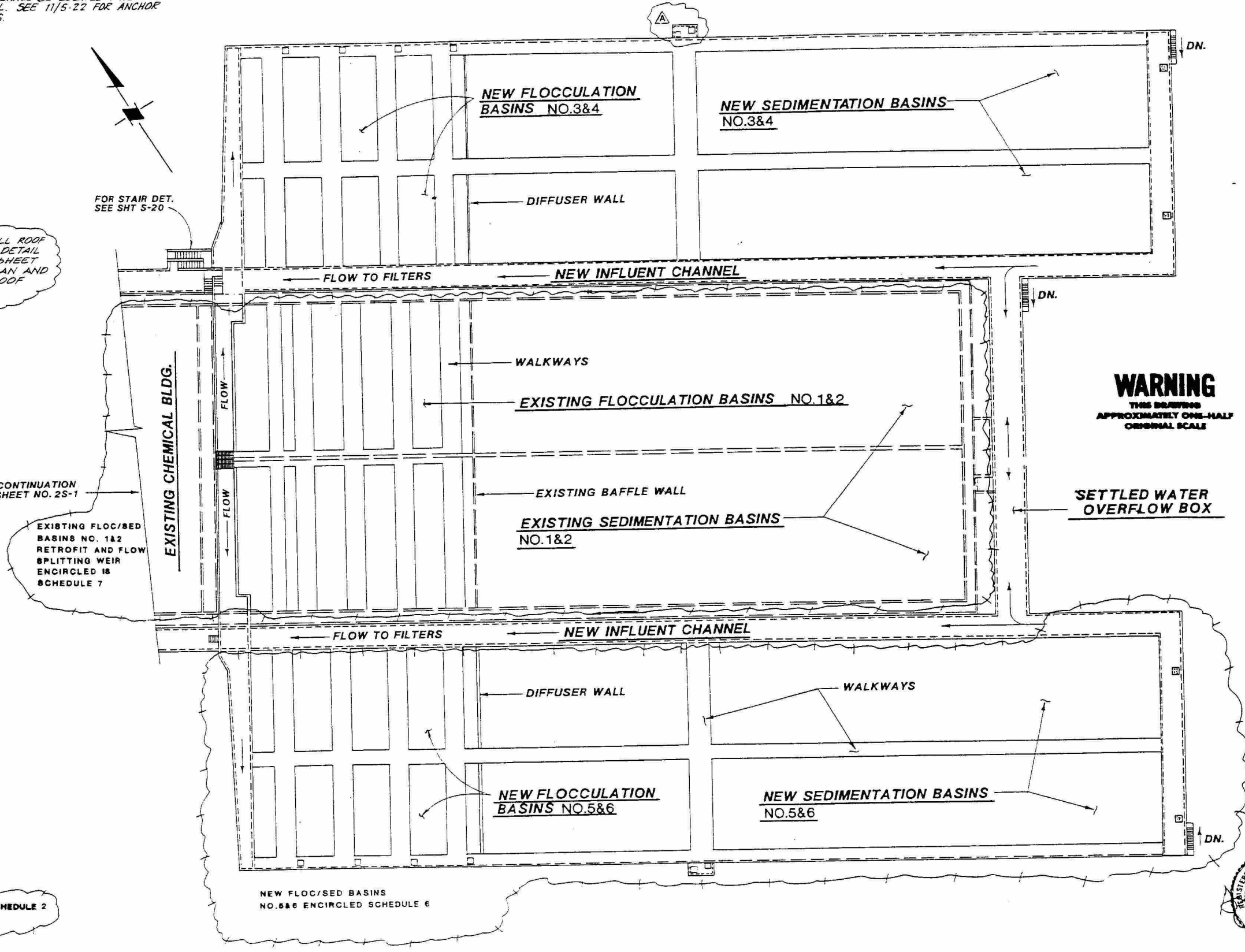
1. NORTH FLOC/SED BASINS IS A MIRROR IMAGE OF SOUTH FLOC/SED. BASINS UNLESS NOTED ON THIS SHEET.
2. PROVIDE 1" Ø S.S. RAILING AROUND THE PERIMETER OF EACH FLOC/SED BASINS BOTH ON THE NEW AND EXISTING. THE RAILINGS SHALL BE A SINGLE RAIL LOCATED 6" ABOVE WATER SURFACE. IT SHALL CONSIST OF A 6'-0" LONG SECTION W/ 10'-0" SPACE BETWEEN THE NEXT SECTION. MOUNT RAILING AT EACH END TO WALL PER MG/5-5. PROVIDE CAP FOR ENDS OF RAIL. RAIL SHALL BE SECURED TO WALL BRACKET WITH STAINLESS STEEL SCREWS. **A**
3. ELECTRICAL PULL BOXES TO BE LOCATED IN THE SIDEWALKS. SEE ELEC. DRWS FOR SIZES & LOCATION.
4. LIGHTPOLES SHALL BE LOCATED DIRECTLY OVER A WALL. SEE 11/5-22 FOR ANCHOR BOLT DETAILS.



**SECTION 1**  
SCALE: 3/8" = 1'-0" 1S-8



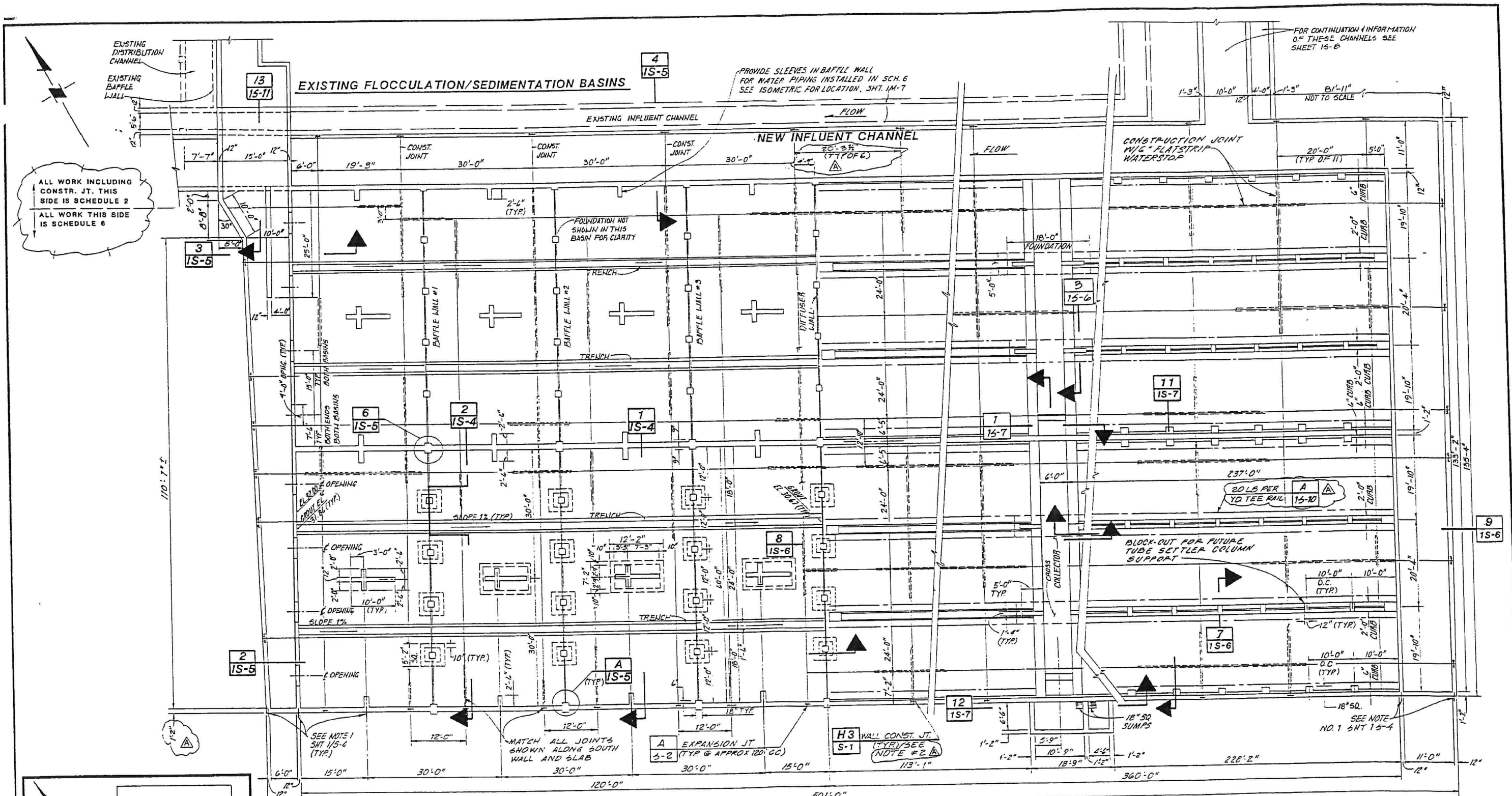
ALL WORK THIS SHEET IS SCHEDULE 2 UNLESS NOTED OTHERWISE



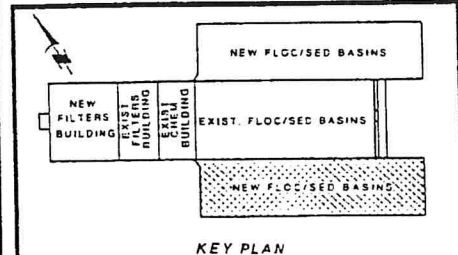
**WARNING**  
THIS DRAWING APPROXIMATELY ONE-HALF ORIGINAL SCALE



JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC. 12200 E. ILLIFF AVE., SUITE 108, AURORA, COLORADO 80014		APPROVED: <i>[Signature]</i> DON A. CHRISTIANSEN DATE: 7-31-85	CENTRAL UTAH WATER CONSERVATORY DISTRICT JORDAN VALLEY WATER PURIFICATION PLANT EXPANSION	SHEET <b>1S-1</b> OF SHEETS
DESIGNED: <i>[Signature]</i> PAUL LUNA CHECKED: <i>[Signature]</i> W.M. HOLBY	SUBMITTED: <i>[Signature]</i> PROJECT ENGINEER RECOMMENDED: <i>[Signature]</i> JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.	7307 7-31-85 R.C.E. NO. DATE 4960 7-31-85 R.C.E. NO. DATE	APPROVED: <i>[Signature]</i> MATTHEW R. MURPHY DATE: 7-31-85	FLOCCULATION/SEDIMENTATION BASINS OVERVIEW PLAN



ALL WORK INCLUDING CONSTR. JT. THIS SIDE IS SCHEDULE 2  
ALL WORK THIS SIDE IS SCHEDULE 6



ALL WORK IN FLOC/SED BASINS NO. 3&4 (WHICH ARE MIRROR IMAGE TO THAT SHOWN) INCLUDING NORTH & SOUTH INFLUENT CHANNELS IS SCHEDULE 2

PLAN @ EL. 43.00



**WARNING**  
THIS DRAWING APPROXIMATELY ONE-HALF ORIGINAL SCALE

NOTE:  
1. FOUNDATION PROJECTION NOT SHOWN FOR CLARITY.  
2. WATERSTOPS ARE AT ALL WALL CONSTRUCTION JOINT LOCATIONS.

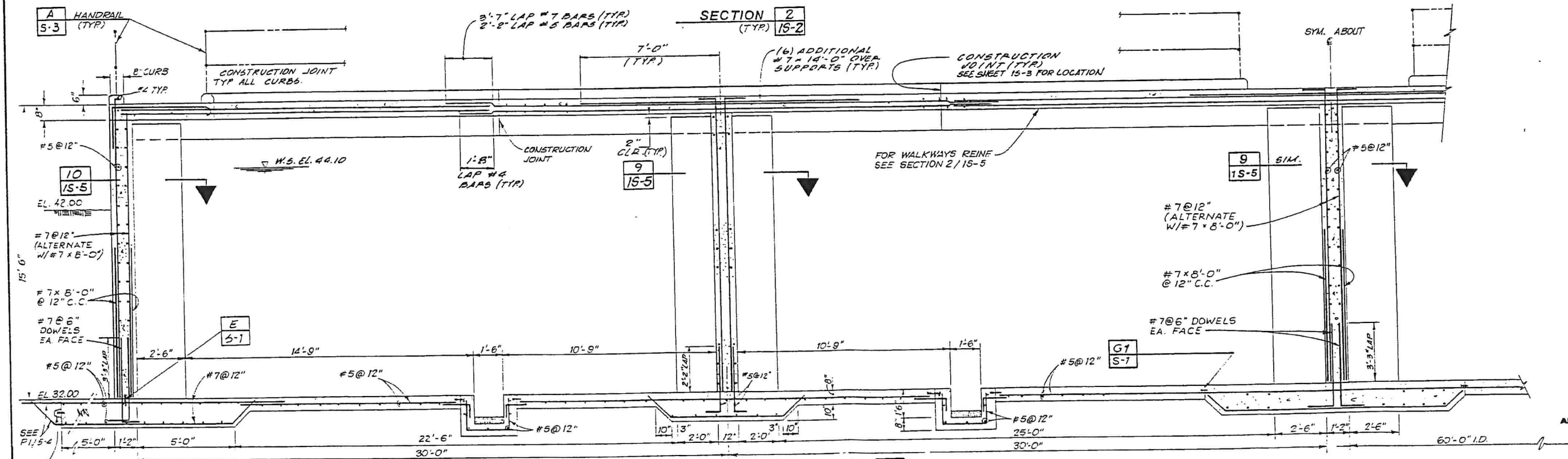
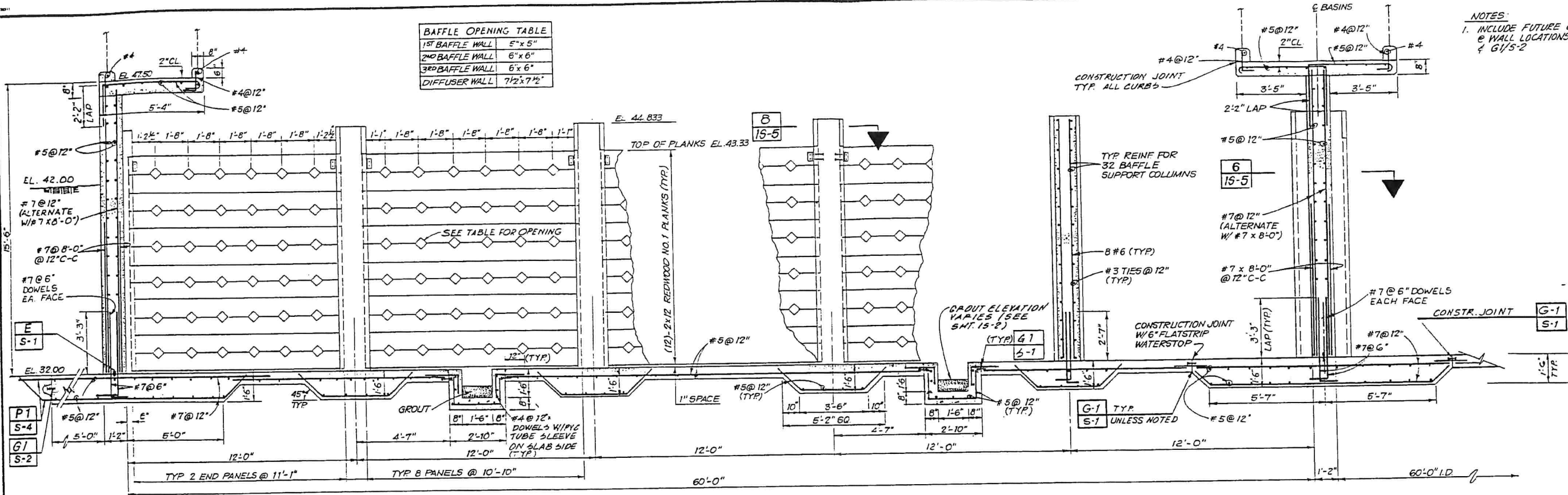
/A/ 10/85 JMM I ADDENDUM 1-5 SCALE: 3/32" = 1'-0" DESIGNED: WJR/RS6 DRAWN: D.S. CHECKED: D.M. Hardy		SUBMITTED: [Signature] PROJECT ENGINEER: [Signature] RECOMMENDED: [Signature] JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.		7307 R.C.E. NO. 7-31-85 4960 R.C.E. NO. 7-31-85		APPROVED: [Signature] DATE: 7-31-85 APPROVED: [Signature] DATE: 7-31-85		CENTRAL UTAH WATER CONSERVANCY DISTRICT JORDAN VALLEY WATER PURIFICATION PLANT EXPANSION FLOCCULATION/SEDIMENTATION BASINS PLAN		SHEET 1S-2 OF 2 SHEETS
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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.  
12200 E. HILFF AVE., SUITE 100, AURORA, COLORADO 80014



BAFFLE OPENING TABLE	
1ST BAFFLE WALL	5' x 5'
2ND BAFFLE WALL	6' x 6'
3RD BAFFLE WALL	6' x 6'
DIFFUSER WALL	7'2" x 7'2"

NOTES:  
1. INCLUDE FUTURE CONNECTIONS @ WALL LOCATIONS SEE P2/S-4 & G1/S-2



SECTION 7 (TYP) 15-2: A cross-section showing the interior of the basin with a handrail (A 5-3) and a curb (B CURB). It details the reinforcement structure, including #5@12 and #7@12 bars, and shows construction joints. Dimensions include 7'-0" and 15'-6". Notes specify '(16) ADDITIONAL #7-14-0 OVER SUPPORTS (TYP.)' and 'CONSTRUCTION JOINT (TYP.) SEE SHEET 15-3 FOR LOCATION'. A warning label is present at the bottom right.

**WARNING**  
THIS DRAWING APPROXIMATELY ONE-HALF ORIGINAL SCALE

SCALE: 3/8" = 1'-0"		DESIGNED: <i>W.M. BSG</i>		SUBMITTED: <i>W.M. BSG</i>		7307		7-31-85		CENTRAL UTAH WATER CONSERVANCY DISTRICT		SHEET	
		DRAWN: <i>D.S.</i>		PROJECT ENGINEER: <i>W.M. BSG</i>		R.C.E. NO.		DATE		JORDAN VALLEY WATER PURIFICATION PLANT EXPANSION		15-4	
		CHECKED: <i>D.W. H.</i>		RECOMMENDED: <i>W.M. BSG</i>		4960		7-31-85		FLOCCULATION/SEDIMENTATION BASINS		OF SHEETS	
				JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.		47220 E. ILLIFF AVE., SUITE 108, AURORA, COLORADO 80014				SECTIONS & DETAILS			

JORDAN VALLEY WATER CONSERVANCY DISTRICT

Appendix B  
Sikaflex- 2C Datasheet

# Sikaflex®-2c NS

## Two-component, non-sag, polyurethane elastomeric sealant

<b>Description</b>	Sikaflex-2c NS is a 2-component, premium-grade, polyurethane-based, elastomeric sealant. It is principally a chemical cure in a <u>non-sag</u> consistency. Meets ASTM C-920, Type M, Grade NS, Class 25, use T, NT, M, G, A, O, I and Federal Specification TT-S-00227E, Type II, Class A. Tested in accordance with ASTM C-1382 for use in EIFS systems.
<b>Where to use</b>	<ul style="list-style-type: none"><li>■ Intended for use in all properly designed working joints with a minimum depth of 1/4 inch.</li><li>■ Ideal for vertical and horizontal applications.</li><li>■ Placeable at temperatures as low as 40°F.</li><li>■ Adheres to most substrates commonly found in construction.</li><li>■ An effective sealant for use in Exterior Insulation Finish Systems (EIFS).</li><li>■ Submerged environments, such as canal and reservoir joints.</li></ul>
<b>Advantages</b>	<ul style="list-style-type: none"><li>■ Capable of ±50% joint movement.</li><li>■ Chemical cure allows the sealant to be placed in joints exceeding 1/2 in. in depth.</li><li>■ High elasticity with a tough, durable, flexible consistency.</li><li>■ Exceptional cut and tear resistance.</li><li>■ Exceptional adhesion to most substrates without priming.</li><li>■ Available in 35 architectural colors.</li><li>■ Color uniformity assured via Color-pak system.</li><li>■ Available in pre-pigmented Limestone Gray (no Color-pak needed).</li><li>■ Non-sag even in wide joints.</li><li>■ Easy to mix.</li><li>■ Paintable with water-, oil-, and rubber-base paints.</li><li>■ Jet fuel resistant.</li></ul>
<b>Coverage</b>	1 gal. yields 231 cu. in. or 154 lin. ft. of a 1/2 in. x 1/4 in. joint.
<b>Packaging</b>	1.5 gal. unit. 3 gal units. Color-pak is purchased separately. Limestone Gray color available pre-pigmented.

### Typical Data (Material and curing conditions 73°F (23°C) and 50% R.H.)

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

<b>Shelf life</b>	One year in original, unopened containers.
<b>Storage Conditions</b>	Store dry at 40°-95°F (4°-35°C). <b>Condition material to 65°-75°F before using.</b>
<b>Colors</b>	A wide range of architectural colors are available. Special colors available on request.
<b>Application Temperature</b>	40° to 100°F, ambient and substrate temperatures. Sealant should be installed when joint is at mid-range of its anticipated movement.
<b>Service Range</b>	-40° to 170°F (-40°-75°C).
<b>Curing Rate (ASTM C-679)</b>	
Tack-Free Time	6-8 hrs.
Final Cure	3 days
<b>Application Life</b>	3-4 hrs.
<b>Tear Strength</b>	ASTM D-624      45 lb./in.
<b>Shore A Hardness</b>	ASTM D-2240      25 ± 5
<b>Tensile Properties (ASTM D-412)</b>	
Tensile Strength at Break	95 psi
Tensile Elongation	500%
100% Modulus	70 psi
<b>Adhesion in Peel (Fed Spec. TT-S-00227E)</b>	
Substrate	<b>Peel Strength</b> <b>% Adhesion Loss</b>
Concrete	25 lb.      Zero
<b>Weathering Resistance</b>	Excellent
<b>Chemical Resistance</b>	Good resistance to water, diluted acids, diluted alkalines, and residential sewage. Consult Technical Service for specific data.

### How to Use

**Surface Preparation** All joint-wall surfaces must be clean, sound, and frost-free. Joint walls must be free of oils, grease, curing compound residues, and any other foreign matter that might prevent bond. Ideally this should be accomplished by mechanical means. Bond breaker tape or backer rod must be used in bottom of joint to prevent bond.

Construction



Sika®

<b>Priming</b>	<p>Priming is typically not necessary. Most substrates only require priming if sealant will be subjected to water immersion after cure. Testing should be done, however, on questionable substrates, to determine if priming is needed.</p> <p>Consult Technical Service or Sikaflex Primer Technical Data Sheet for additional information on priming.</p> <p><b>Note:</b> Most Exterior Insulation Finish Systems (EIFS) manufacturers recommend the use of a primer. When EIFS manufacturer specifies a primer or if on-site bond testing indicates a primer is necessary, Sikaflex 429 primer is recommended. On-site adhesion testing is recommended with final system prior to the start of a job.</p>
<b>Mixing</b>	<p>Pour entire contents of Component 'B' into pail of Component 'A'. Add entire contents of Color-pak into pail and mix with a low-speed drill (400-600 rpm) and Sikaflex paddle.* Mix for 3-5 minutes to achieve a uniform color and consistency. Scrape down sides of pail periodically. Avoid entrapment of air during mixing.</p> <p>When mixing in cold weather (&lt;50°F), do not force the mixing paddle to the bottom of the pail. After adding Component 'B' and Color-pak into Component 'A', mix the top 1/2 to 3/4 of the pail during the first minute of mixing. After scraping down the sides of the pail, mix again for another minute. The paddle should reach the bottom of the pail between the first and second minute of mixing. Scrape down the sides of the pail a second time and then mix for an additional 2-3 minutes until the sealant is well blended.</p> <p><b>Color-pak must be used with tint base. For pre-pigmented Limestone base, just mix with low speed drill and Sikaflex paddle (no Color-pak needed).</b></p>
<b>Application</b>	<p>Recommended application temperatures 40°-100°F. Pre-conditioning units to approximately 70°F is necessary when working at extremes. Move pre-conditioned units to work areas just prior to application.</p> <p>Apply sealant only to clean, sound, dry, and frost-free substrates. Sikaflex-2c should be applied into joints when joint slot is at mid-point of its designed expansion and contraction.</p> <p>To place, load directly into bulk gun or use a follower plate loading system. Place nozzle of gun into bottom of joint and fill entire joint. Keeping the nozzle deep in the sealant, continue with a steady flow of sealant preceding nozzle to avoid air entrapment. Also, avoid overlapping of sealant since this also entraps air. Joint dimension should allow for 1/4 inch minimum and 1/2 inch maximum thickness for sealant. Proper design is 2:1 width to depth ratio. Tool sealant to ensure full contact with joint walls and remove air entrapment.</p>
<b>Limitations</b>	<ul style="list-style-type: none"> <li>■ The ultimate performance of Sikaflex-2c NS depends on good joint design and proper application.</li> <li>■ Minimum depth in working joint is 1/4 in.</li> <li>■ Maximum expansion and contraction should not exceed 50% of average joint width.</li> <li>■ Do not cure in the presence of curing silicones.</li> <li>■ Avoid contact with alcohol and other solvent cleaners during cure.</li> <li>■ Allow 3-day cure before subjecting sealant to total water immersion.</li> <li>■ Avoid exposure to high levels of chlorine. (Maximum level is 5 ppm).</li> <li>■ Do not apply when moisture vapor transmission exists since this can cause bubbling within the sealant.</li> <li>■ Avoid over-mixing sealant.</li> <li>■ Light color shades tend to yellow over time when exposed to ultraviolet rays.</li> <li>■ Light colors can yellow if exposed to direct gas fired heating elements.</li> <li>■ When overcoating: an on-site test is recommended to determine actual compatibility.</li> <li>■ The depth of sealant in horizontal joints subject to traffic is 1/2 inch.</li> <li>■ In horizontal joints exposed to vehicular or foot traffic, "TG" additive is recommended. See Sikaflex-2c NS TG data sheet for specific details.</li> </ul>
<b>Caution</b>	<p><b>Component 'A'; Irritant</b> - Avoid contact. Product is a skin, respiratory and eye irritant. Use of safety goggles and chemical resistant gloves recommended. Use of a NIOSH approved respirator required if PELs are exceeded. Use with adequate ventilation.</p> <p><b>Component 'B'; Combustible; Sensitizer; Irritant</b> - Contains Xylene. Keep away from heat, sparks and open flame. Use with adequate ventilation. Product is a respiratory and skin sensitizer. Avoid contact. Product is an eye, skin, and respiratory irritant. Use of safety goggles and chemical resistant gloves recommended. Use of a NIOSH approved respirator required if PELs are exceeded.</p>
<b>First Aid</b>	<p><b>Eyes</b> – Rinse eyes thoroughly for fifteen minutes. Contact physician. <b>Skin</b> – Wash affected area thoroughly with soap and water. Remove contaminated clothing. If irritation persists contact physician. <b>Inhalation</b> – Remove to fresh air. If breathing stops, institute artificial respiration. Contact physician. <b>Ingestion</b> – Dilute with water. Contact physician.</p>
<b>Clean Up</b>	<p>Uncured material can be removed with approved solvent. Cured material can only be removed mechanically. For spillage, collect, absorb, and dispose of in accordance with current, applicable local, state, and federal regulations.</p>

**KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR INDUSTRIAL USE ONLY**

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**Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Technical Data Sheet, product label and Material Safety Data Sheet which are available online at [www.sikausa.com](http://www.sikausa.com) or by calling Sika's Technical Service Department at 800-933-7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current Technical Data Sheet, product label and Material Safety Data Sheet prior to product use.**

**LIMITED WARRANTY:** Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Technical Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKASHALL NOT BELIEABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKASHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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**Regional Information and Sales Centers.** For the location of your nearest Sika sales office, contact your regional center.

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Fax: 514-694-2792

**Sika Mexicana S.A. de C.V.**  
Carretera Libre Celaya Km. 8.5  
Fracc. Industrial Balvanera  
Corregidora, Queretaro  
C.P. 76920  
Phone: 52 442 2385800  
Fax: 52 442 2250537



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Appendix C  
Reference Photos-Trench Repair









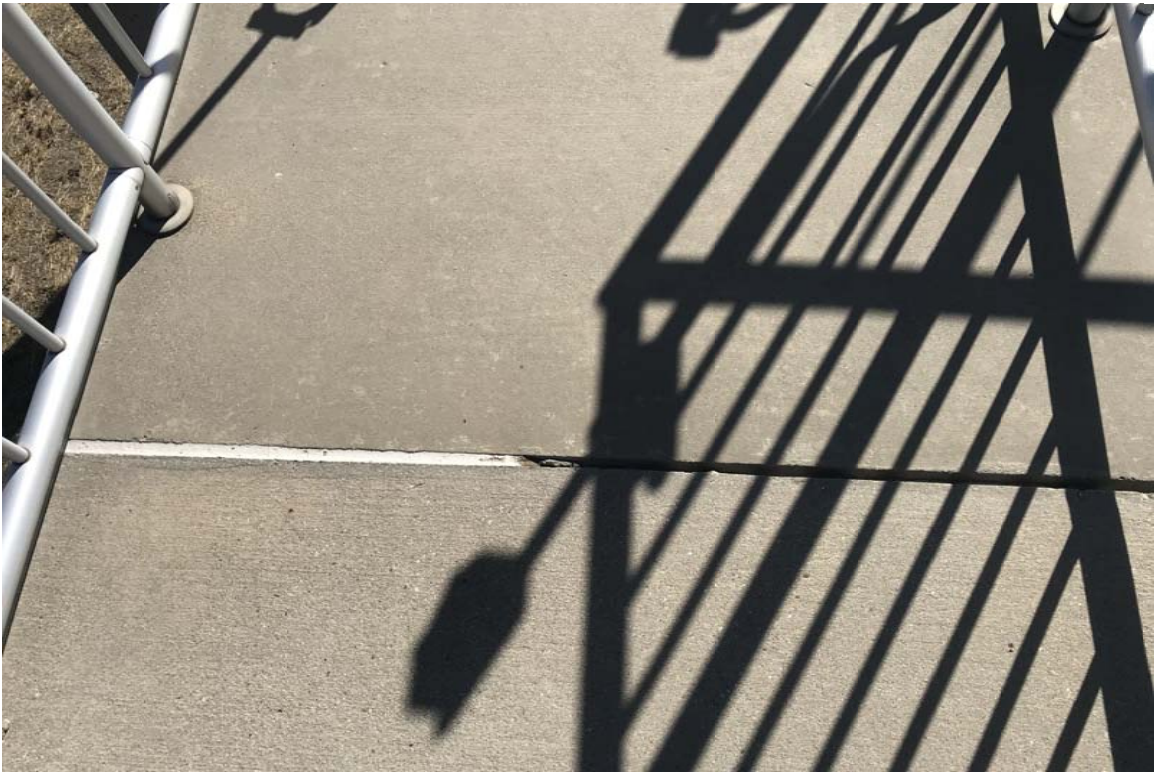




JORDAN VALLEY WATER CONSERVANCY DISTRICT

Appendix D  
Reference Photos- Caulking Repair







JORDAN VALLEY WATER CONSERVANCY DISTRICT

Appendix E  
Reference Photos- Concrete Repair





