City of Phoenix
Office of the City Engineer
Design and Construction Procurement
200 W. Washington Street, 6th Floor
Phoenix, Arizona 85003-1611

PROJECT NO. ST87600114-3
GRAND CANAL BIKE AND PEDESTRIAN IMPROVEMENTS
FEDERAL AID NO. PHX-0(BFG)F

ADDENDUM NO. 7

ISSUE DATE: October 4, 2017

SPECIFICATIONS

1. The bid date contained in the Call for Bids of the specifications book is changed to read:

"Tuesday, October 17, 2017 at 2:00 P.M."

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on Tuesday, October 17, 2017**,** are amended as follows:

Q1.	Sheet 2.154 - Plan shows 4 HAWK Signal Heads; Equipment notes show 6 signal heads. What is required?
A1.	Only 4 Hawk heads are required, Equipment notes should call out 4 total heads, 2 arm mounted and 2 pole mounted.
Q2.	Sheet 2.160 - Plan shows 2 luminaires at cross walk equipment schedule does not. Please Clarify.
A2.	2 luminaires will be provided. Luminaires added to equipment schedule
Q3.	Various Sheets - HAWK sheets show CCTV Camera New -- did not find specification or make/model for CCTV camera. Please clarify
A3.	For camera specs see part 902. Attached.
Q4.	Sheet 1.52 - Indian School Crosses over the Grand Canal. East-West Conduit runs show schedule 40 PVC. Insufficient room to bore under canal based on equipment locations. Specifications call for bridge hung conduit to be Galvanized Rigid Steel. Which is correct?
A4.	All traffic signal equipment is on the west side of the canal, there will be no traffic signal conduit crossing the canal. Use schedule 40 PVC conduit.
Q5.	Sheet 2.152 - Osborne Crosses over the Grand Canal. East-West Conduit runs show schedule 40 PVC, but specifications call for bridge hung conduit to be Galvanized Rigid Steel. Which is correct?

A5.	All traffic signal equipment is on the east side of the canal, there will be no traffic signal conduit crossing the canal. Use schedule 40 PVC conduit.
Q6.	Sheet 2.154 - 20th Street Crosses over the Grand Canal. N-S Conduit runs show schedule 40 PVC, but specifications call for bridge hung conduit to be Galvanized Rigid Steel. Which is correct
A6.	All traffic signal equipment is on the north side of the canal, there will be no traffic signal conduit crossing the canal. Use schedule 40 PVC conduit.
Q7.	Sheet 2.156 - Thomas Crosses over the Grand Canal. E-W Conduit runs show schedule 40 PVC, but specifications call for bridge hung conduit to be Galvanized Rigid Steel. Which is correct?
A7.	All traffic signal equipment is on the east side of the canal, there will be no traffic signal conduit crossing the canal. Use schedule 40 PVC conduit.
Q8.	Sheet 2.158 - 24th St Crosses over the Grand Canal. N-S Conduit runs show schedule 40 PVC, but specifications call for bridge hung conduit to be Galvanized Rigid Steel. Which is correct?
A8.	All traffic signal equipment is on the north side of the canal, there will be no traffic signal conduit crossing the canal. Use schedule 40 PVC conduit.
Q9.	Sheet 2.160 - Oak St crosses over the Grand Canal. E-W Conduit runs show schedule 40 PVC, but specifications call for bridge hung conduit to be Galvanized Rigid Steel. Which is correct?
A9.	All traffic signal equipment is on the east side of the canal, there will be no traffic signal conduit crossing the canal. Use schedule 40 PVC conduit.
Q10.	Sheet 2.162 - McDowell Crosses over the Grand Canal. E-W Conduit runs show schedule 40 PVC, but specifications call for bridge hung conduit to be Galvanized Rigid Steel. Which is correct?
A10.	All traffic signal equipment is on the east side of the canal, there will be no traffic signal conduit crossing the canal. Use schedule 40 PVC conduit.
Q11.	Sheet 2.164 - 32nd Street Crosses over the Grand Canal. E-W Conduit runs show schedule 40 PVC, but specifications call for bridge hung conduit to be Galvanized Rigid Steel. Which is correct?
A11.	All traffic signal equipment is on the north side of the canal, there will be no traffic signal conduit crossing the canal. Use schedule 40 PVC conduit.
Q12.	Sheet TS4.1 - 48th Street Crosses over the Grand Canal. N-S Conduit runs show schedule 40 PVC, but specifications call for bridge hung conduit to be Galvanized Rigid Steel. Which is correct?
A12.	All traffic signal equipment is on the north side of the canal, there will be no traffic signal conduit crossing the canal. Use schedule 40 PVC conduit.
Q13.	On Sheet 2.003 the Summary Sheet for Segment 2 - bid item M3400407 “Concrete Sidewalk w/ WWF Per Detail” Is the intent to have Welded Wire Fabric incorporated into the concrete path and if so, can a detail be provided? Also, will the installation of the Welded Wire Fabric be incidental to the concrete path bid item or will a separate item be added?

A13.	See response to Q12 in Addendum #5.
Q14.	Segment 2 – Could you tell me what specs you want me to use for the shotcrete drainage channels and spillways for the subject line project. MAG spec – wire mesh or SRP specs- 5lbs of fibers?
A14.	MAG spec with 6x6 – W1.4 wire mesh.
Q15.	Is it possible to add a “Mobilization” item for this project?
A15.	Due to the format of the TIGER grant agreement, mobilization is incidental to the overall cost of the project.
Q16.	Bid item No. 7.54, Application of Polymer Gel Pack @ Initial Planting, the plans call for Dri H20 or Dri Water. This product is no longer available and the company is no longer in business. Also the plants that call for Dri Water do not have irrigation.
A16.	Dry H2O is still in business.
Q17.	Will Quality Control Material Testing be provided by the owner? If not and is to be provided by the contractor, will it be incidental to the project or will a bid item be added for Quality Control Material Testing?
A17.	The Street Transportation Department’s Materials Lab will be responsible for Quality Control Material Testing per MAG.
Q18.	Bid item 3.16, Subgrade Preparation under Pathway & Drainage, shows a bid quantity of 19,862 Sq. Yd. for Subgrade Preparation. This quantity appears to only represent Segment 2 Subgrade Preparation quantity. Is the quantity on Addendum 5 revised bid schedule correct? Should the quantity on the bid schedule include Segment 1 and Segment 3 Subgrade Preparation quantities as well?
A18.	Per MAG Section 301, there shall be no separate measurement or payment for Subgrade Preparation under the pathway or shoulders. Any subgrade preparation required shall be incidental to the bid item for which it is necessary. The bid item “Subgrade Preparation” is deleted. See revised Bid Proposal and Plan Sheets 2.003; and 2.012 to 2.052 attached.
Q19.	Under Addenda #5 the bid schedule was revised. Will the City consider making Item #3.69 Railroad Flagger & Right of Entry Permit an allowance item? This item should be an allowance item with a firm dollar amount included for all bidders. There is no way we, the contractors can determine how many flaggers the railroad will require and when they will require them. Also the Permit cost is an unknown amount. Furthermore, by making this a firm dollar amount the City of Phoenix will allow the contractors to be on same level.
A19.	Yes, see revised Bid Proposal.
Q20.	Addendum #5 for the above mentioned project states “delete pages P.1 to 6 from section and replace with attached pages P.1 to 7” .. page P.1 from the in the contract specs is the addendum acknowledgement page. Please clarify if we are to still delete that page
A20	See revised Bid Proposal pages P.1 to 8 that includes addendum acknowledgement page and bid items.
Q21.	Is the 7” thick sidewalk on 16th street to 36th street requiring WWF? Quantity Summary

	on 16th street to 26th street description call out WWF per detail. Detail on sheet 2.005 does not show any WWF.
A21.	See response to Q12 in Addendum 5.
Q22.	Have there been “laydown” area(s) designated for the (3) sections of work?
A22.	It is the responsibility of the contractor to find his own laydown areas.
Q23.	Will there be a site visit scheduled for each of the sections?
A23.	A site visit for all three segments was held on September 21 per Addendum # 3.
Q24.	Does this project have a Construction Phasing Plan?
A24.	No, it is the responsibility of the contractor to provide a phasing plan. Contractor will be required to comply with Traffic Specifications and the Traffic Barricade Manual.
Q25.	Plans show drive approach Detail P-1244 Modified. Bid Schedule does not list P-1244. Please advise how we should bid this item.
A25.	Bid item has been added. See revised Bid Proposal.
Q26.	Reference Addendum 5, Question 8. Railroad permit fees and flagger requirements cannot be determined at bid time. At the prebid meeting, the City indicated that they do not have a permit for this work yet. As such, this item should be an allowance which is paid according to the invoice from the Union Pacific Railroad. It is impossible to determine those costs prior to the bid.
A26.	See response to question # 19.
Q27.	Per Special Provisions 6.0, 301 SUBGRADE PREPARATION; Subgrade preparation shall be measured and paid for areas covered with pavement base materials. Please confirm Bid Item 3.16 will also measure and pay for subgrade preparation of the 10 foot wide pathway which contains no pavement base materials.
A27.	Per MAG Section 301, there shall be no separate measurement or payment for Subgrade Preparation under the pathway or shoulders. Any subgrade preparation required shall be considered incidental to the bid item for which it is necessary.
Q28.	Reference Bid Item 7.67 - 16” x 24” Permeable Concrete Block Pavers, could you please provide a specification or a manufacturer and product for this item? Subcontractors have indicated there is not enough information to price this item.
A28.	See new Special Provision Section 342 attached.
Q29.	The plans and specifications for the bridges do not state whether on not the Open Steel Grate Decking needs to ADA compliant. Can you please confirm if this is a requirement of the decking?
A29.	The Open Steel Grate Decking needs to be ADA compliant.
Q30	Contractor requests clarification as to where the following items occur on the plans or specifications: 1.2 Remove bushes , shrubs, cacti or small trees 1.22 Remove graffiti on CMU wll 7.14 Sort, retain and redistribute existing salvage piles
A30	1.2 Contractor shall follow the MAG specification for Clearing and Grubbing throughout the project limits.

	1.22 Grafitti occurs randomly throughout the project limits. Contractor is responsible to remove graffiti at time of Final Acceptance or as directed by the Engineer. 7.14 See Plan Sheet 1.34.
Q31	For Item 7.13 Sort, Retain, and Redistribute Existing Salvage Piles per Plan, we were not able to locate in the plans these stock pile location, please advise.
A31	See Plan Sheet 1.34.
Q32	There is no item for structural backfill or a material call out for the backfill required for the approach slabs for the bridge, please advise.
A32	SP-1 of the Special Provisions – Section 206 Structure Excavation and Backfill: No measurement for payment for backfill. Backfill per ADOT Section 206. Backfill under the approach slab is shown under S-1.05 and the quantities included in S-1.02.
Q33	I was wondering if cleaning of existing trash that is currently on the project go to the SWPP Allowance (paragraph 3.1 Waste Disposal in the specification).
A33	Removing and hauling trash from site is included in Miscellaneous Removals. See attached Bid Proposal.
Q34	We are working on an earthwork takeoff for this City of Phoenix Grand Canal job and the only information on it is at centerline for both design and existing grades on the path and basins. There is no information outside of that for the daylight line. As on right now the only thing we can do is assume that the centerline grade applies to the entire area and just let it calculate to that. Is there any way we could get more information on this?
A34	The profile grade for the path is shown on the Typical Section sheets with various shoulder grades. The profile grade is the centerline of the path. The finish grade at the path centerline is also shown on the Path Plan and Profile sheets. No additional information will be provided.
Q35	The bearing pad manufacturers need the dimensions of the sole plates in order to provide them. Please answer this question.
A35	The dimensions of the sole plate are 1’-3” x 11”.
Q36	Regarding the concrete light poles, the plans state to match the 1st phase with regard to color. Color is identified as Charcoal in the plans. Charcoal color can be achieved in a few different methods with quite a cost variance between them. In order to precisely know what charcoal color we should propose in our bid, is there a part number on the concrete pole(s) on phase-1 that could be advised? Or is there a specific color description documented from the phase-1 that you could advise?
A36	Light poles in first phase are the color charcoal RAL 7045.
Q37	Bid Item 3.53 Retaining Wall per Plan – Sheet 2.052 Construction Note 12 – New Retaining Wall, See Sheet XX. There is no sheet XX with details for the retaining wall.
A37	See revised plan sheet 2.052.
Q38	Bid Item 7.69 18” D x 12” W Footing – There is no detail for this footing.
A38	This item number has changed – see bid Item 7.68 for a 36”x12” footing. See Addendum 7 revised Bid Proposal and revised Plan Sheet 2.126.

Q39	Plans show a significant quantity of COP P-1244 Concrete Driveway Entrance. There is no bid item for this.
A39	See Addendum 7 Revised Bid Proposal, Item 3.30.
Q40	Can you please provide a Geotechnical Report for the Segment 2 (16th St to 36th St) pedestrian bridge? Sheet No. 2.096 Drilled Shaft Note 8 states geotechnical conditions can be obtained from the geotechnical report by RAMM Engineering, but the only geotechnical report we have found for the project is from ACS Services LLC.
A40	Yes, see attached geotechnical report from RAMM Engineering.
Q41	Item 7.47 Shrubs 3 Gallon, Where on plans are they located?
A41	3 Gallon shrubs aren't shown on the plans, but are included in the Bid Proposal due to fluctuations in seasonal availability of certain species. A certain percentage of plant material may not be available in either one or five gallon sizes, so 3 gallon sizes may be substituted to meet project requirements, as directed by the Engineer.
Q42	Item 7.54 Polymer Gel packs, it is my understand that this is no longer being produced? Is there a specific brand or manufacture specified to be used?
A42	Dry H2O is still in business and produces a polymer gel pack.
Q43	In the bid schedule, Can you clarify which landscape plant / tree material will be classified under 15 gal, 2" caliper, 3" caliper and 1-1/5" caliper?
A43	See revised landscape plans attached.
Q44	Segment 2 landscape plans that were issued in Addendum #2 are illegible. You can't read any of the notes on any of the pages. This poses a problem to bidders in making sure that coverage is met for all items. Is there a way to re-issue Addendum #2 landscape plans?
A44	Yes, see attached.

SPECIAL PROVISIONS

1. **MAG Section 201 CLEARING AND GRUBBING** Add "Removal of existing vegetation shall be completed to provide a 20-foot passage from the drivable edge of canal bank unless otherwise directed by the Engineer. Removal and hauling trash from site shall be included in bid item "Clearing and Grubbing".

2. **MAG Section 301.7 Measurement and 301.8 Payment** Replace MAG Section 301.7 and 301.8 with "There is no separate measurement or payment for subgrade preparation. Subgrade preparation shall be considered incidental to the bid item for which it is necessary".

3. Add new section **MAG Section 342 DECORATIVE CONCRETE PAVERS** (16" x 24" Permeable Concrete Block Pavers with subgrade drainage aggregates)

GENERAL

Decorative pavement or paving stones as shown on the plans and used in sidewalk areas shall be measured by the square foot installed, and paid for under the bid item for 16"x24" Permeable Concrete Block Pavers with open-graded subgrade drainage aggregate", including all subgrade preparation, leveling sand, and fill aggregate for a complete installation.

REFERENCES

American Society of Testing Materials (ASTM)

1. C 33, Specification for Concrete Aggregates.
2. C 136, Method for Sieve Analysis for Fine and Coarse Aggregate.
3. C 140, Standard Test Methods of Sampling and Testing Concrete Masonry Units.
4. C 979, Standard Specification for Pigments for Integrally Colored Concrete.
5. C 1319, Standard Specification for Concrete Grid Paving Units.
6. D 698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,000 ft-lbf/ft^3 (600 kN-m/m^3)).

Interlocking Concrete Pavement Institute (ICPI)

Tech Spec technical bulletins.

SUBMITTALS

In accordance with Conditions of the Contract and Division 1 Submittal Procedures Section and paver manufacturer's/installation subcontractor's drawings and details: Indicate perimeter conditions, junction with other materials, expansion and control joints, layout and pattern,] installation and details.

Provide minimum 3 lb samples of subbase, base and bedding aggregate materials. Sieve analysis of aggregates for subbase, base and bedding materials per ASTM C 136.

Soils report indicating density test reports, classification, and infiltration rate measured on-site under compacted conditions, and suitability for the intended project.

Concrete grid units:

Color per plan or to be approved during the submittal process. Submittal shall consist of four representative full-size samples of each grid type, thickness, color, finish that indicate the extremes of color variation and texture expected in the finished installation. Accepted samples become the standard of acceptance for the work. Test results from an independent testing laboratory for compliance of grid paving unit requirements to ASTM C 1319. Manufacturer's certification of concrete grid units by ICPI as having met applicable ASTM standards. Manufacturer's catalog literature, installation instructions, and material safety data sheets for the safe handling of the specified materials and products.

QUALITY ASSURANCE

Utilize an installer having successfully completed concrete paver installation similar in design, material and extent indicated on this project. Subcontractor shall have a job foremen holding a record of completion from the Interlocking Concrete Pavement Institute PICP Installer Technician Course. Licensed, bonded, and insured by the State of Arizona Registrar of Contractors.

Review the manufacturers' quality control plan, paver installation subcontractor's Method Statement and Quality Control Plan with a pre-construction meeting of representatives from the manufacturer, paver installation subcontractor, general contractor, engineer and/or owner's representative.

Single-source Responsibility: Obtain each color, type, and variety of grids, joint materials and setting materials from single sources with resources to provide products and materials of consistent quality, appearance and physical properties without delaying progress of the Work.

Mock-Ups:

Contractor shall install a 10 ft x 10 ft (3 x 3 m) paver area. Use this area to determine surcharge of the bedding layer, joint sizes, and lines, laying pattern, color and texture of the job. The approved mock up area will be used as the standard by which the work will be judged. Mock-up shall be be retained for the project duration and not removed without owner approval. Mock up shall not be considered a part of finished work. Remove and properly dispose of mock-up. Contractor shall document location of mock up and date of approval with owner signature.

DELIVERY, STORAGE, AND HANDLING

General: Comply with Division 1 Product Requirement Section.

Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

Delivery: Deliver materials in manufacturer's original, unopened, undamaged container packaging with identification tags intact on each paver bundle.

1. Coordinate delivery and paving schedule to minimize interference with normal use of buildings adjacent to paving.
2. Deliver concrete pavers to the site in steel banded, plastic banded, or plastic wrapped cubes capable of transfer by forklift or clamp lift.
3. Unload pavers at job site in such a manner that no damage occurs to the product or existing construction

Storage and Protection: Store materials in approved and protected area such that they are kept free from mud, dirt, and other foreign materials.

Do not install in rain or the unlikely event of snow. Do not install frozen bedding materials.

PRODUCTS

PAVING UNITS

A. Approved Manufacturers:
   1. Acker-Stone
      13296 Temescal Canyon Road
      Corona, CA 92883
      Phone: 949 241 6669
      Website: ackerstone.com
      Model: Turf Block
   2. Pavestone

1015 S. 43rd Avenue
Phoenix, AZ 85009
Phone 602 257 4588
Website: pavestone.com
Model: Grassstone II

3. Superlite Block
4150 W. Turney
Phoenix, AZ 85019
Phone: 800 366 7877
Website: superliteblock.com
Model: Turfstone

B. Permeable Interlocking Concrete Paver Units:
1. Paver Type: Permeable style pavers
a. Material Standard: Comply with ASTM C 936.
b. Color per plan.
c. Color Pigment Material Standard: Comply with ASTM C 979.

PRODUCT SUBSTITUTIONS

Substitutions: Permitted for gradations for crushed stone jointing material, base and subbase materials. Base and subbase materials shall have a minimum 0.32 void ratio. All substitutions shall be approved in writing by the project engineer.

BEDDING MATERIALS
Washed, clean, hard, durable crushed gravel or stone, free from shale, clay, friable materials, organic matter, frozen lumps, limestone and other deleterious substances. Bedding materials shall be washed, open-graded drainage stone per details. If ASTM No. 8 material is used it shall conform to Table 1 below:

Table 1
ASTM No. 8 Gradation for Bedding and Joint/Opening Filler

Sieve Size	Percent Passing
12.5 mm (1/2 in.)	100
9.5 mm (3/8 in.)	85 to 100
4.75 mm (No. 4)	10 to 30
2.36 mm (No. 8)	0 to 10
1.18 mm (No. 16)	0 to 5

FILL MATERIALS FOR GRID OPENINGS
Open-graded aggregate, conforming the gradation requirements in Table 1. Do not use gravel, decomposed granite, or river rock.

EDGE RESTRAINTS
Provide concrete curb edge restraints installed around the perimeter of all concrete grid paving unit areas per plans and details.

ACCESSORIES

Geotextile fabric as an option.

EXECUTION

Compaction of the soil subgrade is recommended to a minimum of 95% standard Proctor density per ASTM D 698 for pedestrian and lightly trafficked vehicular areas. Stabilization of the subgrade and/or base material may be necessary to achieve desired compaction rates. Contractor shall provide compaction as needed per the unit price bid for the item.

Local aggregate base materials typical to those used for highway flexible pavements are recommended, or those conforming to ASTM D 2940. Compaction of aggregate is recommended to not less than 95% Proctor density in accordance with ASTM D 698 is recommended for pedestrian and vehicular areas. Mechanical tampers are recommended for compaction of soil subgrade and aggregate base in areas not accessible to large compaction equipment. Such areas can include that around lamp standards, utility structures, building edges, curbs, tree wells and other protrusions. The recommended base surface tolerance should be ±3/8 in. (±10 mm) over a 10 ft. (3 m) straight edge.

The elevations and surface tolerance of the aggregate base determine the final surface elevations of concrete grids. The installation contractor cannot correct deficiencies in the base surface by additional bedding materials. Therefore, the surface elevations of the base should be checked and accepted by the General Contractor or designated party, with written certification to the paving subcontractor prior to placing bedding materials and concrete grids.

Contractor shall inspect, accept and verify in writing to the grid installation subcontractor that site conditions meet specifications for the following items prior to installation of bedding materials and concrete grid units.

Verify that drainage and subgrade preparation, compacted density and elevations conform to specified requirements. Verify that geotextiles, if applicable, have been placed according to drawing and specifications. Verify that base materials, thickness, compacted density, surface tolerances and elevations conform to specified requirements. Provide written density test results for the soil subgrade, base materials to the Owner, Contractor, and grid installation subcontractor.

Do not proceed with installation of bedding materials and concrete grids until subgrade soil and base conditions are corrected by the contractor or designated subcontractor.

Verify that base is dry, certified by Contractor as meeting material, installation and grade elevation specifications, are ready to support sub-grade, concrete edge restraints and are approved for project conditions and loads.

Concrete Edge Restraint Preparation

Install edge restraints per the drawings set at the correct elevations for the paver unit. Set on compacted grade. Do not install on bedding sand.

INSTALLATION

Spread the No. 8 stone evenly over the compacted, dense-graded base course and screed uniformly to 1/2 to 1 in. (13 to 25 mm). Place sufficient stone to stay ahead of the laid grids. Ensure the grid units are free from foreign materials before installation.

Lay the grid units on the bedding sand in the pattern(s) shown on the drawings. Maintain straight

joint lines. Joints between the grids shall not exceed 3/16 in. Fill gaps at edges of paved area with cut grids or edge units so space between paver and concrete header does not exceed 3/16 in. Cut grids to be placed along the edge with a double-bladed splitter or masonry saw.

Sweep No. 8 aggregate into the joints and openings until full. Sweep grid surface clear prior to compacting.

Compact and seat the grids into the screeded No. 8 aggregate using a low-amplitude, 75-90 Hz plate compactor capable of at least 4,000 lbs. (18 kN) centrifugal compaction force. Use rollers or a rubber or neoprene pad between the compactor and grids to prevent cracking or chipping. Do not compact within 6 ft, of the unrestrained edges of the grid units. Units broken in the course of work shall be removed, replaced and set to spec. Dispose of broken/unused units off project site.

All work to within 6 ft of the laying face must be left fully compacted at the completion of each day. Contractor is responsible to protect work.

Remove excess No. 8 aggregate on surface when the job is complete and water settle aggregate prior to completion.

FIELD QUALITY CONTROL

After removal of excess aggregate and water settling check final elevations for conformance to the drawings. Allow 1/8 to 1/4 in. above specified surface elevations to compensate for minor settlement. The final surface tolerance from grade elevations shall not deviate more than ±3/8 in. (10 mm) over a 10 ft (3 m) straightedge. The surface elevation of grid units shall be 1/8 to 1/4 in. (3 to 6 mm) above adjacent drainage inlets, concrete collars or channels.
Lippage: No greater than 1/8 in. (3 mm) difference in height between adjacent grid units.

PROTECTION

After work in the section is complete, the Contractor shall be responsible for protecting work from damage due to subsequent construction activity on the site.

MEASUREMENT AND PAYMENT

Measurement and payment shall be made at the unit price bid per square foot for the work to fully complete the item 16" x 24" Permeable Concrete Block Pavers with subgrade drainage aggregates.

4. Add **MAG Section 401 PAVEMENT MARKINGS** Add “Existing pavement marking obliteration shall be per City of Phoenix Supplements to MAG, Section 401D. Measurement and payment shall be made per the job under the bid item Obliterate Existing Pavement Markings”.

GENERAL WAGE DECISION

1. The U.S. Department of Labor, Wage & Hour Division has issued an update to the Highway wage determination dated September 22, 2017. Attached is the revised document. Replace General Wage Decision pages G.W.D. – 1 to 7 with updated General Wage Decision pages 1 to 7, dated 9/22/2017.

BID PROPOSAL

1. **REPLACE:** Delete Pages P.1 to 7 from Section II, (1) Bid Proposal, and replace with the attached Pages P.1 to 9 (Revised).

Plan Sheets:

1. Replace sheet 2.003 with Sheet 2.003 REV.
2. Replace sheets 2.012 to 2.052 with Sheets 2.012 to 2.052 REV.
3. Replace landscape sheets 1.29; 2.101; and 3.52 with revised sheets 1.29; 2.101 and 3.52 REV 10/2/2017 (revisions to post fence detail/schedule).
4. Replace landscape sheets 2.127 and 3.68 with 2.127 and 3.68 REV 10/2/2017 (revisions to landscape legend).
5. An entire legible set of Segment 2 landscape sheets are attached. Revised Segment 2 sheets for post fence and landscape legend are included in entire legible set of Segment 2 landscape sheets.

END OF ADDENDUM

Gail Brinkmann
Project Manager
Street Transportation Department

ENGINEER'S SEAL

General Decision Number: AZ170008 09/22/2017 AZ8

Superseded General Decision Number: AZ20160008

State: Arizona

Construction Type: Highway

Counties: Coconino, Maricopa, Mohave, Pima, Pinal, Yavapai and Yuma Counties in Arizona.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.20 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017
1	01/27/2017
2	06/02/2017
3	08/25/2017
4	09/22/2017

CARP0408-005 07/01/2016

	Rates	Fringes
CARPENTER (Including Cement Form Work)	$ 25.48	11.54

ENGI0428-001 06/01/2017

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Group 1	$ 24.09	10.52
Group 2	$ 27.36	10.52
Group 3	$ 28.44	10.52
Group 4	$ 29.47	10.52

POWER EQUIPMENT OPERATORS CLASSIFICATIONS:

GROUP 1: A-frame boom truck, air compressor, Beltcrete, boring bridge and texture, brakeman, concrete mixer (skip type), conductor, conveyor, cross timing and pipe float, curing machine, dinky (under 20 tons), elevator hoist (Husky and similar), firemen, forklift, generator (all), handler, highline cableway signalman, hydrographic mulcher, joint inserter, jumbo finishing machine, Kolman belt loader, machine conveyor, multiple power concrete saw, pavement breaker, power grizzly, pressure grout machine, pump, self-propelled chip spreading machine, slurry seal machine (Moto paver driver), small self-propelled compactor (with blade-backfill, ditch operation), straw blower, tractor (wheel type), tripper, tugger (single drum), welding machine, winch truck

GROUP 2:
ALL COUNTIES INCLUDING MARICOPA: Aggregate Plant, Asphalt plant Mixer, Bee Gee, Boring Machine, Concrete Pump, Concrete Mechanical Tamping-Spreading Finishing Machine, Concrete Batch Plant, Concrete Mixer (paving & mobile), Elevating Grader (except as otherwise classified), Field Equipment Serviceman, Locomotive Engineer (including Dinky 20 tons & over), Moto-Paver, Oiler-Driver, Operating Engineer Rigger, Power Jumbo Form Setter, Road Oil Mixing Machine, Self-Propelled Compactor (with blade-grade operation), Slip Form (power driven lifting device for concrete forms), Soil Cement Road Mixing Machine, Pipe-Wrapping & Cleaning Machine (stationary or traveling), Surface Heater & Planer, Trenching Machine, Tugger (2 or more drums).

MARICOPA COUNTY ONLY: Backhoe < 1 cu yd, Motor Grader (rough), Scraper (pneumatic tired), Roller (all types asphalt), Screed, Skip Loader (all types 3<6 cu yd), Tractor (dozer, pusher-all).

GROUP 3:
ALL COUNTIES INCLUDING MARICOPA: Auto Grade Machine, Barge, Boring Machine (including Mole, Badger & similar type directional/horizontal), Crane (crawler & pneumatic 15>100 tons), Crawler type Tractor with boom attachment & slope bar, Derrick, Gradall, Heavy Duty Mechanic-Welder, Helicopter Hoist or Pilot, Highline Cableway, Mechanical Hoist, Mucking Machine, Overhead Crane, Pile Driver Engineer (portable, stationary or skid), Power Driven Ditch Lining or Ditch Trimming Machine, Remote Control Earth Moving Machine, Slip Form Paving Machine (including Gunnert, Zimmerman & similar types), Tower Crane or similar type.

MARICOPA COUNTY ONLY: Backhoe<10 cu yd, Clamshell < 10 cu yd, Concrete Pump (truck mounted with boom only), Dragline <10 cu yd, Grade Checker, Motor Grader (finish-any type power blade), Shovel < 10 cu yd.

GROUP 4: Backhoe 10 cu yd and over, Clamshell 10 cu yd and over, Crane (pneumatic or crawler 100 tons & over), Dragline 10 cu yd and over, Shovel 10 cu yd and over.

All Operators, Oilers, and Motor Crane Drivers on equipment with Booms, except concrete pumping truck booms, including Jibs, shall receive $0.01 per hour per foot over 80 ft in addition to regular rate of pay

Premium pay for performing hazardous waste removal $0.50 per hour over base rate.

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* IRON0075-004 08/01/2017

COCONINO, MARICOPA, MOHAVE, YAVAPAI & YUMA COUNTIES

	Rates	Fringes
Ironworker, Rebar	$ 26.00	18.85

Zone 1: 0 to 50 miles from City Hall in Phoenix or Tucson
Zone 2: 050 to 100 miles - Add $4.00
Zone 3: 100 to 150 miles - Add $5.00
Zone 4: 150 miles & over - Add $6.50

LABO0383-002 06/01/2017

	Rates	Fringes
Laborers:		
Group 1	$ 17.93	5.01
Group 2	$ 18.83	5.01
Group 3	$ 19.53	5.01
Group 4	$ 20.47	5.01
Group 5	$ 21.33	5.01

LABORERS CLASSIFICATIONS:

GROUP 1: All Counties: Chipper, Rip Rap Stoneman. Pinal County Only: General/Cleanup Laborer. Maricopa County Only: Flagger.

GROUP 2: Asphalt Laborer (Shoveling-excluding Asphalt Raker or Ironer), Bander, Cement Mason Tender, Concrete Mucker, Cutting Torch Operator, Fine Grader, Guinea Chaser, Power Type Concrete Buggy

GROUP 3: Chain Saw, Concrete Small Tools, Concrete Vibrating Machine, Cribber & Shorer (except tunnel), Hydraulic Jacks and similar tools, Operator and Tender of Pneumatic and Electric Tools (not herein separately classified), Pipe Caulker and Back-Up Man-Pipeline, Pipe Wrapper, Pneumatic Gopher, Pre-Cast Manhole Erector, Rigger and Signal Man-Pipeline

GROUP 4: Air and Water Washout Nozzleman; Bio-Filter, Pressman, Installer, Operator; Scaffold Laborer; Chuck Tender; Concrete Cutting Torch; Gunite; Hand-Guided Trencher; Jackhammer and/or Pavement Breaker; Scaler (using boson's chair or safety belt); Tamper (mechanical all types).

GROUP 5: AC Dumpman, Asbestos Abatement, Asphalt Raker II, Drill Doctor/Air Tool Repairman, Hazardous Waste Removal, Lead Abatement, Lead Pipeman, Process Piping Installer, Scaler (Driller), Pest Technician/Weed Control, Scissor Lift, Hydro Mobile Scaffold Builder.

PAIN0086-001 04/01/2014

	Rates	Fringes
PAINTER		
PAINTER (Yavapai County only), SAND BLASTER/WATER BLASTER (all Counties)	$ 19.50	4.85

ZONE PAY: More than 100 miles from Old Phoenix Courthouse $3.50 additional per hour.

SUAZ2009-001 04/20/2009

	Rates	Fringes
CEMENT MASON	$ 19.28	3.99
ELECTRICIAN	$ 22.84	6.48
IRONWORKER (Rebar)		
Pima County	$ 23.17	14.83
Pinal County	$ 20.27	8.35
LABORER		
Asphalt Raker	$ 15.49	3.49
Compaction Tool Operator	$ 14.59	2.91
Concrete Worker	$ 13.55	3.20
Concrete/Asphalt Saw	$ 13.95	2.58
Driller-Core, diamond, wagon, air track	$ 16.94	3.12
Dumpman Spotter	$ 14.99	3.16
Fence Builder	$ 13.28	2.99
Flagger		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 12.35	1.59
Formsetter	$ 16.09	3.97
General/Cleanup Laborer		
Coconino, Maricopa, Mohave, Pima, Yavapai & Yuma	$ 14.54	3.49
Grade Setter (Pipeline)	$ 17.83	5.45
Guard Rail Installer	$ 13.28	2.99
Landscape Laborer	$ 11.39	
Landscape Sprinkler Installer	$ 15.27	
Pipelayer	$ 14.81	2.96
Powderman, Hydrasonic	$ 16.39	2.58
OPERATOR: Power Equipment		
Asphalt Laydown Machine	$ 21.19	6.05
Backhoe < 1 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 17.37	3.85
Backhoe < 10 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.72	3.59
Clamshell < 10 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.72	3.59
Concrete Pump (Truck Mounted with boom only)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 19.92	7.10
Crane (under 15 tons)	$ 21.35	7.36
Dragline (up to 10 cu yd)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.72	3.59

Drilling Machine (including Water Wells)	$ 20.58	5.65
Grade Checker		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 16.04	3.68
Hydrographic Seeder	$ 15.88	7.67
Mass Excavator	$ 20.97	4.28
Milling Machine/Rotomill	$ 21.42	7.45
Motor Grader (Finish-any type power blade)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 21.92	4.66
Motor Grader (Rough)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 20.07	4.13
Oiler	$ 18.15	8.24
Power Sweeper	$ 16.76	4.44
Roller (all types Asphalt)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.27	3.99
Roller (excluding asphalt)	$ 15.65	3.32
Scraper (pneumatic tired)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 17.69	3.45
Screed		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 17.54	3.72
Shovel < 10 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.72	3.59
Skip Loader (all types <3 cu yd)	$ 18.28	5.30
Skip Loader (all types 3 < 6 cu yd)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.64	4.86
Skip Loader (all types 6 < 10 cu yd)	$ 20.15	4.52
Tractor (dozer, pusher - all)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 17.26	2.65
PAINTER		
Coconino, Maricopa, Mohave, Pima, Pinal & Yuma	$ 15.57	3.92
TRUCK DRIVER		
2 or 3 Axle Dump or Flatrack	$ 16.27	3.30
5 Axle Dump or Flatrack	$ 13.97	2.89
6 Axle Dump or Flatrack (< 16 cu yd)	$ 17.79	6.42
Belly Dump	$ 14.67	
Oil Tanker Bootman	$ 22.03	
Self-Propelled Street Sweeper	$ 13.11	5.48
Water Truck 2500 < 3900 gallons	$ 18.14	4.55
Water Truck 3900 gallons and over	$ 15.92	3.33
Water Truck under 2500 gallons	$ 15.94	4.16

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is

a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

PROJECT NAME: GRAND CANAL PHASE II
PROJECT NUMBER: ST87600114

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
1. Removals					
1.10 M3500010	Remove Portland Cement Concrete Single Curb; Curb & Gutter; Header Curb or Embankment Curb	Lin. Ft.	1232		
1.11 M3500020	Remove Portland Cement Concrete Sidewalk, Driveway, Valley Gutter, and Slab	Sq. Ft.	5372		
1.12 M3500025	Remove Concrete Sidewalk	Sq. Ft.	7220		
1.13 M3500031	Remove and Replace Headwall Per Pipe Plan and Profile	Each	5		
1.14 M3500036	Remove Catch Basin, Backfill & Compact	Each	1		
1.15 M3500037	Remove Miscellaneous Concrete	Sq. Yd.	130		
1.16 M3500040	Remove Pipe, Backfill & Compact	Lin. Ft.	30		
1.17 M3500040	Remove Portland Cement Concrete Pavement	Sq. Yd.	635		
1.18 M3500060	Remove Asphalt Concrete Pavement	Sq. Yd.	1633		
1.19 M3500110	Remove Existing Fence	Lin. Ft.	503		
1.20 M3500170	Remove Bushes, Shrubs, Cacti or Small Trees	Job	1		
1.21 M3500309	Sign Removal	Each	4		
1.22 M3500401	Remove Graffiti on CMU Wall	Job	1		
1.23 M3500621	Cut & Plug Existing Storm Drain Pipe	Each	4		
1.24 M3503010	Remove Existing Barricade	Lin. Ft.	228		
1.25 M3500300	Miscellaneous Removals	Job	1		
1.26 M3500055	Remove Reinforced Concrete Slab	Sq. Yd.	30		
1.27 M3500114	Remove Existing Bollard	Each	9		
1.28 M3500113	Remove Existing Gate	Each	3		
1.29 M4200032	Remove and Replace Existing Fence and Gate	Lin. Ft.	100		
1.30 M3515045	Remove Existing Light Pole Standard, Per Plan	Each	1		
1.31 M3500400	Obliterate Existing Pavement Markings	Job	1		
	Removal Subtotal for Item Numbers 1.10 through 1.31				
2. Survey (Construction Staking)					
2.10 M1058000	Construction Surveying And Layout	Job	1		
2.11 M1058002	2-Person Survey Party Contingent Item	HOUR	200		
	Survey (Construction Staking) Subtotal for Item Numbers 2.10 through 2.11				
3. Pathway & Drainage					
3.10 E6992000	Allowance For Stormwater Pollution Prevention Best Management Practices (BMP'S)	Job	1	$ 50,000.00	$ 50,000.00
3.11 M1000011	Art Feature (Sand Blast Street Name)	Each	48		
3.12 M2001005	Earthwork For Basin, Includes Clear & Grub, Excavation, Grade & Shape	Cu. Yd.	3928		

PROJECT NAME: GRAND CANAL PHASE II
PROJECT NUMBER: ST87600114

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
3.13 M2010010	Clearing and Grubbing	L.Sum	1		
3.14 M2150035	Shotcrete Channel	Sq. Yd.	3045		
3.15 M2150036	Shotcrete Spillway	Sq. Yd.	22		
3.16 M3360222	Sawcut, Remove and Replace A.C. Pavement, MAG Std. Det. 200, Type "A"	Sq. Yd.	1172		
3.17 M3360270	Asphalt Concrete for Permanent Pavement Replacement, Type C 3/4, 7" Thick	Sq. Yd.	469		
3.18 M3400400	Concrete Sidewalk, COP Std. Dtl. P-1230, 4" Thick	Sq. Ft.	5299		
3.19 M3400411	Concrete Sidewalk, COP Std. Dtl. P-1230, 7" Thick	Sq. Ft.	346488		
3.20 M3400415	Truncated Domes for Sidewalk Ramps	Sq. Ft.	897		
3.21 M3400449	Concrete Driveway Entrance, Std. Dtl. 250-2 (6" Thick)	Sq. Ft.	262		
3.22 M3400480	Concrete Curb Ramp, C.O.P. Std P-1241-2	Sq. Ft.	96		
3.23 M3400485	Concrete Curb Ramp, COP Std. Dtl. P1237 Modified per Plans	Sq. Ft.	68		
3.24 M3400480	Concrete Curb Ramp, Std. Dtl. P-1241-2 Modified per Plans	Sq. Ft.	338		
3.25 M3400553	Concrete Driveway Entrance, Std. Dtl. P-1255-1 Modified per Details	Sq. Ft.	224		
3.26 M3402201	Combined Concrete Curb and Gutter, MAG Std. Dtl. 220-1, Type "A", H=6"	Lin. Ft.	399		
3.27 M3402221	Concrete Single Curb, MAG Std. Dtl. 222, Type "A", H=6"	Lin. Ft.	103		
3.28 M3402203	Concrete Roll Curb and Gutter, Mag Std. Dtl. 220-1 Type "C"	Lin. Ft.	51		
3.29 M3402242	Concrete Single Curb Termination Type Per MAG Std. Detail 222	Each	2		
3.30 M3400553	Concrete Driveway Entrance, Std. Detail P-1244 (Modified per Plan)	Sq. Ft.	7175		
3.31 M3402227	Combined Concrete Curb and Gutter, Std Detail 220, Type "A" Modified	Lin. Ft.	1044		
3.32 M3404600	Vehicular Maintenance Access Ramp Per Plans	Each	4		
3.33 M3450000	Adjust Existing Water Meter Box & Cover	Each	1		
3.34 M3450020	Adjust Existing Manhole Frame and Cover, MAG Std Detail 422 and COP Detail P1430	Each	15		
3.35 M34450040	Adjust Existing Utility Frame and Cover, Manhole, or Utility Riser	Each	4		
3.36 M3450026	Adjust Grade at Utility As Detailed On Plans	Each	7		
3.37 M34500311	Remove and Reinstall Existing Gate	Each	5		
3.38 M3453001	Adjust Existing Type "A" Water Valve Per COP Std. Dtl. P1391 and P1391-1	Each	1		
3.39 M4004023	Railroad Pavement Marking Per ADOT Std. Dwg. M-5	Each	2		
3.40 M4004100	Foundation for Square Perforated Tube Sign Post, MCDOT Std. Dtl. 2058	Each	28		
3.41 M4004101	Sign Post (P-1) Square Perforated	Each	28		
3.42 M4004105	Regulation Sign Panel	Sq. Ft.	137		

PROJECT NAME: GRAND CANAL PHASE II
PROJECT NUMBER: ST87600114

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
3.43 M4004107	Warning Sign Panel	Sq. Ft.	149		
3.44 M3505044	Pavement Marking (4", Yellow)	Lin. Ft.	1000		
3.45 M4004501	Pavement Marking (White Thermoplastic)(0.060") 4" Measure	Lin. Ft.	33000		
3.46 M4004555	Pavement Marking (Paint, Stencil Legend)(15 mils) "PED X-ING"	Each	26		
3.47 M4153105	Safety Rail, MAG Detail 145	Lin. Ft.	77		
3.48 M4200011	Swing Gate Per Plans	Each	4		
3.49 M4200019	24' Wide Double Swing Chain Link Gate, 72" High, ADOT Det. C-12.20	Each	2		
3.50 M4200072	Chain Link Fence, ADOT Detail C-12.20, Type 1, H=72"	Lin. Ft.	361		
3.51 M5050010	Concrete Retaining Wall, Per Plan	Lin. Ft.	122		
3.52 M5052061	Scupper, MAG Std. Dtl. 203	Each	4		
3.53 M5056065	Concrete Scupper As Detailed On Plans	Each	2		
3.54 M5056018	Headwall For 18" Pipe, SRP Standard Headwall	Each	1		
3.55 M5056024	Headwall For 24" Pipe, SRP Standard Headwall	Each	13		
3.56 M5057082	Junction Structure As Detailed On Plans	Each	1		
3.57 M6101805	Water Service Connection (Main to Meter)	Each	6		
3.58 M6185018	18" Rubber Gasket Reinforced Concrete Pipe, Class V (Private Irrigation)	Lin. Ft.	25		
3.59 M6185024	24" Rubber Gasket Reinforced Concrete Pipe, Class V (Private Irrigation)	Lin. Ft.	338		
3.60 M6185030	30" Rubber Gasket Reinforced Concrete Pipe, Class V (Private Irrigation)	Lin. Ft.	38		
3.61 M4004106	F1W Flexible Delineators Per ADOT Std. Dtl. M-26	Each	6		
3.62 C401800	Railroad Flagger and Right-of-Entry Permit	Allowance	1	$20,000	$20,000
3.63 M3400433	Reinforced Concrete Slab on Grade	Sq. Ft.	257		
3.64 M310000	Aggregate Base Course	Ton	54		
3.65 M4400401	Adjust Irrigation Control Valve	Each	1		
3.66 M5052101	Construct 7" Concrete for Spillway per Plans	Sq. Ft.	2796		
	Pathway and & Drainage Subtotal for Item Numbers 3.10 through 3.66				
4. Bridge Structure					
Bridge Segment 2					
4.10 M2060126	Drilled Shafts (2'-6" Dia)	Lin. Ft.	88		
4.11 M3241100	Concrete Approach Slab	Sq.Ft.	400		
4.12 M5050274	Concrete Channel Lining	Sq. Yd.	22		
4.13 M5051030	Structural Concrete (Class "S")(3,000 psi)	Cu. Yd.	36		

PROJECT NAME: GRAND CANAL PHASE II
PROJECT NUMBER: ST87600114

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
4.14 M5055000	Steel Reinforcement	Lbs.	3090		
4.15 M5059500	Elastometric Bearing Pads Per Plans	Each	4		
4.16 M5151040	64' Prefabricated Steel Bridge Per Plans	L.Sum	1		
4.17 M5200150	Steel Bollards Per Plan	Each	2		
4.18 M5200155	Steel Ladder - SRP	Each	1		
Bridge Segment 3					
4.19 M2060126	Drilled Shafts (2'-6" Dia)	Lin. Ft.	104		
4.20 M3241100	Concrete Approach Slab	Sq. Ft.	438		
4.21 M5051030	Structural Concrete (Class "S") (3,000 PSI)	Cu. Yd.	22		
4.22 M5055000	Steel Reinforcement	LB	1970		
4.23 M5059500	Elastomeric Bearing Pads per Plans	Each	4		
4.24 M5151040	78' Prefabricated Steel Bridge per Plans	L.Sum	1		
4.25 M5200150	Steel Bollards per Plans	Each	2		
	Bridge Structure Subtotal for Item Numbers 4.10 through 4.25				
5. Pedestrian Lighting					
5.10 M3513150	Furnish & Install Conduit, Sized Per Plans, Including Trenching & Backfill	L.Sum	1		
5.11 M3513151	Directional Boring for Conduit	Lin. Ft.	1000		
5.12 M3513160	Furnish & Install Conductors & Bond Wires, Sized Per Plans, Complete & In Place Including Splices & Terminations for a	Job	1		
5.13 M3513170	Connection to Irrigation Controller	Each	14		
5.14 M3513235	No. 3-1/2 Junction Box	Each	47		
5.15 M4751001	Electrical Power Service Pedestal Cabinet, 100A, Single Phase, Including Utility Company Related Costs &	Each	10		
5.16 M4851112	Furnish & Install LED Pole Mounted Area Light, 12' Mounting on Concrete Direct Buried Pole, Complete	Each	59		
5.17 M4851116	Furnish & Install LED Pole Mounted Area Light, 15' Mounting on Concrete Direct Buried Pole, Complete	Each	230		
5.18 M4851117	Furnish & Install Concrete Bollard Accent Light, Complete	Each	68		
	Pedestrian Lighting Subtotal for Item Numbers 5.10 through 5.18				
6. Crossing Treatments					
6.10 M4742001	HAWK Traffic Signal at 19th Ave	L.Sum	1		
6.11 M4742002	HAWK Traffic Signal at Indian School	L.Sum	1		
6.12 M4742003	HAWK Traffic Signal at Osborn Rd	L.Sum	1		
6.13 M4742004	HAWK Traffic Signal at 20th Street	L.Sum	1		
6.14 M4742005	HAWK Traffic Signal at Thomas Rd	L.Sum	1		
6.15 M4742006	HAWK Traffic Signal at 24th Street	L.Sum	1		
6.16 M4743001	RRFB Traffic Signal at Oak Street	L.Sum	1		

PROJECT NAME: GRAND CANAL PHASE II
PROJECT NUMBER: ST87600114

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
6.17 M4742007	HAWK Traffic Signal at McDowell Rd	L.Sum	1		
6.18 M4742008	HAWK Traffic Signal at 32nd Street	L.Sum	1		
6.19 M4742009	Traffic Signal Modifications at 44th Street	L.Sum	1		
6.20 M4743002	RRFB signal at 48th Street	L.Sum	1		
6.21 M4012000	Traffic Control Devises	L.Sum	1		
6.22 M4013000	Allowance for Off Duty Uniformed Officer	L.Sum	1	$ 50,000.00	$ 50,000.00
	Crossing Treatments Subtotal for Item Numbers 6.10 through 6.22				
7. Landscape & Functional Art					
7.10 M1058010	As-Builts, Complete	L.Sum	1		
7.11 M2152050	Allowance for Removing and Haul off Excavated Materials	Job	1	$ 6,000.00	$ 6,000.00
7.12 E6990300	Allowance for Disposal of Excavated Waste Materials	Job	1	$ 8,000.00	$ 8,000.00
7.13 M2202000	Sort, retain, and redistribute existing salvage piles per plan	Job	1		
7.14 M3500170	Trim Existing Trees In Place	Job	1		
7.15 M4251020	Landscape Grading to include swales and berms, and for all landscape construction and node areas	Job	1		
7.16 M4251002	Clean fill for landscape grading	Cu. Yd.	315		
7.17 M4406018	18 Station Controller to Include Stainless Steel Pedestal, all Trenching, Two Wire Paige Communication cables, wire, surge supression and Grounding Rods (5/8" diam x 8' Copper), Water Proof Wire Nuts, Conduit, and Power Company Coordination, two wire module for pedestal mount. Installation shall be complete, tested, and verified for operation per manufacturer's recommended procedures prior to punch list preparation. Power source to be provided by others.	Each	1		
7.18 M4406012	12 Station Controller to Include Stainless Steel Pedestal, all Trenching, Two Wire Paige Communication cables, wire, surge supression and Grounding Rods (5/8" diamx8' Copper), Water Proof Wire Nuts, Conduit, and Power Company Coordination, two wire module for pedestal mount. Installation shall be complete, tested, and verified for operation per manufacturer's recommended procedures prior to punch list preparation. Power source to be provided by others.	Each	4		
7.19 M44406006	6 Station Controller to include Stainless Steel Pedestal, all Trenching, Two Wire Paige Communication cables, wire, surge supression and Grounding Rods (5/8" diamx8' Copper), Water Proof Wire Nuts, Conduit, and Power Company Coordination, two wire module for pedestal mount. Installation shall be complete, tested, and verified for operation per manufacturer's recommended procedures prior to punch list preparation. Power source to be provided by others.	Each	4		
7.20 M6101802	New Water Meter Box and Cover, Furnish and Install	Each	10		
7.21 M6101810	1" Copper Water Meter Service Connect. Pipe and Fittings, Main to Meter, Furnish and Install	Lin. Ft.	848		
7.22 M4406170	Trench Excavation Backfill and Compaction Per MAG Section 601	Lin. Ft.	813		
7.23 M4403100	1" Reduced Pressure Backflow Prevention Unit and Enclosure,with Concrete Pad, Desert Tan	Each	12		

PROJECT NAME: GRAND CANAL PHASE II
PROJECT NUMBER: ST87600114

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
7.24 M4406906	1" Master Valve and Flow Sensor Assembly with box installed and complete	Each	11		
7.25 M4404100	1" Remote Control Valve Assembly	Each	62		
7.26 M4404505	1" Bronze Pressure Regulator	Each	62		
7.27 M4404504	1" Bronze Wye Strainer	Each	62		
7.28 M4406136	Base Wireless Radio Gateway Assembly	Each	3		
7.29 M4406137	Base Wireless DC Latching Reciever	Each	25		
7.30 M4400250	1/2", Sch 40 PVC Irrigation Pipe	Lin. Ft.	7204		
7.31 M4400255	3/4", Sch 40 PVC Irrigation Pipe	Lin. Ft.	18125		
7.32 M4400260	1", Sch 40 PVC Irrigation Pipe	Lin. Ft.	6490		
7.33 M4400270	1-1/2" Sch 40 PVC Mainline	Lin. Ft.	16458		
7.34 M4406300	1" Bronze Isolation Valve	Each	62		
7.35 M4400301	1/2", Sch 80 PVC Flex Hose Risers	Lin. Ft.	2307		
7.36 M4400600	Flush Caps and 7" Round Box	Each	109		
7.37 M4400510	1" Quick Coupler	Each	19		
7.38 M4404321	1-1/2" Mainline Gate Valve and 10" Round Box	Each	36		
7.39 M4404509	Single-Port Emitter and Riser Assembly w/ Bug Cap	Each	50		
7.40 M4404510	Multi-Port Emitter and Riser Assembly w/ Bug Cap	Each	1558		
7.41 M4405903	Schedule 80 PVC Irrigation Sleeve, 3"	Lin. Ft.	254		
7.42 M4405906	Schedule 80 PVC Irrigation Sleeve, 6"	Lin. Ft.	630		
7.43 M4305001	Shrubs 1 Gallon	Each	1534		
7.44 M4305003	Shrubs 3 Gallon	Each	200		
7.45 M4305005	Shrubs 5 Gallon	Each	4085		
7.46 M4305010	Shrubs 15 Gallon	Each	453		
7.47 M4305025	Shrubs 25 Gallon	Each	126		
7.48 M4305065	Shrubs 65 Gallon	Each	116		
7.49 M4305024	24" Box Tree	Each	197		
7.50 M4305036	36" Box Tree	Each	157		
7.51 M4400003	Application of Polymer gel packs @ initial planting	Each	1359		
7.52 M4305901	Ocotillo - Bareroot - (6' Planted Height with 7 cane minimum) - Bareroot	Each	144		

PROJECT NAME: GRAND CANAL PHASE II
PROJECT NUMBER: ST87600114

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
7.53 M4305900	Saguaro - 6' Planted Height Minimum	Each	15		
7.54 M4305915	Cactus, Succulent - 15 Gallon	Each	143		
7.55 M4307001	Tilling, soil prep and Native Seed Mix / Hydroseed Type B Non Woody Plant Material	Acre	4		
7.56 M4400002	Truck Watering for Native Seed Mix/Hydroseed Area	Application	3		
7.57 M2200001	3"-6" Rip - Rap Rock Mulch (for 50/50 Hydroseed Rock application)	Cu. Yd.	1028		
7.58 M2205056	2'x2'x6' Welded Wire Mesh, 9-ga., non galvanized, Gabion Boxes	Each	270		
7.59 M4253006	4" - 8" Clean River Rock for Gabion Boxes	Ton	406		
7.60 M4307002	Pre-emergent and Water Application (2 Total Job Applications to exclude areas of hydroseed)	Sq. Ft.	478860		
7.61 M4304010	1/2" Screened, Decomposed Granite, Mountain Vista Brown, 1" Depth	Cu. Yd.	1707		
7.62 M4304009	1/4" Minus, 4" depth, Stabilized Decomposed Granite	Cu. Yd.	16		
7.63 M4353500	1/4" Core Ten Steel Header with 3/4"x 18" headed, solid nail stakes @ 4' o.c. for Stabilized D.G. Paths	Lin. Ft.	250		
7.64 M3400001	16"x24" Permeable Concrete Block Pavers with subgrade drainage aggregate	Sq. Ft.	1750		
7.65 M3402222	8"x12" Concrete Single Curb, MAG Type B Class B w/smooth trowel finish and joints	Lin. Ft.	450		
7.66 M4200005	6' New Chainlink Fence with 2" Posts and Footings	Lin. Ft.	257		
7.67 M7781000	6' New Wood Fence w/3" Posts and Footings	Lin. Ft.	39		
7.68 M4004100	36" x 12" wide Class B Concrete Footing for Steel Posts	Lin. Ft.	1205		
7.69 M4011100	2-7/8" Outside Diameter, Galvanized Steel Pipes, fabricated, cut to size, and set in concrete footing per detail	Lin. Ft.	8203		
7.70 M4011101	Steel caps tack welded and sealed to steel posts	Each	1315		
7.71 M4005400	Colorant for metal	Lin. Ft.	8203		
7.72 M5050012	Class 'S' Concrete Node Walls, 8" Thick, Poured and Board Formed with reinforced footing, #4	Lin. Ft.	812		
7.73 M5302000	Graffiti Repellent on Node Walls	Sq. Ft.	5340		
7.74 M5159035	2'x4' Bench Seats w/armrest/antivagrant, supports and hardware per manufacturer	Each	22		
7.75 M5159035	Metal Locator Tape	Lin. Ft.	16458		
7.76 M4005142	Safety Rail w/welded wire mesh per Detail Sheet 2.127	Lin. Ft.	160		
	Landscape & Functional Art Subtotal for Item Numbers 7.10 through 7.76				
8. Landscape Establishment					
8.10 M4303000	Plant Establishment Guarantee and Maintenance to include 3 applications of gel packs for supplementary water where installed on project.	Month	6		
	Landscape Establishment Subtotal for Item Number 8.10				
9. Allowances					
9.10 M1042005	Allowance for Extra Work	Job	1	$ 500,000.00	$ 500,000.00
	Allowance Subtotal for Item Number 9.10				

PROJECT NAME: GRAND CANAL PHASE II
PROJECT NUMBER: ST87600114

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
	TOTAL AMOUNT OF CONSTRUCTION BID				

TOTAL AMOUNT OF CONSTRUCTION BID $ _____

Project No. ST876000114 Grand Canal Phase II

TOTAL AMOUNT OF CONSTRUCTION BID:

_____ & _____/100 Dollars

Written Words

Geotechnical Engineering Report
Grand Canalscape Phase II Pedestrian Bridge
Grand Canal at Garfield Street
Phoenix, Arizona
RAMM Project No. G22926

Expires 9/30/2018

For:
Engineering & Environmental Consultants, Inc.
4625 East Fort Lowell Road
Tucson, Arizona 85712

◆◆◆

By:
Ricker • Atkinson • McBee • Morman & Associates, Inc.
2105 South Hardy Drive, Suite 13
Tempe, Arizona 85282

RICKER • ATKINSON • McBEE • MORMAN & ASSOCIATES, INC.
Geotechnical Engineering • Construction Materials Testing

R·A·M·M

Engineering & Environmental Consultants, Inc.
4625 East Fort Lowell Road
Tucson, Arizona 85712

May 9, 2017

Attention: Craig Allison, P.E. Sr. Vice President, Public Works

Subject: Final Geotechnical Engineering Report
Grand Canalscape Phase II Pedestrian Bridge
Grand Canal at Garfield Street
Phoenix, Arizona

RAMM Project No. G22926

At your request, this letter transmits the Geotechnical Engineering Report for the proposed Grand Canalscape Phase II Pedestrian Bridge, to be located in Phoenix, Arizona.

The proposed development will consist of a single span, prefabricated steel pedestrian bridge crossing the Salt River Project (SRP) Grand Canal. The bridge will be approximately 84 feet long and 11 feet wide with drilled shaft supported abutments and adjacent Portland cement concrete pavement (PSSP) walkways. The walkways will also be utilized as roadways for SRP equipment access. The results of our field exploration, laboratory testing and engineering analysis, evaluations and recommendations are presented in report.

The attached report was prepared based on project and site data available at this time and was prepared in a manner and to the standards of the local geotechnical engineering practice. Our services did not include evaluations for the presence of hazardous materials; for corrosion potential with respect to on-site soils; for corrosion potential and concrete durability with respect to site use water sources; for area subsidence resulting from groundwater withdrawal or for other geologic hazards.

If you have any questions, please do not hesitate to call.

Respectfully submitted,
RICKER • ATKINSON • McBEE • MORMAN & ASSOCIATES, INC.

Registered Professional Engineer (Civil) CERTIFICATE NO. 49948 KIP E. REESE Date Signed 5-9-17 ARIZONA U.S.A.

Expires – 9/30/2018

Registered Professional Engineer (Civil) CERTIFICATE NO. 10971 KENNETH L. RICKER Date Signed 5-9-17 ARIZONA U.S.A.

Expires – 3/31/2019

By: Kip E. Reese, P.E.
/dh
Copies To: Addressee (callison@eeccorp.com)

Reviewed By: Kenneth L. Ricker, P.E.

2105 South Hardy Drive, Suite 13, Tempe, AZ 85282-1924 • Telephone (480) 921-8100 • Facsimile (480) 921-4081
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REPORT

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INTRODUCTION

This report presents the results of our geotechnical engineering services for the proposed Grand Canalscape Phase II Pedestrian Bridge, to be located in Phoenix, Arizona. The scope of our services included performing a field exploration program, laboratory analysis and geotechnical engineering evaluation, analysis and recommendations. We would be pleased to discuss with you any additional recommendations you may require. In addition, we are available to review project specifications and plans for conformance with our recommendations at no charge to you.

This firm should be notified for additional evaluations and recommendations should the project design parameters (structure type, location, size, foundation loads, etc.), site use or conditions encountered during construction differ from those presented herein.

PROPOSED CONSTRUCTION

The proposed development will consist of a single span, prefabricated steel pedestrian bridge crossing the Salt River Project (SRP) Grand Canal. The bridge will be approximately 84 feet long and 11 feet wide with drilled shaft supported abutments and adjacent Portland cement concrete pavement (PSSP) walkways. The walkways will also be utilized as roadways for SRP equipment access. The bridge will be elevated above the high water level of the canal. The bridge abutments will be located adjacent to and outside of the canal channel crest. The strength and service loads for the bridge will be on the order of 86 and 61 kips, respectively, for 30-inch and 36-inch diameter drilled shafts, based on an anticipated settlement of 0.5 inches. The walkways will be subjected to generally low traffic volumes consisting of crew trucks and multi-wheeled trucks and equipment ranging in weight from approximately 20 kips to 70 kips.

SITE CONDITIONS

The proposed Grand Canalscape Phase II Pedestrian Bridge site is located near the east extension of Garfield Street at the SRP Grand Canal, in Phoenix, Arizona. The bridge site at the time of our field exploration consisted of an approximately 55-foot wide at the crest and 6-foot deep, water filled concrete lined canal trending northwest-southeast with an unpaved roadway on the east side of the canal and a paved roadway on the west side of the canal. The site was slightly elevated above the adjoining, relatively flat areas.

FIELD EXPLORATIONS

Subsurface conditions at the proposed Grand Canalscape Pedestrian Bridge site were explored by drilling two test borings (one at each end of the bridge) to a depth of 50 feet, as shown on the Site

Plan in Appendix A. The test borings were drilled with a truck-mounted CME 55 drill rig using 7-inch diameter, hollow-stem augers and a Strotex pneumatic down hole hammer with casing advancer and 5-inch diameter casing. The drilling equipment and crew were provided by Wildcat Drilling, Inc. The test boring locations were determined in the field by a project engineer from our firm. During the field explorations, representative disturbed and undisturbed samples were obtained, the test borings logged and soils field classified by our field technician, who also directed the drill crew. The relatively undisturbed samples (ring samples) and driven disturbed samples (standard penetration tests (SPT)) were obtained by driving a 3-inch diameter, ring-lined, open-end sampler and a 2-inch diameter, split spoon sampler, respectively, into the soil with a 140-pound automatic hammer dropping 30 inches. The results of the test borings are presented in Appendix A.

LABORATORY ANALYSIS

Representative samples obtained during the field exploration were subjected to the following laboratory tests.

Type of Test	Type of Sample	Number of Samples Tested
Consolidation	Undisturbed	2
Direct Shear	Undisturbed	1
Minus No. 200 Sieve and Atterberg Limits	Representative	2
Percent Expansion	Remolded	2
Moisture Content/Dry Density *	Undisturbed	8
Moisture Content *	SPT	10
Sulfate **	Representative	2

* Reported on the test boring logs.
** Performed by Motzz Laboratory, Inc.

The results of the laboratory analysis are presented in Appendix B.

SUBSURFACE CONDITIONS

The subsurface conditions encountered at the test boring locations at the bridge site were relatively uniform. The results of each test boring are presented in Appendix A in the Test Boring Logs. Test Boring 1, located in a paved area, encountered 1.5 inches of asphalt concrete pavement. In general, the soils encountered in the test borings to depths of 5.0 to 9.0 feet consisted of silty sand to clayey sand fill with trace amounts of gravel. The fill soils were loose to medium dense and

had low to medium plasticity fines. The fill was underlain by loose to medium dense silty clayey sand containing trace amounts of gravel. This deposit was loose to medium dense, had low to medium plasticity fines and had zones of intermittent light cementation and extended to depths of 20.5 to 21.0 feet. Underlying these soils, and extending to the maximum depth of exploration (50 feet), silty sand and gravel containing occasional to trace amounts of cobble was encountered. This deposit was dense and had non-plastic fines. The cobble-sized clasts were generally on the order of 3 to 6 inches in size. Refusal to hollow-stem auger penetration occurred in these soils at depths of 21.0 to 26.0 feet.

The moisture content of the fill soils was described as damp to moist. The silty clayey sand soils were described as slightly damp to damp soils were described as and the silty and gravel soils were described as slightly damp. No groundwater was observed in the test borings during the drilling operation.

DISCUSSIONS OF TEST RESULTS

A remolded sample of the fill soils from the site exhibited a low swell potential following wetting when tested in the laboratory. Undisturbed samples from various depths underwent slight compression during loading to approximate foundation loads. Upon wetting, these soils underwent some additional compression. An undisturbed sample was subjected to direct shear testing at in-situ moisture contents. These soils exhibited a moderate shear strength.

FOUNDATION RECOMMENDATIONS

General:

The Grand Canalscape Pedestrian Bridge will be an at-grade structure with cast-in-place abutments supported on drilled shafts.

Drilled Shaft Design:

The design of the drilled shafts used for bridge support is based on the procedures presented in AASHTO LRFD Bridge Design Specification, Sixth Edition, 2012 (LRFDUS-6) and Arizona Department of Transportation (ADOT) Policy Memorandum DS-1, dated December 1, 2010 (Revision 1). The following generalized subsurface profile (below approximate finish grade) is used in design and is based on a compilation of results from Test Borings 1 and 2.

Design Soil Profile

Bridge Abutments Begin and End:

Layer Depth (feet)	Soil Type	SPT (N)	Density (pcf)
0-9	Fill	5	107
9-21	SM-SC	10	115
21-41	SM-GM	100	115
41-50	SM-GM	100	120

Resistance Factors

		Resistance Factors	
LRFD Soil Type	Resistance Type	Redundant	Non-Redundant
Sand	Side	0.55	0.44
	Tip	0.50	0.40

Settlement values based on Figures 10.8.2.2.2-3 and 10.8.2.2.2-4 from AASHTO (LRFDUS-6).

The drilled shafts were designed using the beta method for side resistance with resistance factors presented above for redundant drilled shafts and for non-redundant drilled shafts. The N value method was used for tip resistance with the resistance factors, presented above, for redundant drilled shafts and for non-redundant drilled shafts.

No uplift load is expected from the various LRFD load combinations. Thus, no uplift load chart is presented in this report.

The drilled shaft design curve for the strength limits states and the service limit states are presented in Appendix C, Pages C1 to C6. The vertical axis of the charts is elevation/depth in feet and the horizontal axis is load capacities in kips. The charts include curves for 30- and 36-inch diameter shafts. The design curve will be used by the bridge designer to determine elevation/depth of the drilled shaft for various LRFD load combinations.

Group efficiency is not included. The recommendations presented are based on currently available bridge geometry and loads. If bridge plans and/or loads change significantly, we should be notified for review and possible supplemental recommendations.

The interaction effects between adjacent shafts shall be evaluated using AASHTO Table 10.8.3.6.3-1 – Group Reduction Factors for Bearing Resistance Shafts in Sand and per ADOT DS-1. A Group Reduction Factor of 0.9 should be used for two diameter spacing's and 1.0 for four diameter spacing's.

Shafts used in groups should be located such that the distance from the side of any shaft to the nearest edge of the cap is not less than 6.0 inches. Shafts shall be embedded sufficiently into the cap to develop the required structural resistance.

Lateral Earth Pressures:

The following tabulation presents the recommended lateral earth pressures and base friction values which should be used in the lateral design of footings and retaining walls. Lateral capacities of drilled piers should be based on the following p-y curve parameters and a computer program such as L-Pile. The lateral pressures are equivalent fluid pressures for average anticipated conditions.

Backfill Pressures:
- Unrestrained Walls ---------- 40 psf/ft
- Restrained Walls ---------- 35 psf/ft

Passive Pressures:
- Continuous ---------- 250 psf/ft
- Isolated column footings ---------- 300 psf/ft

Coefficient of Base Friction:
- Concrete to soil ---------- 0.40

LPILE Parameters

Depth (feet)	Density (ɣ, pcf)	Soil Type	Phi (Ø,°)	Cohesion (C, psf)	Strain (ε_{50})	Soil Modulus (k, pci)
0 to 9	107	Ø,C	15	100	0.020	30
9 to 21	120	Ø,C	20	100	0.020	30
21 to 50	115	Ø	35	0	-	225

The above equivalent fluid pressures are for vertical walls with horizontal backfills and do not include temporary loads imposed by compaction equipment or permanent loads resulting from backfill swell pressures, hydrostatic pressures or surcharge loads. All retaining walls should contain weep holes to reduce the potential for the buildup of hydrostatic pressures.

SITE DEVELOPMENT RECOMMENDATIONS

Approach Slab-On-Grade Support:

The near surface fill soils have low to medium plasticity and, when compacted and wetted, exhibit a low swell potential. The soils, when scarified and recompacted or used as fill, will provide adequate support for concrete slabs-on-grade. The depth of compaction should extend through any loose, existing fill and/or disturbed soils. All unreinforced slabs-on-grade should be jointed as per ACI (American Concrete Institute) or PCA (Portland Cement Association) guidelines.

Surface Drainage:

Most soils will undergo some degree of volume change as the result of wetting. The degree of volume change will depend on the type of soil, swell potential, natural soils structure or degree of compaction (if a fill). These volume changes could result in movements in overlying structure and non-structure elements including walkways, sidewalks, planters, retaining walls, etc. Therefore, good site and surface drainage away from these elements is required. In addition, water should not be allowed to pond within 10 feet of the structure or other elements which are sensitive to movements. The footing excavation backfill must be well compacted to minimize the possibility of moisture infiltration through this zone.

Excavatability:

The excavatability of site materials is difficult to evaluate based only on the exploration equipment used during this design report. Therefore, we recommend that the contractor evaluate the excavatability of site materials by performing test excavations with the size and type of equipment the contractor plans on using at the site. For design purposes the following paragraph presents our best analysis as to the excavatability of site soils.

Excavation of the drilled shafts in the site soils to depths of 20 to 21 feet should be possible with conventional drilling equipment. Excavation of the drilled shafts below these depths may be slower and more difficult to accomplish due to the presence of oversized material and may require heavy-duty equipment. Some raveling or caving may occur in the granular soils. Steel casing or lean mix concrete slurry will likely be required during drilling to stabilize areas or zones of raveling or caving. The drilled shafts shall be constructed in accordance with Section 609 of the Arizona Department of Transportation (ADOT) Standard Specifications.

Concrete Durability:

As part of this investigation, Sulfate testing of surface and near surface site soils was conducted. The results of the laboratory testing are included in Appendix B. Based on our laboratory test results and 2006, 2009 and 2012 IBC Concrete Durability Requirements, Section 1904, there appears to be a low potential for deterioration to concrete in contact with site soils. This potential is a function of soil type and moisture content, material type and/or composition, water chemistry and other factors. Accordingly, the results of the laboratory testing should be made available to material suppliers and corrosion experts for review.

Workability:

Wetting site soils such that moisture contents are at or above optimum could result in some soil pumping under dynamic loadings such as heavy construction equipment driving over the area. In pavement areas where severe pumping has damaged subgrade conditions, the area should be allowed to dry until soils are workable without pumping or the wetted areas removed and replaced with drier site soils.

PAVEMENT DESIGN RECOMMENDATIONS

Portland Cement Concrete:

The following Portland cement concrete pavement (PCCP) section is based on anticipated traffic types and frequencies and site soil conditions. Therefore, any material imported to the site and placed in pavement areas should have support characteristics the same as or better than the site soils.

Area of Use	PCCP Section
Access Road	6.0 inches

Base material is not required below the PCCP section; however, if construction occurs during the summer months the base material would help reduce the potential for slab curling and shrinkage cracking. A maximum joint spacing of 12 to 15 feet should not be exceeded in either direction and all joints should be designed to provide load transfer. Joint detail, joint layout and concrete batching, placing, curing and observation procedures should be in accordance with the recommendations developed by the Portland Cement Association and the American Concrete Institute.

The use of steel reinforcement in PCCP is typically for cases in which joint spacing is in excess of those that will effectively control shrinkage or in which subgrade conditions may provide non-uniform support. Steel reinforcement is used to hold together fracture faces should cracks form and does not contribute to the load carrying capacity of the pavement. Jointing, steel reinforcement and doweling should conform to ACI guidelines.

A modulus of subgrade reaction of 150 pci may be used for design of PCCP aprons bearing on a prepared subgrade.

MATERIALS SUITABILITY AND REQUIREMENTS

Site Soils:

The surface and near surface fill soils have medium plasticity and exhibit a low swell potential when compacted and wetted. These soils may not be used as fill in approach slab areas. The site soils may be used as fill in all areas of the site outside of approach slab areas. All materials should be free of organics, debris, rubble and material greater than 6 inches in size.

Imported Soils:

Fill required beyond that available from site sources and used to raise the approach slab areas or for use as retaining wall backfills should be imported soils meeting ADOT Structure Backfill requirements as specified in Section 206 of the Standard Specifications.

Concrete:

Portland cement concrete used for drilled shafts shall be Class "S" as specified in Section 1006 of the ADOT Standard Specifications. The cement should be Type II. The maximum water-cement ratio should be 0.45 and the minimum 28-day compressive strength should be 4,000 psi.

Portland Cement Concrete Pavement:

The PCCP should have a minimum compressive strength of 4000 psi at 28 days and a maximum slump of 4 inches at the time of placement. The PCCP should conform to the requirements of MAG Specifications for Portland Cement Concrete (Section 725, Class AA).

SITE PREPARATION AND GRADING PROCEDURES

Approach Slab and Pavement Areas:

Recommendations presented in the previous sections of this report are based upon the following site preparation and grading procedures. Therefore, all earthwork should be accomplished with observation and testing by a qualified technician under the direction of a registered geotechnical/ materials engineer. The following apply to the areas within the approach slab and pavement areas.

1. Clear and grub the site by removing and disposing of all vegetation in areas to be developed, any debris or rubble, and remnants of any former developments (existing pavement).

2. Strip the site of all existing fill zones to a depth of at least 2 feet below bottom of approach slab and any fill piles, backfill zones and unstable soils. During stripping observe the

surface for evidence of buried debris, vegetation or disturbed materials which will require additional removal. Areas steeper than 5H to 1V should be benched and any depressions widened to accommodate compaction equipment.

3. Prepare the ground surface in at-grade areas, in fill areas and in areas cut to grade by scarifying, moisture conditioning and compacting the exposed surface soils to a depth of 10 inches.

4. Moisture condition and place all fill and backfill materials required to achieve specified grades. Fill materials should be moisture conditioned, placed and compacted in horizontal lifts of thicknesses compatible with the compaction equipment being used.

5. Compact subgrade, fill, backfill, subbase fill, or base material to the following minimum percent compaction of the ASTM D698 maximum dry density for each lift.

Material	Minimum Percent Compaction
Soil:	
Below foundations and pavement sections	95
Below approach slabs	95
Base Material:	
Below approach slabs	95
Backfill: *	90

* Outside of structure and approach slab areas.

6. The moisture content of soil and base materials at the time of compaction should be:

Type	Area of Use	Moisture Content
On-Site	Approach Slabs, Pavement	Optimum plus or minus 3%
Imported	Approach Slabs, Pavement	Optimum plus or minus 3%

7. Any soils which are disturbed or overexcavated by the contractor outside the limits of the plans or specifications should be replaced with materials compacted as specified above. The above compaction requirements will also apply to any disturbance occurring within the construction limits, including but not limited to backfilling of trenches inside and outside of the building pad.

City of Phoenix Special Inspections:

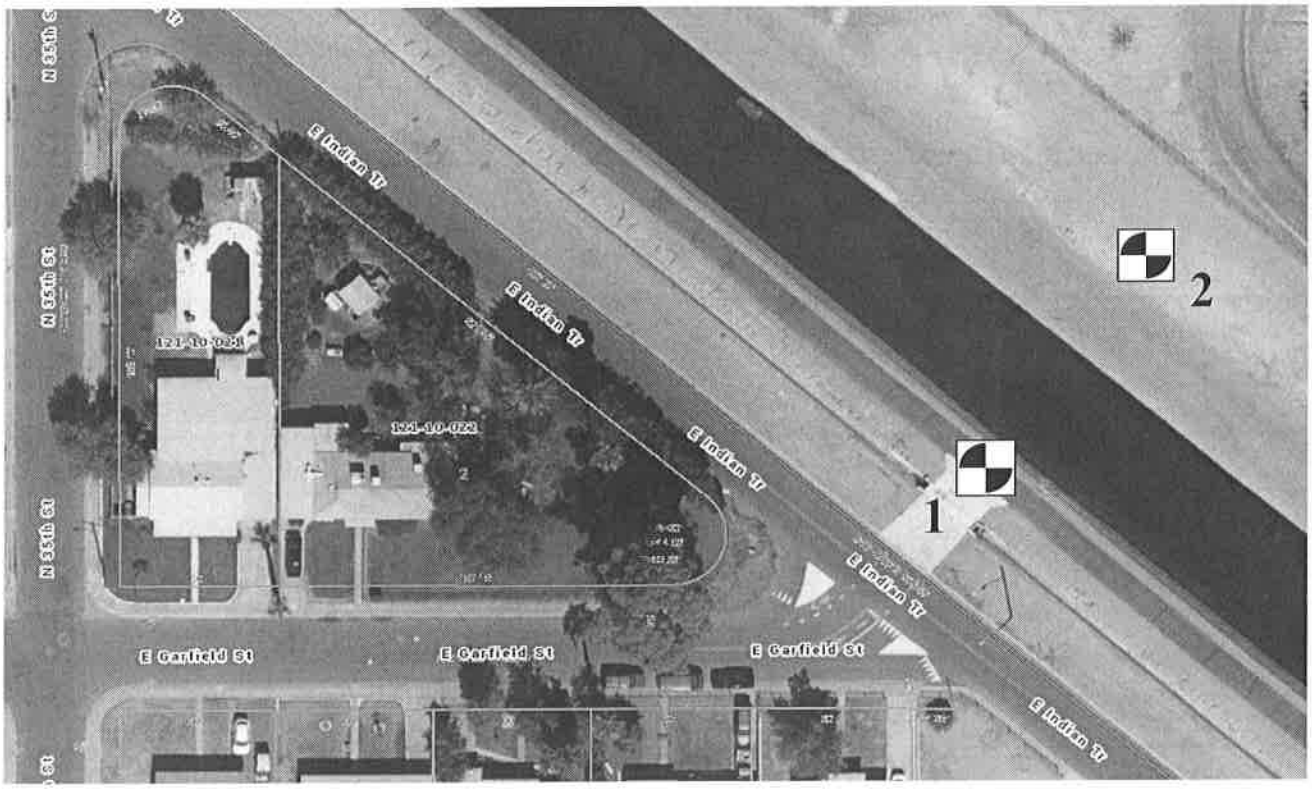
The City of Phoenix Building Safety Division has developed a Special Inspection and Observation Manual for use with the 2012 International Building Code (IBC) and the City of Phoenix

Construction Code Supplements to the IBC. In accordance with the manual special inspection may be required for various activities related to foundation support. The foundation designer and City plan checker should be consulted to determine if these provisions apply to this project.

If special inspection is required, then the owner/legal agent must retain the engineer of record to be responsible for the special inspection. Both must execute a certificate of special inspection prior to, and following this phase of the work.

APPENDIX A
FIELD EXPLORATIONS

R·A·M·M



Ref: Maricopa County Assessor Web Site
http://betamaps.mcassessor.maricopa.gov/

N

Test Boring Location

Not To Scale

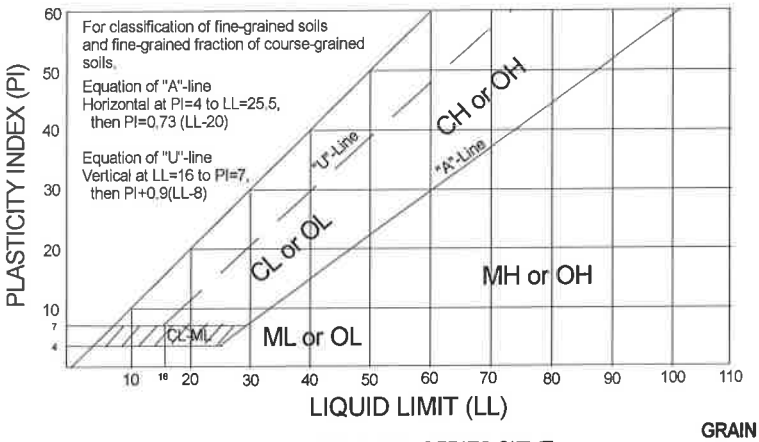
SITE PLAN

LEGEND

ASTM Designation: D2487-11
(Based on Unified Soil Classification System)

CLASSIFICATION OF SOILS

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests					Soil Classification	
					Group Symbol	Name
COARSE-GRAINED SOILS More than 50% retained on No. 200 Sieve	Gravels More than 50% coarse fraction retained on No. 4 Sieve	Clean Gravels Less than 5% fines	Cu >4 and 1 <Cc <3		GW	Well graded gravel
			Cu<4 and/or 1>Cc>3		GP	Poorly graded gravel
		Gravels with Fines More than 12% fines	Fines classify as ML or MH		GM	Silty gravel
			Fines classify as CL or CH		GC	Clayey gravel
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines	Cu >6 and 1 <Cc <3		SW	Well-graded sand
			Cu<6 and/or 1>Cc>3		SP	Poorly graded sand
		Sands with Fines More than 12% fines	Fines classify as ML or MH		SM	Silty sand
			Fines classify as CL or CH		SC	Clayey sand
FINE-GRAINED SOILS 50% or more passes the No. 200 Sieve	Silts and Clays Liquid limit less than 50	Inorganic	PI>7 and plots on or above "A" line		CL	Lean clay
			PI<4 or plots below "A" line		ML	Silt
		Organic	Liquid Limit - oven dried / Liquid limit - not dried	<0.75	OL	Organic clay / Organic silt
	Silts and Clays Liquid limit 50 or more	Inorganic	PI plots on or above "A" line		CH	Fat clay
			PI plots below "A" line		MH	Elastic silt
		Organic	Liquid limit - oven dried / Liquid limit - not dried	<0.75	OH	Organic clay / Organic silt
HIGHLY ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor				PT	Peat



TEST BORING LOG DEFINITIONS

Blows per foot using 140 pound hammer with 30 inch free-fall.

Depth, feet	Blows/Foot		Sample Type	Dry Density pcf	Water Content, %	Unified Classification	Description
	C	N/R					

C = Continuous Penetration Resistance (2 inch diameter rod)
N = Standard Penetration Resistance (ASTM D1586)
R = Penetration Resistance (3 inch diameter ring line sampler)

GRAIN SIZES

U.S. STANDARD SERIES SIEVE — CLEAR SQUARE SIEVE OPENINGS

200	40	10	4	3/4"	3"	12"

SILTS & CLAYS DISTINGUISHED ON BASIS OF PLASTICITY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

MOISTURE CONDITION (INCREASING MOISTURE ⟶)

DRY — SLIGHTLY DAMP — DAMP — MOIST (Plastic Limit) — VERY MOIST — WET (SATURATED) (Liquid Limit)

CONSISTENCY CORRELATION		RELATIVE DENSITY CORRELATION	
CLAYS & SILTS	BLOWS/FOOT*	SANDS & GRAVELS	BLOWS/FOOT*
VERY SOFT	0-2	VERY LOOSE	0-4
SOFT	2-4	LOOSE	4-10
FIRM	4-8	MEDIUM DENSE	10-30
STIFF	8-16	DENSE	30-50
VERY STIFF	16-32	VERY DENSE	OVER 50
HARD	OVER 32		

*Number of blows of 140 lb hammer falling 30" to drive a 2" O.D. (1-3/8" I.D.) split-spoon sampler (ASTM D1586).

TEST BORING LOG

Project: Grand Canalscape Pedestrian Bridge – Phoenix, Arizona **Test Boring:** 1

Elevation: Not Determined **Datum:** --- **Date:** 9-9-16

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
							1.5" Asphalt Concrete
	12					SM/	FILL: Silty Sand to Clayey Sand, Trace Gravel;
	7	7	R	102	9	SC	brown, damp to moist, loose to medium dense,
	4						low to medium plasticity fines.
	4						
5	3						5
	3	3	N		9	SM/	Silty Clayey Sand, Trace Gravel; brown, damp
	6					SC	to moist, loose to medium dense, low to
	7						medium plasticity fines, zones of intermittent
	10						light cementation.
10	12	15	R	103	11		10
	9						
	11						
	9						
	13						
15	20	13	N		17		15
20		34	R	112	5		20
						SM/	Silty Sand and Gravel, Occasional to Trace
						GM	Cobbles; brown, slightly damp, dense, non-
							plastic fines.
25							25
							-Continued-

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Grand Canalscape Pedestrian Bridge – Phoenix, Arizona **Test Boring**: 1cont.

Elevation: Not Determined Datum: --- **Date**: 9-9-16

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		50/6"	N		2	SM/ GM	Silty Sand and Gravel, Occasional to Trace Cobbles; continued Begin Stratex percussion drilling.
30		58	N		2		
35		50/6"	N		2		
40		50/3"	N		NR		
45		50/1"	N		NR		
50		50/1"	N		NR		Stopped percussion drilling at 50 feet. Refusal to 7" hollow-stem auger penetration at 21 feet. Stratex – pneumatic down hole hammer with casing advancer. No groundwater observed. NR = No Recovery.

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Grand Canalscape Pedestrian Bridge – Phoenix, Arizona **Test Boring:** 2

Elevation: Not Determined **Datum:** --- **Date:** 9-8-16

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
							1.5" Asphalt Concrete
	33					SM/ SC	FILL: Silty Sand to Clayey Sand, Trace Gravel; brown, damp to moist, loose to medium dense, low to medium plasticity fines.
	9	8	R	101	6		
	3						
	3						
5	4	5	R	104	6		
	5						
	6						
	7						
	9						
10	9	15	R	107	9	SM/ SC	Silty Clayey Sand, Trace Gravel; brown, damp to moist, loose to medium dense, low to medium plasticity fines, zones of intermittent light cementation.
	8						
	13						
	15						
	10						
15	11	14	R	104	16		
	24						
20		50/6"	R	94	12		Begin Stratex percussion drilling.
						SM/ GM	Silty Sand and Gravel, Occasional to Trace Cobbles; brown, slightly damp, dense, non-plastic fines.
25							
							-Continued-

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

TEST BORING LOG

Project: Grand Canalscape Pedestrian Bridge – Phoenix, Arizona **Test Boring**: 2 cont.

Elevation: Not Determined Datum: --- **Date**: 9-8-16

Depth, feet	Blows/Foot C	Blows/Foot N/R	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		50/4"	N		1	SM/ GM	Silty Sand and Gravel, Occasional to Trace Cobbles; continued Begin Stratex percussion drilling.
30		50/6"	N		2		
35		50/5"	N		4		
40		50/4"	N		1		
45		50/1"	N		NR		
50		50/4"	N		2		Stopped percussion drilling at 50 feet. Refusal to 7" hollow-stem auger penetration at 21 feet. Stratex – pneumatic down hole hammer with casing advancer. No groundwater observed. NR = No Recovery.

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

APPENDIX B
LABORATORY ANALYSIS

R·A·M·M

LABORATORY TEST RESULTS

Date: 29-Sep-16

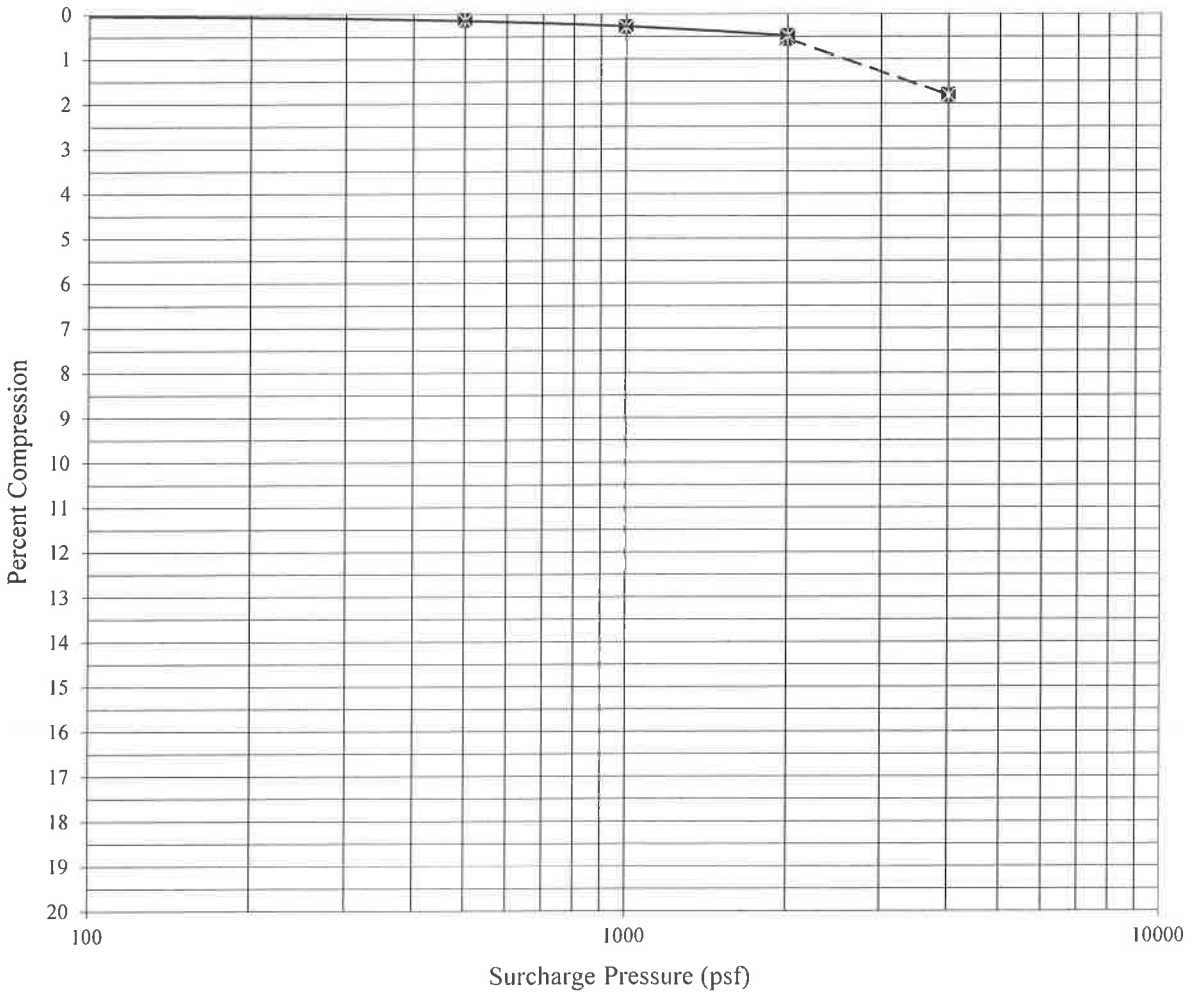
SAMPLE SOURCE: 1 @ 10'-11'

TESTING PERFORMED: Compression (ASTM D2435) - Driven Ring Sample

SAMPLED BY: RAMM/Durot

RESULTS:

Dry Density (pcf): 103 Moisture Content (%): 11



REMARKS: Sample submerged at 2000 psf.

LABORATORY TEST RESULTS

Date: 29-Sep-16

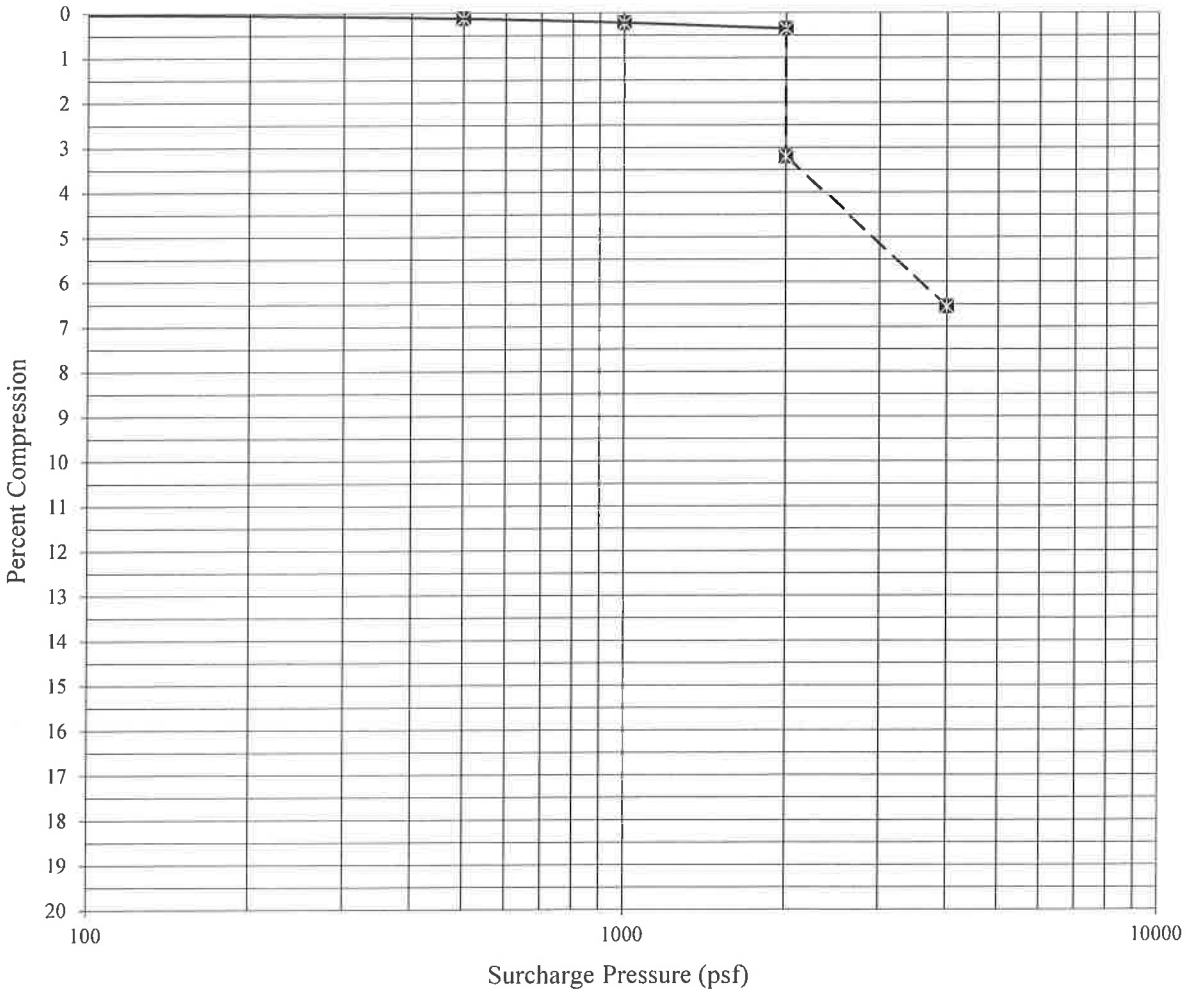
SAMPLE SOURCE: 2 @ 5'-6'

TESTING PERFORMED: Compression (ASTM D2435) - Driven Ring Sample

SAMPLED BY: RAMM/Durot

RESULTS:

Dry Density (pcf): 104 Moisture Content (%): 6



REMARKS: Sample submerged at 2000 psf.

LABORATORY TEST RESULTS

Date: 1-Dec-16

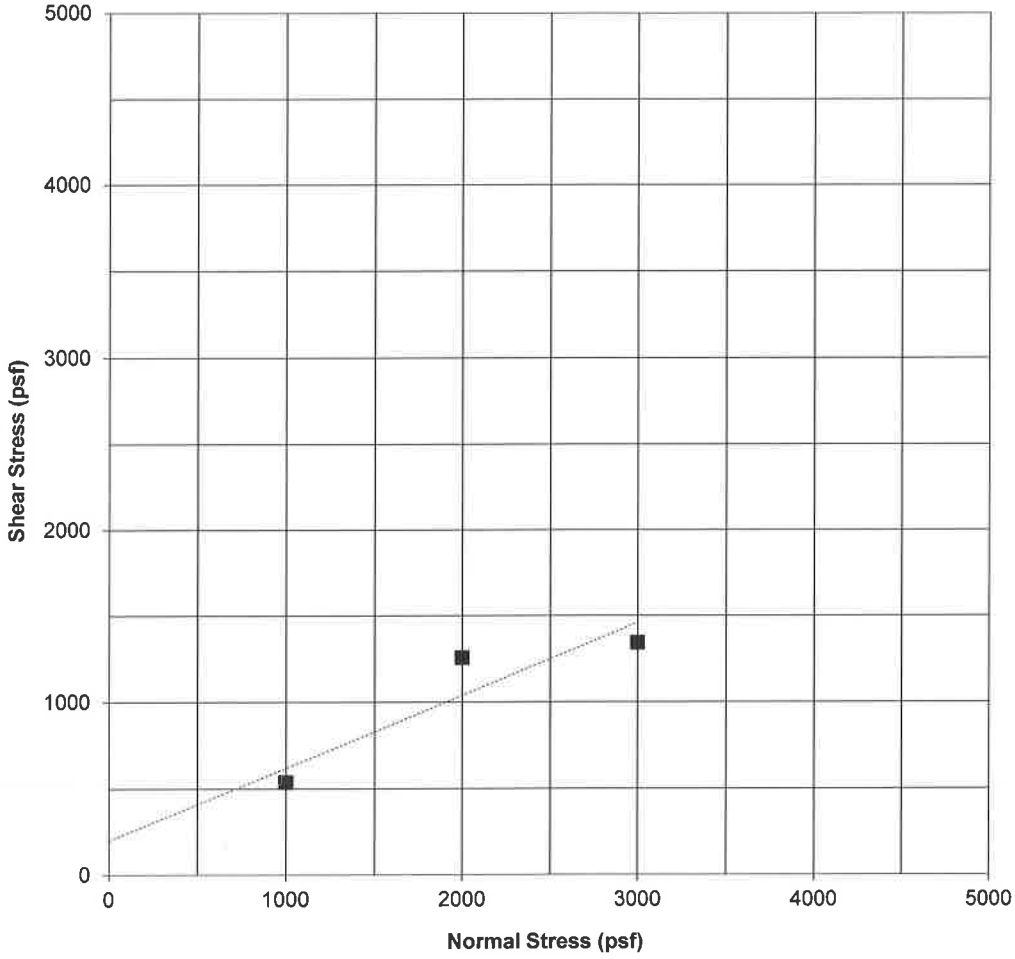
SAMPLE SOURCE: 2 @ 10'-11'

TESTING PERFORMED: Direct Shear (ASTM D3080) - Driven Ring Sample

SAMPLED BY: RAMM/Durot

RESULTS:

Dry Density (pcf):	107	Moisture Content (%):	9
Cohesion (psf):	200	Friction Angle (phi):	23



REMARKS: Samples submerged prior to testing.

LABORATORY TEST RESULTS

Date: 29-Sep-16

SAMPLE SOURCE: As noted below

TESTING PERFORMED: Percent Passing No. 200 Sieve, Atterberg Limits, Percent Expansion (ASTM D1140, D4318, D4546)

SAMPLED BY: RAMM/Durot

RESULTS:

Sample Source	Percent Retained No. 4 Sieve	Percent Passing No. 200 Sieve	Liquid Limit	Plasticity Index	Percent Expansion*	Remolded Dry Density (pcf)	Remolded Moisture Content (%)
1 @ 5'-10'	4	45	27	10	1.0	111	11
2 @ 0'-3'	2	43	19	3	0.2	115	10

* Based upon sample remolded to 95% of the estimated maximum dry density at 2% below the estimated optimum moisture content, with a surcharge pressure of 100 psf.

MOTZZ LABORATORY, INC.

Soil Analysis Report

Ricker-Atkinson-McBee-Morman
Kip Reese
2105 South Hardy Dr.
Suite 13
Tempe , AZ 85282-1924

Project: G22926
Sampler:
Date Received: 9/15/2016
Date Reported: 9/19/2016
PO Number: G22926

Lab Number: 918933-01 **1 (5-10)**

Sulfate (ARIZ 733)	Method	Result	Units	Levels
Sulfate, SO4	ARIZ 733	22	ppm	

Sulfate 0.0022%

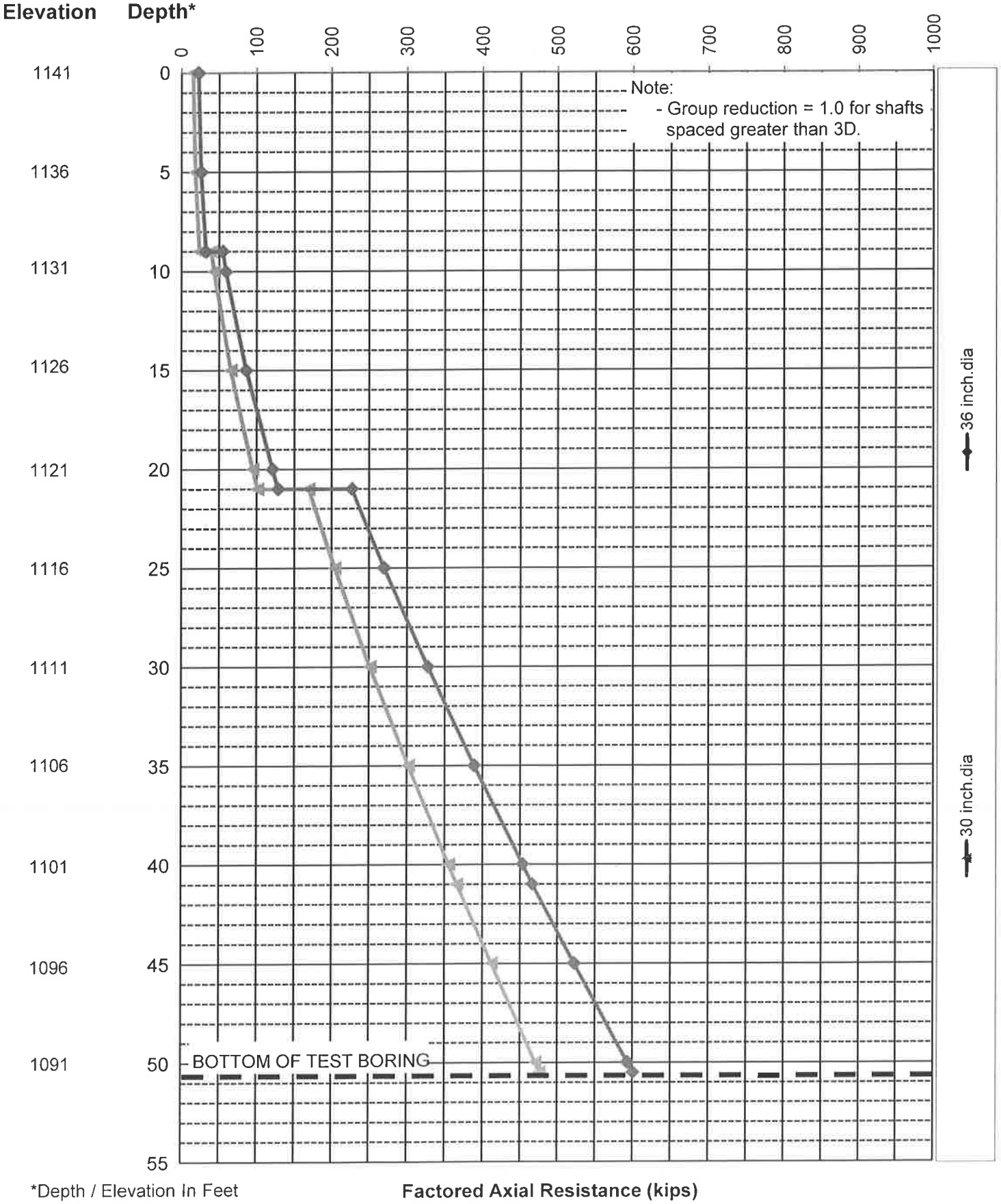
Lab Number: 918933-02 **2 (0-5)**

Sulfate (ARIZ 733)	Method	Result	Units	Levels
Sulfate, SO4	ARIZ 733	795	ppm	

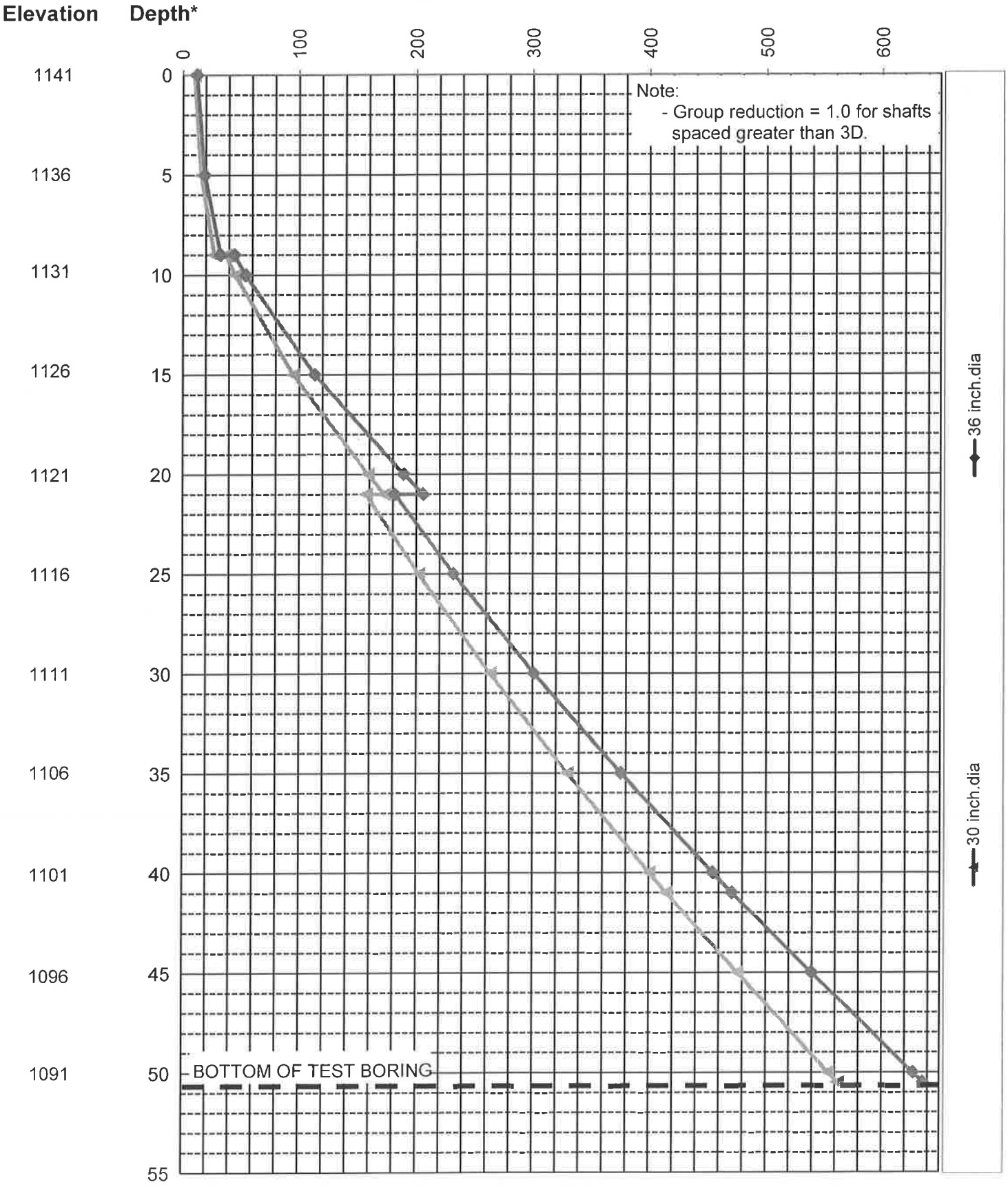
Sulfate 0.080%

APPENDIX C
DRILLED SHAFT DESIGN CURVES

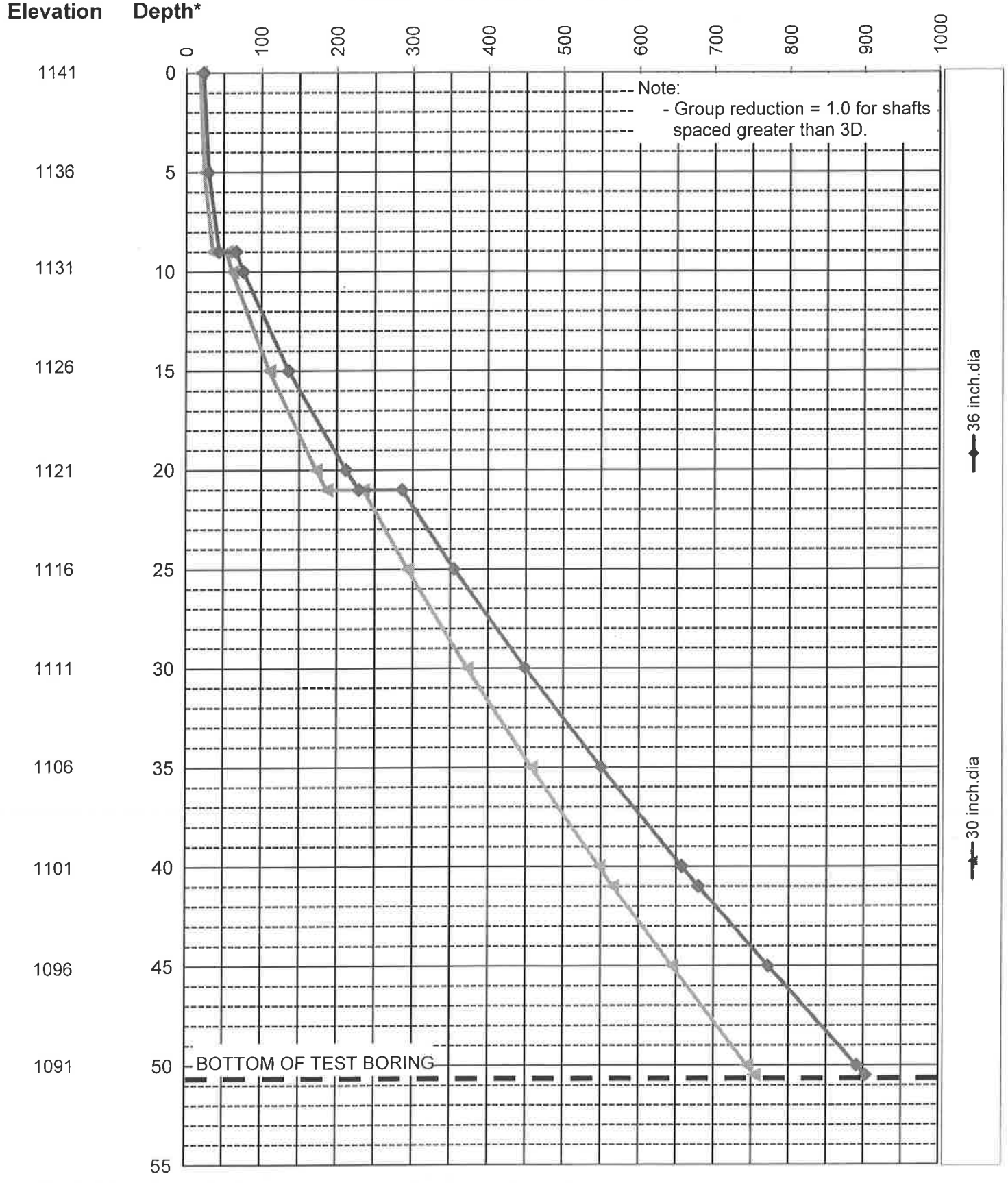
Factored Axial Resistance of Drilled Shafts
Grand Canalscape Phase II
(Strength Limit State)
NON-REDUNDANT SHAFTS



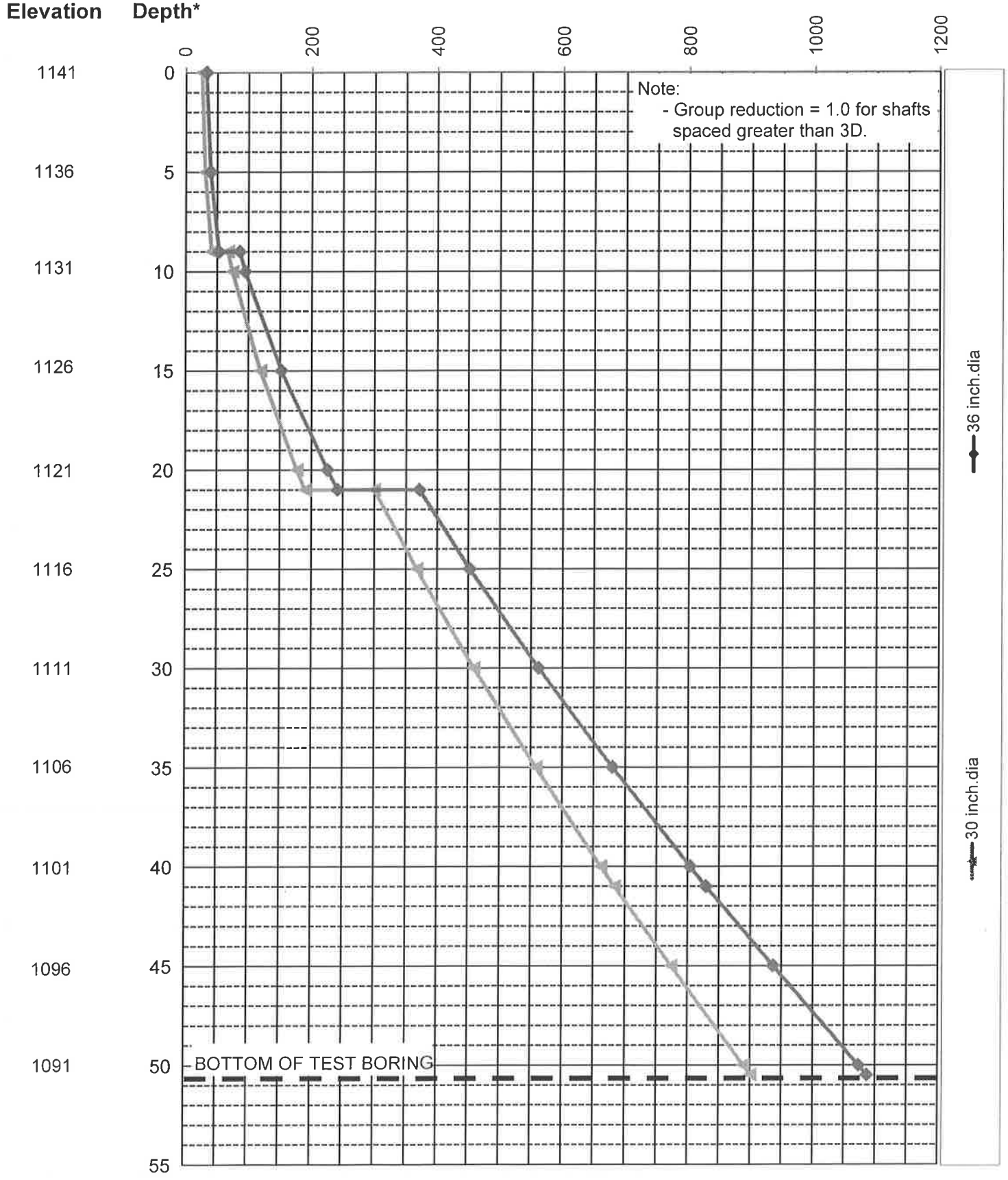
Axial Resistance of Drilled Shafts
Grand Canalscape Phase II
(Service Limit State)
Estimated Settlement = 0.25 in.



Axial Resistance of Drilled Shafts
Grand Canalscape Phase II
(Service Limit State)
Estimated Settlement = 0.50 in.



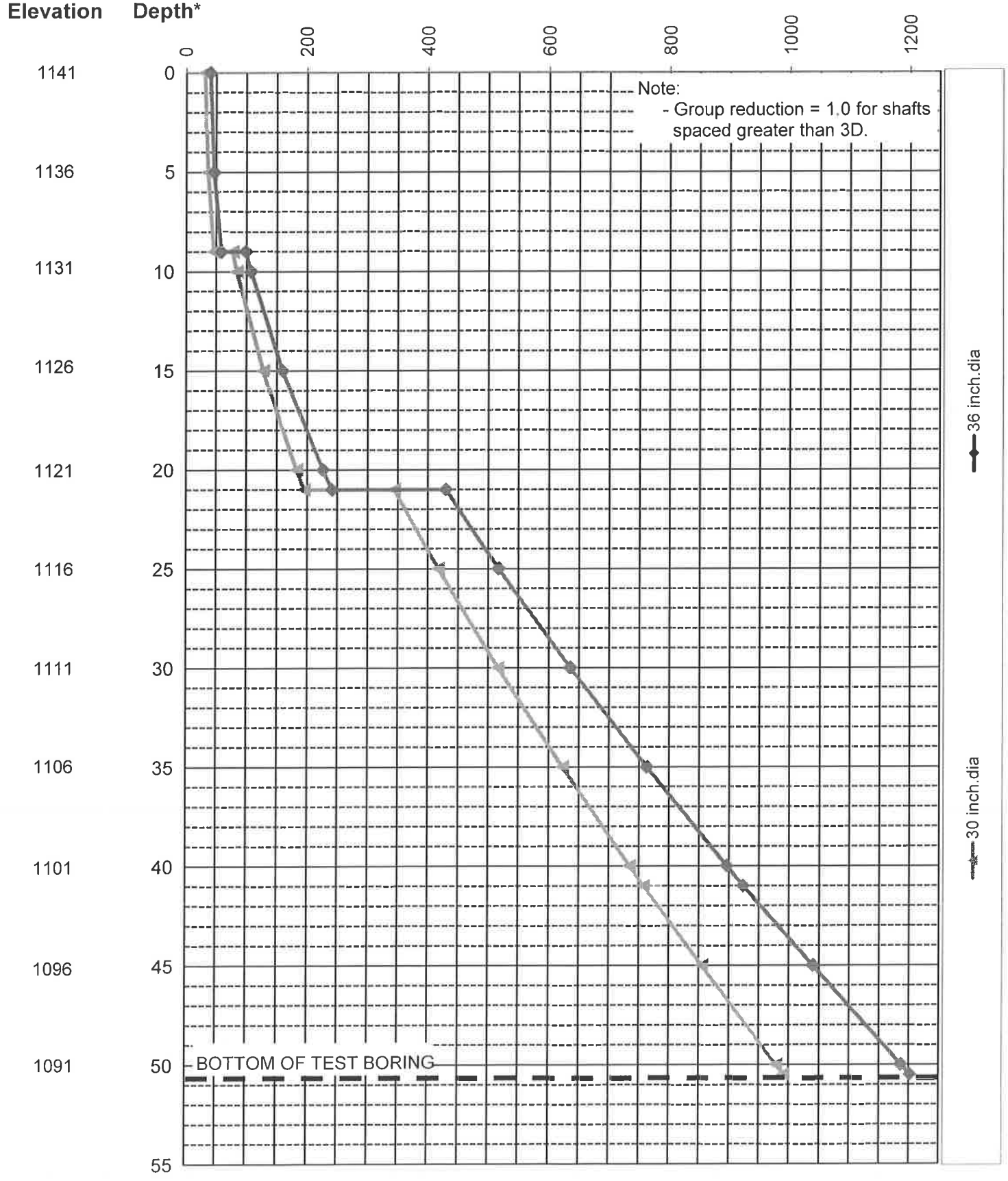
Axial Resistance of Drilled Shafts
Grand Canalscape Phase II
(Service Limit State)
Estimated Settlement = 0.75 in.



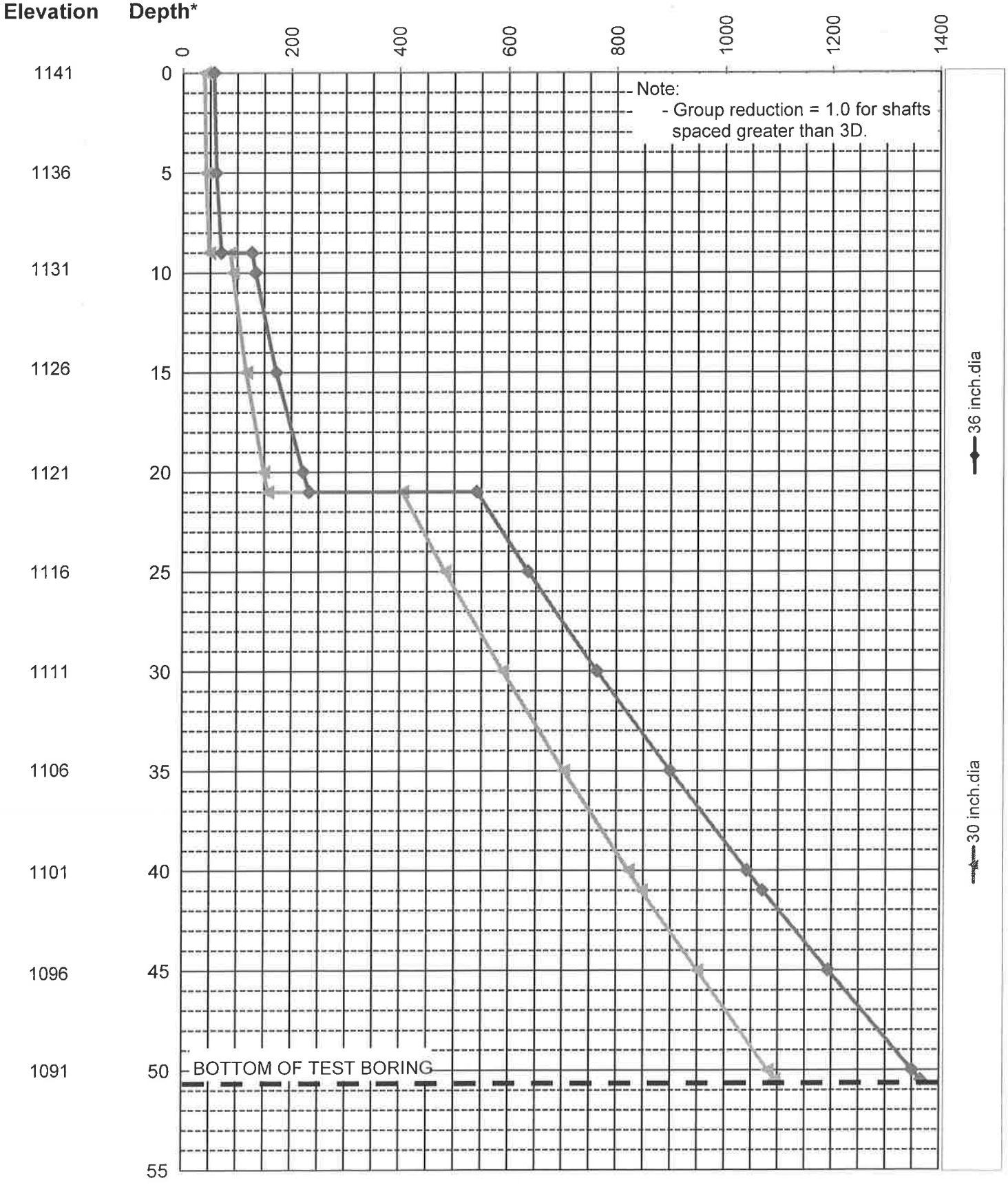
*Depth / Elevation In Feet

Axial Resistance (kips)

Axial Resistance of Drilled Shafts
Grand Canalscape Phase II
(Service Limit State)
Estimated Settlement = 1.0 in.



Axial Resistance of Drilled Shafts
Grand Canalscape Phase II
(Service Limit State)
Estimated Settlement = 2.0 in.



GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.003	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer — 13900 R. CRAIG ALLISON — Date Signed Approved — Arizona, U.S.A.
EXPIRES 3-31-20

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			
3	Revise retaining wall note			

ITEM NO	DESCRIPTION	UNIT	TOTAL	2.12	2.13	2.14	2.15	2.16	2.17	2.18	2.19	2.20	2.21	2.22	2.23	2.24	2.25	2.26	2.27	2.28	2.29	2.30	2.31	2.32	2.33	2.34	2.35	2.36	2.37	2.38	2.39	2.40	2.41	2.42	2.43	2.44	2.45	2.46	2.47	2.48	2.49	2.50	2.51	2.52
ROADWAY IMPROVEMENTS																																												
M1000010	Art Work*	Job	26	2					3	1		1	3							3	1			2	2						3	1	1	3											
M2150036	Shotcrete Spillway	Sq.Yd.	22																							9	5	8																
2 M3010001	Subgrade Preperation	Sq.Yd.	0																																									
M3360270	Asphalt Concrete for Permanent Pavement Replacement, Type C 3/4, 7" Thick	Sq.Yd.	422	8					20				33				14			18				18	14	11	48	25	142	26	4	20			18								3	
M3400400	Concrete Sidewalk, COP Std. Dtl. P-1230, 4" Thick 1	Sq.Ft.	3526						99			126	19							37				578	19	438	360	603	101	486	167	102			36								355	
M3400400	Concrete Sidewalk, COP Std. Dtl. P-1230, 7" Thick	Sq.Ft.	178,458	3390	5000	5000	5000	5000	4243	4500	1689	2635	4283	5000	5000	5000	3828	5000	5000	3687	5000	5000	5000	4751	4406	5000	5000	5000	5000	5000	5000	3769	5000	5000	3917	5000	5000	4000	4500	5000	4009	4034	1484	333
M3400415	Truncated Domes For Sidewalk Ramps	Sq.Ft.	484	26					64				64				56			64				32	32							72			64								10	
M3400449	Concrete Driveway Entrance, Std. Detail 250-2 (6" Thick)	Sq.Ft.	262																						262																			
M3400480	Concrete Curb Ramp, C.O.P. Std. P-1241-2	Sq.Ft.	96																												96												96	
M3400553	Concrete Driveway Entrance, Std. Detail P-1244 (Modified Per Plan)	Sq.Ft.	4,851	317					616				653				578			665				310	310							740			662									
M3402227	Combined Concrete Curb and Gutter, Standard Detail 220, Type "A" Modified	Lin.Ft.	1,044	34					87				73				64			78				93	65	55	83	35	90	120		88			79									
M4153105	Safety Rail, MAG Detail 145	Lin.Ft.	54						12				12				12							6	6							6												
M5050010	Concrete Retaining Wall, Per Plans 3	Lin.Ft.	122																																									122
M5052061	Scupper, MAG Detail 203	Each	4																							2	2																	
M5052101	Concrete Spillway Per Plans	Sq.Ft.	300																														300											
M6101805	Water Service Connection (Main to Meter)	Each	6		1				1				1											1								1			1									
REMOVALS																																													
M3500010	Remove Portland Cement Concrete Curb and Gutter	Lin.Ft.	725	34					87				69				63			74				60	64	25	28	13	7	4	22	87			75								13	
M3500020	Remove Portland Cement Concrete Sidewalk, Driveway, Valley Gutter & Slab	Sq.Ft.	5,372	263					408			428	1203				301			371				138	244			204				483			365									964
M3500037	Remove Miscellaneous Concrete	Sq.Yd.	130																					40		2	25	30					33											
M3500060	Remove Asphalt Concrete Pavement	Sq.Yd.	635	8					20				33				14			18				25	13	40	41	6	142	230	4	20			18								3	
M3500110	Remove Existing Fence	Lin.Ft.	503		102	47																							343	11													
M3500309	Sign Removal	Each	3										1												1						1													
M3500311	Remove and Reinstall Existing Gate	Each	5														1			1	1			1	1																				
M3503010	Remove Existing Barricade	Lin.Ft.	228																					12		44	63	16	50	38														5
M3515045	Remove Existing Light Pole Standard, Per Plan	Each	1										1																															
ADJUSTMENTS																																													
M3450040	Adjust Existing Utility Frame and Cover, Manhole or Utility Riser	Each	4										1											1								1		1										

* Sandblast street name locations shown for reference only. Item M1000010 measured and paid for on a complete job basis.

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

QUANTITY SUMMARY

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

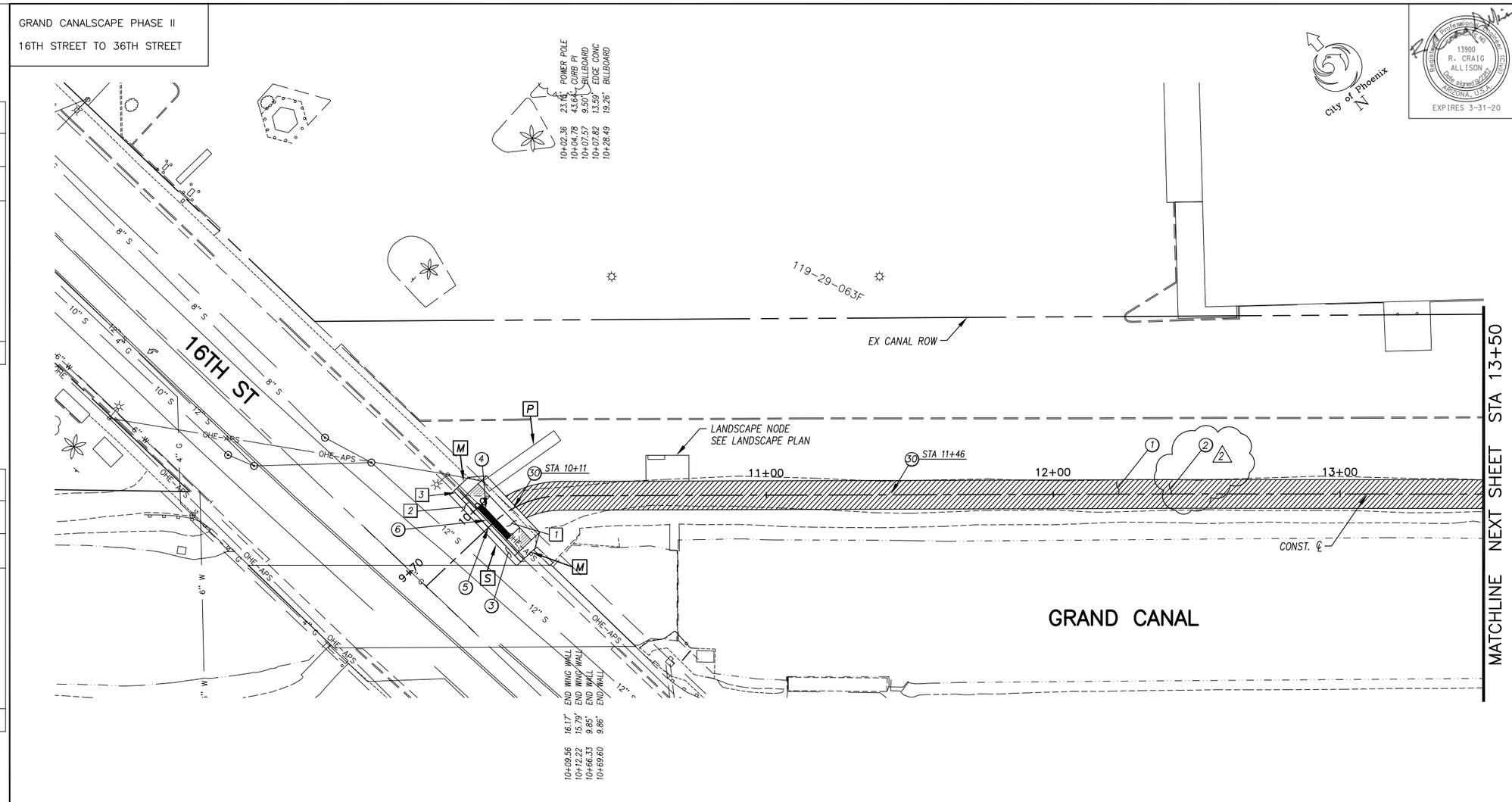
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

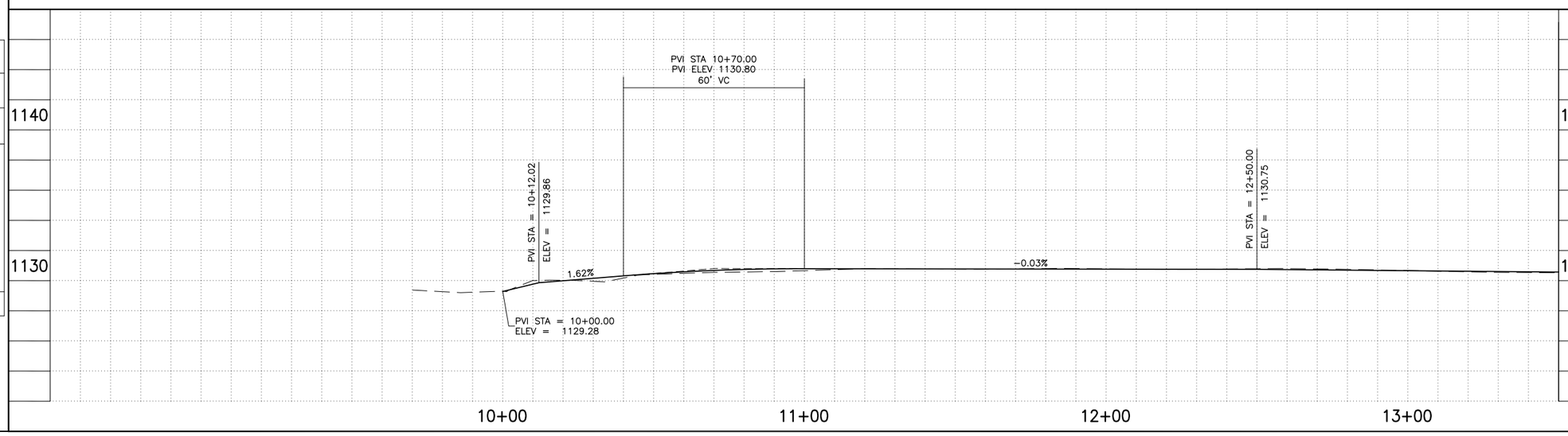
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.003	2.182
SCALE:				

REVISED

ST87600114 GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET





F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.012	2.182

eac ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer (Civil) 13900 R. CRAIG ALLISON Date signed 9/22/17 ARIZONA, U.S.A. EXPIRES 3-31-20

GENERAL NOTES

- M SAWCUT AND MATCH EXISTING CONCRETE
- P PROTECT IN PLACE
- S SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	263	S.F.
2	REMOVE ASPHALT CONCRETE	8	S.Y.
3	REMOVE EXISTING CURB & GUTTER	34	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	3390	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	8	S.Y.
4	TRUNCATED DOMES PER C.O.P. STD. DET. P1232	26	S.F.
5	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL A	317	S.F.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	34	L.F.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	2	EA.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig. CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17		
SCALE: 1"= 20'	0' 20'		2.012	2.182

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

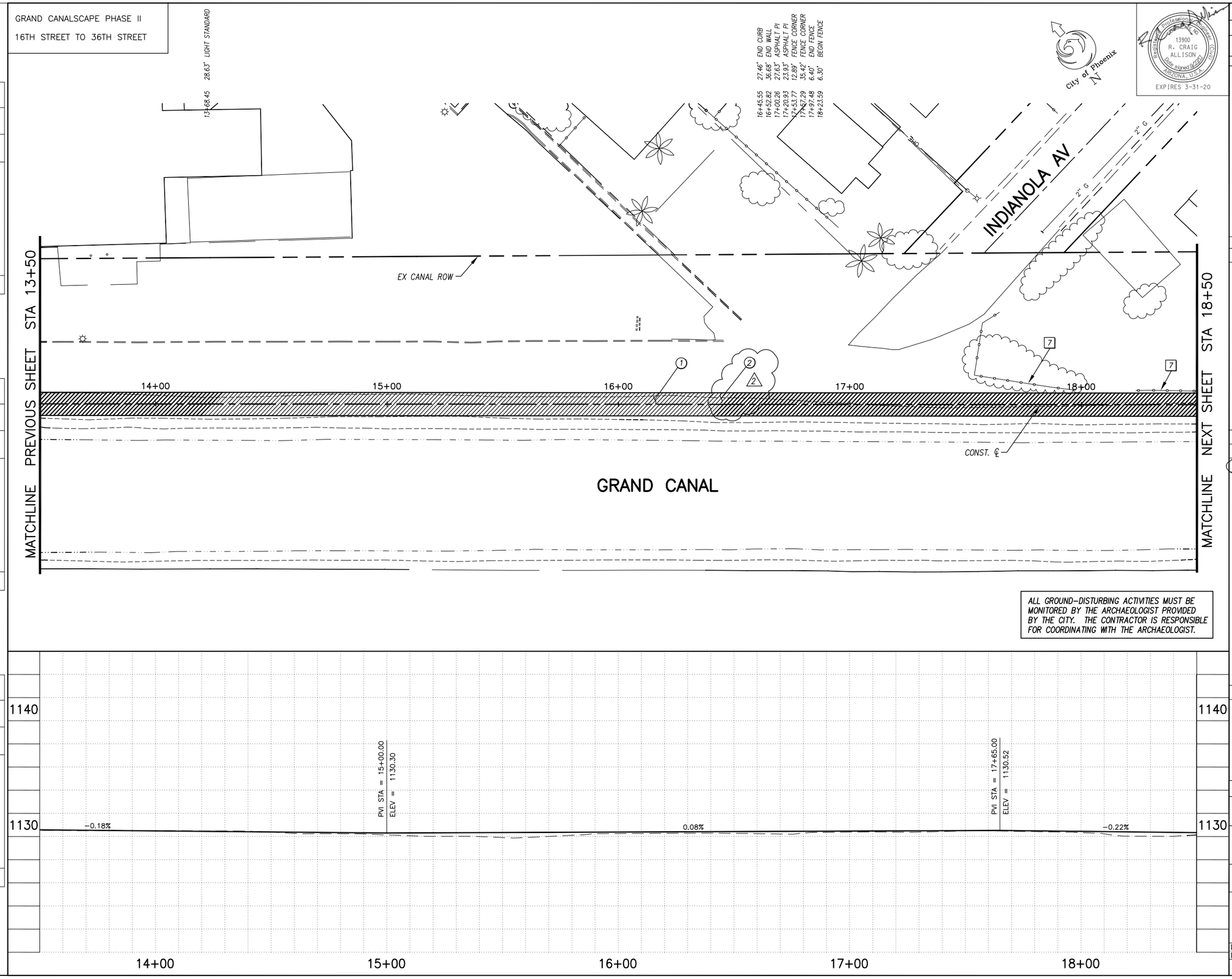
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.013	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date signed 3/31/17
ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
7	REMOVE EXISTING FENCE	102	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

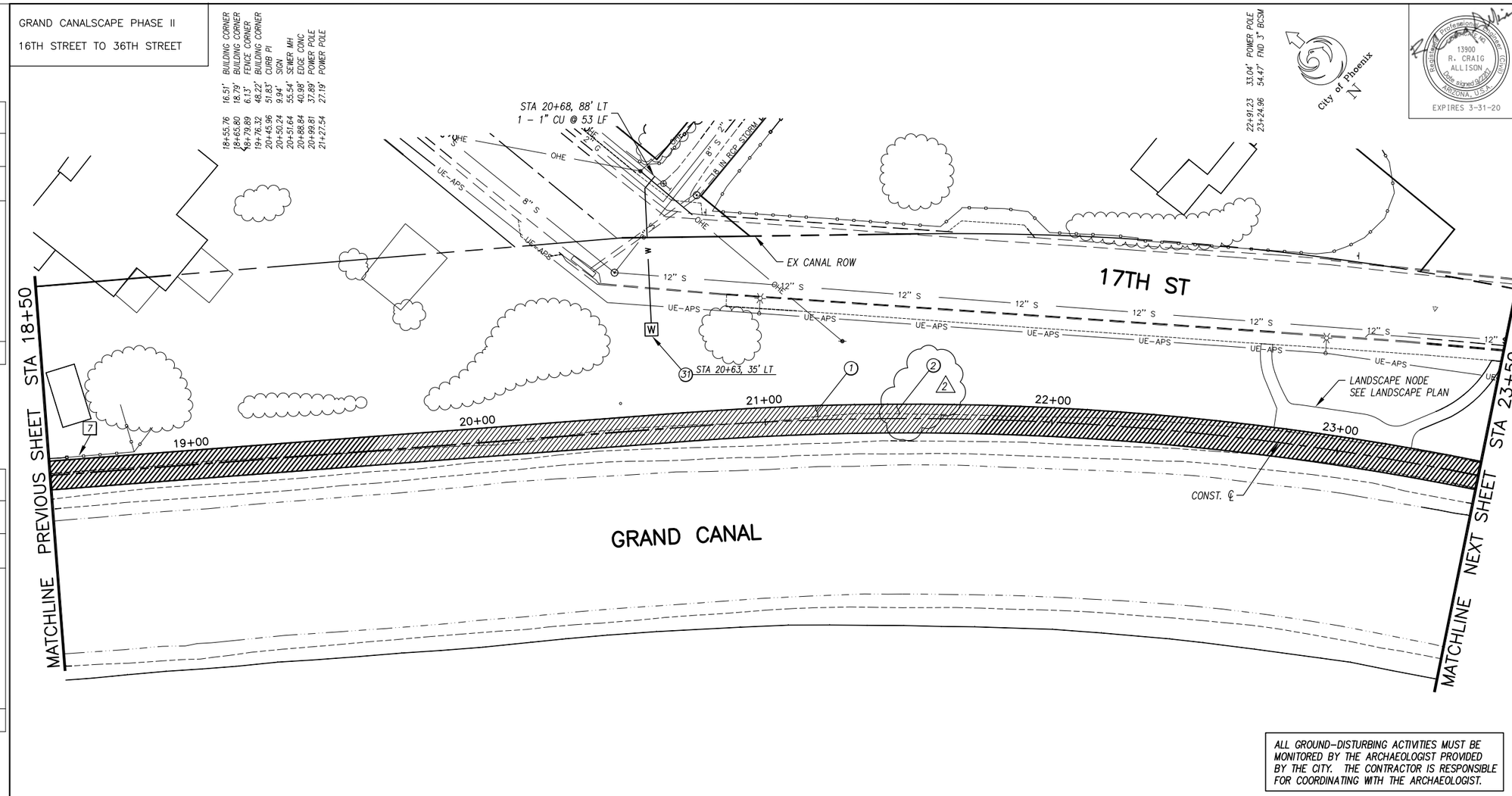
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.013	2.182

SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET



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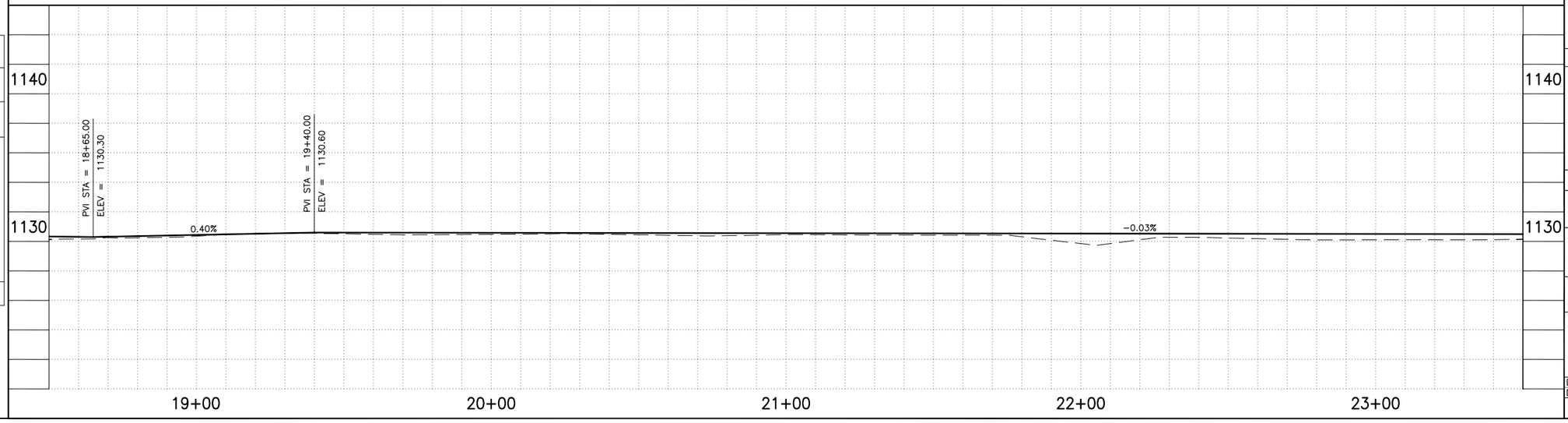

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.014	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer (Civil) 13900 R. CRAIG ALLISON Date signed 9/22/17 ARIZONA, U.S.A. EXPIRES 3-31-20

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
7	REMOVE EXISTING FENCE	47	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
31	WATER SERVICE CONNECTION WITH BFP COP STD. DET. P1342	1	EA

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.014	2.182

SCALE: 1"= 20' 0' 20'

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

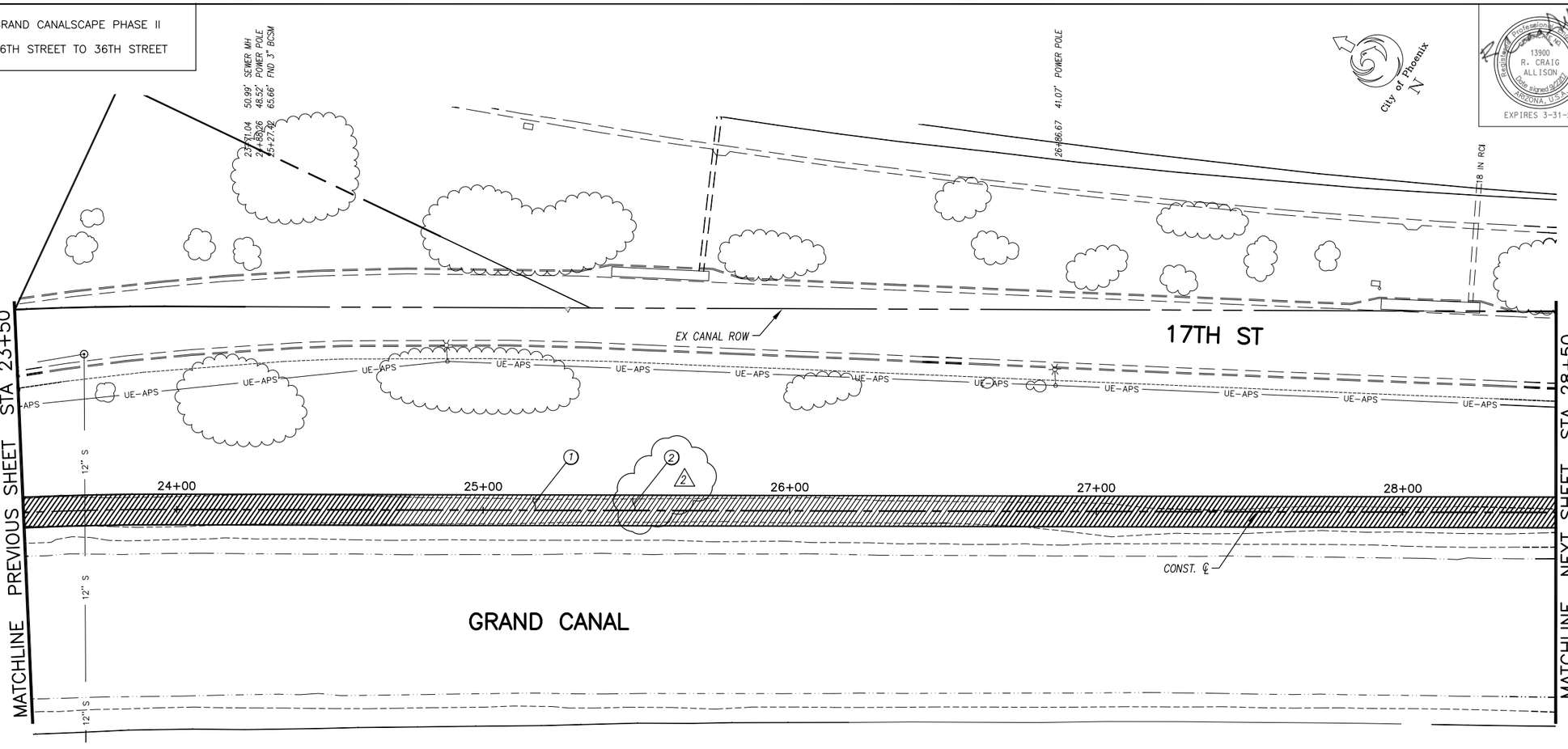
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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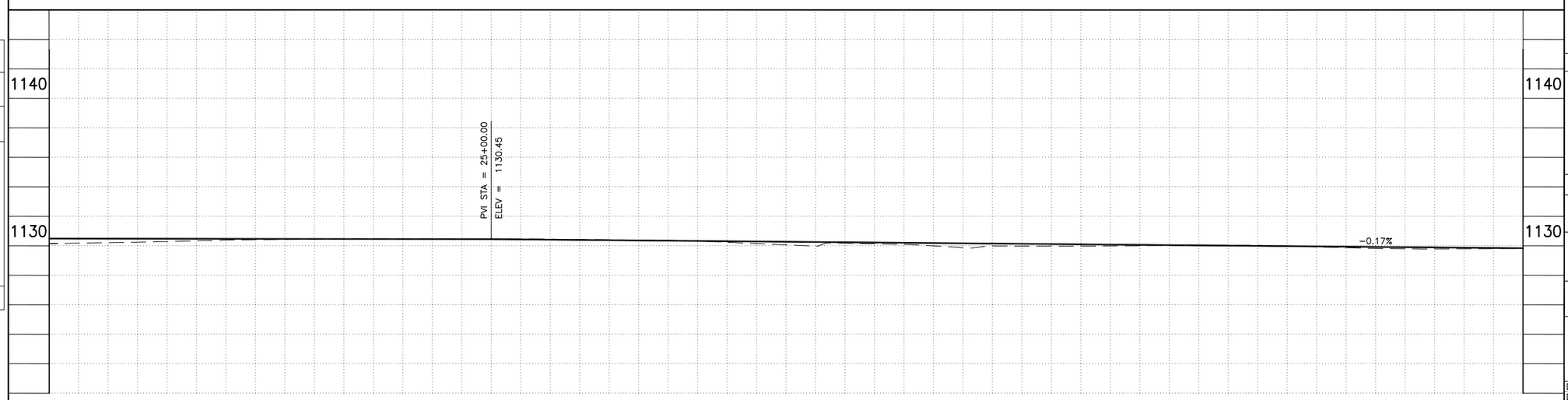

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date signed 3-31-20
Arizona, U.S.A.
EXPIRES 3-31-20

City of Phoenix

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.015	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

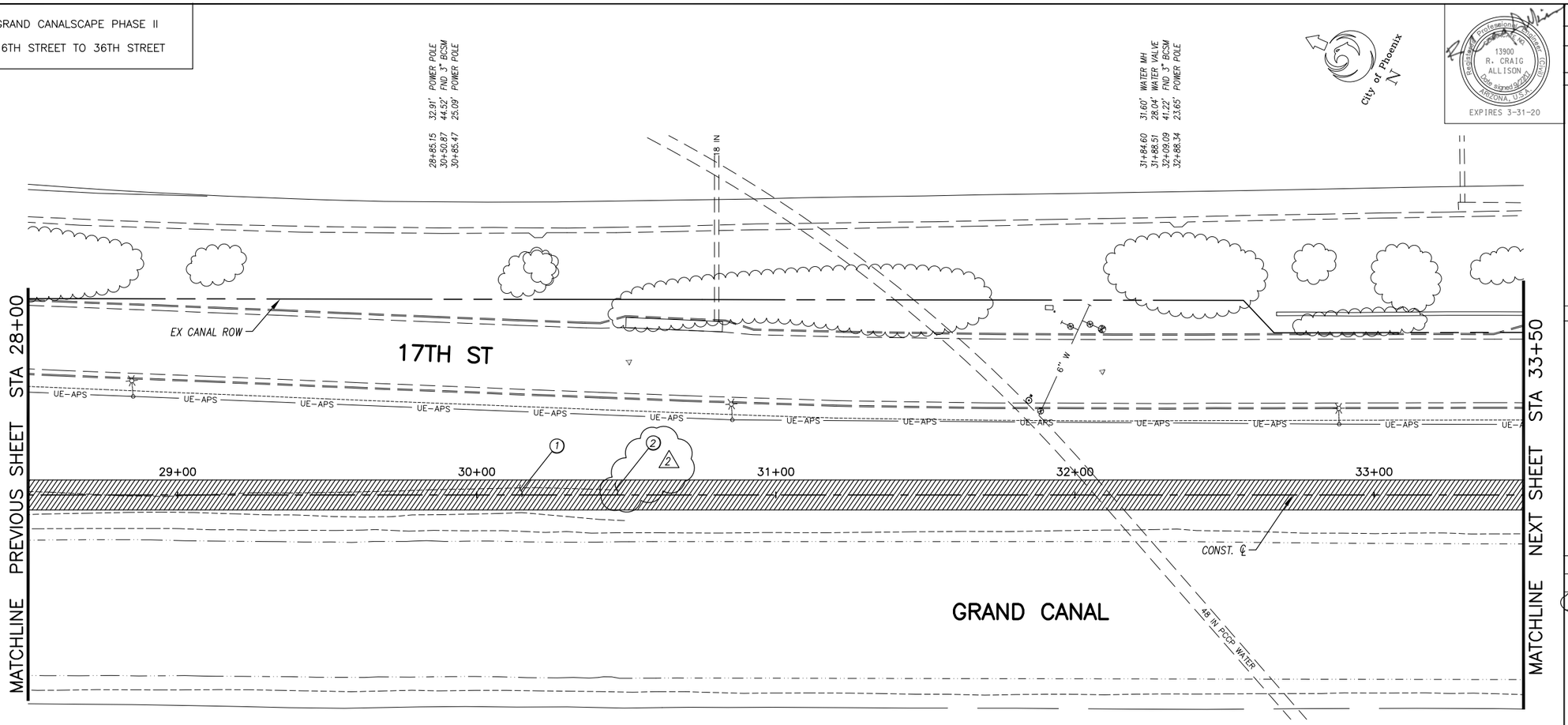
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.015	2.182

SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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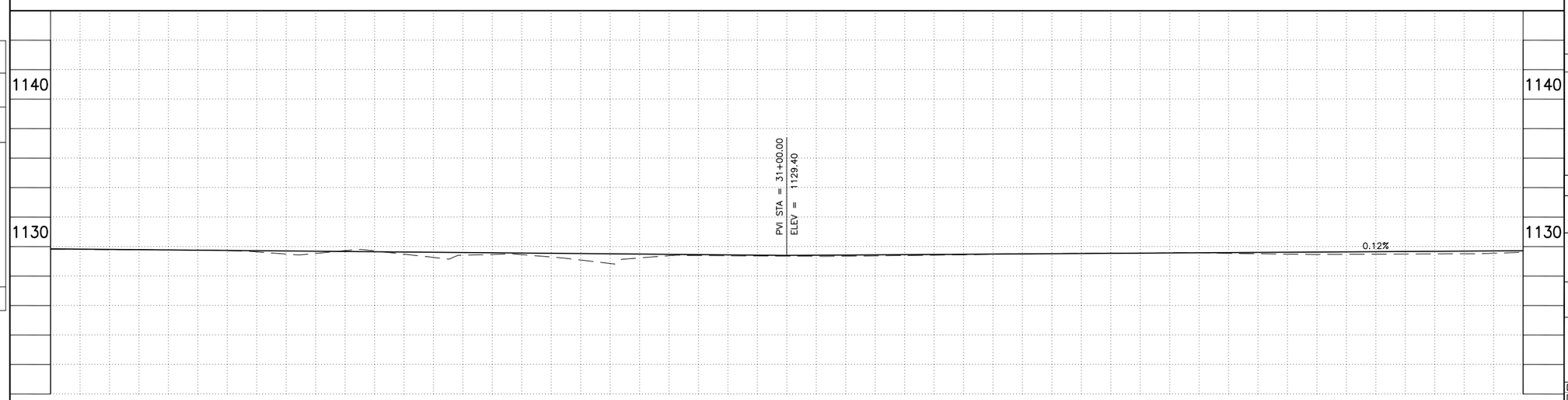

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

City of Phoenix

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date signed 3/31/17
ARIZONA, U.S.A.
EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.016	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

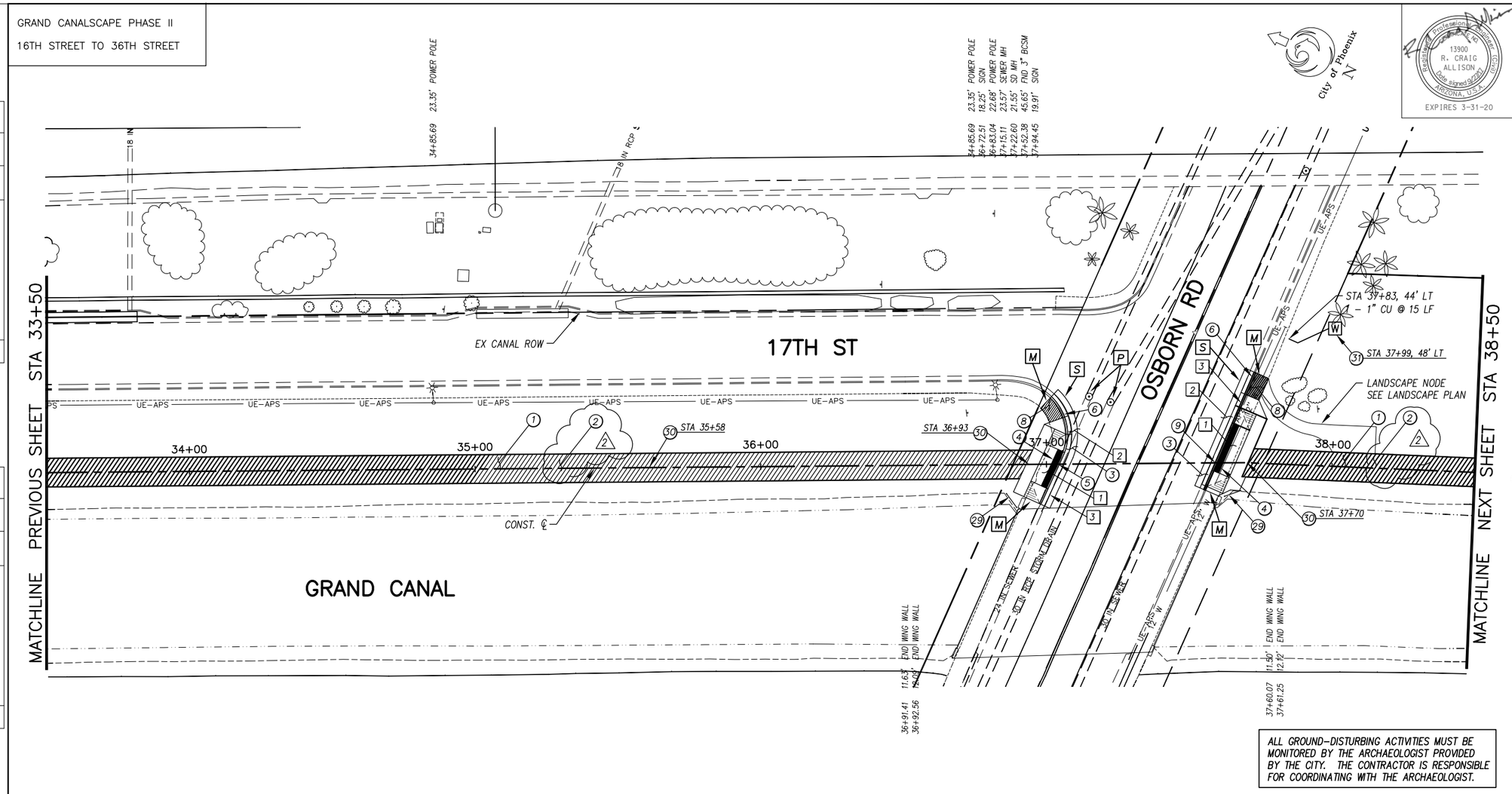
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.016	2.182

SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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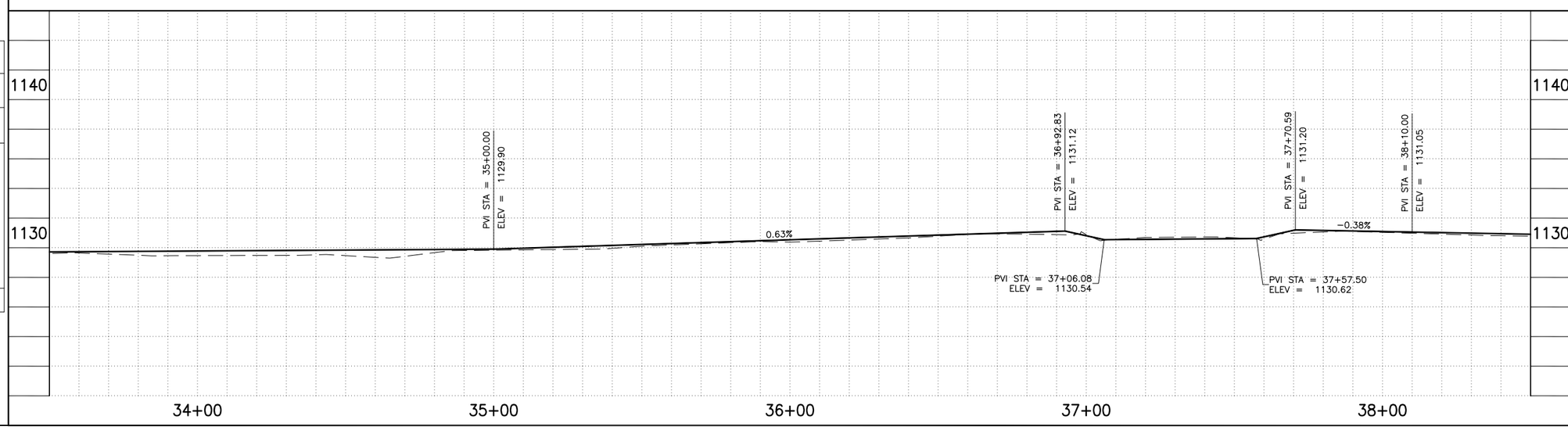

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.017	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

13900 R. CRAIG ALLISON Registered Professional Engineer Date signed 3/31/17 ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

- [M] SAWCUT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	408	S.F.
2	REMOVE ASPHALT CONCRETE	20	S.Y.
3	REMOVE EXISTING CURB & GUTTER	87	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
(1)	CONCRETE S/W, 7" THICK, 10' WIDTH	4243	S.F.
(2)	SUBGRADE PREPARATION. (2)	0	S.Y.
(3)	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	20	S.Y.
(4)	TRUNCATED DOMES PER C.O.P. STD. DET. P1232	64	S.F.
(5)	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL B	279	S.F.
(6)	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	87	L.F.
(8)	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK	99	S.F.
(9)	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL C	337	S.F.
(29)	SAFETY RAIL, MAG STD DET 145 TYPE 4 INSTALLATION	12	L.F.
(30)	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	3	EA.
(31)	WATER SERVICE CONNECTION WITH BFP COP STD. DET. P1342	1	EA

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.017	2.182

SCALE: 1"= 20' 0' 20'

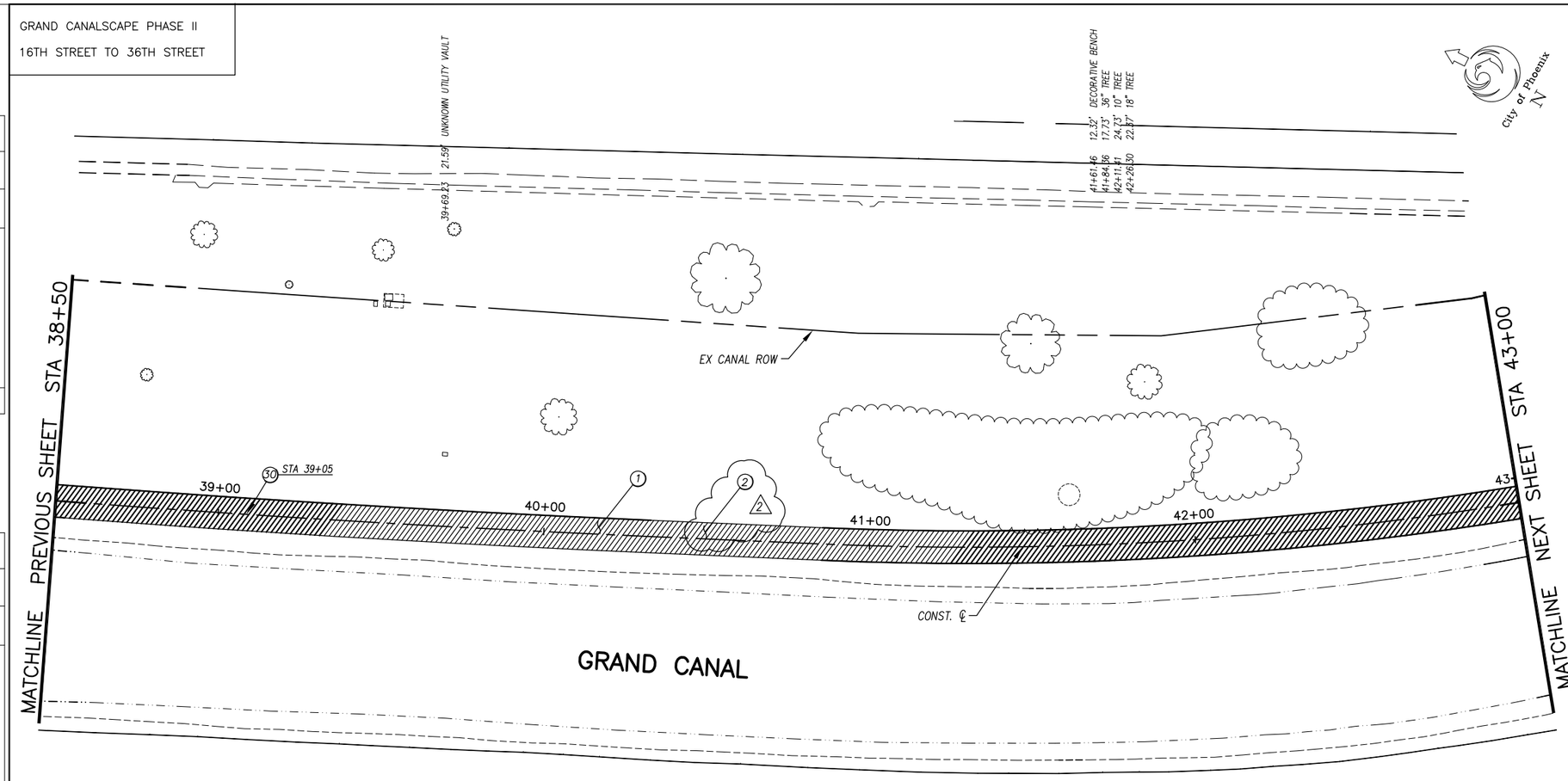
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
2	Addendum 6			

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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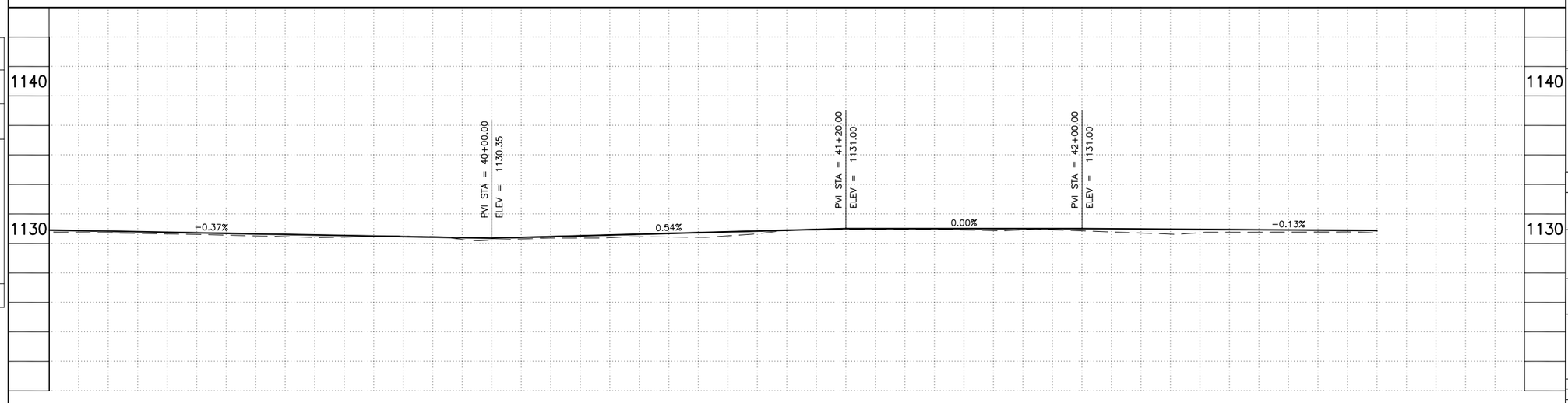

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

Registered Professional Engineer
13900
R. CRAIG
ALLISON
Date signed 3-31-20
ARIZONA, U.S.A.
EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.018	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

- [M] SAWCUT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
(1)	CONCRETE S/W, 7" THICK, 10' WIDTH	4500	S.F.
(2)	SUBGRADE PREPARATION. (2)	0	S.Y.
(30)	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	1	EA.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

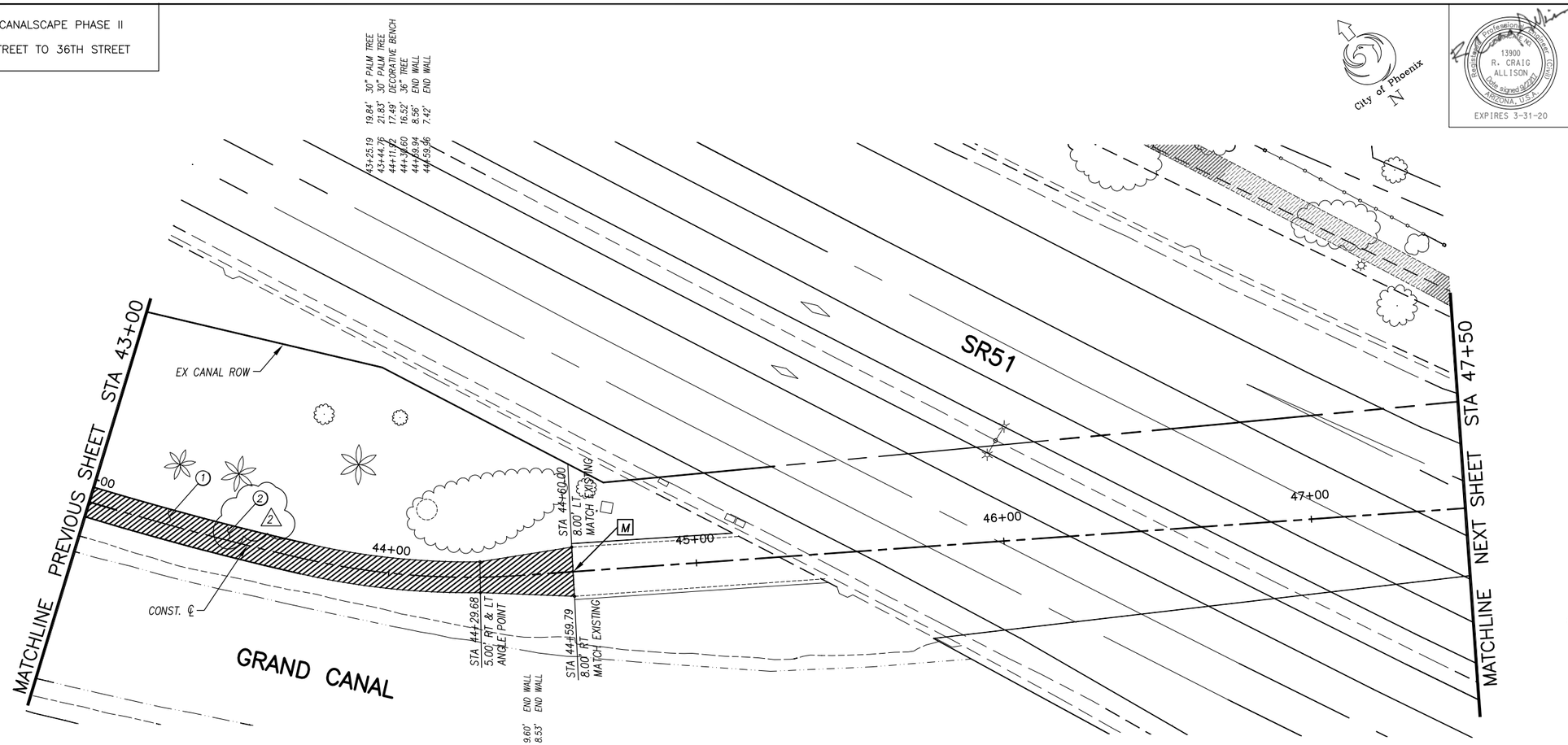
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.018	2.182

SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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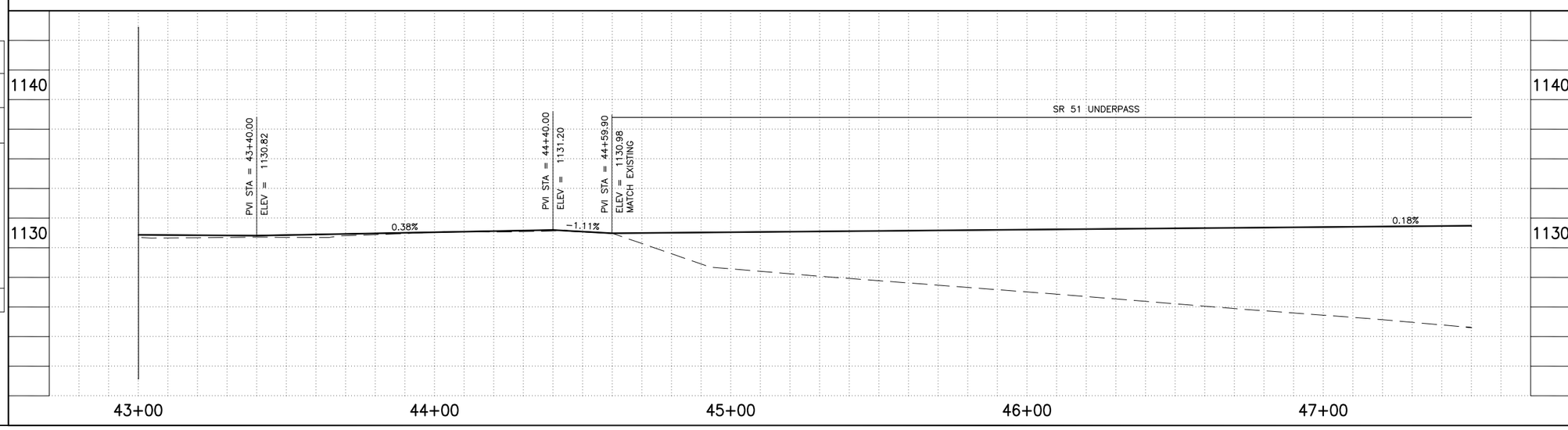

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.019	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer
13900
R. CRAIG
ALLISON
Date signed approved
ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

M SAWCUT AND MATCH EXISTING CONCRETE

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	1689	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

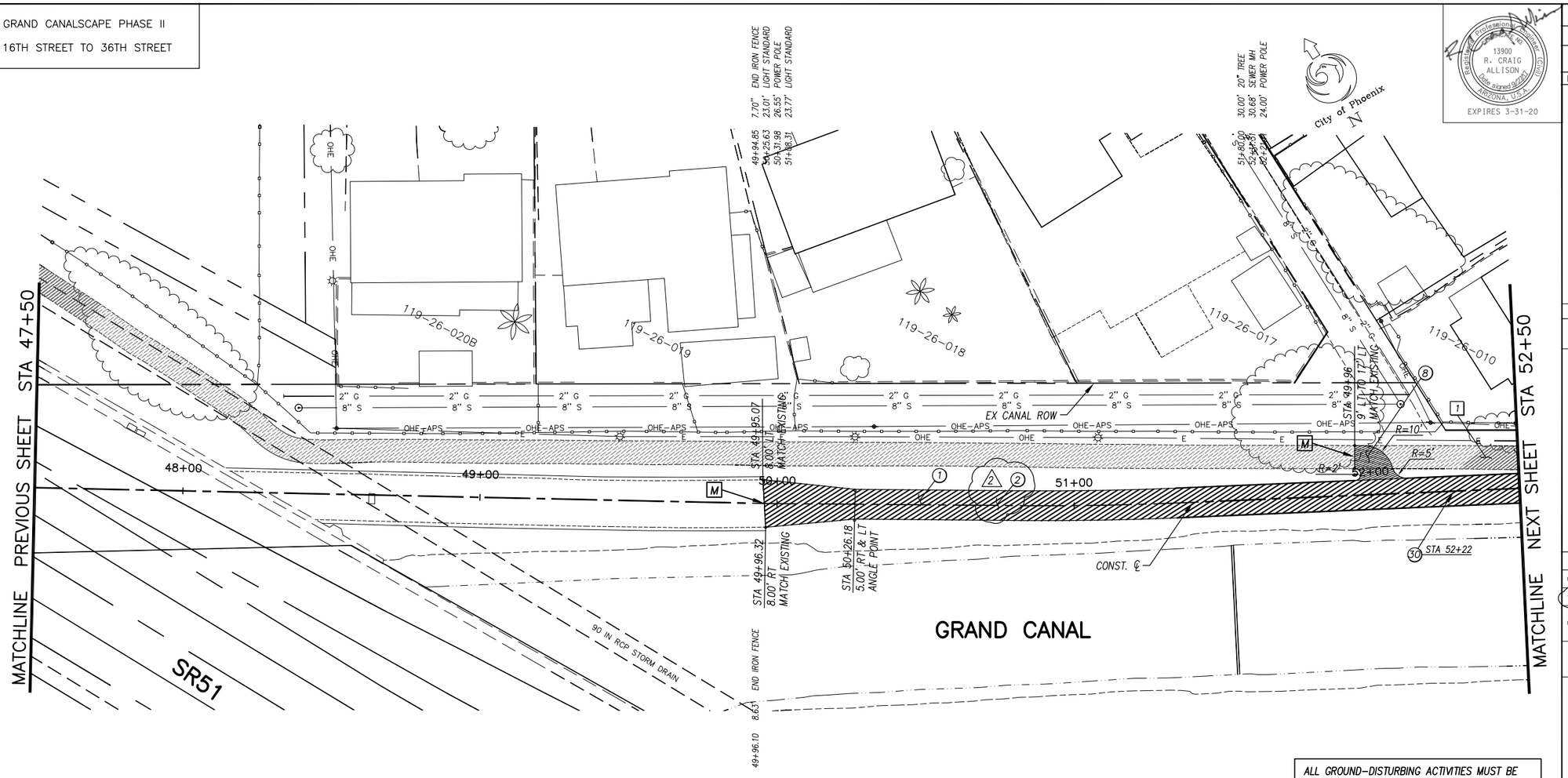
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

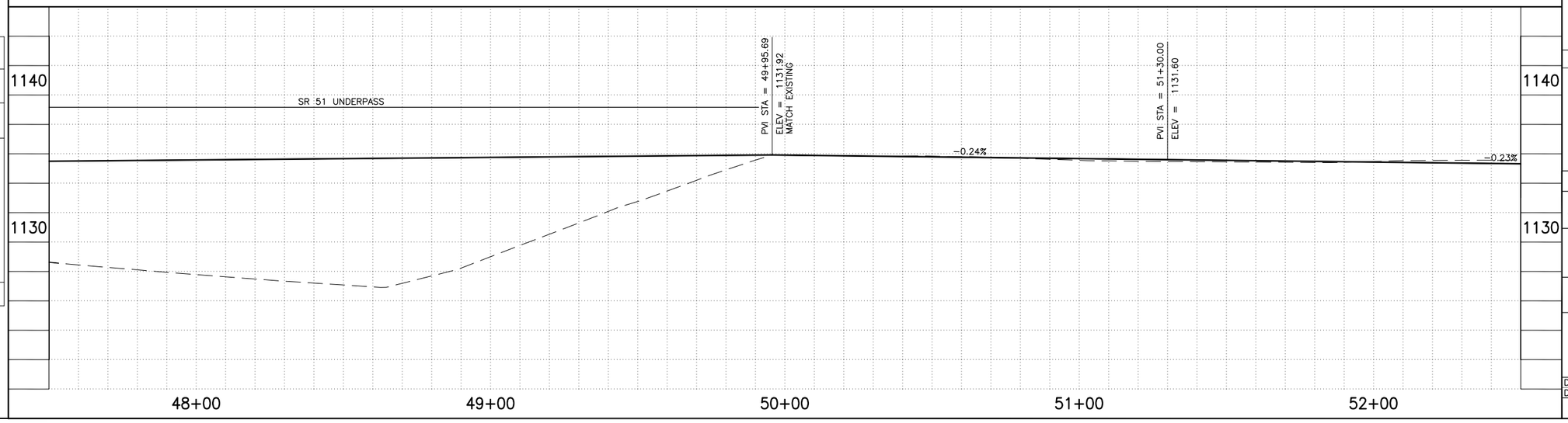
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17		
SCALE: 1"= 20'	0' 20'		2.019	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date signed 3-31-20
ARIZONA, U.S.A.
EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.020	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

M SAWCUT AND MATCH EXISTING CONCRETE

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	428	S.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	2635	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK	126	S.F.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	1	EA.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL DATE: 07/17	DR: JKA DATE: 07/17	CK: RCA DATE: 07/17	SHEET NO:	TOTAL SHEETS
SCALE: 1"= 20'	0' 20'		2.020	2.182

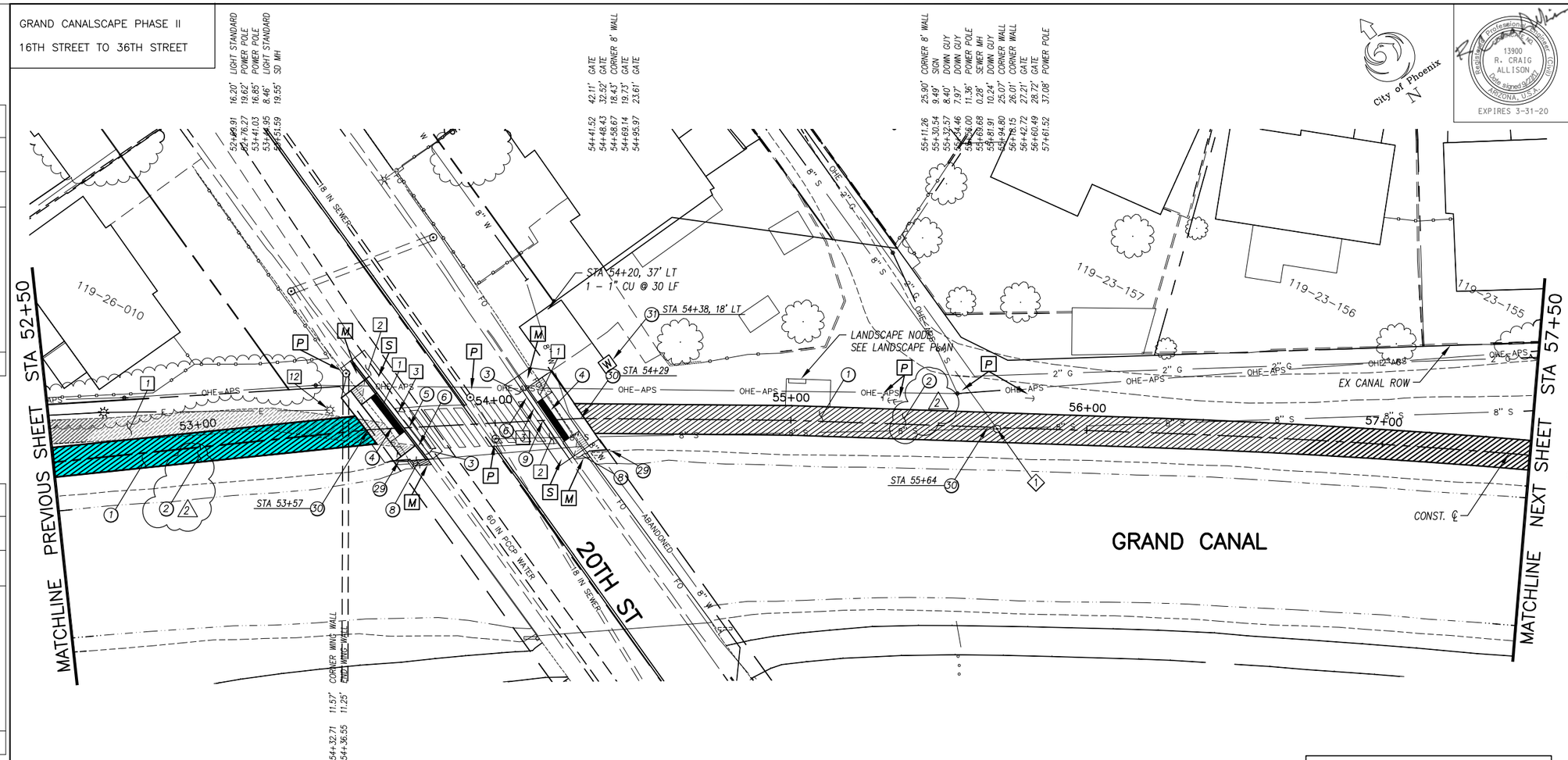
REVISION BY CITY OF PHOENIX

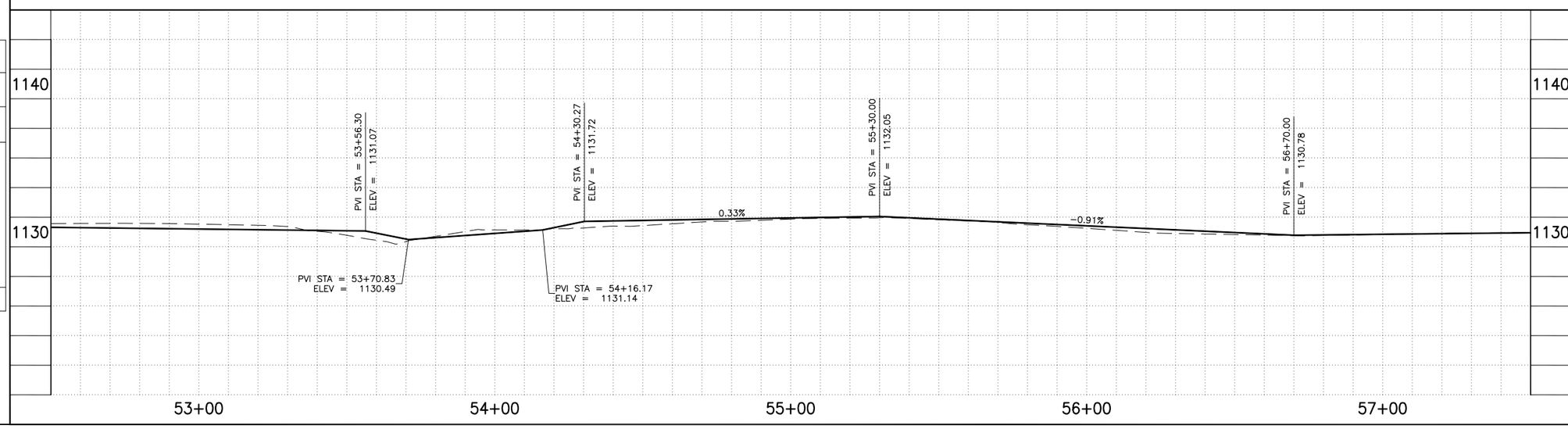
NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





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F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.021	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

13900 R. CRAIG ALLISON Registered Professional Engineer Date Signed Expires ARIZONA, U.S.A. EXPIRES 3-31-20

GENERAL NOTES

[M] SAWCUT AND MATCH EXISTING CONCRETE

[P] PROTECT IN PLACE

[S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	1203	S.F.
2	REMOVE ASPHALT CONCRETE	33	S.Y.
3	REMOVE EXISTING CURB & GUTTER	69	L.F.
8	REMOVE EXISTING SIGN	1	EA.
12	REMOVE EXISTING LIGHT POLE	1	EA.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	4283	S.F.
2	SUBGRADE PREPARATION	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	33	S.Y.
4	TRUNCATED DOMES PER C.O.P. STD. DET. P1232	64	S.F.
5	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL D	337	S.F.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	73	L.F.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK	19	S.F.
9	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL E	316	S.F.
29	SAFETY RAIL, MAG STD DET 145 TYPE 4 INSTALLATION	12	L.F.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	3	EA.
31	WATER SERVICE CONNECTION WITH BFP COP STD. DET. P1342	1	EA

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	ADJUST UTILITY MANHOLE RIM TO NEW GRADE PER MAG 422	1	EA.

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.021	2.182

SCALE: 1"= 20' 0' 20'

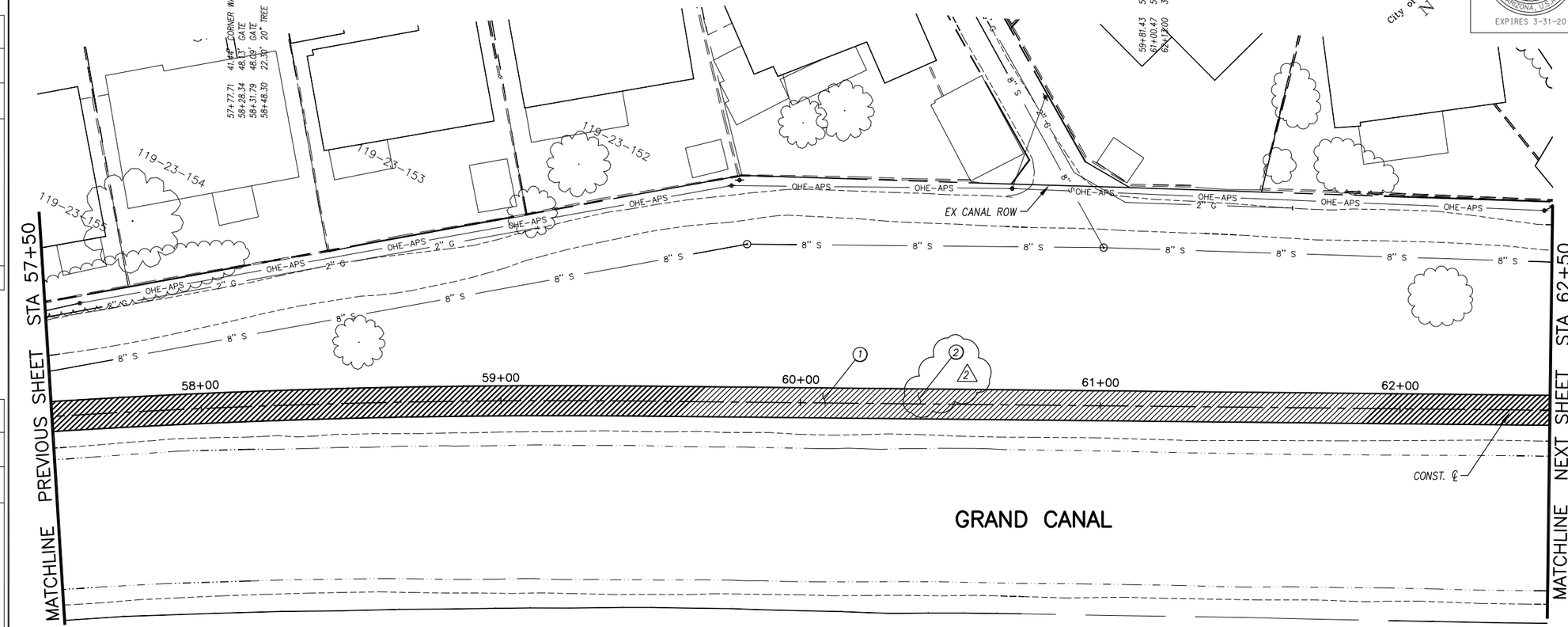
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
2	Addendum 6			

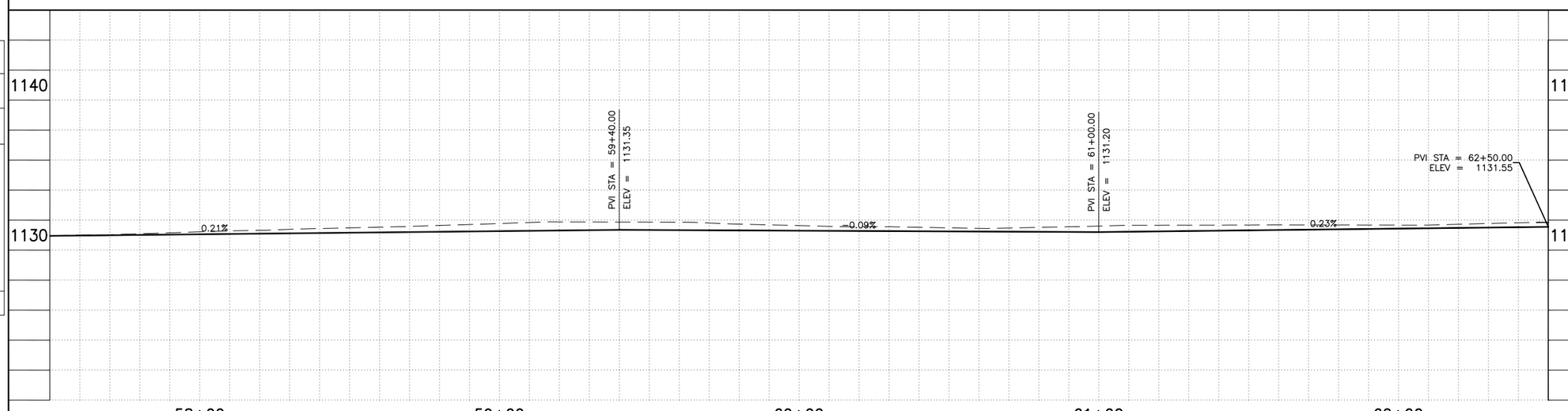
ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.



REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

City of Phoenix N

Registered Professional Engineer 13900 R. CRAIG ALLISON Date signed 3-31-20 Arizona, U.S.A.

EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.022	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

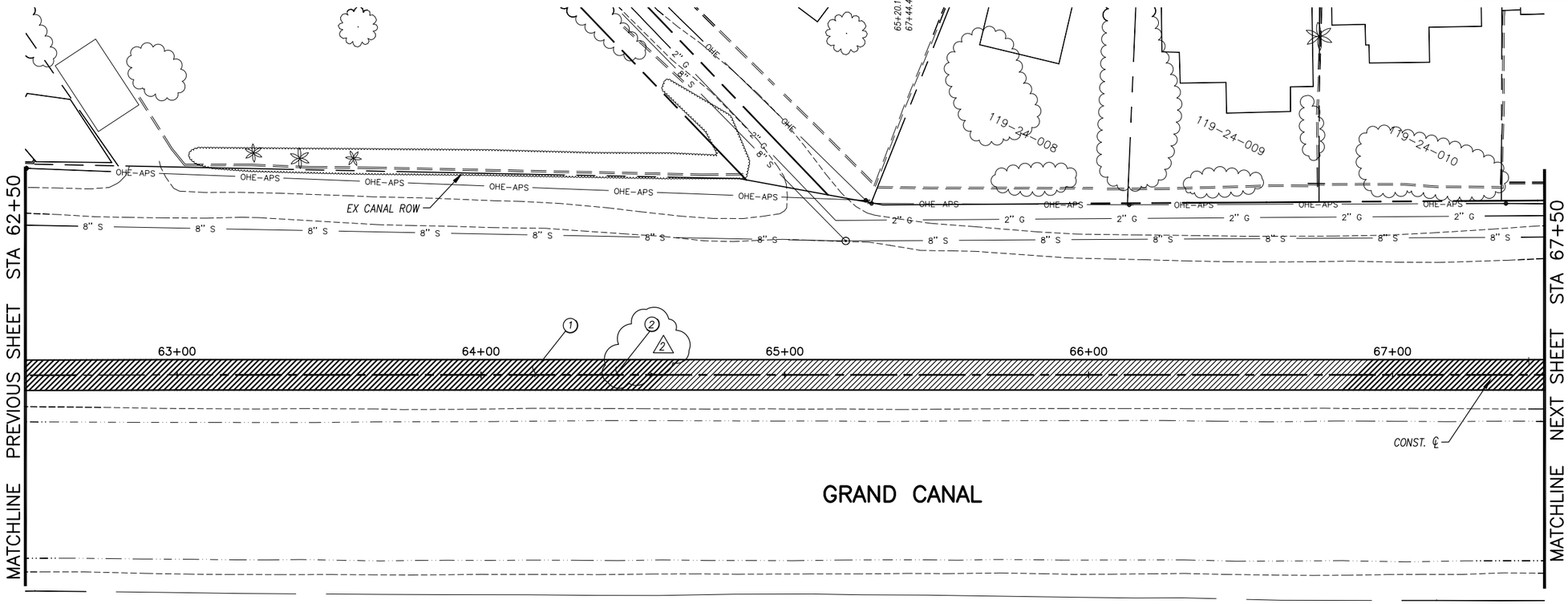
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.022	2.182

SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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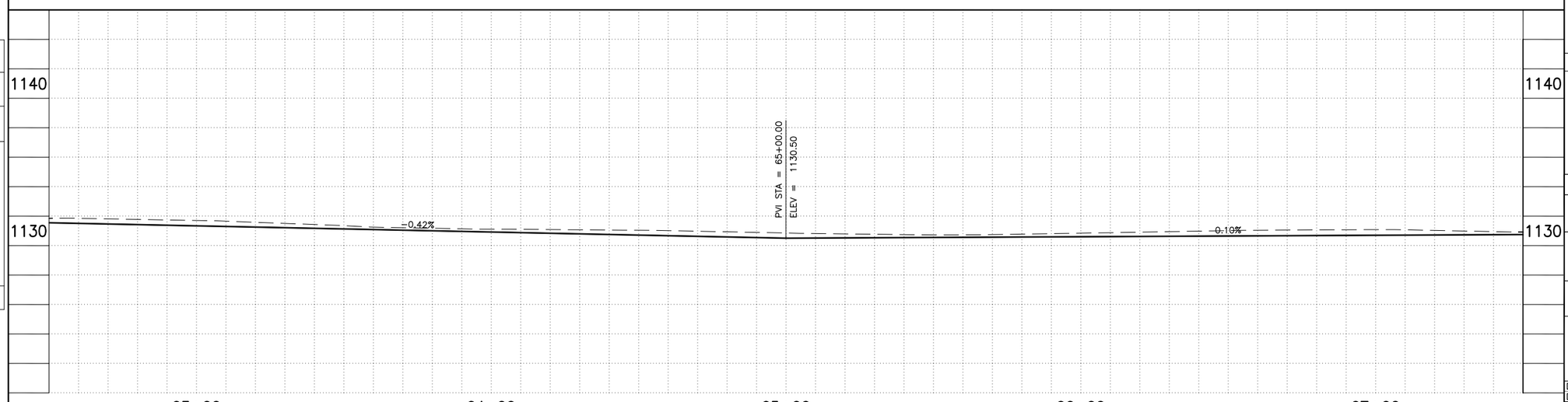

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date signed 3-31-20
Arizona, U.S.A.
EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.023	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION 2	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

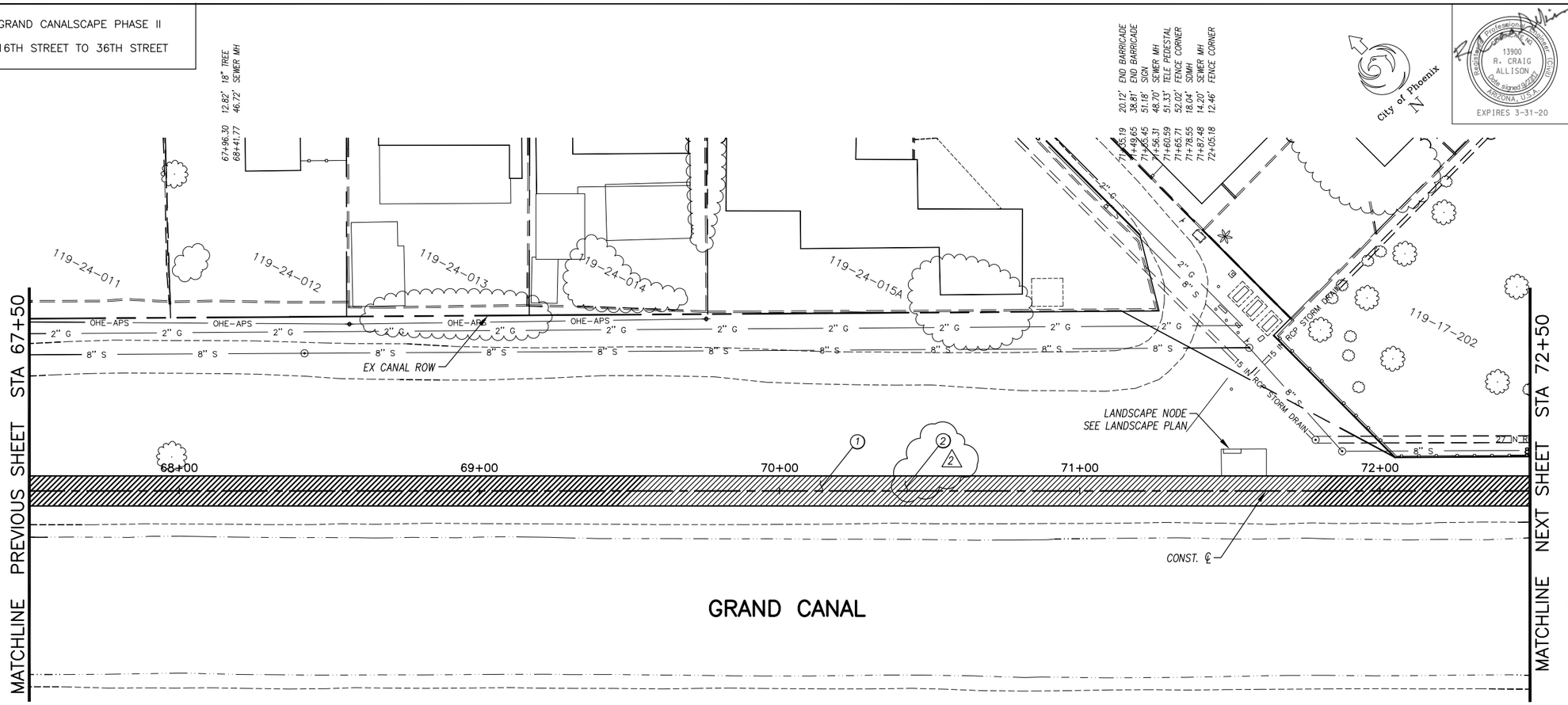
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.023	2.182

SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET



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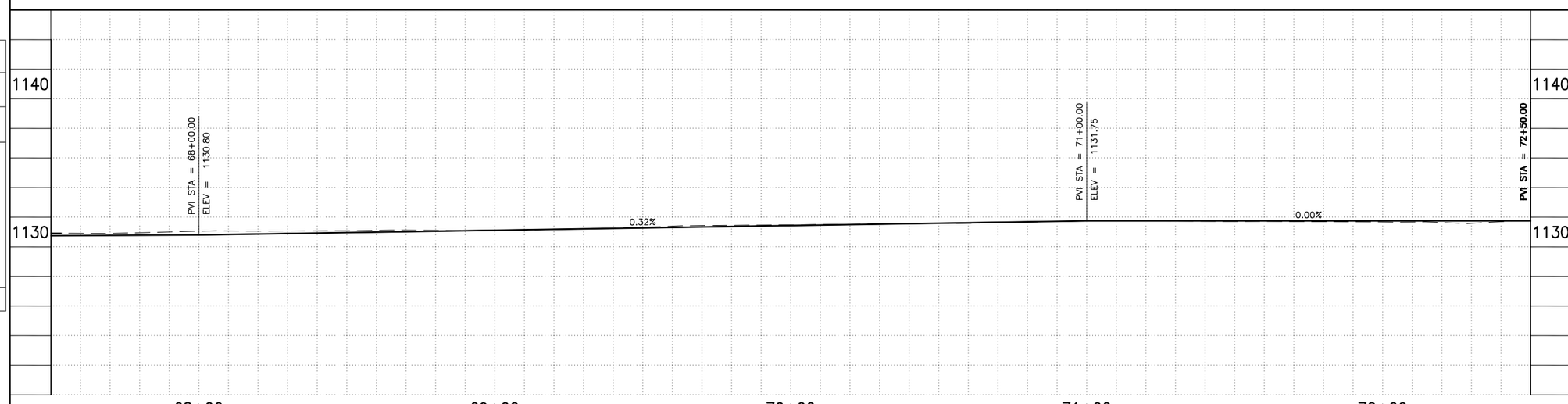

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.024	2.182

ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer (Civil) CERTIFICATE NO. 13900 R. CRAIG ALLISON Date signed 9/22/17 ARIZONA, U.S.A. EXPIRES 3-31-20

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig. CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.024	2.182

SCALE: 1"= 20' 0' 20'

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

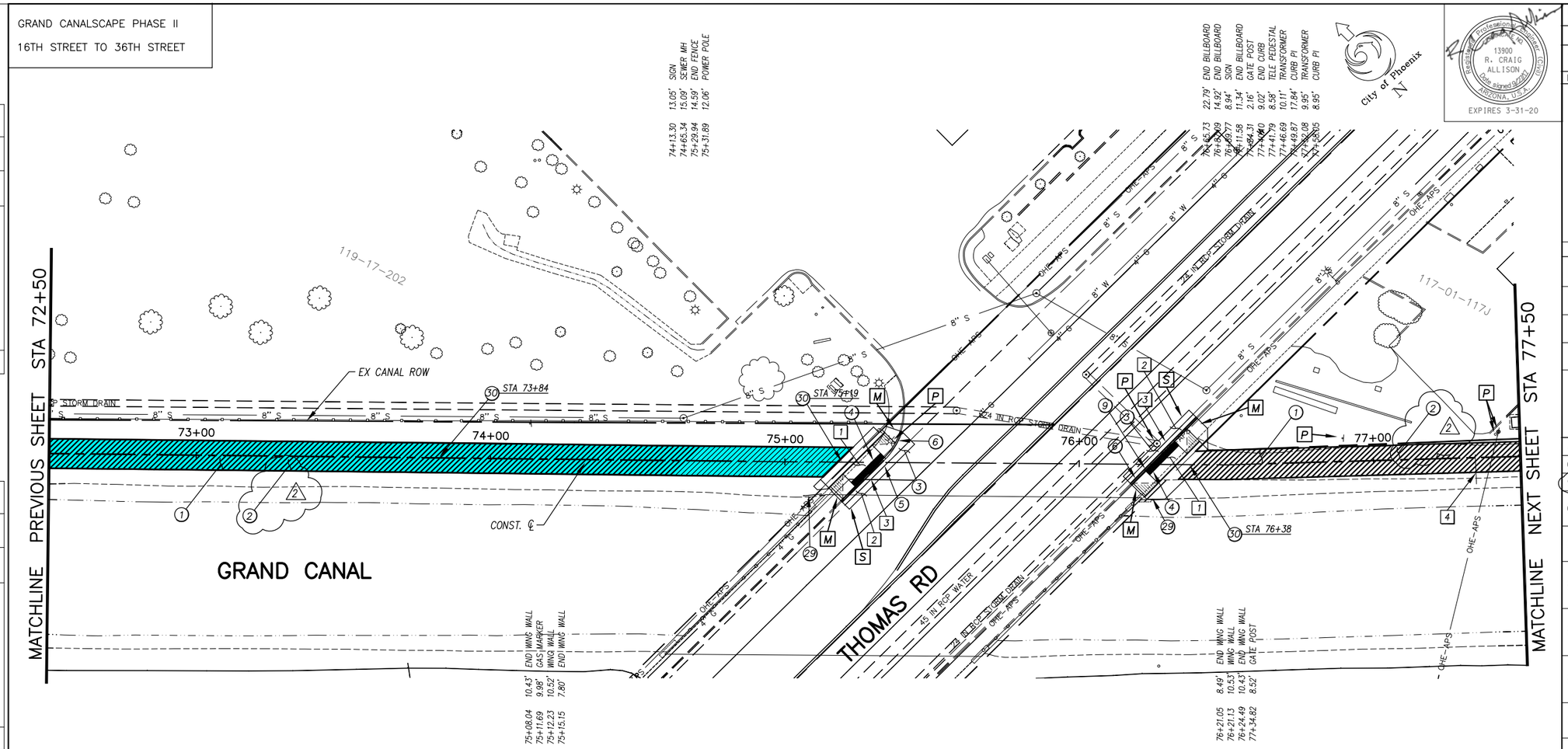
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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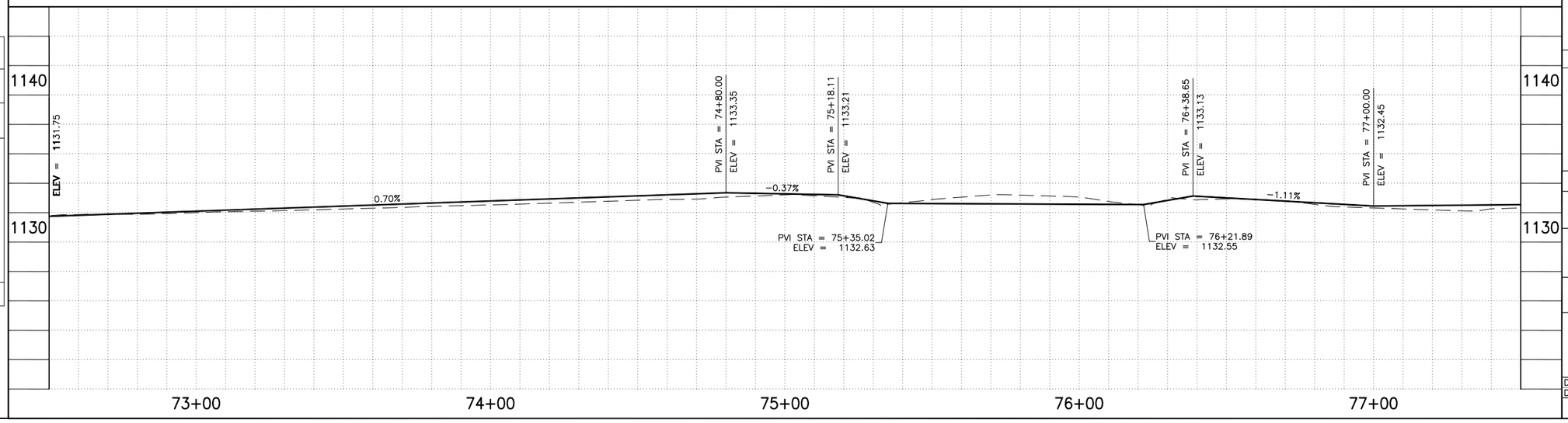

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.025	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer — 13900 — R. CRAIG ALLISON — Date signed and sealed — ARIZONA, U.S.A. — EXPIRES 3-31-20

GENERAL NOTES

P PROTECT IN PLACE

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	301	S.F.
2	REMOVE ASPHALT CONCRETE	14	S.Y.
3	REMOVE EXISTING CURB & GUTTER	63	L.F.
4	REMOVE AND REPLACE EXISTING GATE	1	EA.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	3828	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	14	S.Y.
4	TRUNCATED DOMES PER C.O.P. STD. DET. P1232	56	S.F.
5	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL F	278	S.F.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	64	L.F.
9	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL G	300	S.F.
29	SAFETY RAIL, MAG STD DET 145 TYPE 4 INSTALLATION	12	L.F.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	3	EA.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.025	2.182

SCALE: 1"= 20' 0' 20'

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

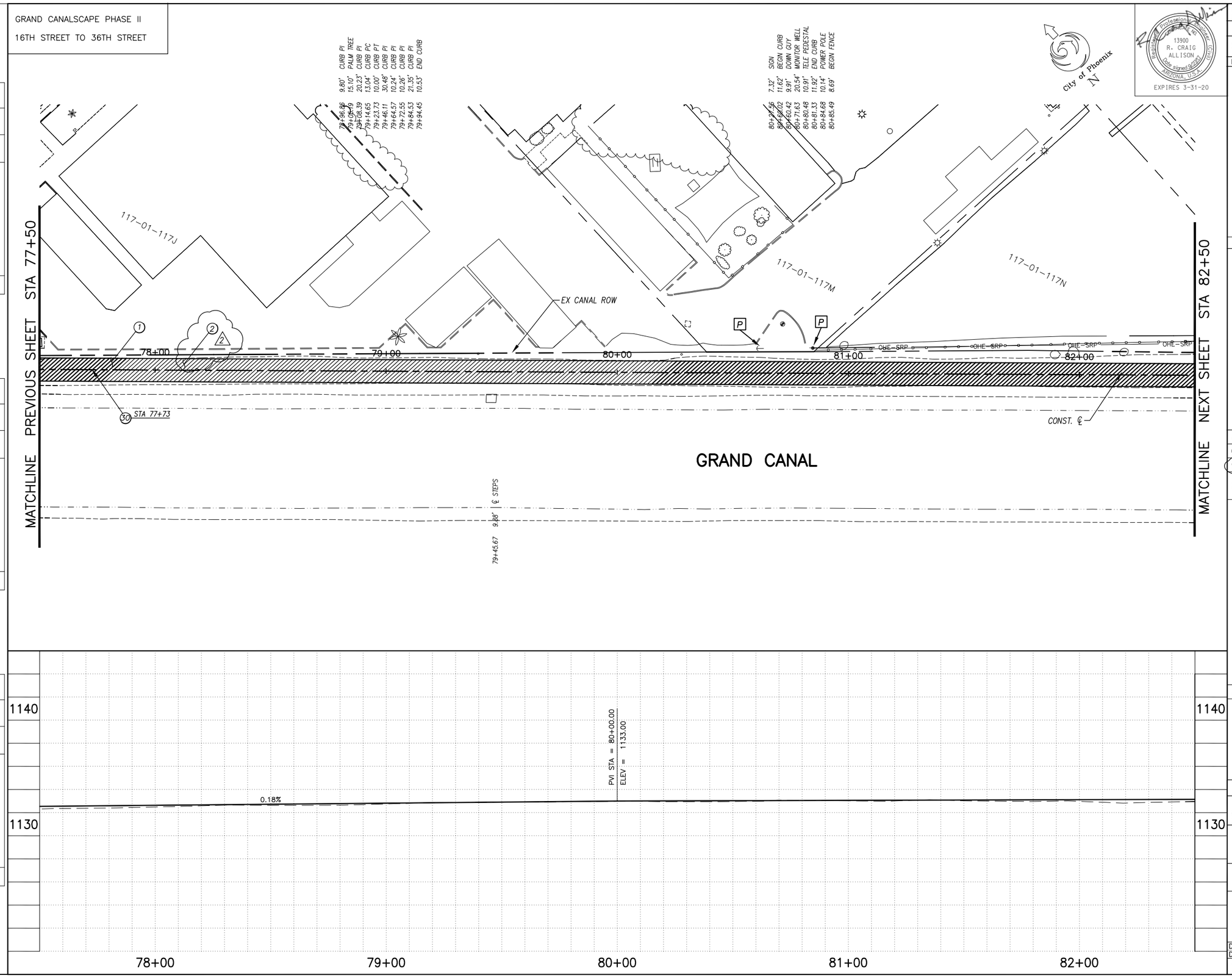
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

REVISION BY CITY OF PHOENIX				
NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX				
NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX				
NO.	DESCRIPTION	REV BY	CKD BY	DATE



F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.026	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date Signed 3-31-20
ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

P PROTECT IN PLACE

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	1	EA.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

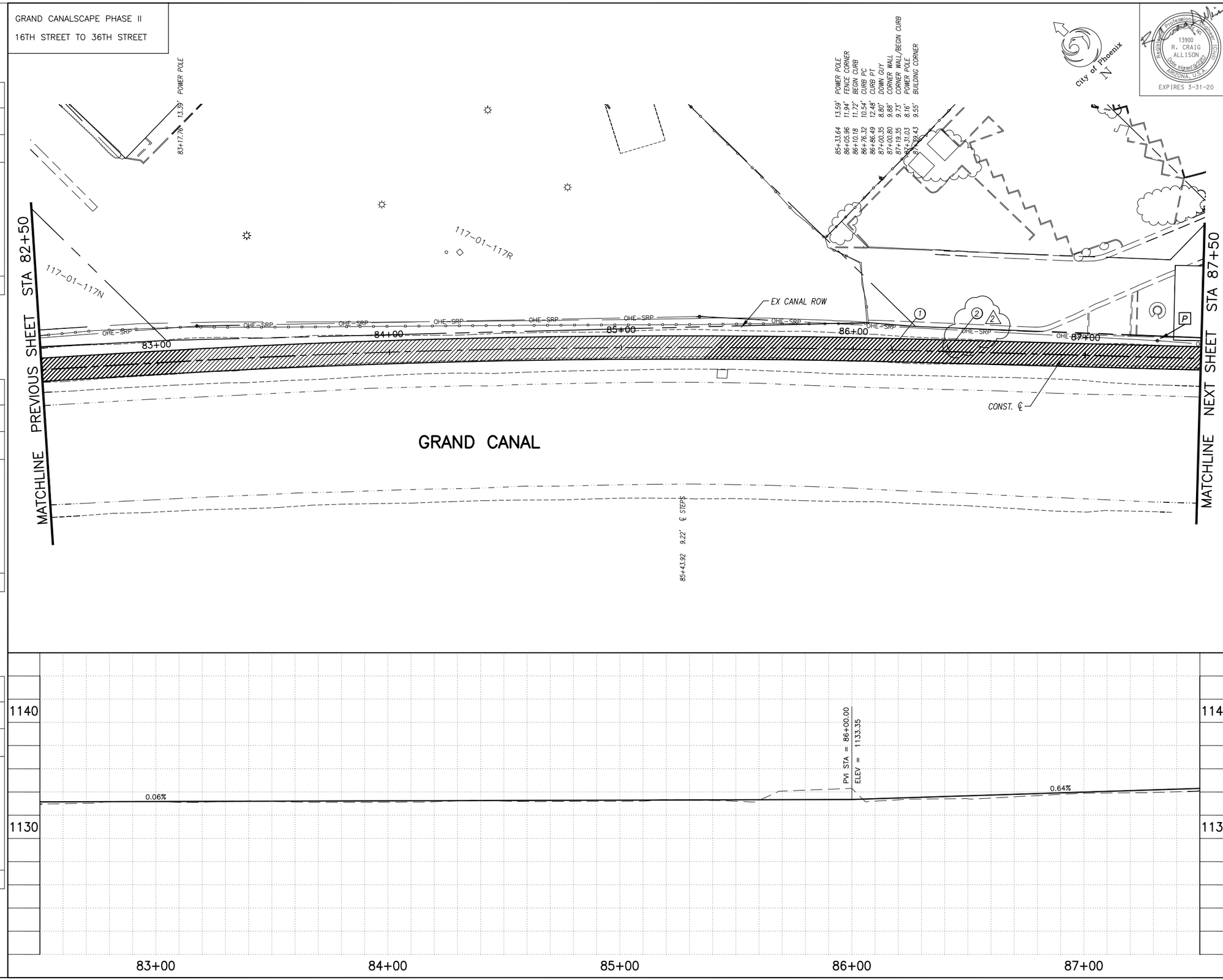
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.026	2.182

SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET



F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.027	2.182

ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer (Civil) 13900 R. CRAIG ALLISON Date signed 9/22/17 ARIZONA, U.S.A. EXPIRES 3-31-20

GENERAL NOTES

P PROTECT IN PLACE

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig. CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17		
SCALE: 1"= 20'	0' 20'		2.027	2.182

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

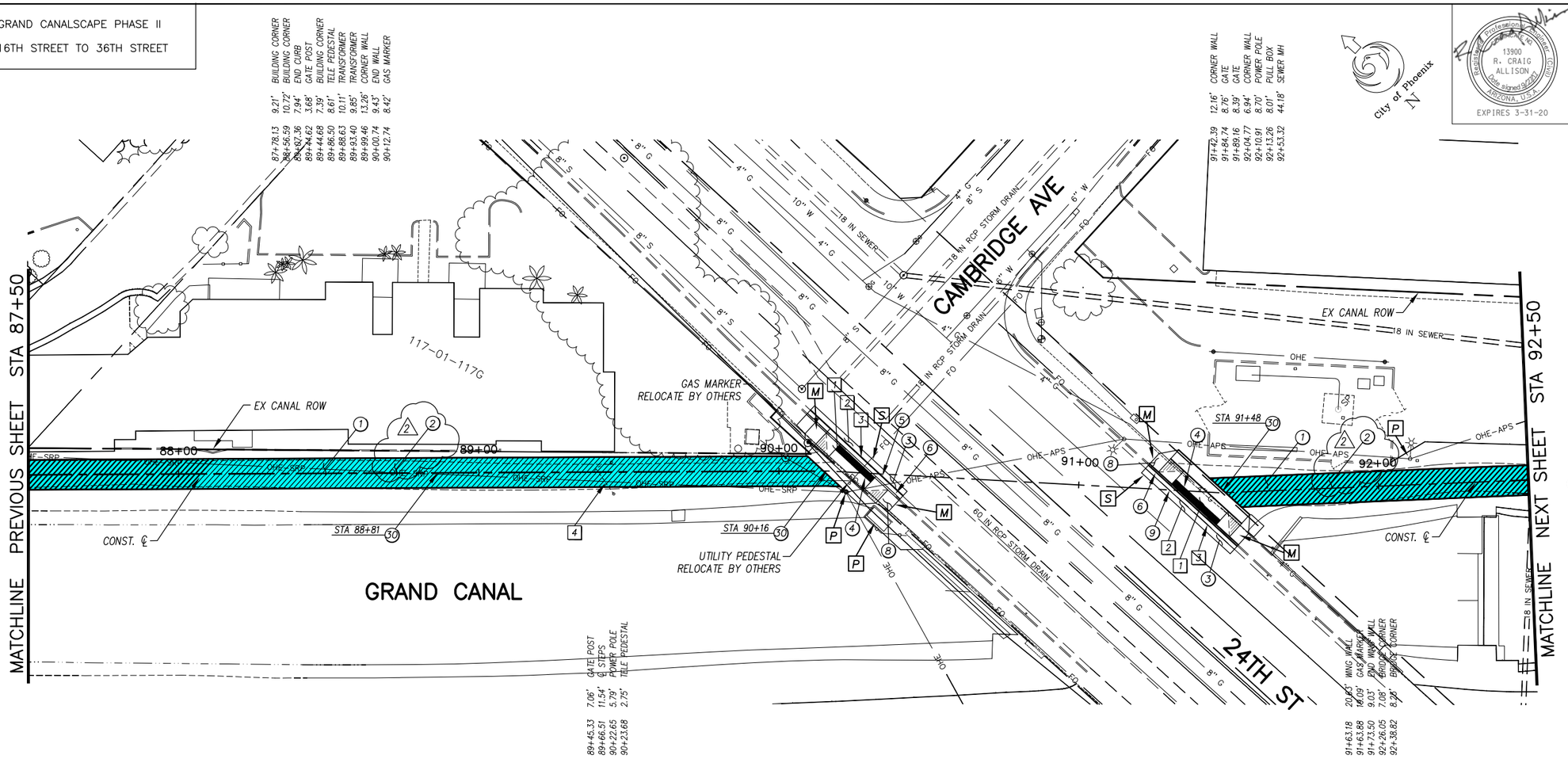
REVISION BY CITY OF PHOENIX

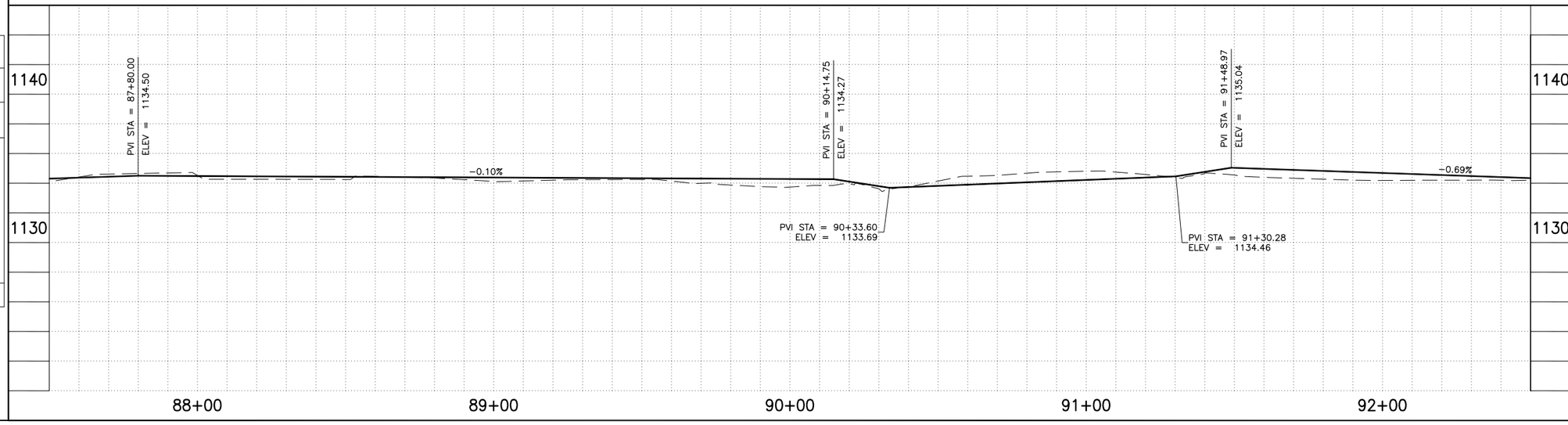
NO.	DESCRIPTION	REV BY	CKD BY	DATE

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.028	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

13900 R. CRAIG ALLISON Registered Professional Engineer Date Signed 3-31-20 ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

- [M] SAWCUT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	371	S.F.
2	REMOVE ASPHALT CONCRETE	18	S.Y.
3	REMOVE EXISTING CURB & GUTTER	74	L.F.
4	REMOVE AND REPLACE EXISTING GATE	1	EA.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
(1)	CONCRETE S/W, 7" THICK, 10' WIDTH	3687	S.F.
(2)	SUBGRADE PREPARATION.	0	S.Y.
(3)	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	18	S.Y.
(4)	TRUNCATED DOMES PER C.O.P. STD. DET. P1232	64	S.F.
(5)	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL H	310	S.F.
(6)	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	78	L.F.
(8)	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK	37	S.F.
(9)	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL I	355	S.F.
(30)	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	3	EA.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.028	2.182
SCALE: 1"= 20'	0' 20'			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

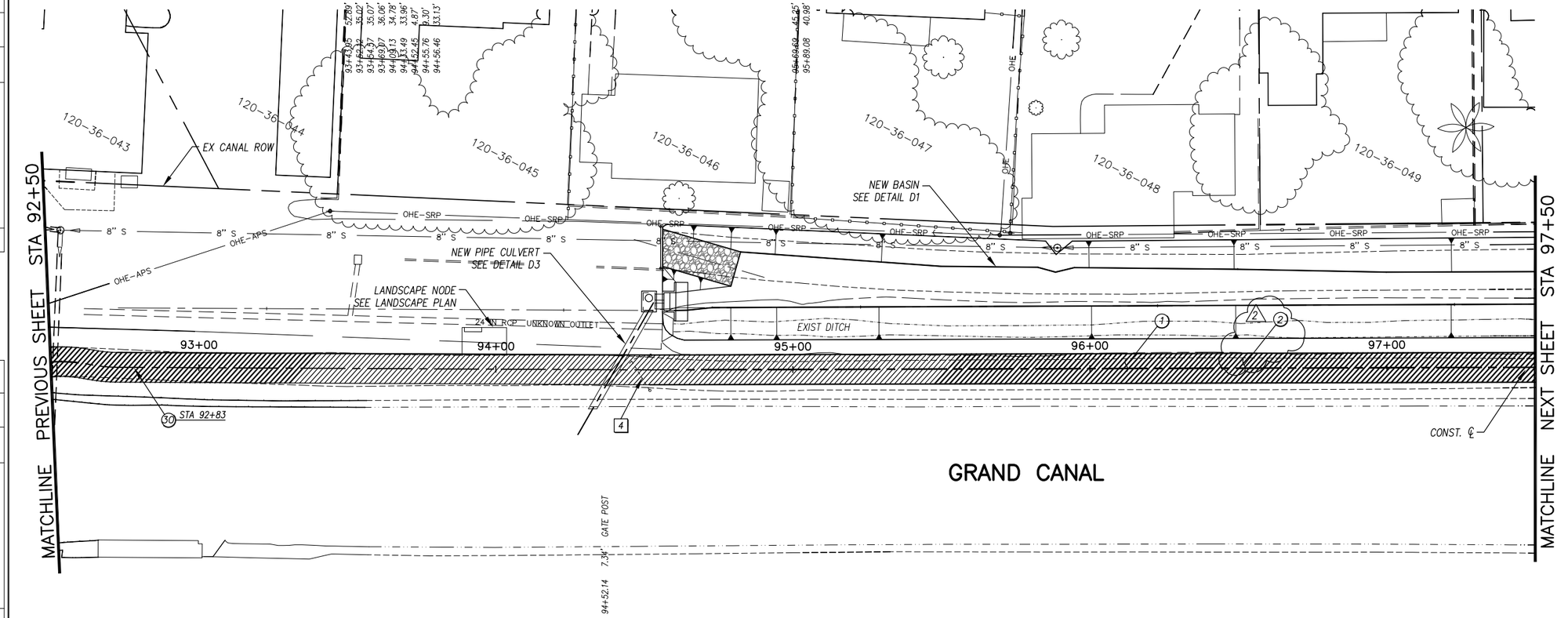
REVISION BY CITY OF PHOENIX

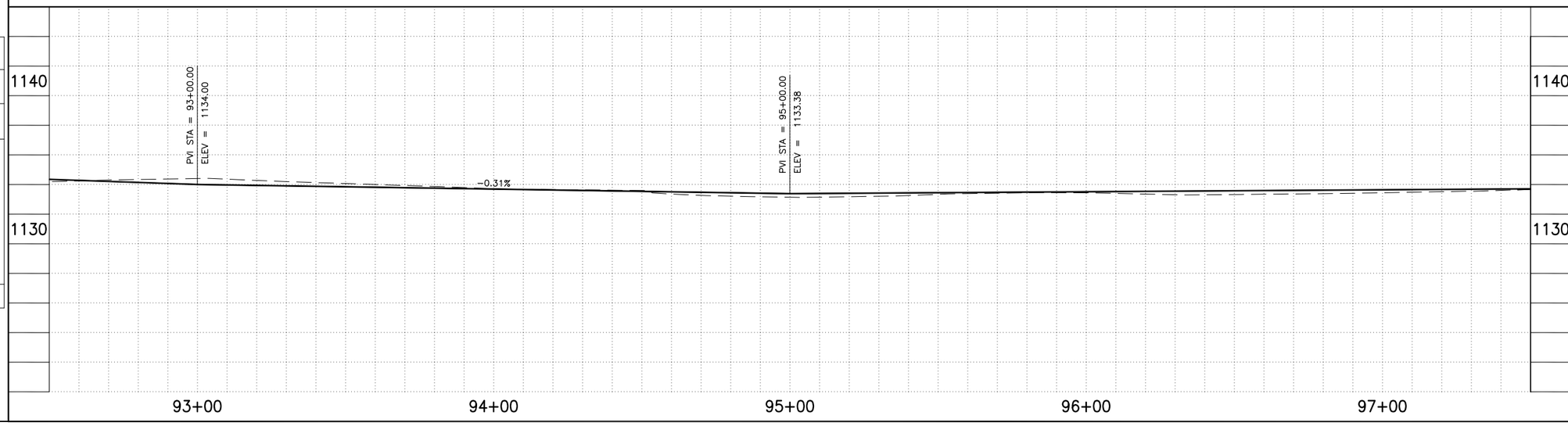
NO.	DESCRIPTION	REV BY	CKD BY	DATE

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

City of Phoenix

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date signed 3-31-20
ARIZONA, U.S.A.
EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.029	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
4	REMOVE AND REPLACE EXISTING GATE	1	EA.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	1	EA.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

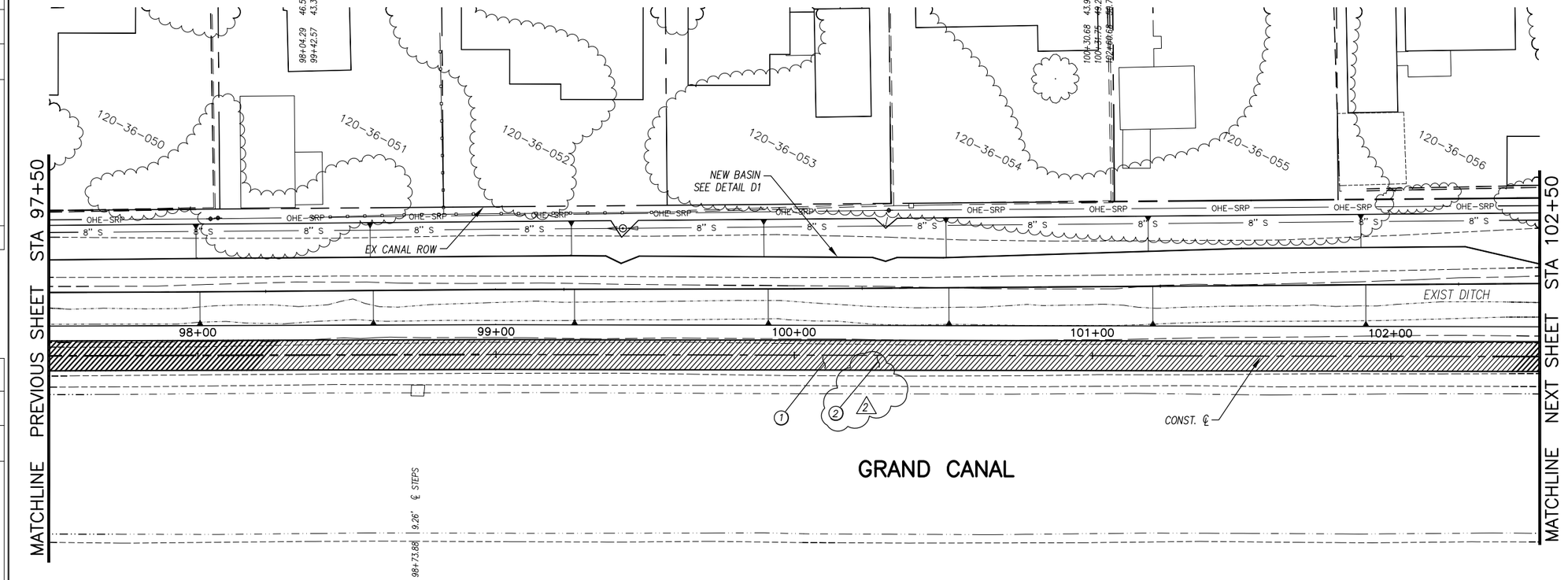
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL DATE: 07/17	DR: JKA DATE: 07/17	CK: RCA DATE: 07/17	SHEET NO:	TOTAL SHEETS
SCALE: 1"= 20' 0' 20'			2.029	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.030	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer — 13900 R. CRAIG ALLISON — Date signed approved — ARIZONA, U.S.A. — EXPIRES 3-31-20

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. (2)	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

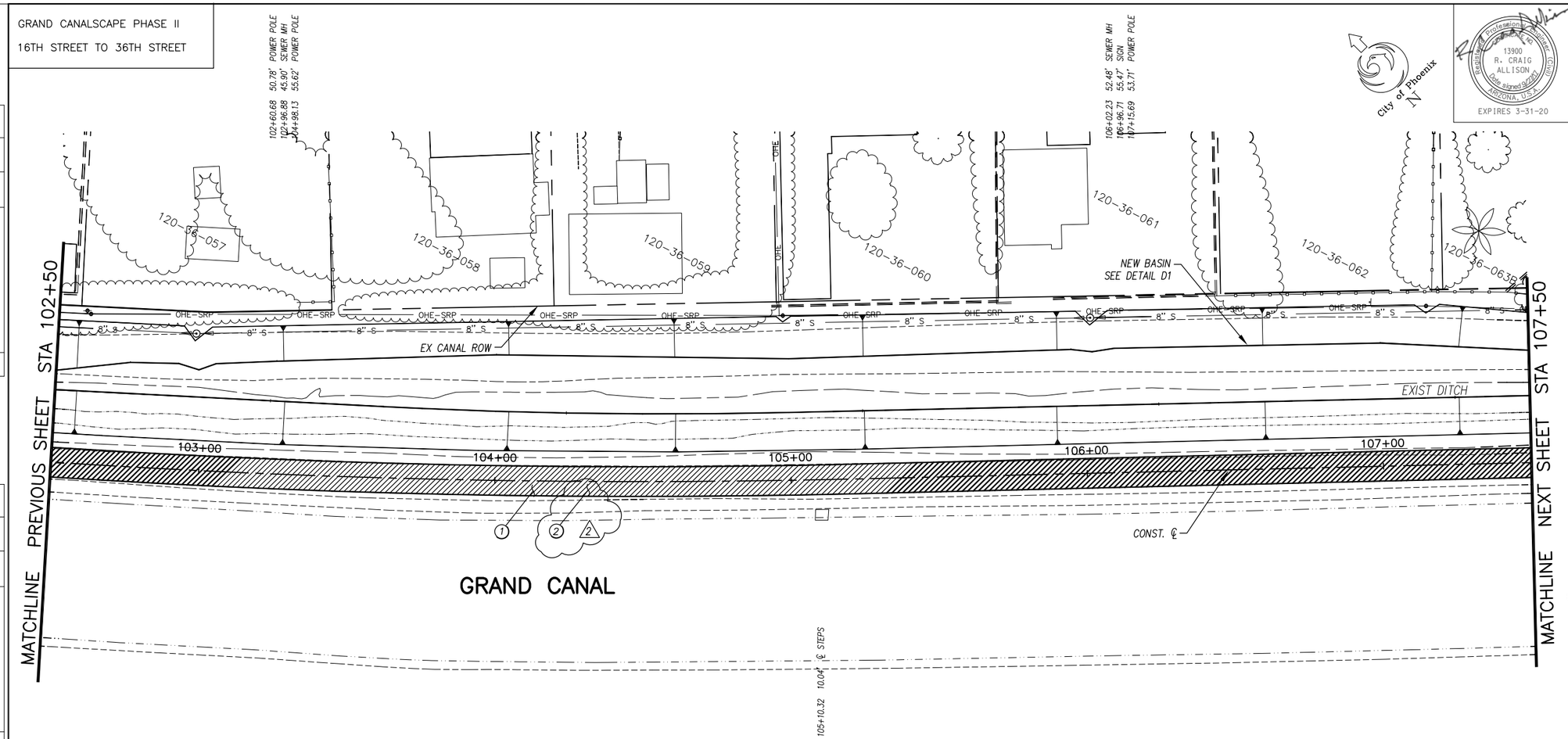
DES: JL DATE: 07/17	DR: JKA DATE: 07/17	CK: RCA DATE: 07/17	SHEET NO:	TOTAL SHEETS
SCALE: 1"= 20'		0' 20'	2.030	2.182

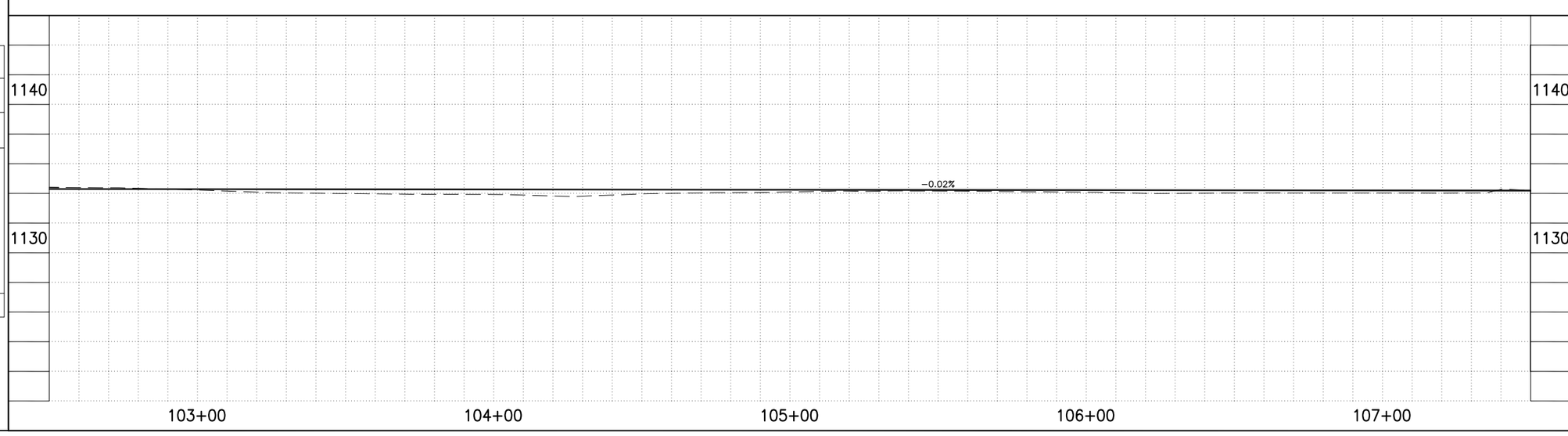
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET





F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.031	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer — 13900 R. CRAIG ALLISON — Date Signed 3-31-20 — Arizona, U.S.A.
EXPIRES 3-31-20

City of Phoenix

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. (2)	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig. CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.031	2.182

SCALE: 1"= 20' (0' — 20')

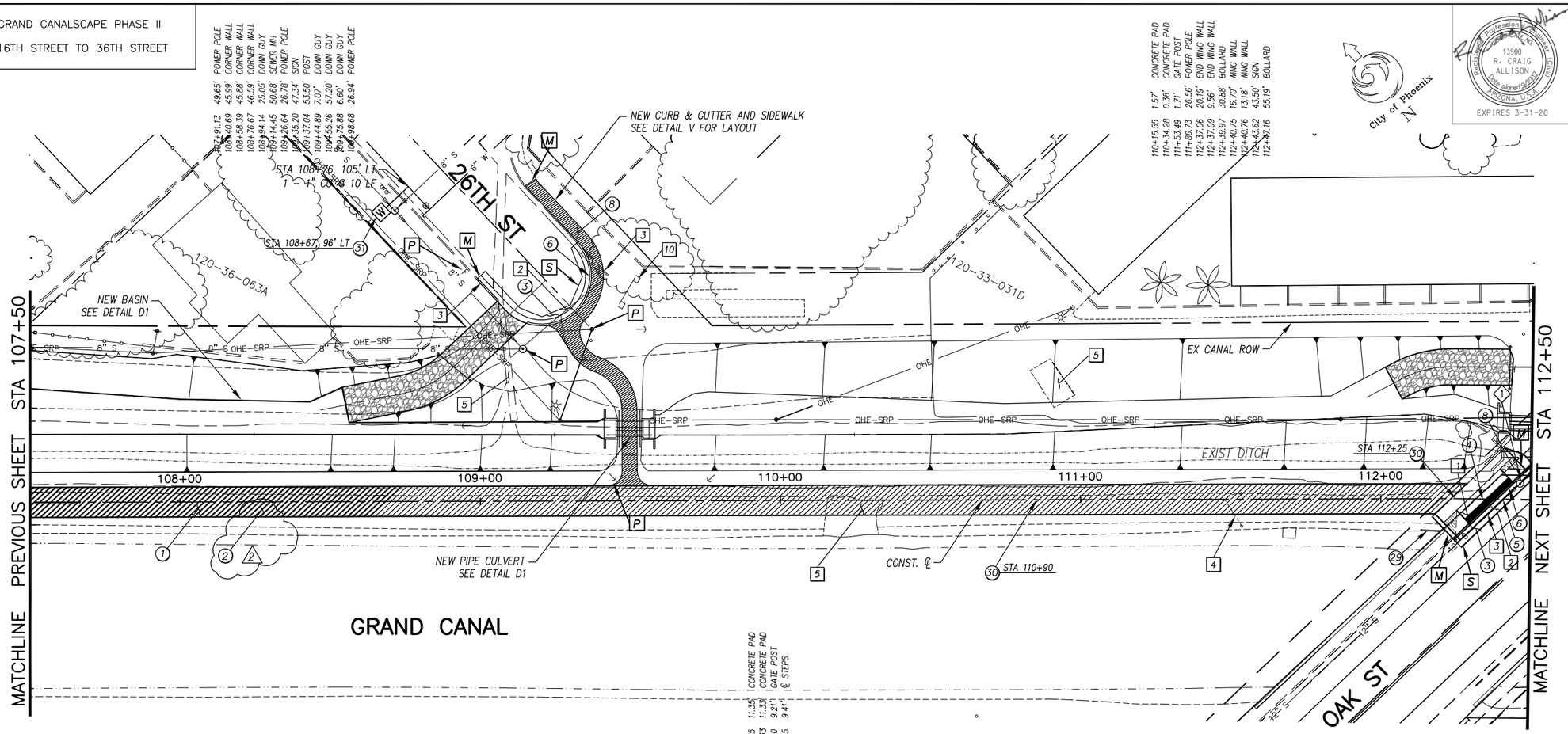
REVISION BY CITY OF PHOENIX

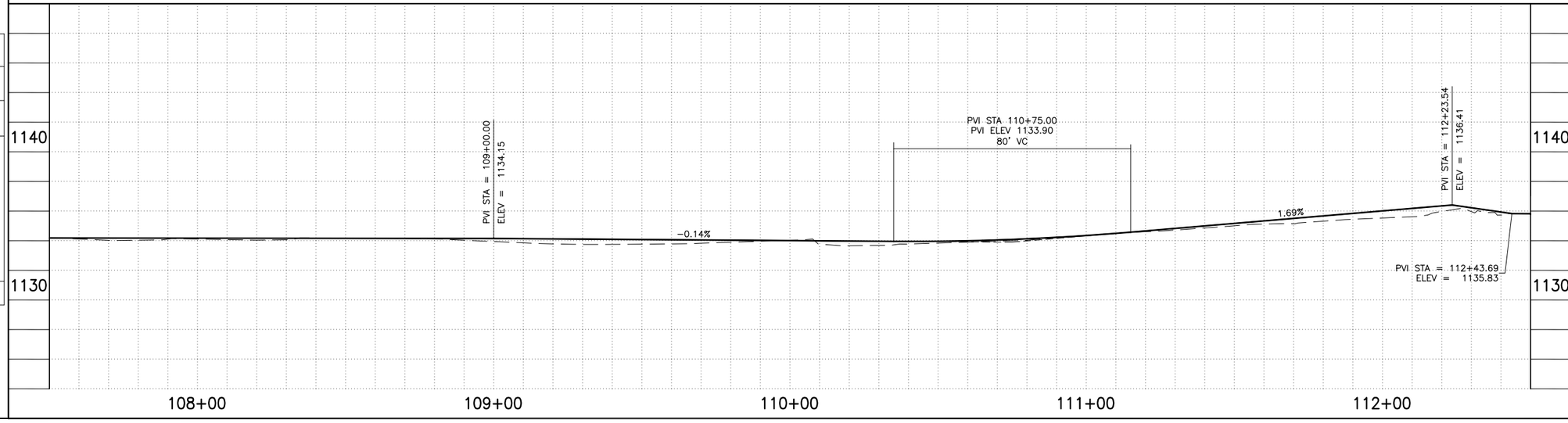
NO.	DESCRIPTION	REV BY	CK'D BY	DATE
2	Addendum 6			

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.032	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer — 13900 R. CRAIG ALLISON — Date signed 3-31-17 — ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

- [M] SAWCUT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	138	S.F.
2	REMOVE ASPHALT CONCRETE	25	S.Y.
3	REMOVE EXISTING CURB & GUTTER	60	L.F.
4	REMOVE AND REPLACE EXISTING GATE	1	EA.
5	REMOVE EXISTING MISC. CONCRETE	40	S.Y.
10	REMOVE EXISTING BARRICADE	12	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	4751	S.F.
2	SUBGRADE PREPARATION	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	18	S.Y.
4	TRUNCATED DOMES PER C.O.P. STD. DET. P1232	32	S.F.
5	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL J	310	S.F.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	93	L.F.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK	578	S.F.
29	SAFETY RAIL, MAG STD DET 145 TYPE 4 INSTALLATION	6	L.F.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	2	EA.
31	WATER SERVICE CONNECTION WITH BFP COP STD. DET. P1342	1	EA

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	ADJUST MANHOLE RIM TO NEW GRADE	1	EA.

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

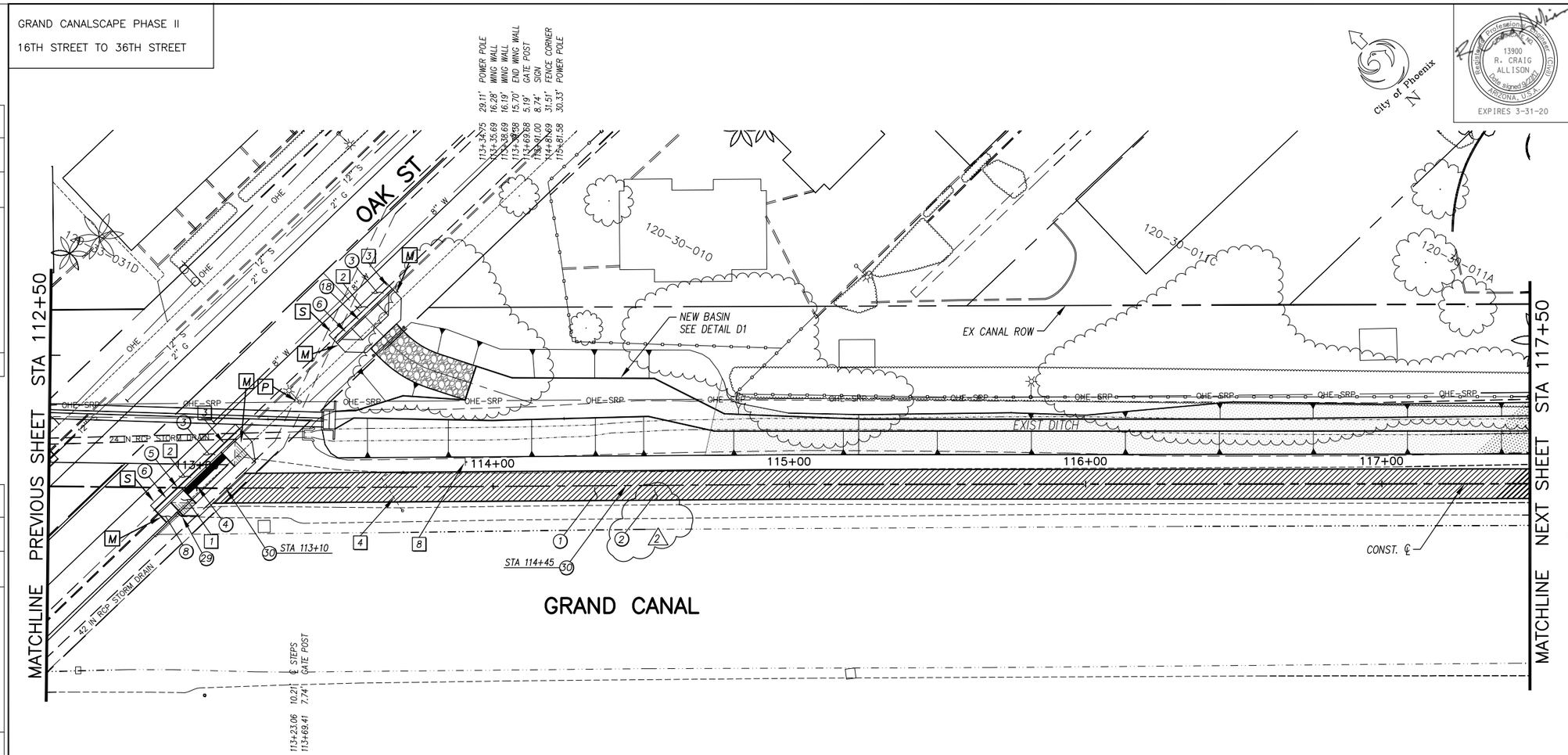
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.032	2.182

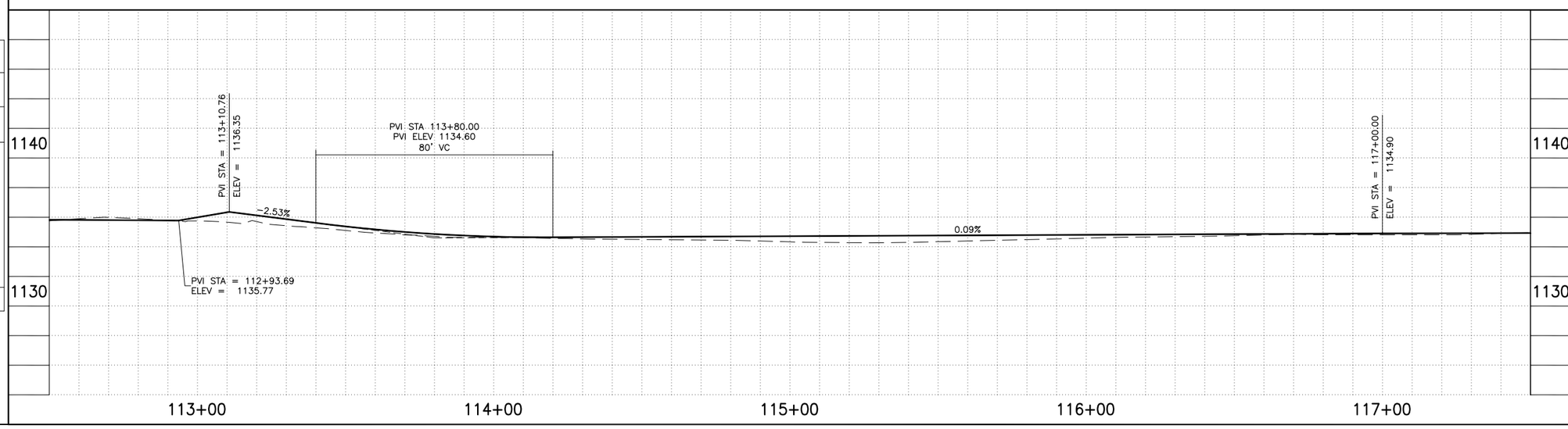
SCALE: 1"= 20' (0' — 20')

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.033	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer 13900 R. CRAIG ALLISON Date signed 3/20/17 ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

- [M] SAWCUT AT JOINT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	244	S.F.
2	REMOVE ASPHALT CONCRETE	13	S.Y.
3	REMOVE EXISTING CURB & GUTTER	64	L.F.
4	REMOVE AND REPLACE EXISTING GATE	1	EA.
8	REMOVE EXISTING SIGN	1	EA.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	4406	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	14	S.Y.
4	TRUNCATED DOMES PER C.O.P. STD. DET. P1232	32	S.F.
5	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL K	310	S.F.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	65	L.F.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK	19	S.F.
18	CONCRETE DRIVEWAY APRON SEE DETAIL U	262	S.F.
29	SAFETY RAIL, MAG STD DET 145 TYPE 4 INSTALLATION	6	L.F.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	2	EA.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.033	2.182

SCALE: 1"= 20' 0' 20'

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

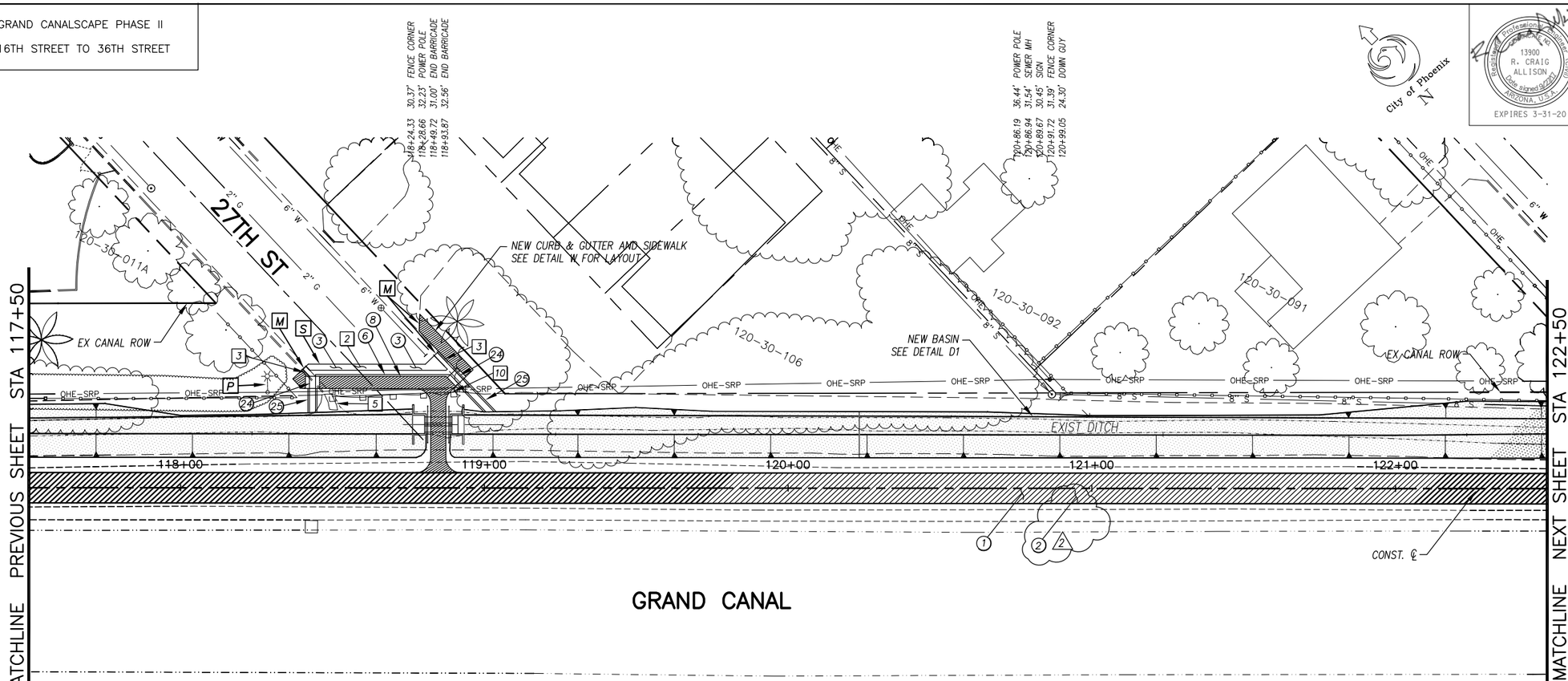
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

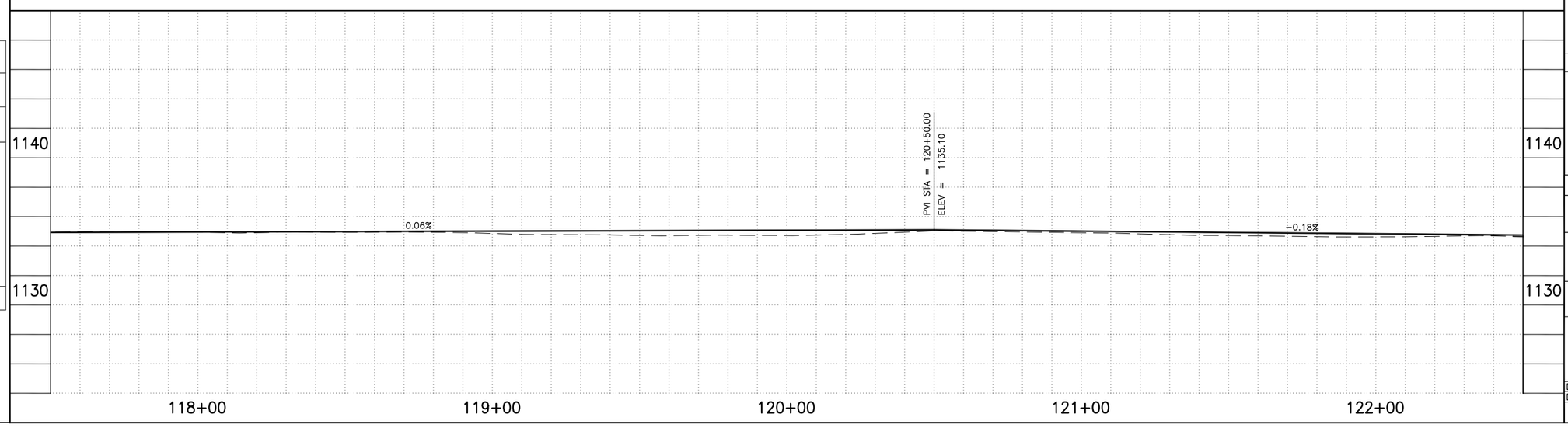
ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.



REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

City of Phoenix N

Registered Professional Engineer 13900 R. CRAIG ALLISON Date signed 3-31-20 ARIZONA, U.S.A.

EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.034	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

- [M] SAWCUT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
2	REMOVE ASPHALT CONCRETE	40	S.Y.
3	REMOVE EXISTING CURB & GUTTER	25	L.F.
5	REMOVE EXISTING MISC. CONCRETE	2	S.Y.
10	REMOVE EXISTING BARRICADE	44	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	11	S.Y.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	55	L.F.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK	438	S.F
24	SCUPPER PER MAG STD. DET. 203 2' BOTTOM WIDTH	2	EA.
25	SHOTCRETE SPILLWAY, 2' BOTTOM WIDTH 2:1 SIDE SLOPE TO MATCH EXISTING FORM TO DRAIN TO CHANNEL	9	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

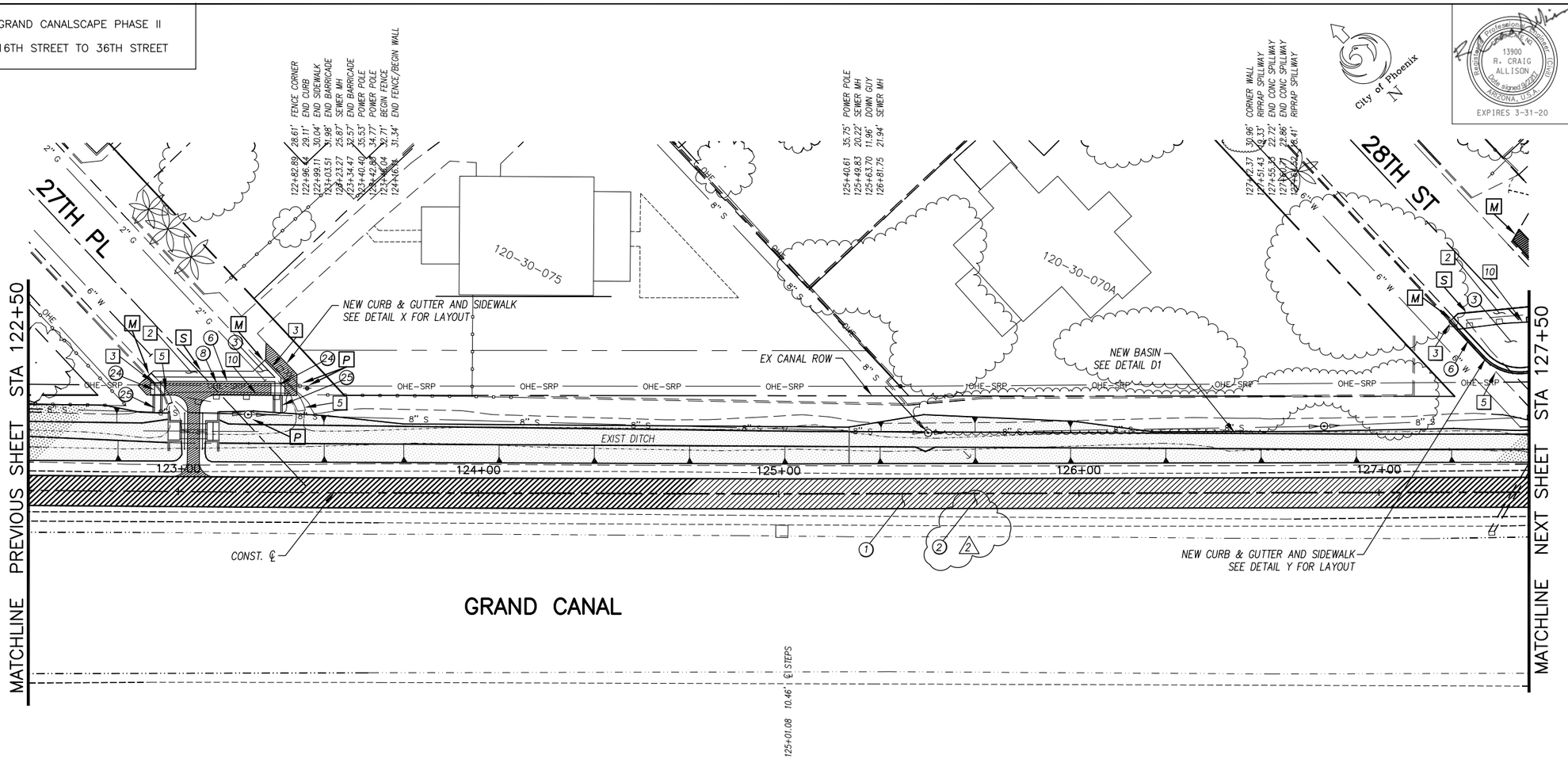
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.034	2.182

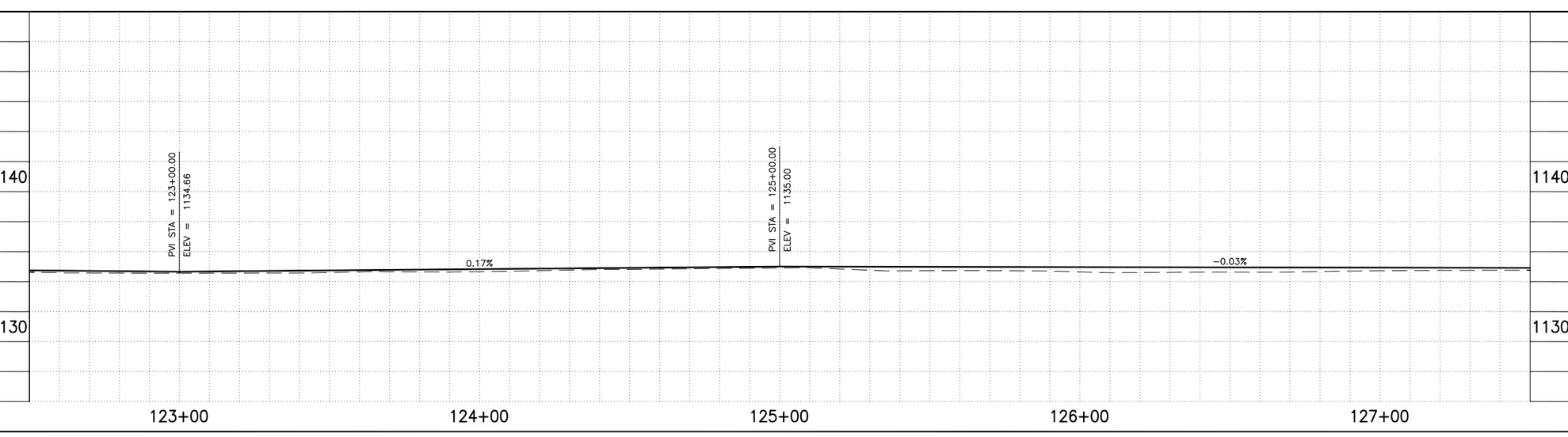
SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.035	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date signed 3/31/20
ARIZONA, U.S.A.
EXPIRES 3-31-20

City of Phoenix

GENERAL NOTES

- M SAWCUT AND MATCH EXISTING CONCRETE
- P PROTECT IN PLACE
- S SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
2	REMOVE ASPHALT CONCRETE	41	S.Y.
3	REMOVE EXISTING CURB & GUTTER	28	L.F.
5	REMOVE EXISTING MISC. CONCRETE	25	S.Y.
10	REMOVE EXISTING BARRICADE	63	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	48	S.Y.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	83	L.F.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK	360	S.F
24	SCUPPER PER MAG STD. DET. 203 2' BOTTOM WIDTH	2	EA.
25	SHOTCRETE SPILLWAY, 2' BOTTOM WIDTH 2:1 SIDE SLOPE TO MATCH EXISTING FORM TO DRAIN TO CHANNEL	5	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

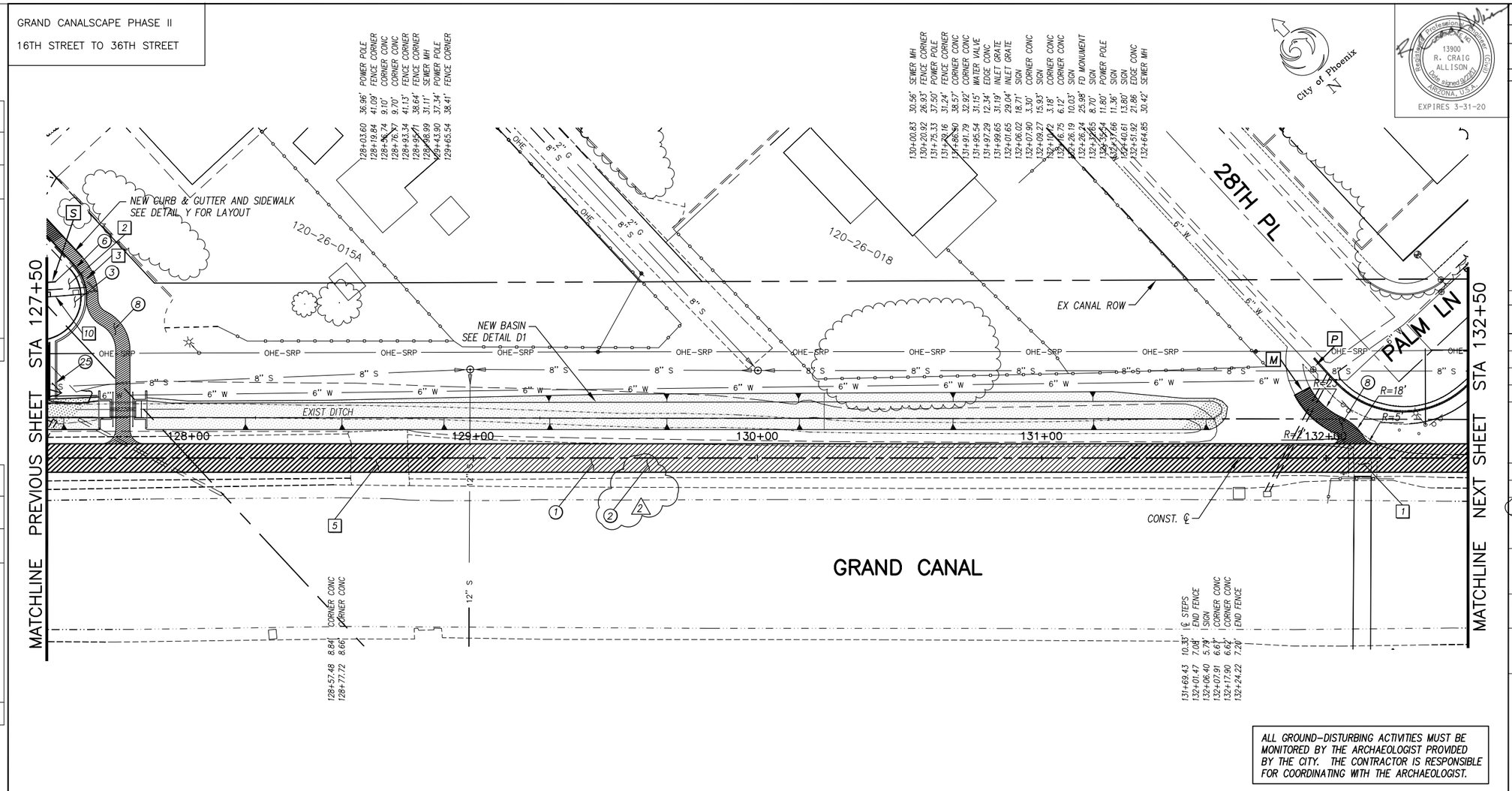
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.035	2.182

SCALE: 1"= 20' 0' 20'

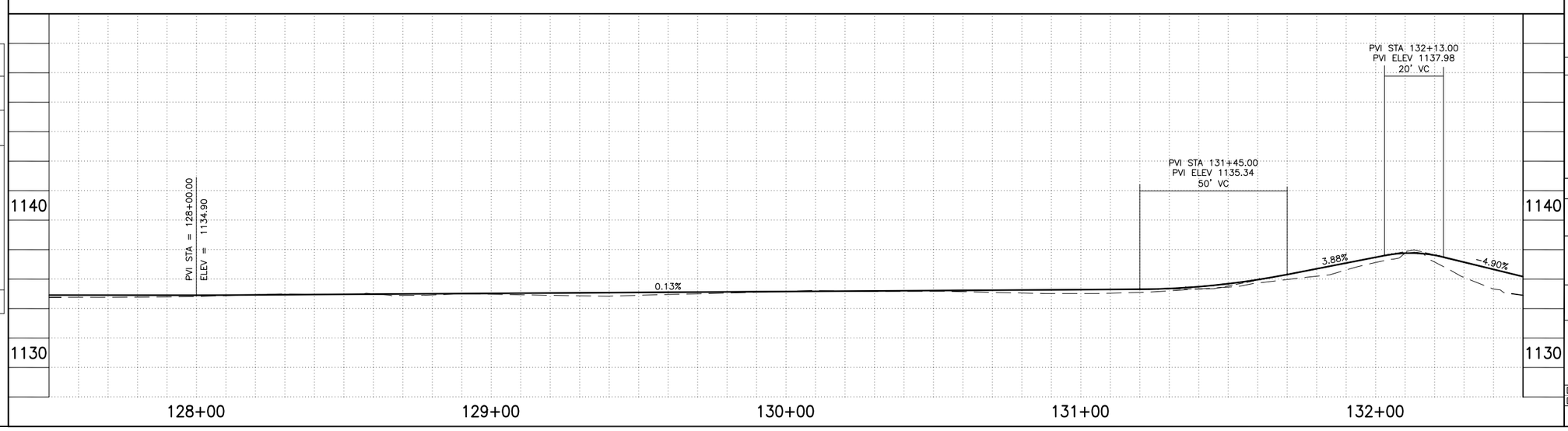
ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.



City of Phoenix

Registered Professional Engineer
13900
R. CRAIG
ALLISON
Date signed 3-31-20
ARIZONA, U.S.A.
EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.036	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

- [M] SAWCUT AT JOINT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	204	S.F.
2	REMOVE ASPHALT CONCRETE	6	S.Y.
3	REMOVE EXISTING CURB & GUTTER	13	L.F.
5	REMOVE EXISTING MISC. CONCRETE	30	S.Y.
10	REMOVE EXISTING BARRICADE	16	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	25	S.Y.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	35	L.F.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK, 6' WIDTH, MAX 5%	603	S.F.
25	SHOTCRETE SPILLWAY, 2' BOTTOM WIDTH 2:1 SIDE SLOPE TO MATCH EXISTING FORM TO DRAIN TO CHANNEL	8	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.036	2.182

SCALE: 1"= 20' 0' 20'

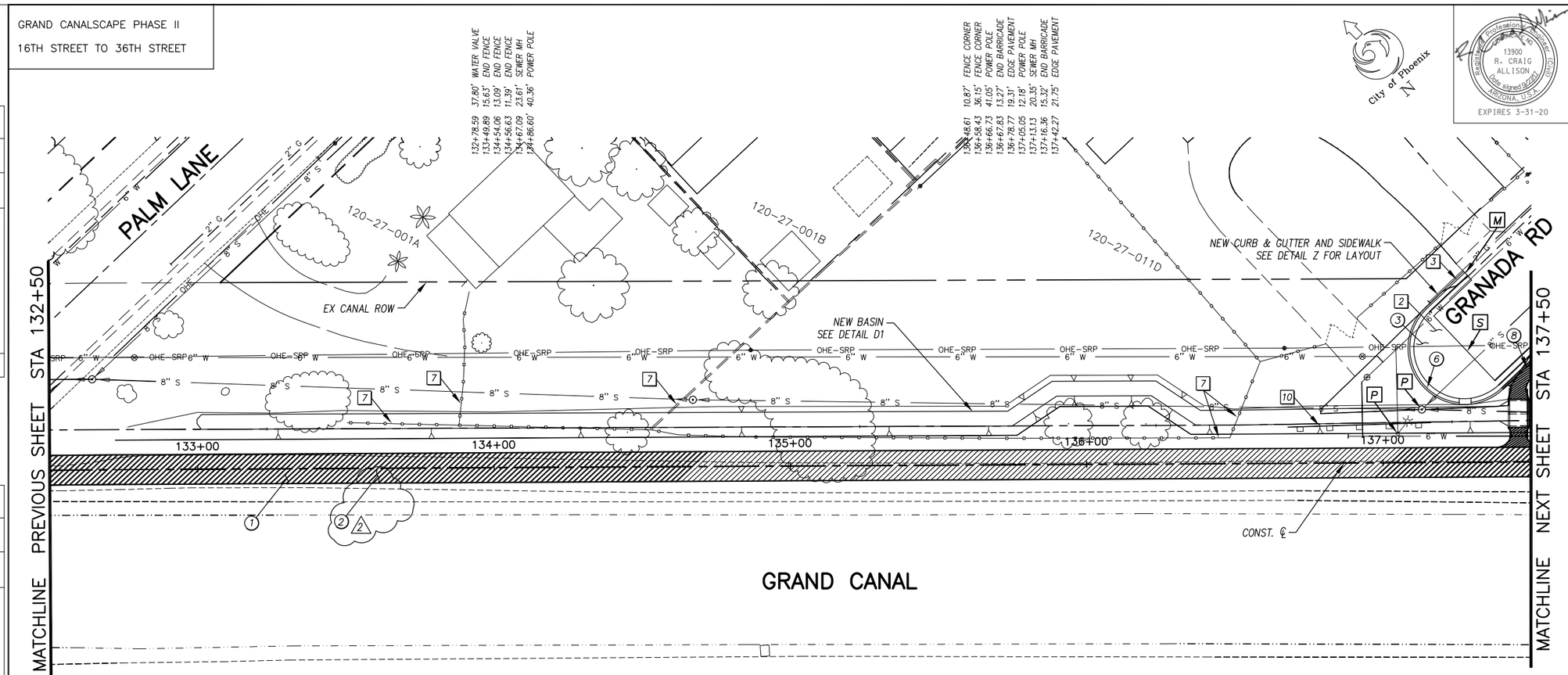
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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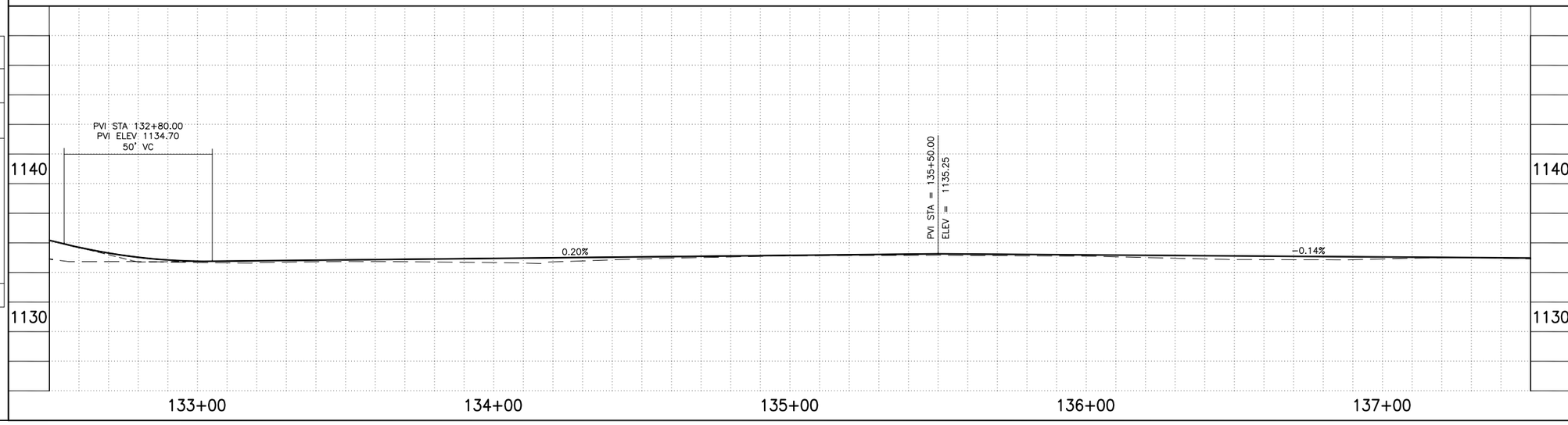

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.037	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date Signed 3-31-20
ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

- [M] SAWCUT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT PER PLAN AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
2	REMOVE ASPHALT CONCRETE	142	S.Y.
3	REMOVE EXISTING CURB & GUTTER	7	L.F.
7	REMOVE EXISTING FENCE	343	L.F.
10	REMOVE EXISTING BARRICADE	50	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	142	S.Y.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	90	L.F.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK, 6' WIDTH, MAX 5%	101	S.F.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.037	2.182

SCALE: 1"= 20' 0' 20'

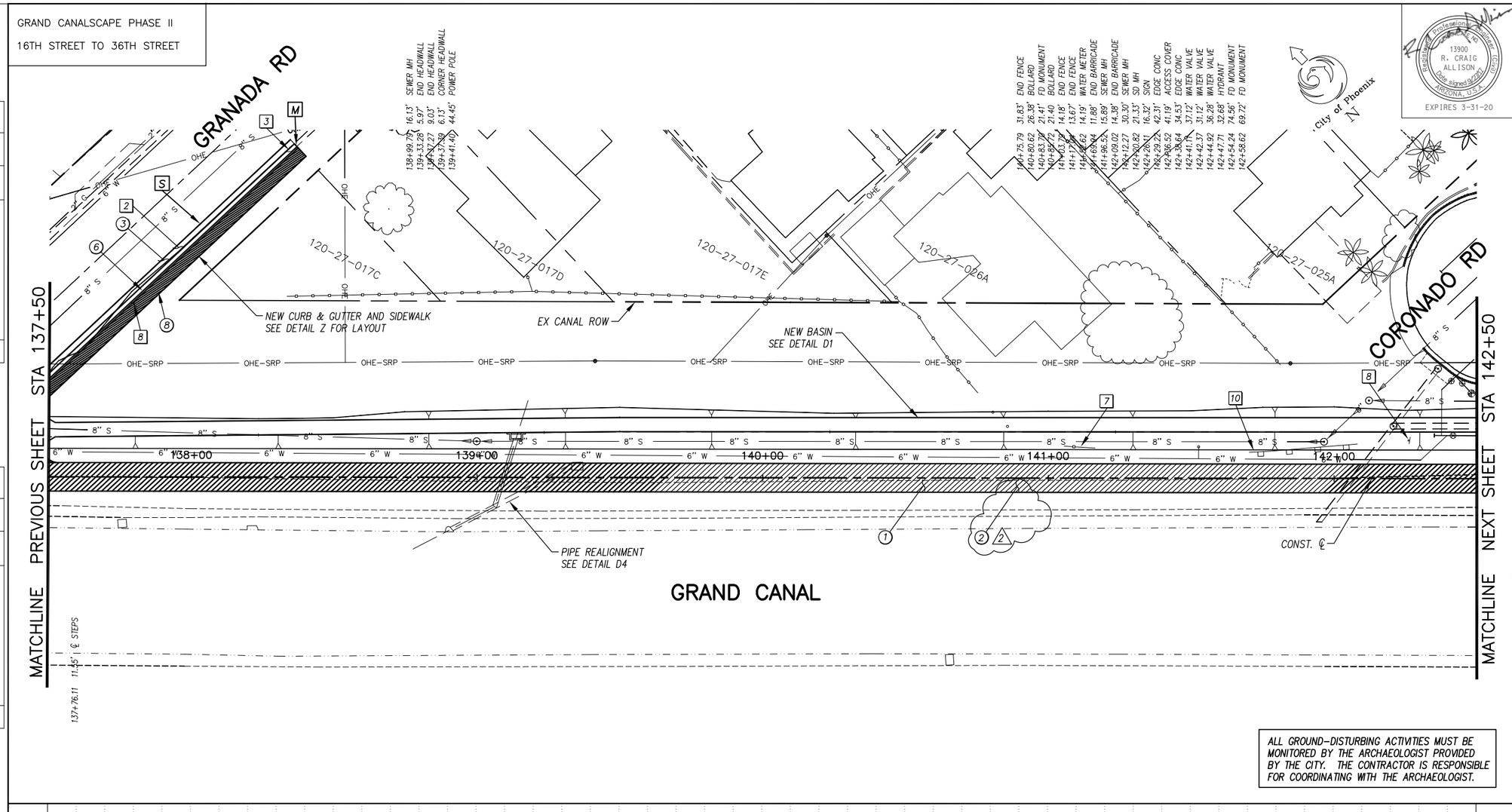
REVISION BY CITY OF PHOENIX

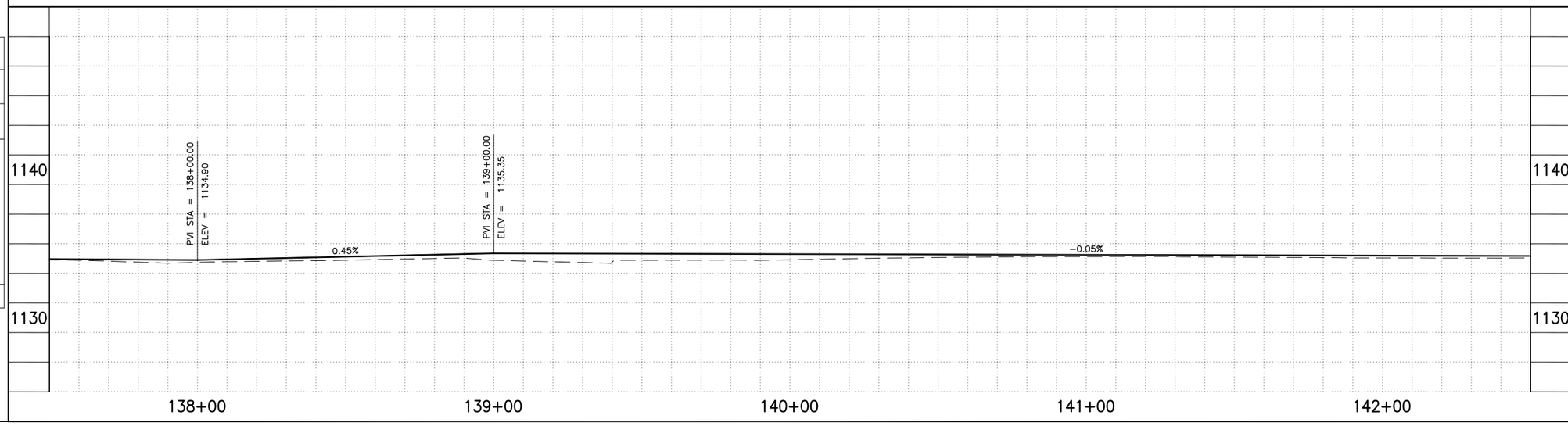
NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





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REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date signed 3-31-20
ARIZONA, U.S.A.
EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.038	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

[M] SAWCUT AND MATCH EXISTING CONCRETE

[S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
2	REMOVE ASPHALT CONCRETE	230	S.Y.
3	REMOVE EXISTING CURB & GUTTER	4	L.F.
7	REMOVE EXISTING FENCE	11	L.F.
8	REMOVE EXISTING SIGN	2	EA.
10	REMOVE EXISTING BARRICADE	38	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	26	S.Y.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	120	L.F.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK, 6' WIDTH, MAX 5%	486	S.F.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

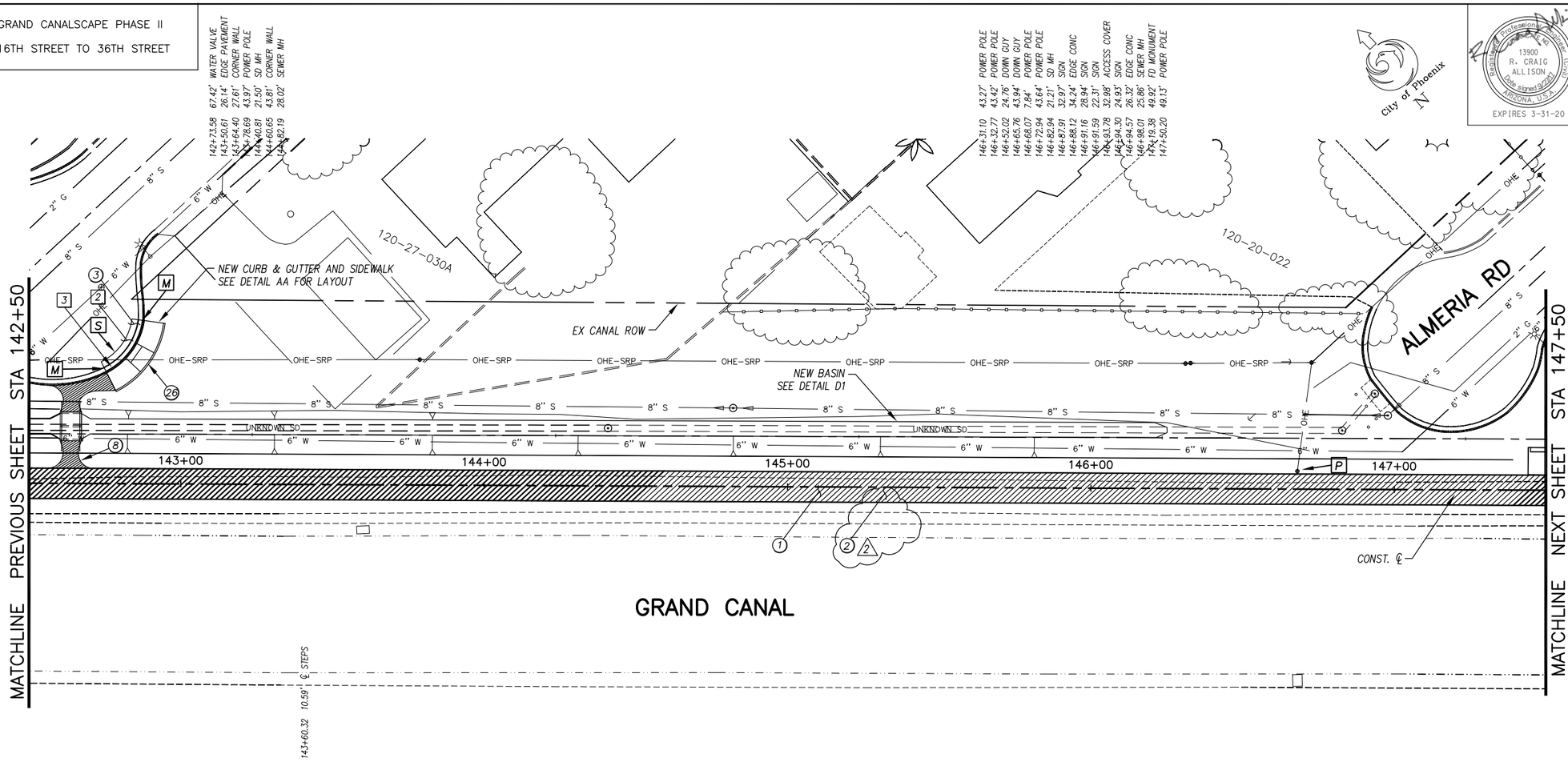
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

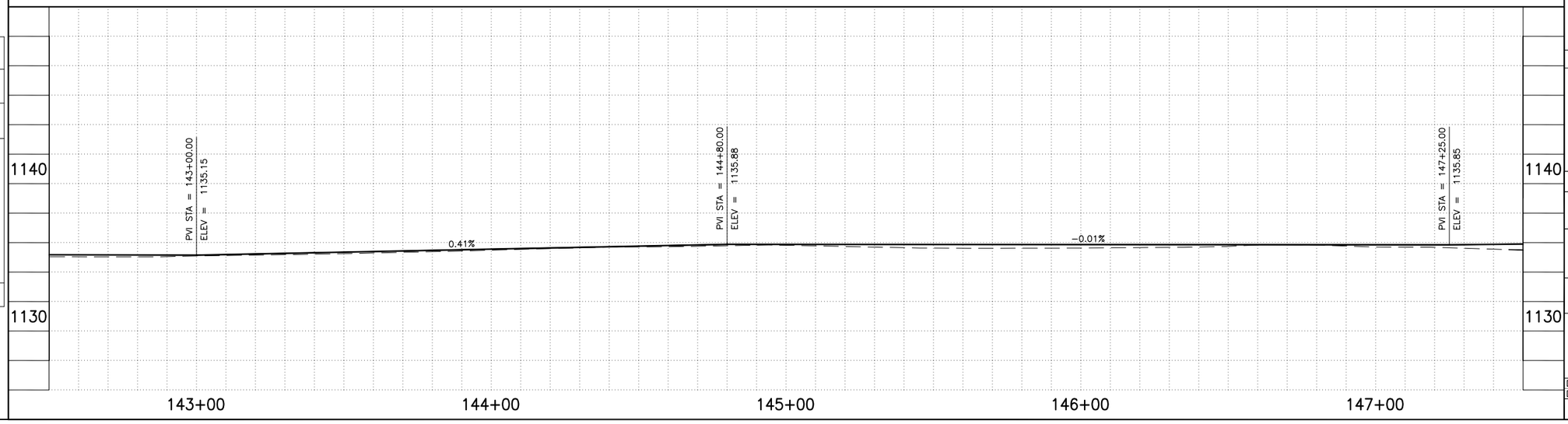
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.038	2.182
SCALE: 1"= 20'		0' 20'		

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date Signed
Arizona, U.S.A.
EXPIRES 3-31-20

City of Phoenix

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.039	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

- [M] SAWCUT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
2	REMOVE ASPHALT CONCRETE	4	S.Y.
3	REMOVE EXISTING CURB & GUTTER	22	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. (2)	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	4	S.Y.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK, 6' WIDTH, MAX 5%	167	S.F.
26	CONCRETE CURB RAMP COP STD. DETAIL P-1241-2 (INCLUDES CURB & GUTTER)	96	S.F.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

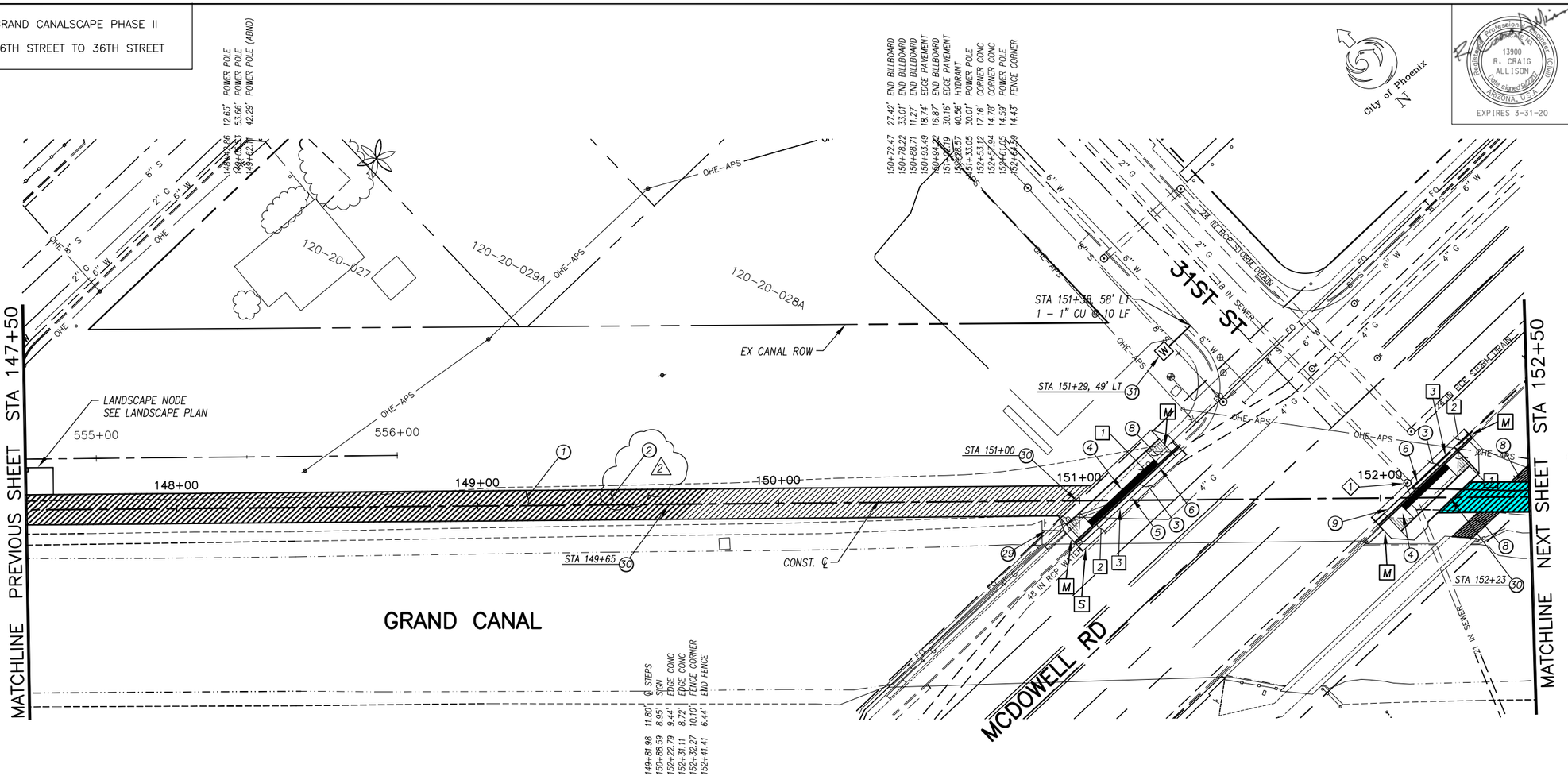
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

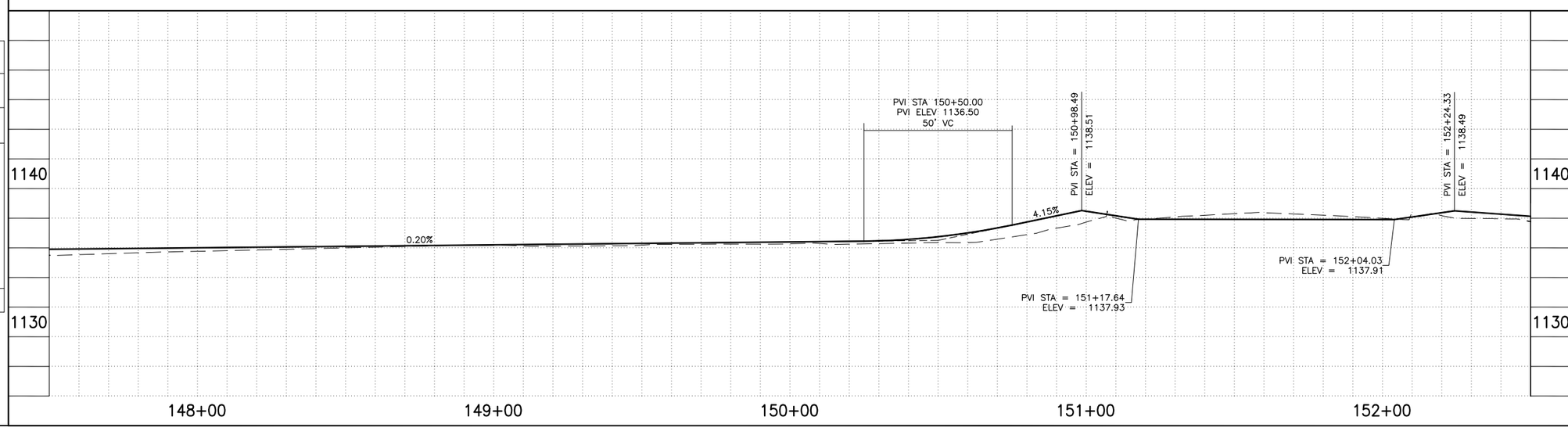
DES: JL DATE: 07/17	DR: JKA DATE: 07/17	CK: RCA DATE: 07/17	SHEET NO:	TOTAL SHEETS
SCALE: 1"= 20'	0' 20'		2.039	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.040	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer 13900 R. CRAIG ALLISON Date Signed Approval ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

- [M] SAWCUT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	483	S.F.
2	REMOVE ASPHALT CONCRETE	20	S.Y.
3	REMOVE EXISTING CURB & GUTTER	87	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	3769	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	20	S.Y.
4	TRUNCATED DOMES PER C.O.P. STD. DET. P1232	72	S.F.
5	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL L	372	S.F.
6	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	88	L.F.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK	102	S.F.
9	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL M	368	S.F.
29	SAFETY RAIL, MAG STD DET 145 TYPE 4 INSTALLATION	6	L.F.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	3	EA.
31	WATER SERVICE CONNECTION WITH BFP COP STD. DET. P1342	1	EA

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	ADJUST MANHOLE RIM TO NEW GRADE	1	EA.

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.040	2.182

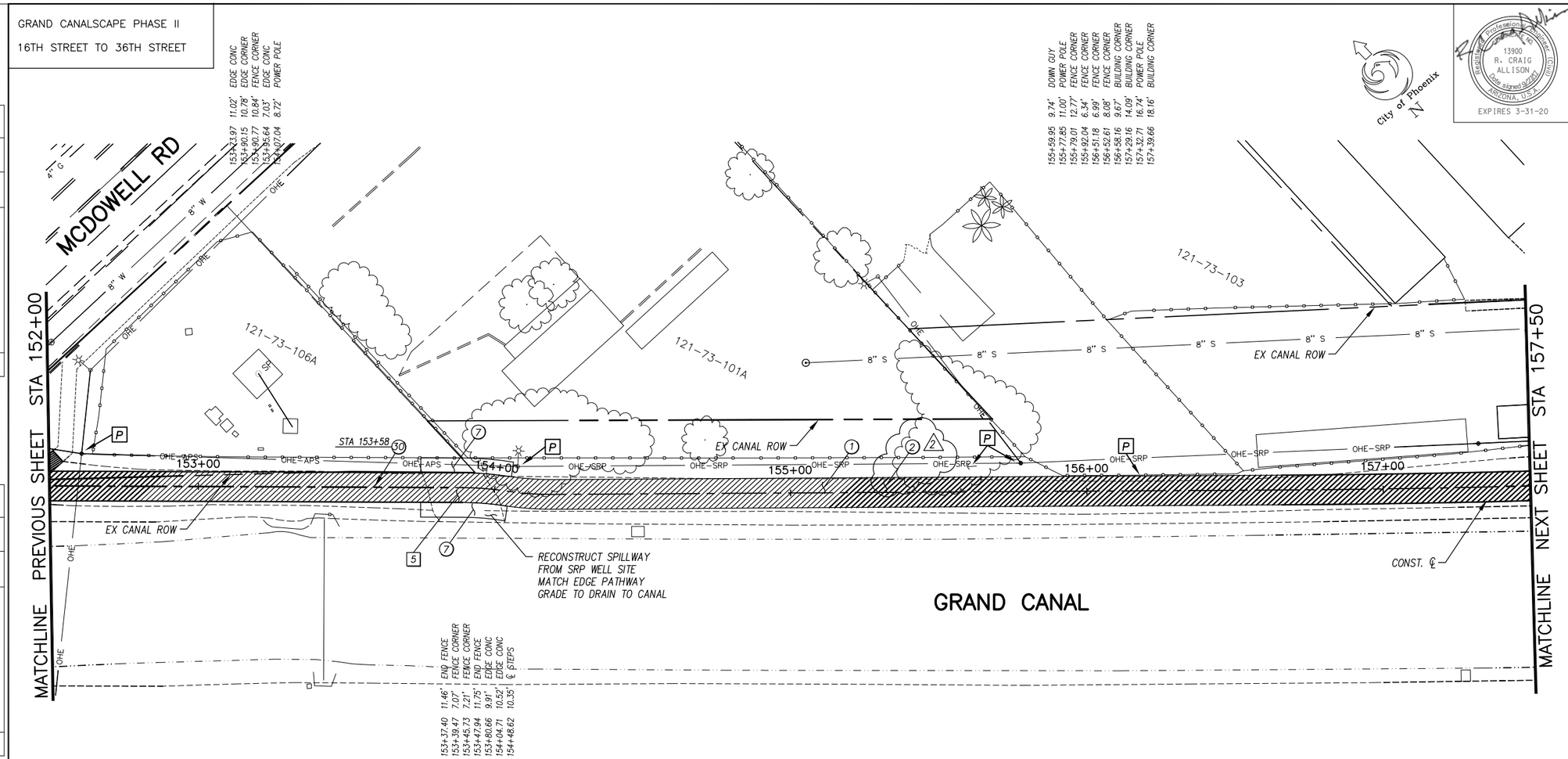
SCALE: 1"= 20' 0' 20'

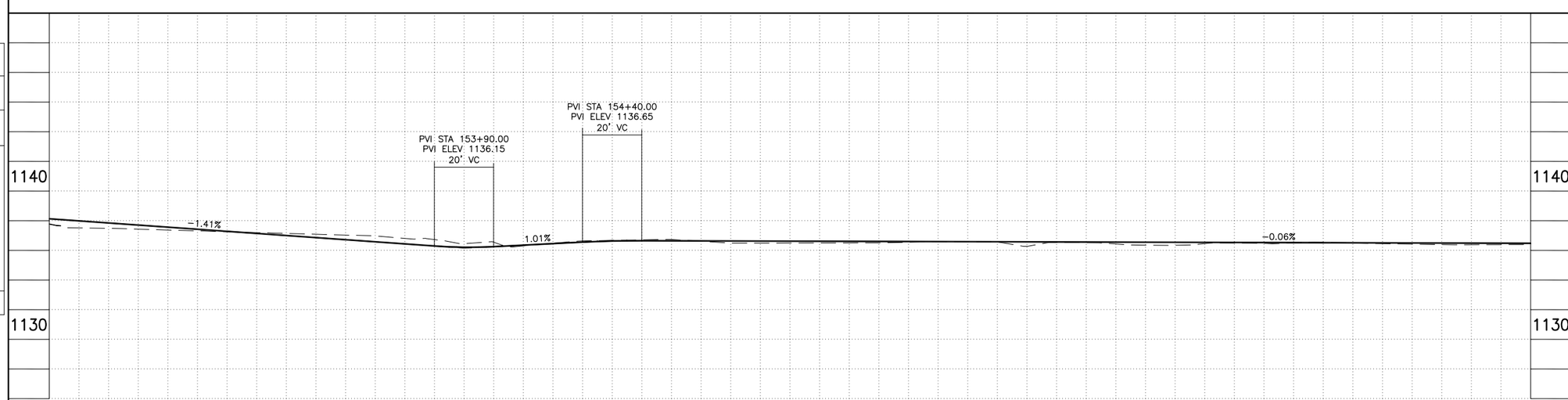
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET





F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.041	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

P PROTECT IN PLACE

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
5	REMOVE EXISTING MISC. CONCRETE	53	S.Y.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
7	CONCRETE SPILLWAY, 5" THICK	300	S.F.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	1	EA.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig. CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.041	2.182

SCALE: 1"= 20' 0' 20'

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

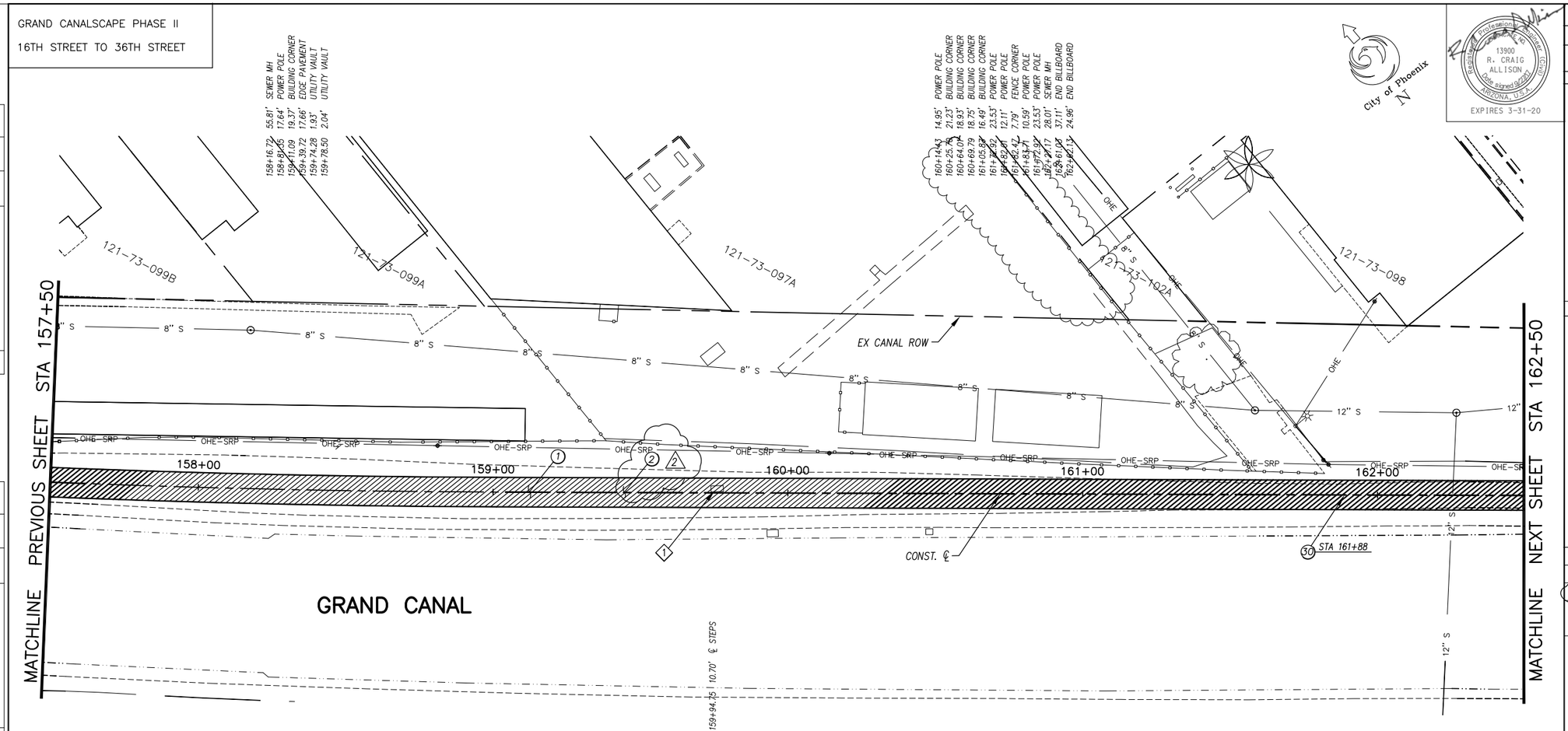
REVISION BY CITY OF PHOENIX

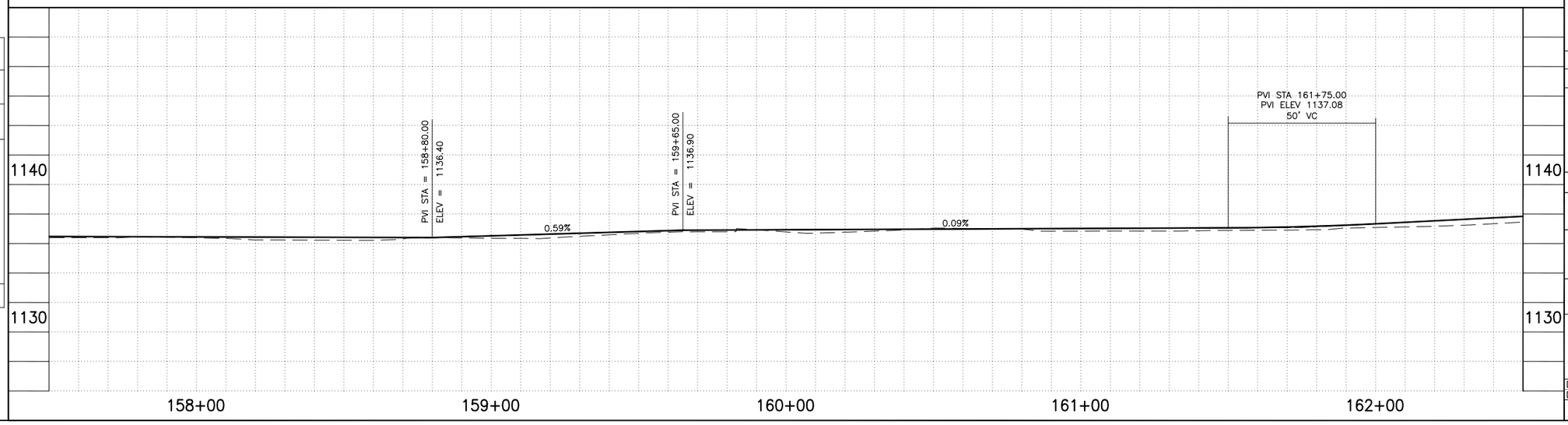
NO.	DESCRIPTION	REV BY	CKD BY	DATE

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date Signed 3-31-20
ARIZONA, U.S.A.
EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.042	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.
30	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	1	EA.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	ADJUST UTILITY VAULT TO NEW GRADE	1	EA.

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

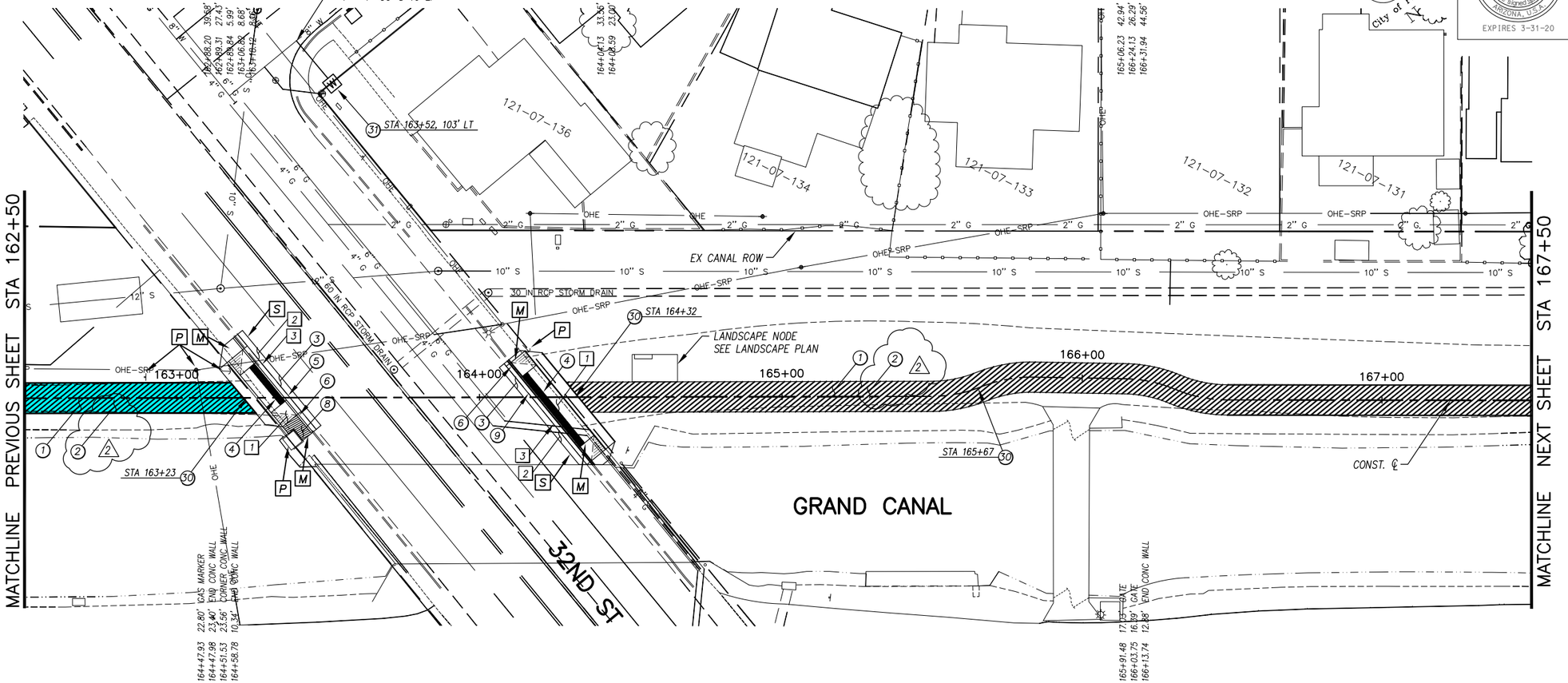
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.042	2.182

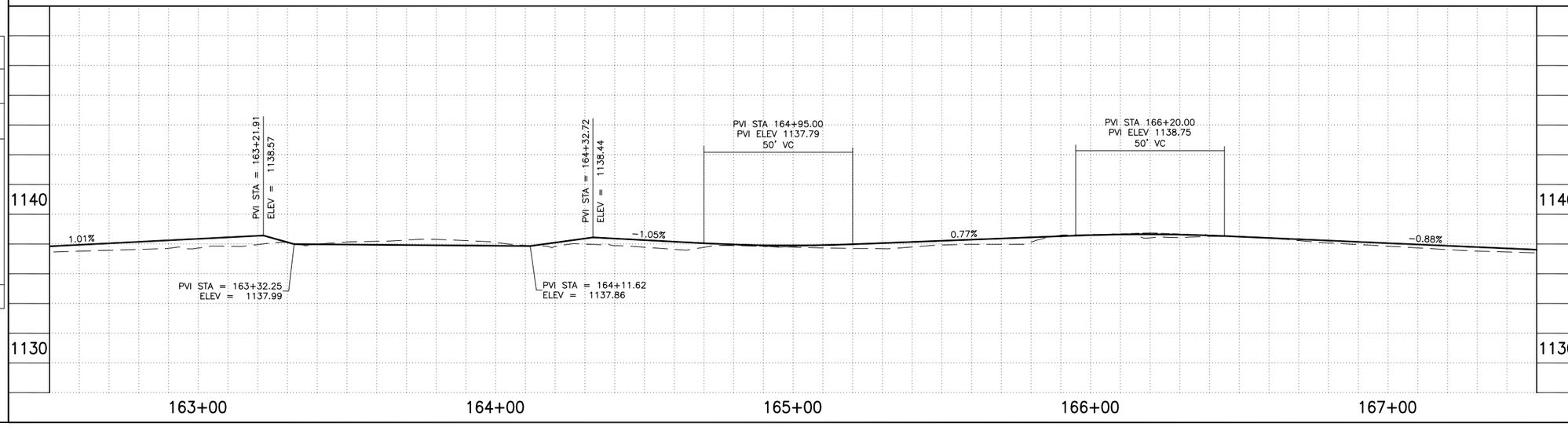
SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.043	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer — 13900 R. CRAIG ALLISON — Date Signed 3-31-17 — ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

- [M] SAWCUT AND MATCH EXISTING CONCRETE
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	365	S.F.
2	REMOVE ASPHALT CONCRETE	18	S.Y.
3	REMOVE EXISTING CURB & GUTTER	75	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
(1)	CONCRETE S/W, 7" THICK, 10' WIDTH	3917	S.F.
(2)	SUBGRADE PREPARATION. 2	0	S.Y.
(3)	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	18	S.Y.
(4)	TRUNCATED DOMES PER C.O.P. STD. DET. P1232	64	S.F.
(5)	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL N	310	S.F.
(6)	CONCRETE VERTICAL CURB & GUTTER PER MAG STD. DET. 220-1 (TYPE A) (INCLUDES DEPRESSION AND TRANSITION)	79	L.F.
(8)	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK	36	S.F.
(9)	DRIVEWAY-SIDEWALK RAMP COMBINATION PER C.O.P. STD. DET. P1244, MODIFIED PER DETAIL O	352	S.F.
(30)	SANDBLAST STREET NAME STENCIL PER DETAIL BB (SANDBLAST STENCIL DETAIL)	3	EA.
(31)	WATER SERVICE CONNECTION WITH BFP COP STD. DET. P1342	1	EA

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

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PATHWAY PLAN & PROFILE

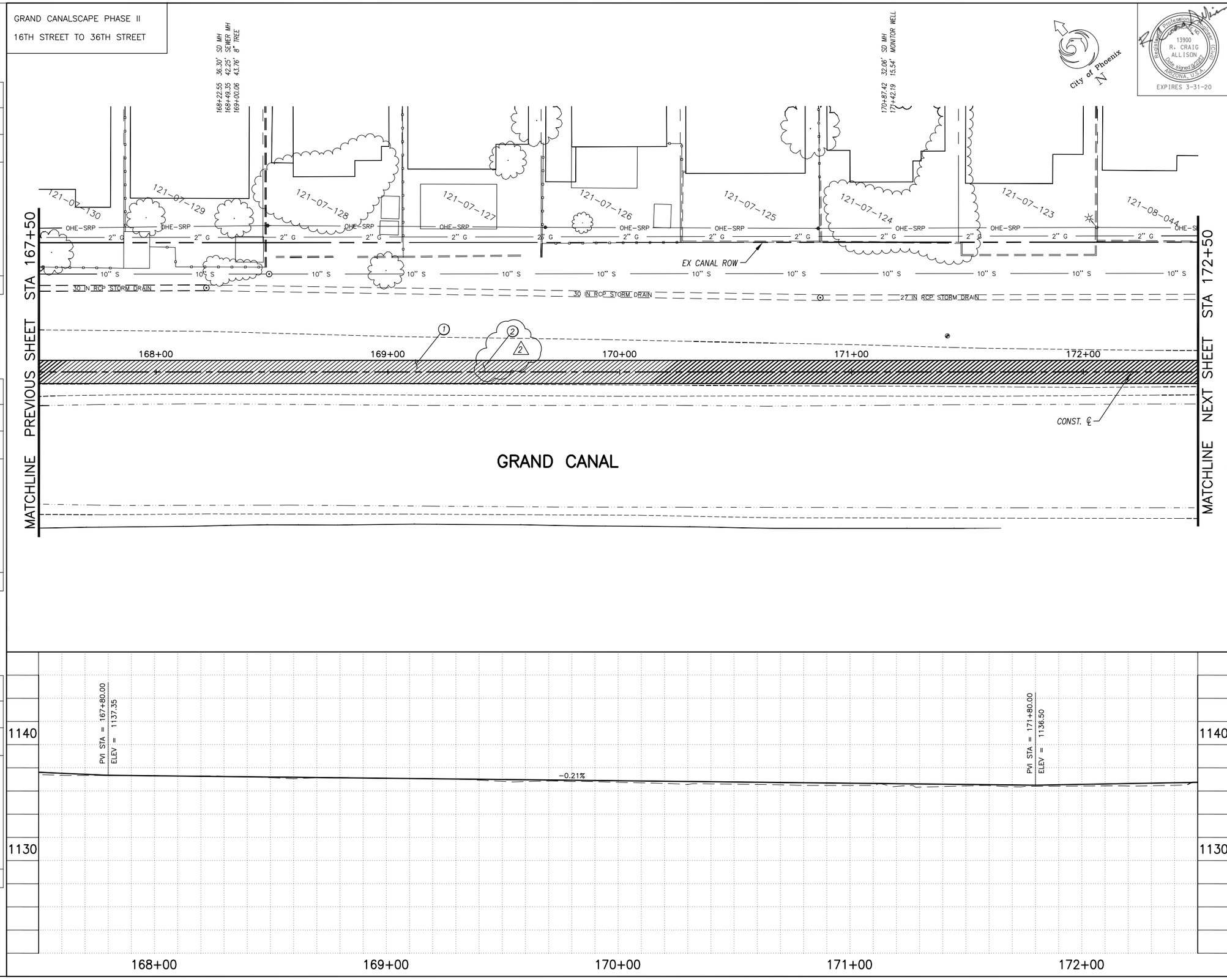
CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.043	2.182
SCALE: 1"= 20'	0' 20'			

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET



REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.044	2.182

ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer (Civil) 13900 R. CRAIG ALLISON Date signed 9/22/17 ARIZONA, U.S.A. EXPIRES 3-31-20

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig. CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

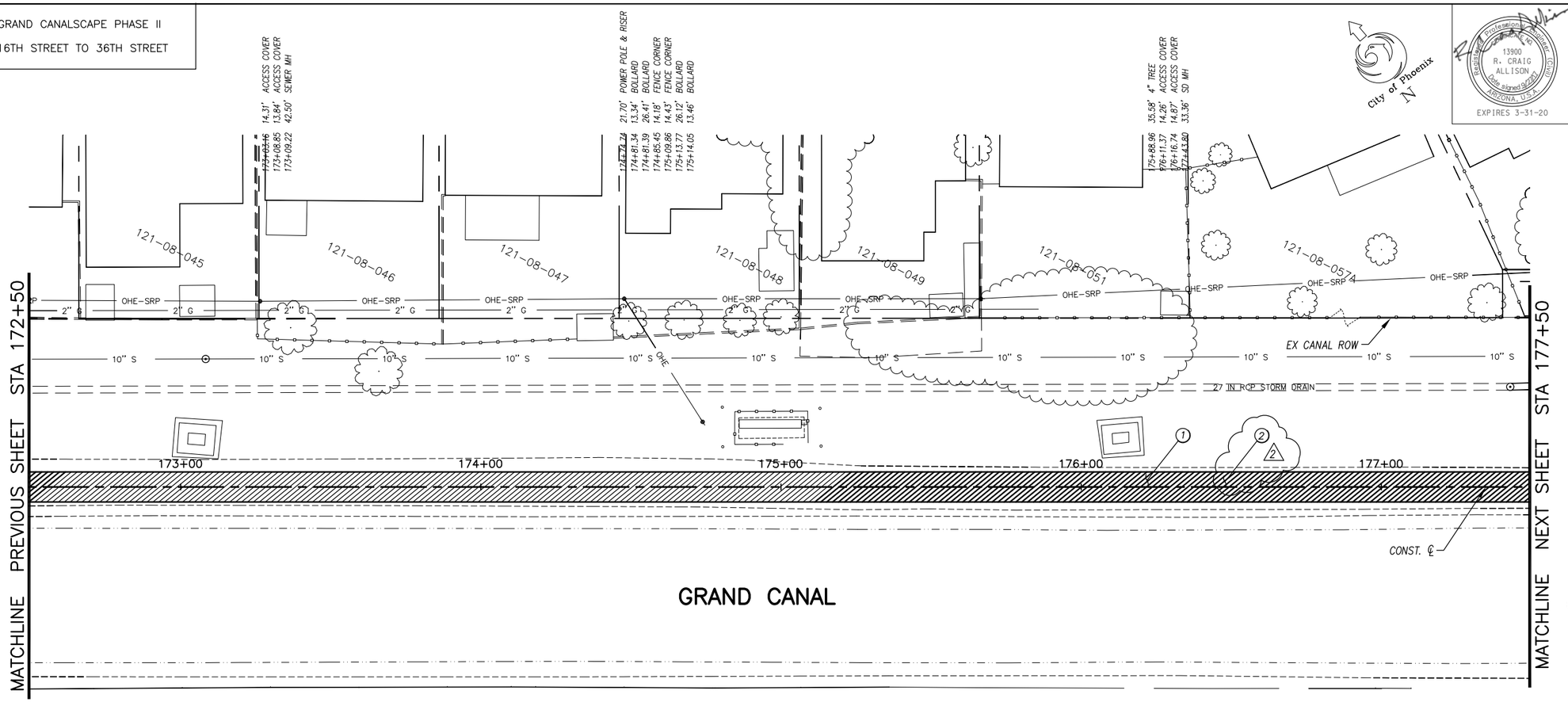
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

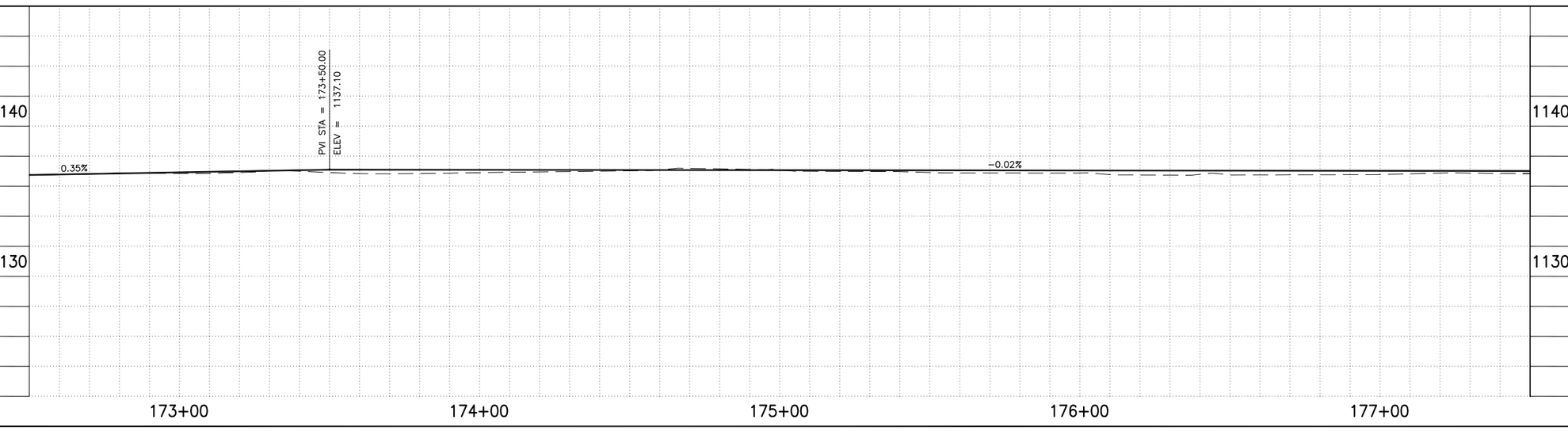
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17		
SCALE: 1"= 20'	0' 20'		2.044	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date Signed 3-31-17
ARIZONA, U.S.A.
EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.045	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

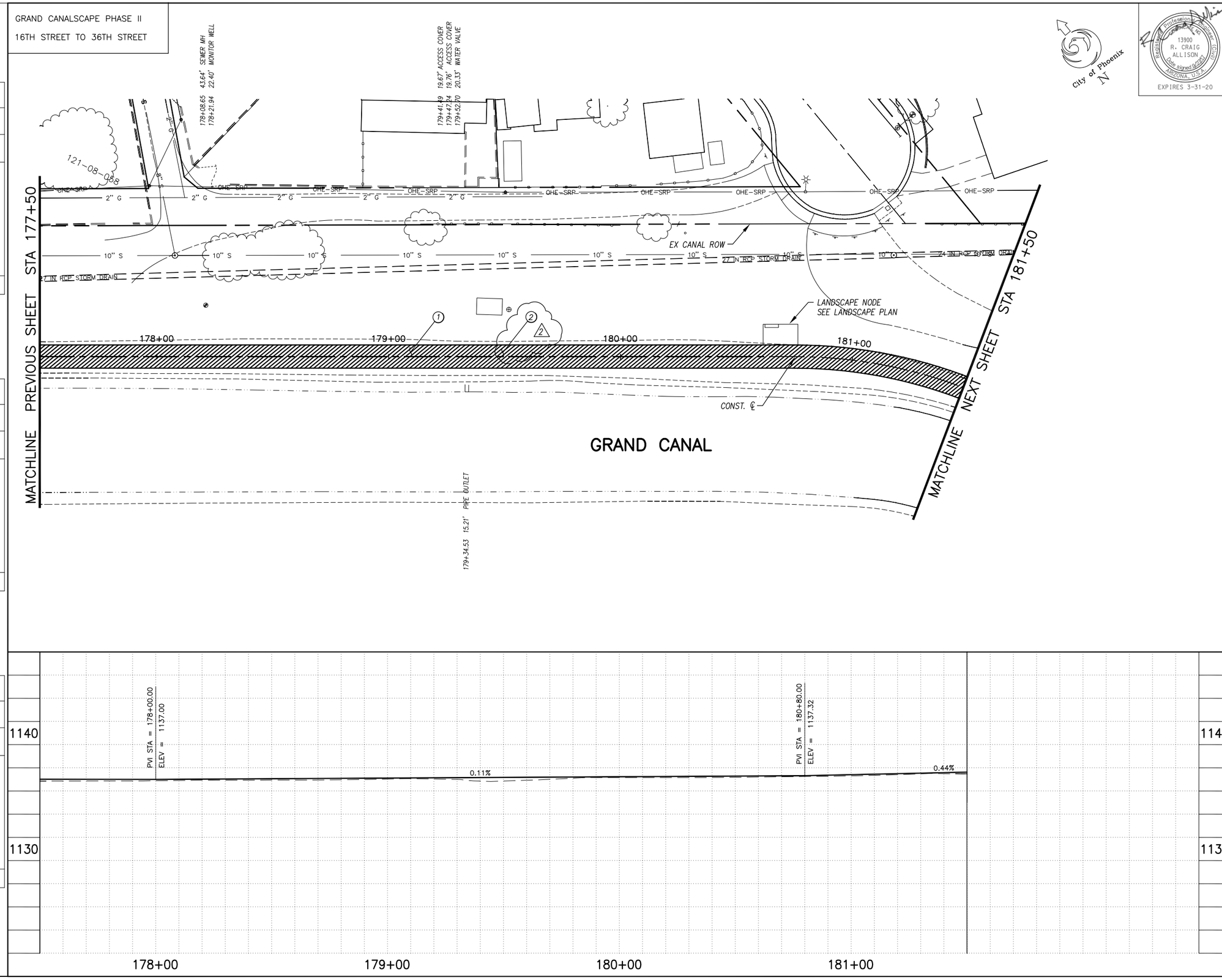
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.045	2.182

SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET



F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.046	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer (Civil) 13900 R. CRAIG ALLISON Date signed 9/22/17 ARIZONA, U.S.A. EXPIRES 3-31-20

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	4000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17		
SCALE: 1"= 20'	0' 20'		2.046	2.182

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

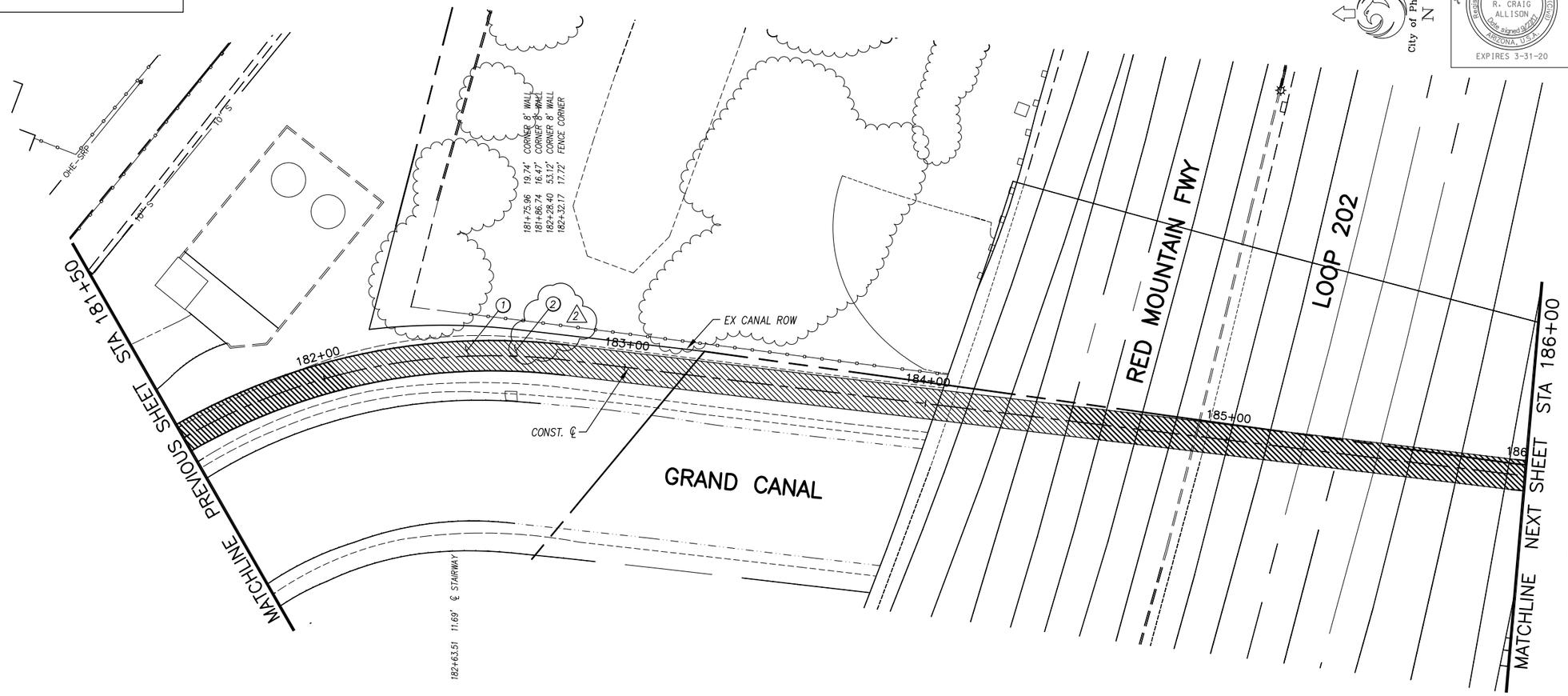
REVISION BY CITY OF PHOENIX

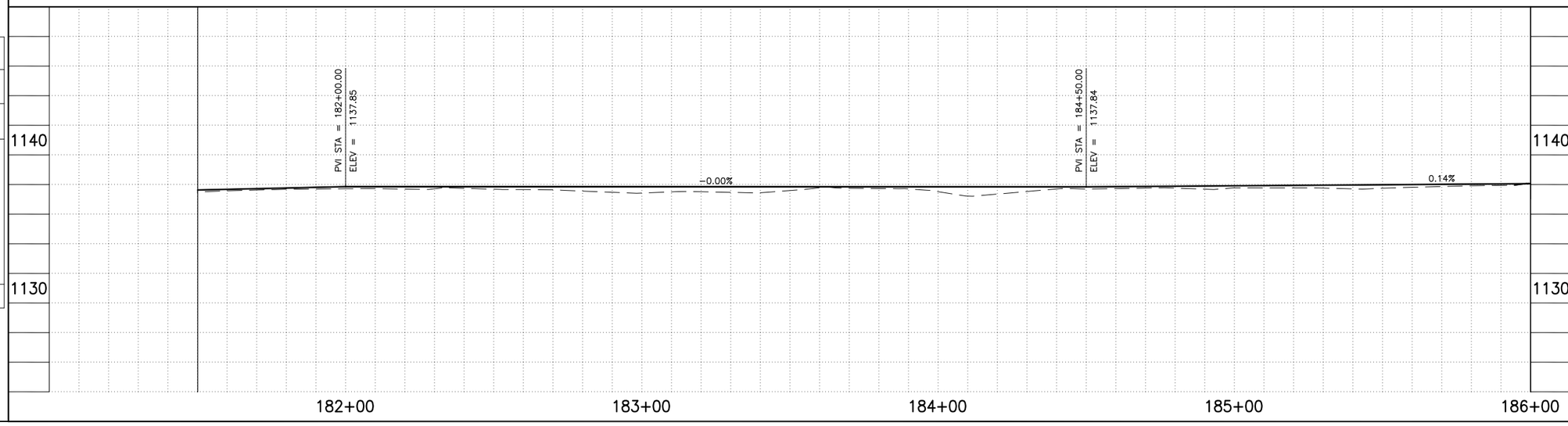
NO.	DESCRIPTION	REV BY	CKD BY	DATE

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

Registered Professional Engineer (Civil) 13900 R. CRAIG ALLISON Date signed 3-31-20 ARIZONA, U.S.A.

EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.047	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	4500	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

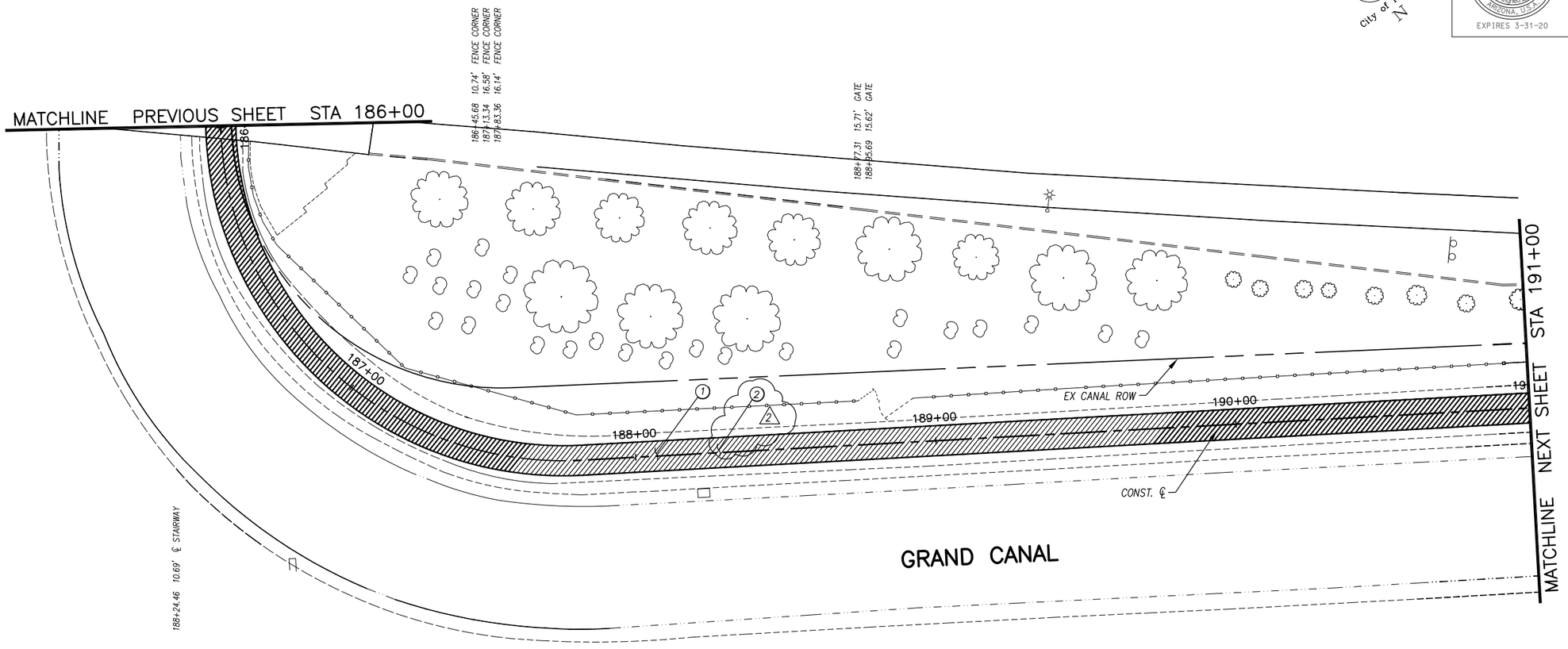
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

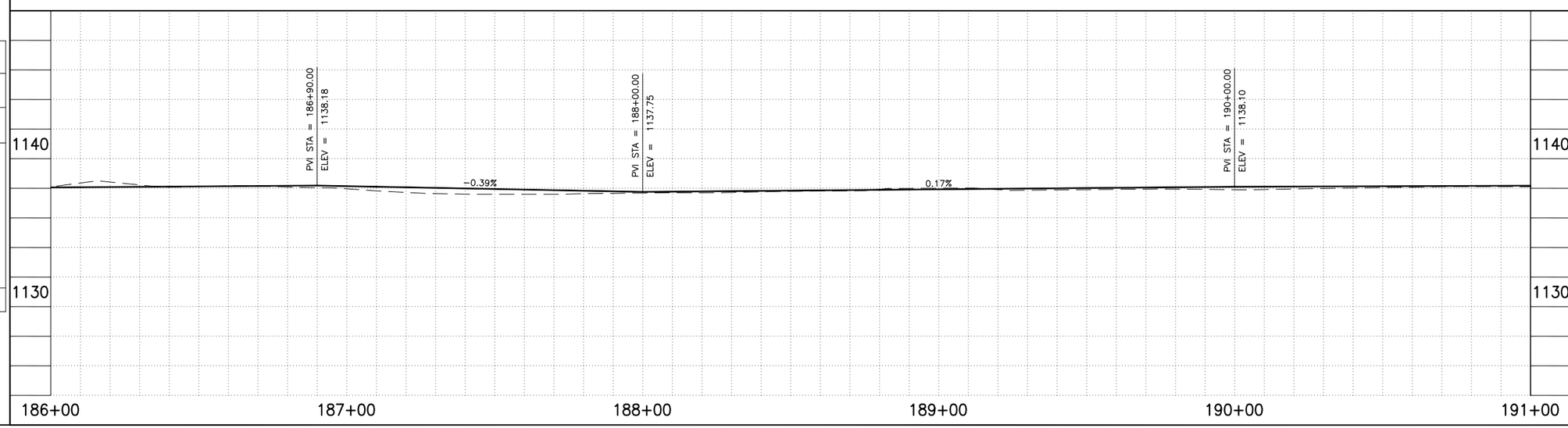
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17		
SCALE: 1"= 20'	0' 20'		2.047	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

City of Phoenix N

Registered Professional Engineer (Civil) 13900 R. CRAIG ALLISON Date Signed 3-31-17 ARIZONA, U.S.A.

EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.048	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	5000	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

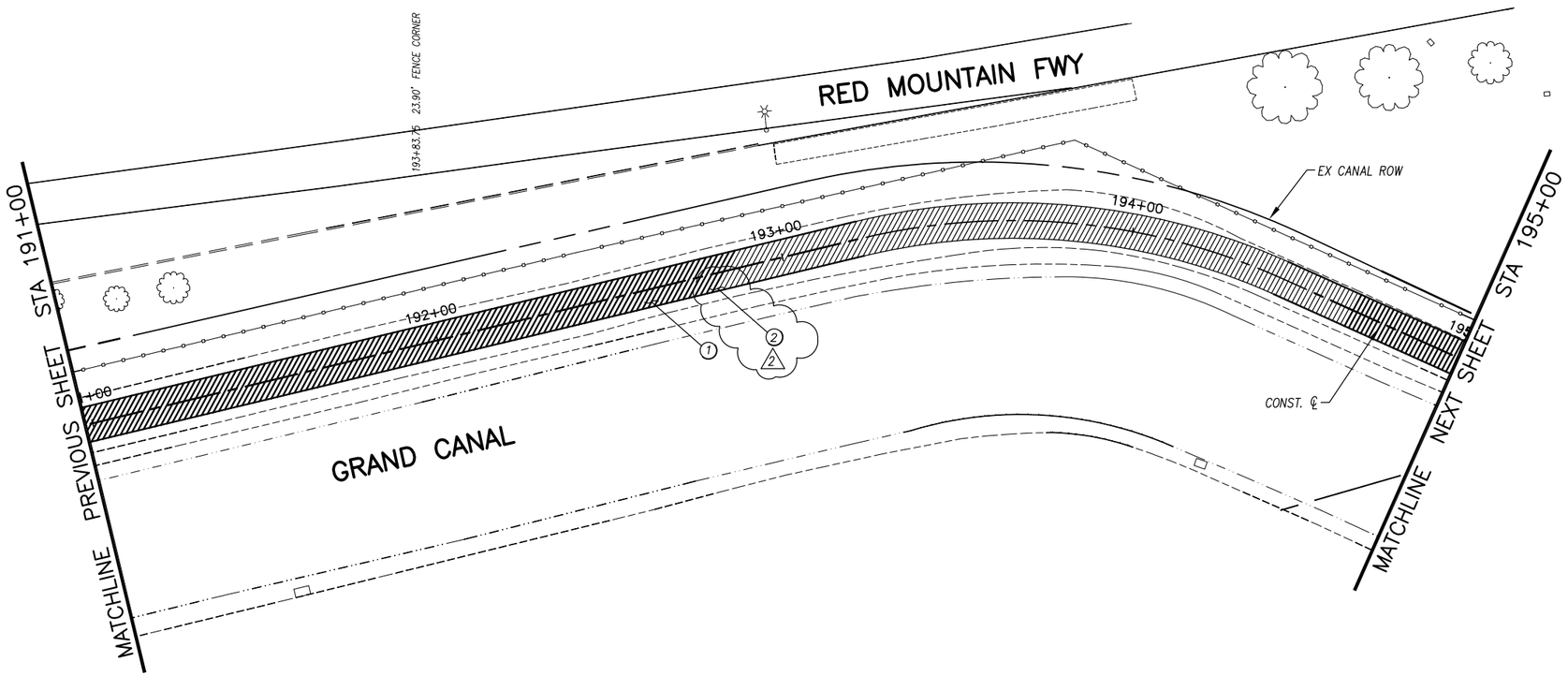
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.048	2.182

SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



City of Phoenix

N

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.049	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

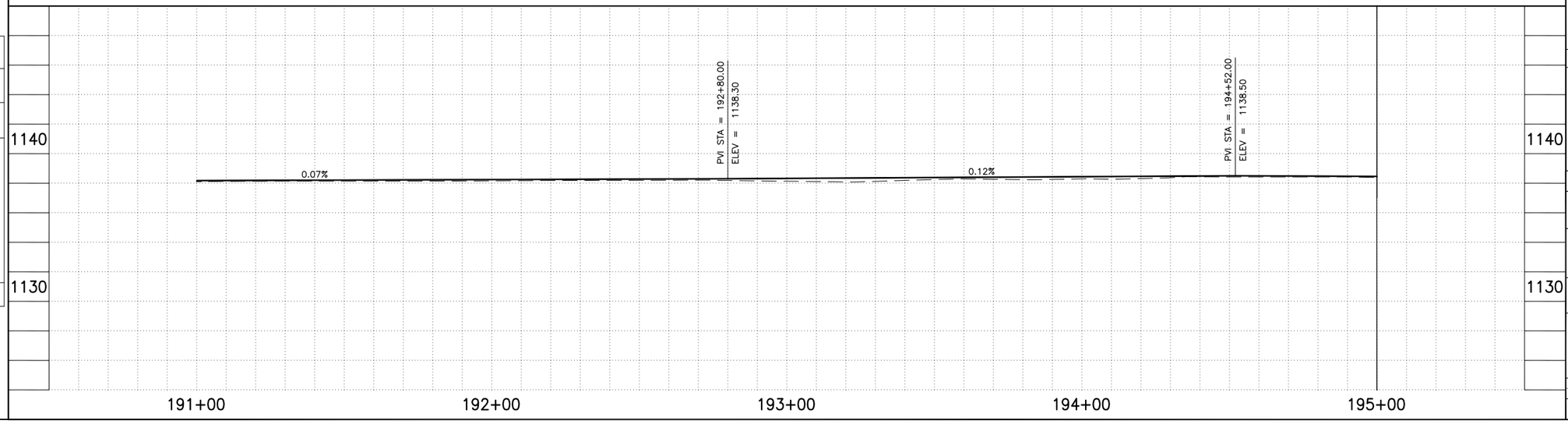
REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	4009	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.

ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.



ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17		
SCALE: 1"= 20'	0' 20'		2.049	2.182

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

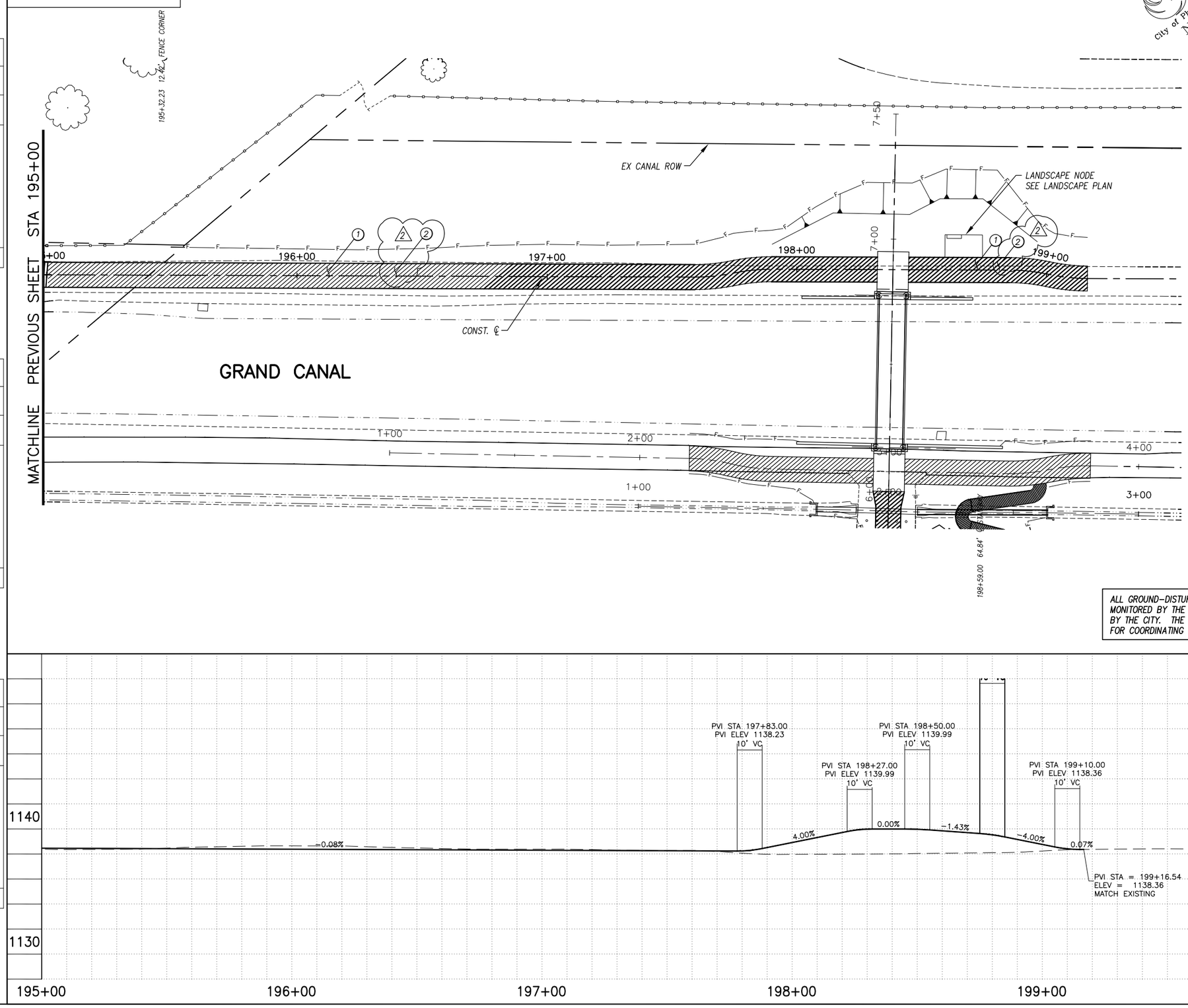
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

City of Phoenix

Registered Professional Engineer
13900
R. CRAIG ALLISON
Date Signed 3-31-20
ARIZONA, U.S.A.
EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.050	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

REMOVALS

NO.	DESCRIPTION	QTY	UNIT

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	4034	S.F.
2	SUBGRADE PREPARATION.	0	S.Y.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

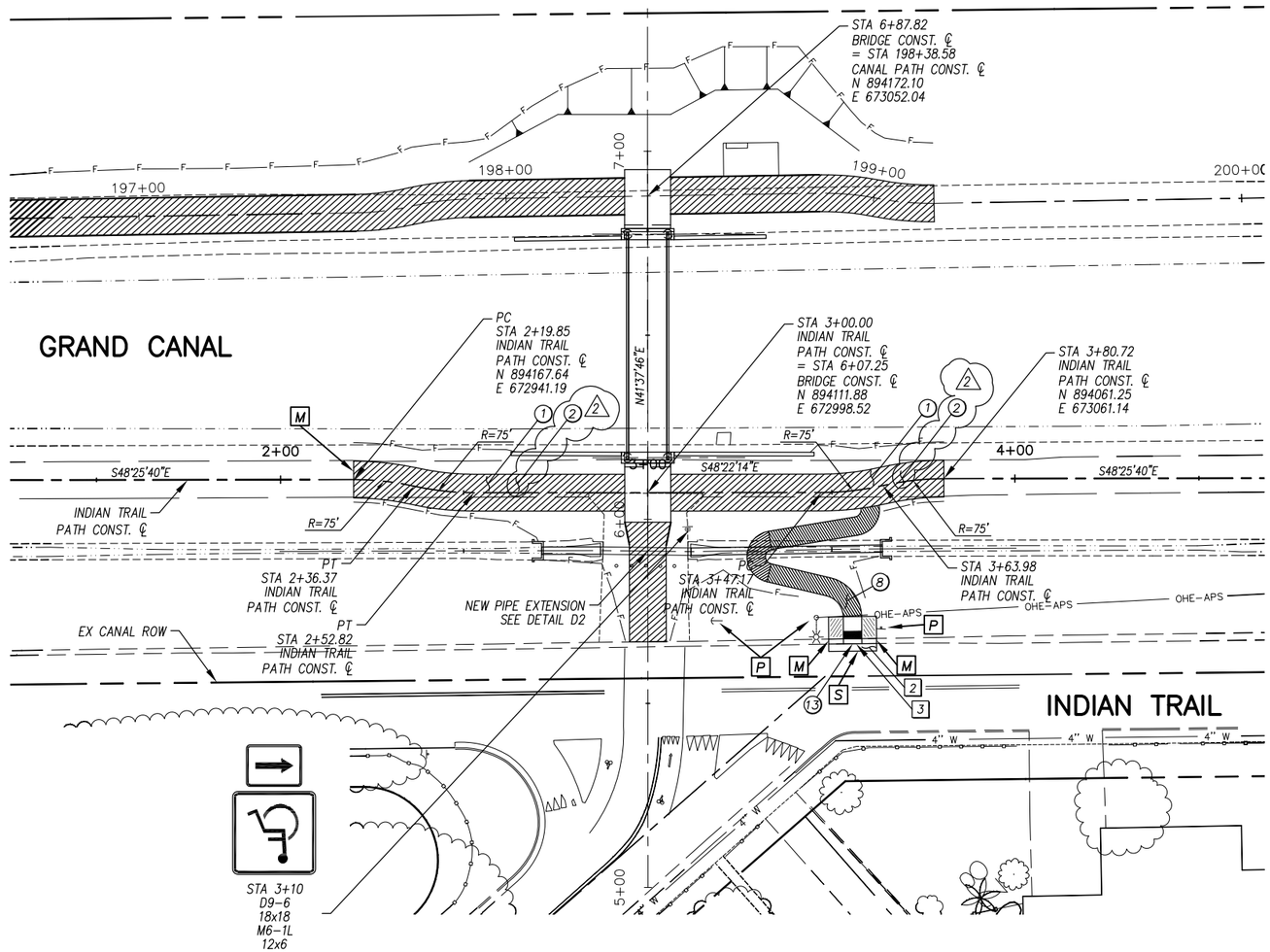
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17		
SCALE: 1"= 20'			2.050	2.182

0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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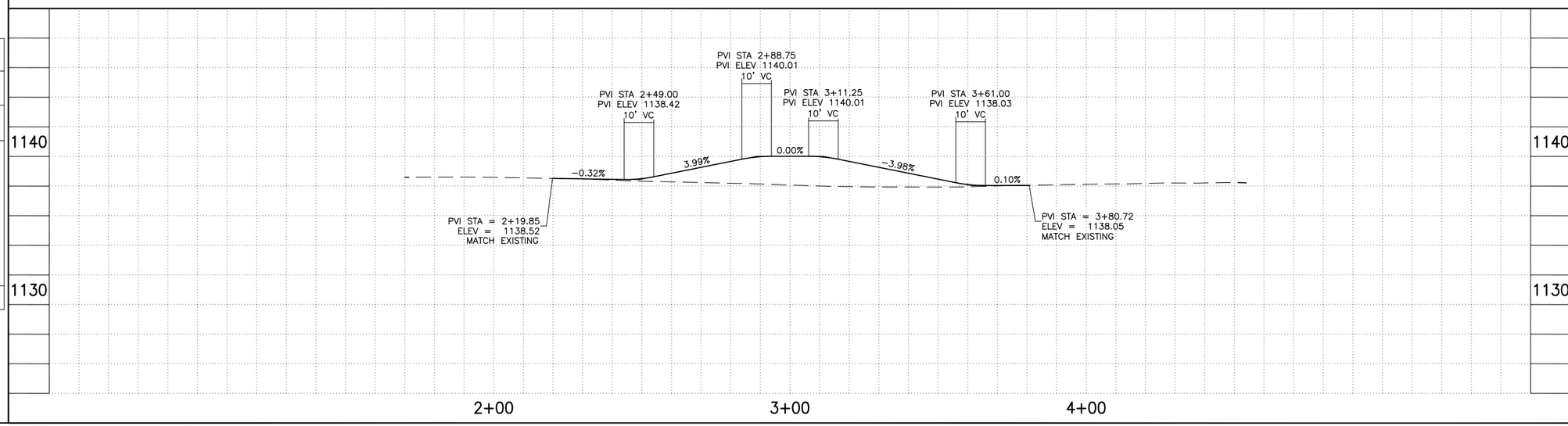

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

City of Phoenix

Registered Professional Engineer (Civil) 13900 R. CRAIG ALLISON Date Signed Special Attention Arizona, U.S.A.

EXPIRES 3-31-20

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.051	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

GENERAL NOTES

- [M] SAWCUT AND MATCH EXISTING
- [P] PROTECT IN PLACE
- [S] SAWCUT 2' AND MATCH EXISTING

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
2	REMOVE ASPHALT CONCRETE	3	S.Y.
3	REMOVE EXISTING ROLL CURB	13	L.F.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	1484	S.F.
2	SUBGRADE PREPARATION. 2	0	S.Y.
3	ASPHALT CONCRETE FOR ARTERIAL STREETS (TYPE C-34, 7" THICK)	3	S.Y.
4	TRUNCATED DOMES PER C.O.P. STD. DET. P1232	10	S.F.
8	CONCRETE S/W PER C.O.P. STD. DET. P1230, 4" THICK, SEE DETAIL P	355	S.F.
13	NEW CURB RAMP, M.A.G. STD. 235-4 SEE DETAIL P	96	S.F.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

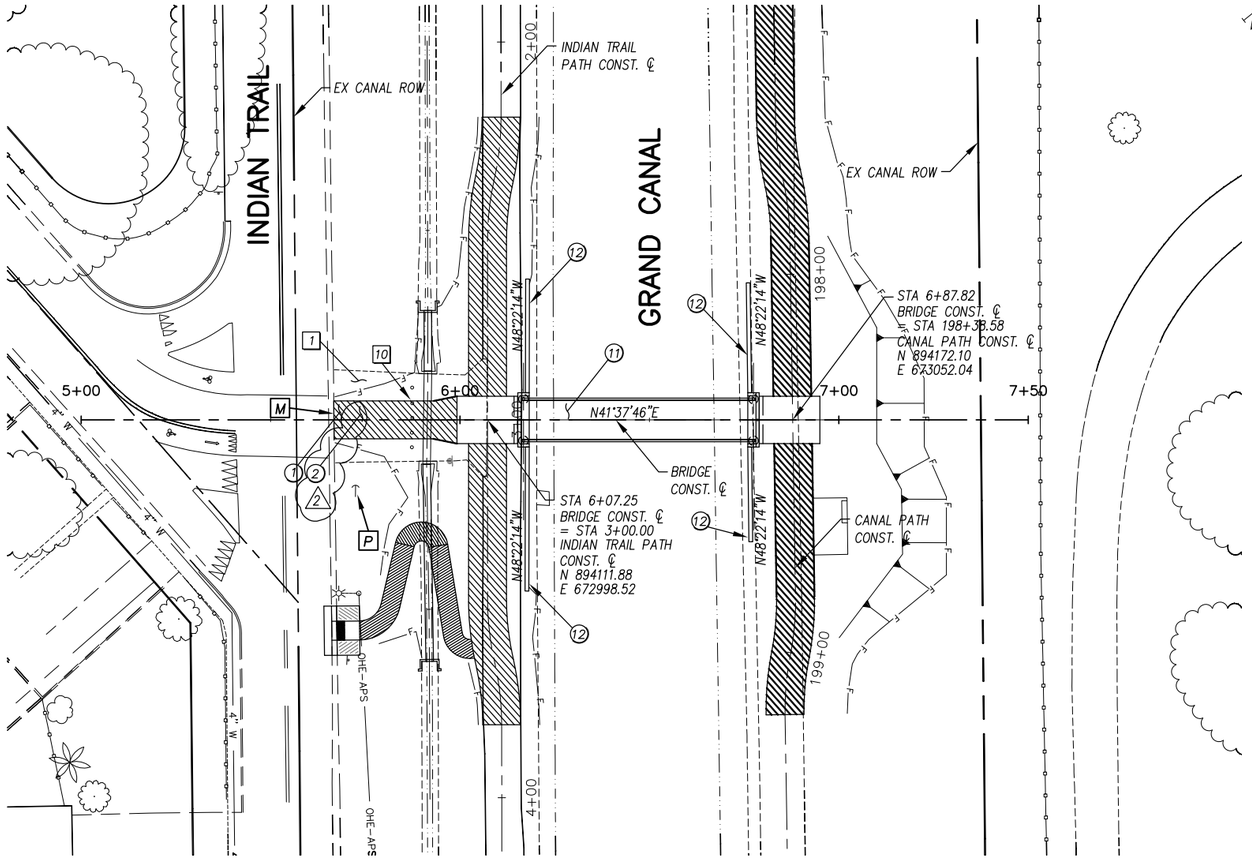
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17	2.051	2.182

SCALE: 1"= 20' 0' 20'

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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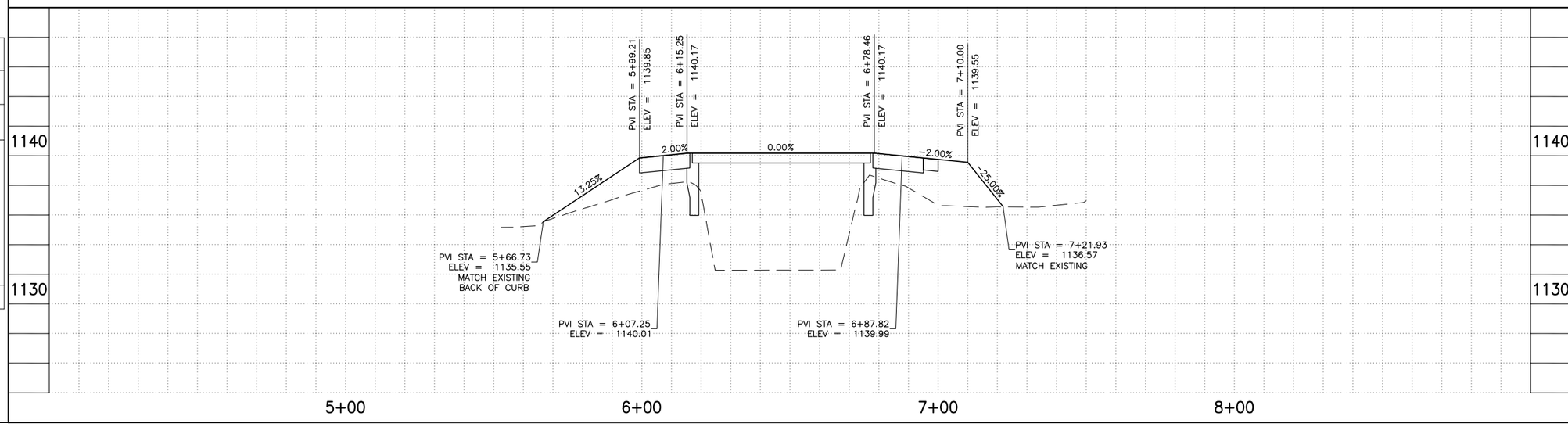

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.052	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 07/17/17

Registered Professional Engineer — 13900 R. CRAIG ALLISON — Date signed special council — ARIZONA, U.S.A.
EXPIRES 3-31-20

GENERAL NOTES

[M] SAWCUT AND MATCH EXISTING

[P] PROTECT IN PLACE

REMOVALS

NO.	DESCRIPTION	QTY	UNIT
1	REMOVE PCC SIDEWALK, STEPS, RAMPS, APRONS, AND DRIVEWAY.	964	S.F.
10	REMOVE EXISTING BARRICADE	5	EA.

CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY.	UNIT
1	CONCRETE S/W, 7" THICK, 10' WIDTH	333	S.F.
2	SUBGRADE PREPARATION. (2)	0	S.Y.
11	NEW BRIDGE, SEE BRIDGE PLANS	1	EA.
12	NEW RETAINING WALL, SEE SHEET 2.099 (3)	122	L.F.

ADJUSTMENT NOTES

NO.	DESCRIPTION	QTY.	UNIT

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PATHWAY PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 07/17	DATE: 07/17	DATE: 07/17		
SCALE: 1"= 20'	0' 20'		2.052	2.182

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
2	Addendum 6			
3	Revise retaining wall note			

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

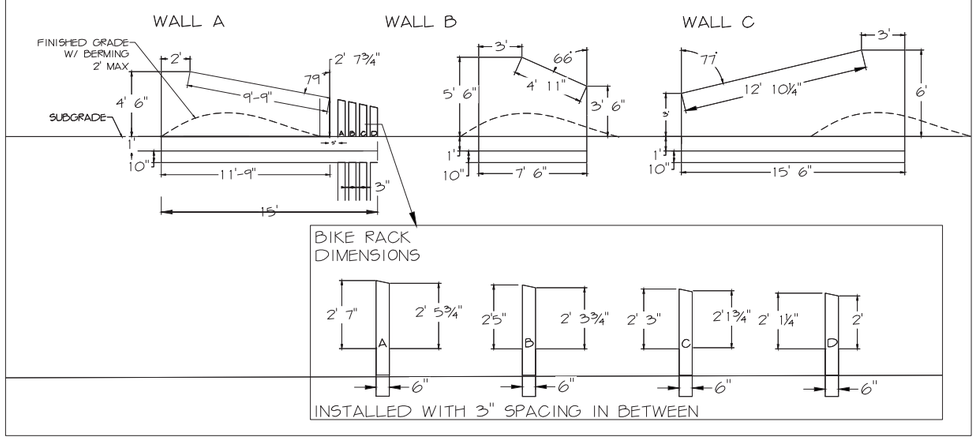
ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, FINAL SUBMITTAL

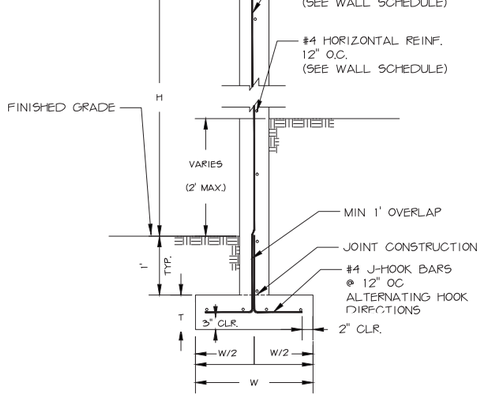
GRAND CANALSCAPE PHASE II

SEGMENT 1

1-17 TO 15TH AVENUE

NODE WALLS



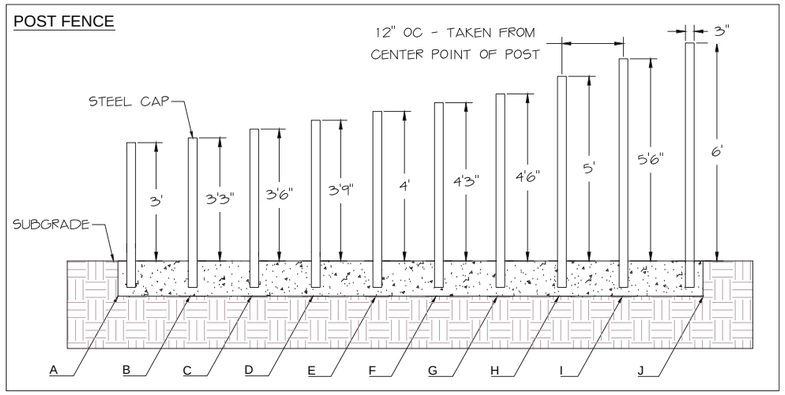


WALL NOTES:
- ALL CONCRETE SHALL BE CLASS 'S' (F' C= 3000 PSI)
- ALL WALL FACES ARE POURED IN PLACE, IN FORMS MADE FROM ORIENTED STRAND PLYWOOD IN 12" HORIZONTAL SECTIONS SO PLYWOOD LEAVES THE RELIEF TEXTURE OF THE BOARD ON THE FACE OF THE CONCRETE WALLS.
- ALL REINFORCING STEEL SHALL HAVE 2 INCH CLEAR COVER UNLESS OTHERWISE NOTED.
- COMPACT BACKFILL FOR FOOTING AND WALL BASE MINIMUM 95% OF ASTM D698 MAXIMUM DRY DENSITY.
- SEE PROJECT PLANS FOR WALL LAYOUT, FINISHED GRADE ELEVATIONS.
- DIMENSIONS SHALL NOT BE SCALED FROM DRAWING.

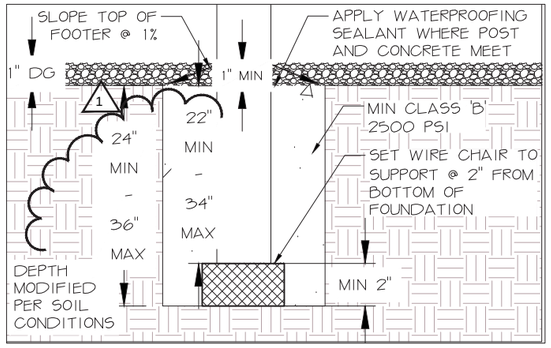
WALL SCHEDULE							
					REBAR REINFORCEMENT		FACTORED AVERAGE SOIL BEARING PRESSURE (PSF)
WALL TYPE	WALL THICK. (D)	WALL HEIGHT* (H)	FTG. DEPTH (T)	FTG. WIDTH (W)	WALL VERT. & HORIZ.	FOOTING BOTTOM LONG.	
A	8"	4'-6"	10"	2'	#4 @ 12"	4-#4	1200
B	8"	5'-6"	10"	2'	#4 @ 12"	4-#4	1200
C	8"	6'	10"	2'-6"	#4 @ 12"	4-#4	1300

* WALL HEIGHT MEASURED FROM FINISHED GRADE EXCLUSIVE OF VARYING MOUND HEIGHTS AROUND WALLS

POST FENCE

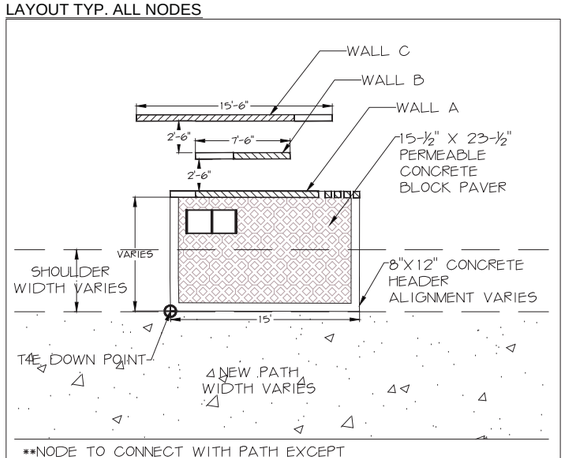


NOTES:
- ALL POSTS ARE 3" GALVANIZED STEEL, LENGTH VARIES: SEE ABOVE
- HEIGHT REPRESENTS POST DIMENSION ABOVE SUBGRADE
- ALL GALVANIZED POSTS TO BE TREATED WITH NATINA PRODUCT PRIOR TO INSTALLATION
- SPACING BETWEEN ALL POSTS IS 12" O.C. AND TO BE SET INTO ONE CONTINUOUS FOOTING FOR EACH LENGTH OF FENCING
- POST FENCES ALL SET IN ONE CONTINUOUS FOOTING FOR EACH RUN.
- EACH POST TO BE CAPPED WITH STEEL DRIVE-ON DISK END CAP FOR 3" PIPE AND SEALED TO PREVENT WATER INFILTRATION.



POST SCHEDULE		
POST TYPE	POST HEIGHT FROM SUBGRADE	QTY
A	3'	11
B	3'-3"	20
C	3'-6"	28
D	3'-9"	33
E	4'	40
F	4'-3"	42
G	4'-6"	37
H	5'	32
I	5'-6"	35
J	6'	19

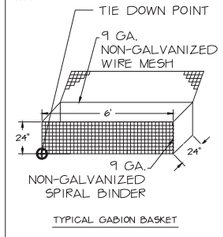
LAYOUT TYP. ALL NODES



**NODE TO CONNECT WITH PATH EXCEPT WHERE THERE IS ADJACENT CONCRETE

GABION BASKET

NTS



TYPICAL GABION BASKET

NOTES:
- ALL GABION BASKETS TO BE FILLED WITH 4"-8" RIVER ROCK, ARRANGED WITH FLAT EDGE OF ROCK FACING OUT OF BASKET.
- PRE-FORMED STIFFENERS SHALL BE USED TO PRODUCE A FLAT, SMOOTH EXTERNAL SURFACE. STIFFENERS SHALL BE INSTALLED PRIOR TO ROCK PLACEMENT.
- WHEN FILLING BASKETS, ROCK SHALL BE PLACED IN THREE 8-INCH LAYERS.
- THE LAST LAYER OF ROCK SHALL SLIGHTLY OVERFILL THE GABIONS SUCH THAT THE LID WILL REST ON ROCK WHEN IT IS CLOSED.

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CHK BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CHK BY	DATE
1.	POST FENCE DETAIL CHANGE	RS	JW	10/17

REGISTERED LANDSCAPE ARCHITECT 24745 JANET L. WAIBEL ARIZONA U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	1.29	1.62

TRACE CONSULTING
1201 E. Jefferson St. Suite 3 Phoenix, AZ 85034

Waibel & Associates Landscape Architecture
Phone: 480.893.3649 Fax 480.893.3846
8611 South Priest Drive, Suite 101
Tempe AZ 85284
e-mail: janet @ waibella.com

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA 811 Call 811 or click Arizona811.com

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY & MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

AMENITY NODE DETAILS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
SEGMENT 1: I-17 TO 15TH AVE
ST87600114

DR: RS	DES: RM	CK: JW	SHEET NO:	TOTAL SHEETS
DATE: 7/17	DATE: 7/17	DATE: 7/17		
SCALE: NTS			1.29	1.62

P:\DRAWINGS_CANAL\Grand Canal Segment 1 and 3\Canal Segment 1\Grand Canal Segment 1 – 6 28 2017.dwg 8/17/2016 12:53 PM

REVISED 10/2/2017

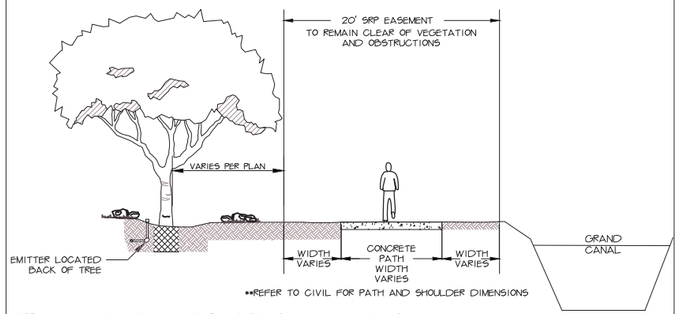
GRAND CANALSCAPE PHASE II

SEGMENT 3

40TH ST TO 56TH ST

VIII. CONCRETE PATH CLEARANCE

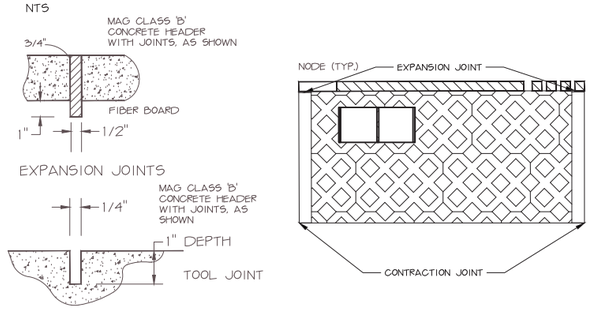
NTS



SRP MAINTENANCE EASEMENT AND PATHS REQUIRE VEGETATION CLEAR TO A HEIGHT OF 10 FEET. MATURE TREE CANOPY CAN NOT BE WITHIN SRP MAINTENANCE EASEMENT.

IX. EXPANSION AND CONTRACTION JOINTS FOR CONCRETE HEADER

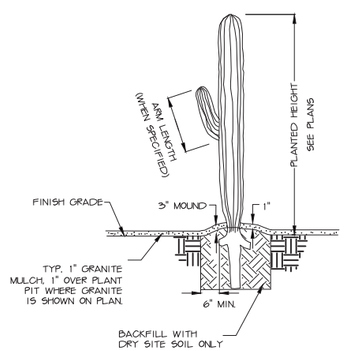
NTS



CONTRACTION JOINTS

X. SAGUARO PLANTING DETAIL

NTS



1. ROOT PRUNE ALL SHREDDED OR DAMAGED ROOTS.
2. ENSURE ALL WOUNDS TO THE ROOT SYSTEM ARE CLEAN CUT BEFORE PLANTING. APPLY DUSTING SULFUR TO ALL AREAS BELOW GRADE.
3. PLANT PIT SHALL BE 6" MIN. WIDER THAN THE EXTENT OF THE SEVERED LATERAL ROOTS.
4. CUT THROUGH TAPROOT TO PROVIDE A FLAT BASE W/DIA. SUFFICIENT TO SUPPORT THE WEIGHT OF THE UNSUPPORTED SAGUARO.
5. BACKFILL PIT W/6" LAYERS OF RODDED, COMPACTED, DRY, SITE SOIL.
6. PLANTING DEPTH SHALL BE THE DEPTH AT WHICH PLANT WAS GROWN OR DEEPER BUT THE TAPERING OF THE ROOT COLLAR MUST BE VISIBLE.
7. ENSURE SURFACE WATER CAN NOT STAND AGAINST THE ROOT COLLAR.
8. ALL SAGUARO PLACEMENT SHALL MATCH ORIGINAL ORIENTATION W/ORIGINAL NORTH SIDE FACING NORTH.
9. SAGUARO ARE SPECIFIED BY HEIGHT - A VARIETY OF HEIGHTS MAY BE ACCEPTABLE PROVIDED THE AVERAGE IS NOT LESS THAN THAT SPECIFIED.
10. DO NOT WATER FOR THREE WEEKS FOLLOWING PLANTING.
11. SAGUAROS GREATER THAN 8' HIGH SHALL BE BRACED FOR STABILITY.

LANDSCAPE NOTES:

1. LANDSCAPE AREAS ARE DEFINED AS ALL NON PAVED AREAS DISTURBED BY CONSTRUCTION. SLIGHT VARIATIONS MAY EXIST BETWEEN ACTUAL SITE CONDITIONS AND DRAWINGS. CONTRACTOR SHALL ADJUST PLANTING LAYOUT AS REQUIRED TO MAINTAIN PLANT QUANTITIES AND DESIGN INTENT. FOR AREAS OVER 100 S.F. CONTACT LANDSCAPE ARCHITECT FOR REVISION TO PLANT LAYOUT.
2. NO PLANT SUBSTITUTIONS, TYPE, SIZE, OR QUANTITY, OR DEVIATIONS FROM THE APPROVED LANDSCAPE OR IRRIGATION PLANS, ARE ALLOWED WITHOUT PRIOR APPROVAL FROM THE CITY OF PHOENIX
3. COORDINATE ALL NECESSARY EXCAVATION AREAS WITH OWNER'S REPRESENTATIVE.
4. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL LANDSCAPE SLEEVING. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR. VERIFY ANY EXISTING SLEEVES INSTALLED BY OTHER CONTRACTORS.
5. IRRIGATION AND ELECTRICAL SLEEVES TO BE Schedule 40 PVC. ALL SLEEVES TO EXTEND 6" BEYOND CONCRETE STRUCTURES. ALLOW AT LEAST 4" – 6" FROM END OF SLEEVES TO FIRST FITTING ON IRRIGATION LINES. ALL SLEEVES TO BE 24" BELOW GRADE AND/OR AS PER PROJECT DETAILS.
6. COMMON SLEEVES MAY BE USED FOR LATERAL LINES AND MAINLINES. CONTRACTOR IS RESPONSIBLE FOR ADEQUATE SIZE SLEEVE SO ALL PIPES MOVE FREELY WITHIN THE SLEEVE. CONTRACTOR TO 'AS BUILT' ALL SLEEVE SIZES AND LOCATIONS.
7. MARK BACK OF CURBS AT SLEEVE LOCATIONS BY NOTCHING THE CONCRETE WITH ½" "V" NOTCH OR VERTICALLY PLACED #4 REBAR AS BUILT.
8. FINISHED GRADE(S) NOTED ON THE LANDSCAPE PLAN TO BE FIELD VERIFIED/APPROVED AND MODIFIED AS PER ARCHITECTURAL CIVIL DRAWINGS.
9. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS NOT SHOWN ON DRAWINGS.
10. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER CARE AND HANDLING OF TREES AND PLANTS FOR DELIVERY AND PLACEMENT IN PLANTING PIT. TREES THAT ARE DROPPED FROM TRUCKS OR DROPPED INTO PITS SHALL BE REJECTED FOR REPLACEMENT BY THE LANDSCAPE CONTRACTOR. IF ROOTBALLS FALL APART DURING THE PLANTING OPERATION THE PLANT SHALL NOT BE PLANTED. NEW PLANT MATERIALS SHALL BE PROVIDED TO REPLACE THOSE THAT ROOTBALLS FALL APART.
11. PLANT CONTAINERS SHALL BE CUT TO REMOVE ROOTBALLS THAT ARE TIGHT IN THE CONTAINER. THE CONTRACTOR SHALL NOT REMOVE THE PLANT FROM THE CONTAINER BY THE TRUNK.
12. THE LANDSCAPE CONTRACTOR SHALL WARRANT THE TREES AND SHRUBS FOR ONE YEAR FROM THE DATE OF FINAL PROJECT ACCEPTANCE, BY THE CITY OR SUBSTANTIAL PROJECT COMPLETION.
13. THE CITY OF PHOENIX GENERAL NOTES ARE THE ONLY NOTES APPROVED ON THIS PLAN. ADDITIONAL GENERAL NOTES GENERATED BY THE SEALANT AND PLACED ON THE PLANS ARE NOT APPROVED AS PART OF THIS PLAN AND ARE NOTED AS SUCH ON THE PLANS.
14. THE DESIGN ON THESE PLANS IS ONLY APPROVED BY THE CITY IN SCOPE AND NOT IN DETAIL. CONSTRUCTION QUANTITIES ON THESE PLANS ARE NOT VERIFIED BY THE CITY. APPROVAL OF THESE PLANS ARE FOR PERMIT PURPOSES ONLY AND SHALL NOT PREVENT THE CITY FROM REQUIRING CORRECTION OF ERRORS IN THE PLANS WHERE SUCH ERRORS ARE SUBSEQUENTLY FOUND TO BE IN VIOLATION OF ANY LAW, ORDINANCE, HEALTH, SAFETY, OR OTHER DESIGN ISSUES.
15. CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL CONFORM TO THE LATEST APPLICABLE MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND DETAILS AND THE LATEST CITY OF PHOENIX SUPPLEMENT TO THE MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS.
16. ALL PLANT MATERIAL AND SPECIFICATIONS SHALL CONFORM TO THE ARIZONA NURSERY ASSOCIATION STANDARDS.
17. ALL RIGHT-OF-WAY AND CITY REQUIRED (PERIMETER, RETENTION, AND PARKING) PLANT MATERIAL SHALL BE IN COMPLIANCE WITH THE DEPARTMENT OF WATER RESOURCES LOW WATER USE PLANT LIST.
18. ALL EXISTING TREES AND SHRUBS IN RIGHT-OF-WAY DESIGNATED TO REMAIN BUT ARE DAMAGED OR DESTROYED WILL BE REPLACED IN LIKE SIZE AND KIND BY THE CONTRACTOR.
19. TREES ADJACENT TO PEDESTRIAN WALKWAYS SHOULD HAVE A MINIMUM CANOPY CLEARANCE OF SIX FEET EIGHT INCHES (6'8") PER SECTION 507 TAB A.II.A.3.1.10 OF THE CITY OF PHOENIX ZONING ORDINANCE.
20. PLANT QUANTITIES AND CALIPER SIZES PROVIDED IN THE LEGEND ON THE APPROVED PLANS ARE REQUIRED TO BE INSTALLED IN THE FIELD, ANY DEVIATIONS FROM THE PLAN WILL REQUIRE A SUBMITTAL OF A PROPOSED SUBSTITUTION FOR COP APPROVAL PRIOR TO INSTALLATION.
21. STAKE OR MARK ALL NODES, IRRIGATION EQUIPMENT, SIGN LOCATIONS AND ELECTRICAL EQUIPMENT FOR COP APPROVAL PRIOR TO CONSTRUCTION.

SONORAN DESERT WILDFLOWER SEED MIX			
WILDFLOWER MIX	COMMON NAME	BOTANICAL NAME	PLS lbs/acre
ANNUALS **all SRP approved	Mexican Poppy	*Eschscholzia californica ssp. mexicana*	2
	Arizona Poppy	*Kallstroemia grandiflora*	2
	Desert Lupine	*Lupinus sparsiflorus*	2
	Arizona Lupine	*Lupinus arizonicus*	2
PERENNIALS **all SRP approved	Paper Flower	*Psilostophe cooperi*	1
	Evening Primrose	*Oenothera caespitosa*	1
	Desert Marigold	*Baileya multiradiata*	1
	Rock Penstemon	*Penstemon baccarifolius*	2
	Coral Penstemon	*Penstemon superbus*	2
	Desert Ageratum	*Ageratum corymbosum*	2
	Daminiata daisy	*Chrysactinia mexicana*	1

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE	QTY.	NOTES
TREES		Existing Tree To Remain			1
		Chilopsis linearis ** DESERT WILLOW - MULTI-TRUNK	5' H x 4' W 1-1.5" CALIPER	18	24" BOX Mature canopy not to be within 20' of canal edge
		Lysiloma thornberi ** FERN OF THE DESERT - MULTI-TRUNK	7' H x 5' H 2" CALIPER	27	24" BOX Not to be placed within 25' of any overhead electric
		Prosopis Hybrid Thornless ** THORNLESS HYBRID MESQUITE MULTI-TRUNK	10' H x 8' W 3" CALIPER	14	36" BOX Not to be placed within 25' of any overhead electric
SHRUBS		Caesalpinia mexicana Hybrid** HYBRID EVERGREEN BIRD	25 Gallon	70	X
		Tecoma stans var. angustata ** ARIZONA YELLOW BELLS	15 Gallon	114	Unstaked
		Encelia farinosa** BRITTLEBUSH	5 Gallon	51	X
		Ambrosia deltoidea** TRIANGLE LEAF BURSAGE	5 Gallon	102	X
		Bouteloua gracilis 'Blonde Ambition'** BLUE GRAMA	5 Gallon	69	X
		Aristida purpurea** PURPLE THREE AWN	5 Gallon	84	X
		Muhlenbergia rigida 'Nashville'** NASHVILLE MUHLY	5 Gallon	158	X
		Stipa tenuissima** MEXICAN THREAD GRASS	5 Gallon	178	X
		Justicia californica CHUPAROSA	5 Gallon	93	X
		Baileya multiradiata ** DESERT MARIGOLD	1 Gallon	236	X
		Sphaeralcea ambigua ** DESERT GLOBEMALLOW	1 Gallon	210	X
		Psilostrophe cooperi** PAPER FLOWER	1 Gallon	146	X
		Penstemon parryi ** PARRY'S PENSTEMON	1 Gallon	208	X
VINE		Macfadyena unguis-cati CAT CLAW VINE	15 Gallon	52	To be staked and Dry H2O to be applied
ACCENTS		Yucca rupicola TWISTED LEAF YUCCA	15 Gallon	98	X
		Fouquieria splendens OCOTILLO	Bareroot -6' Planted 7 Cane Minimum	16	X
		Carnegiea gigantea SAGUARO CACTUS	6' Planted	10	X
SEED MIX		Native Seed Mix (Do Not Treat w/Herbicide) SONORAN WILDFLOWER SEED MIX *The native seed mix will go down as part of a 50/50 Hydroseed/Rock installation per recommended procedures.*		1.75 Acres = 28 Pounds	See Native Seeding Special Provisions
		1/2" Screened Decomposed Granite MOUNTAIN VISTA BROWN		168,102 SF = 516 CY	
		Gabion Basket Tie Down Point for Dimension (Typ)	2' x 2' x 6'	165	

**SRP ROW Compliant Plant Material

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CHK BY	DATE
1.	POST FENCE DETAIL CHANGE	RS	JW	10/17
	POST SCHEDULE QTY REVISION	RS	JW	10/17
	BOX SIZE ADDED TO LEGEND	RS	JW	10/17

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CHK BY	DATE

REGISTERED LANDSCAPE ARCHITECT — 24745 — JANET L. WAIBEL — 7/13/2017 — ARIZONA, U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	3.68	3.99

TRACE CONSULTING
1201 E. Jefferson St, Suite 3
Phoenix, AZ 85034

Waibel & Associates Landscape Architecture
Phone 480.893.3649 Fax 480.893.3646
8611 South Priest Drive, Suite 101
Tempe AZ 85284
e-mail: janet @ waibelsla.com

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811 Call 811 or click Arizona811.com

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY & MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

LANDSCAPE DETAILS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
SEGMENT 3: 40TH ST TO 56TH ST
ST87600114

DR: RS	DES: RM	CK: JW	SHEET NO:	TOTAL SHEETS
DATE: 7/17	DATE: 7/17	DATE: 7/17		
SCALE: NTS			3.68	3.99

REVISED 10/2/2017

P:\DRAWINGS_CANAL\Grand Canal Segment 1 and 3\Canal Segment 3\Grand Canal Segment III - Landscape.dwg 8/17/2016 12:53 PM

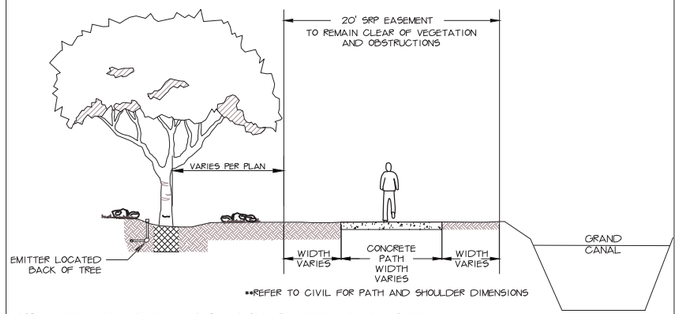
GRAND CANALSCAPE PHASE II

SEGMENT 3

40TH ST TO 56TH ST

VIII. CONCRETE PATH CLEARANCE

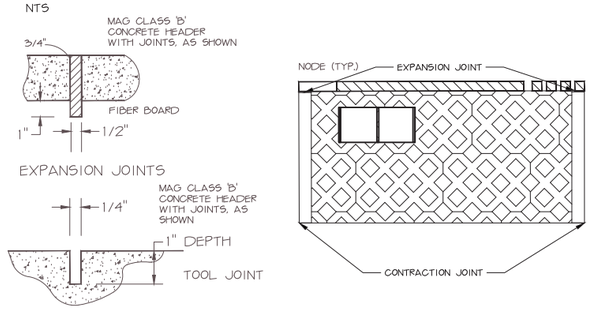
NTS



SRP MAINTENANCE EASEMENT AND PATHS REQUIRE VEGETATION CLEAR TO A HEIGHT OF 10 FEET. MATURE TREE CANOPY CAN NOT BE WITHIN SRP MAINTENANCE EASEMENT.

IX. EXPANSION AND CONTRACTION JOINTS FOR CONCRETE HEADER

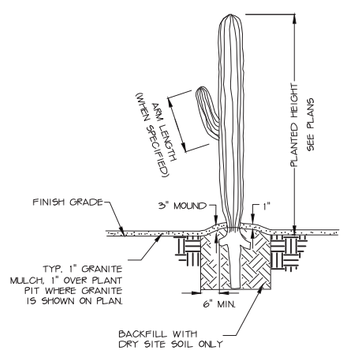
NTS



CONTRACTION JOINTS

X. SAGUARO PLANTING DETAIL

NTS



1. ROOT PRUNE ALL SHREDDED OR DAMAGED ROOTS.
2. ENSURE ALL WOUNDS TO THE ROOT SYSTEM ARE CLEAN CUT BEFORE PLANTING. APPLY DUSTING SULFUR TO ALL AREAS BELOW GRADE.
3. PLANT PIT SHALL BE 6" MIN. WIDER THAN THE EXTENT OF THE SEVERED LATERAL ROOTS.
4. CUT THROUGH TAPROOT TO PROVIDE A FLAT BASE W/DIA. SUFFICIENT TO SUPPORT THE WEIGHT OF THE UNSUPPORTED SAGUARO.
5. BACKFILL PIT W/6" LAYERS OF RODDED, COMPACTED, DRY, SITE SOIL.
6. PLANTING DEPTH SHALL BE THE DEPTH AT WHICH PLANT WAS GROWN OR DEEPER BUT THE TAPERING OF THE ROOT COLLAR MUST BE VISIBLE.
7. ENSURE SURFACE WATER CAN NOT STAND AGAINST THE ROOT COLLAR.
8. ALL SAGUARO PLACEMENT SHALL MATCH ORIGINAL ORIENTATION W/ORIGINAL NORTH SIDE FACING NORTH.
9. SAGUARO ARE SPECIFIED BY HEIGHT - A VARIETY OF HEIGHTS MAY BE ACCEPTABLE PROVIDED THE AVERAGE IS NOT LESS THAN THAT SPECIFIED.
10. DO NOT WATER FOR THREE WEEKS FOLLOWING PLANTING.
11. SAGUAROS GREATER THAN 8' HIGH SHALL BE BRACED FOR STABILITY.

LANDSCAPE NOTES:

1. LANDSCAPE AREAS ARE DEFINED AS ALL NON PAVED AREAS DISTURBED BY CONSTRUCTION. SLIGHT VARIATIONS MAY EXIST BETWEEN ACTUAL SITE CONDITIONS AND DRAWINGS. CONTRACTOR SHALL ADJUST PLANTING LAYOUT AS REQUIRED TO MAINTAIN PLANT QUANTITIES AND DESIGN INTENT. FOR AREAS OVER 100 S.F. CONTACT LANDSCAPE ARCHITECT FOR REVISION TO PLANT LAYOUT.
2. NO PLANT SUBSTITUTIONS, TYPE, SIZE, OR QUANTITY, OR DEVIATIONS FROM THE APPROVED LANDSCAPE OR IRRIGATION PLANS, ARE ALLOWED WITHOUT PRIOR APPROVAL FROM THE CITY OF PHOENIX
3. COORDINATE ALL NECESSARY EXCAVATION AREAS WITH OWNER'S REPRESENTATIVE.
4. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL LANDSCAPE SLEEVING. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR. VERIFY ANY EXISTING SLEEVES INSTALLED BY OTHER CONTRACTORS.
5. IRRIGATION AND ELECTRICAL SLEEVES TO BE Schedule 40 PVC. ALL SLEEVES TO EXTEND 6" BEYOND CONCRETE STRUCTURES. ALLOW AT LEAST 4" – 6" FROM END OF SLEEVES TO FIRST FITTING ON IRRIGATION LINES. ALL SLEEVES TO BE 24" BELOW GRADE AND/OR AS PER PROJECT DETAILS.
6. COMMON SLEEVES MAY BE USED FOR LATERAL LINES AND MAINLINES. CONTRACTOR IS RESPONSIBLE FOR ADEQUATE SIZE SLEEVE SO ALL PIPES MOVE FREELY WITHIN THE SLEEVE. CONTRACTOR TO 'AS BUILT' ALL SLEEVE SIZES AND LOCATIONS.
7. MARK BACK OF CURBS AT SLEEVE LOCATIONS BY NOTCHING THE CONCRETE WITH ½" "V" NOTCH OR VERTICALLY PLACED #4 REBAR AS BUILT.
8. FINISHED GRADE(S) NOTED ON THE LANDSCAPE PLAN TO BE FIELD VERIFIED/APPROVED AND MODIFIED AS PER ARCHITECTURAL CIVIL DRAWINGS.
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16. ALL PLANT MATERIAL AND SPECIFICATIONS SHALL CONFORM TO THE ARIZONA NURSERY ASSOCIATION STANDARDS.
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21. STAKE OR MARK ALL NODES, IRRIGATION EQUIPMENT, SIGN LOCATIONS AND ELECTRICAL EQUIPMENT FOR COP APPROVAL PRIOR TO CONSTRUCTION.

SONORAN DESERT WILDFLOWER SEED MIX			
WILDFLOWER MIX	COMMON NAME	BOTANICAL NAME	PLS lbs/acre
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	Arizona Lupine	*Lupinus arizonicus*	2
PERENNIALS **all SRP approved	Paper Flower	*Psilostophe cooperi*	1
	Evening Primrose	*Oenothera caespitosa*	1
	Desert Marigold	*Baileya multiradiata*	1
	Rock Penstemon	*Penstemon baccarifolius*	2
	Coral Penstemon	*Penstemon superbus*	2
	Desert Ageratum	*Ageratum corymbosum*	2
	Daminiata daisy	*Chrysactinia mexicana*	1

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE	QTY.	NOTES
TREES		Existing Tree To Remain			1
		Chilopsis linearis ** DESERT WILLOW - MULTI-TRUNK	5' H x 4' W 1-1.5" CALIPER	18	24" BOX Mature canopy not to be within 20' of canal edge
		Lysiloma thornberi ** FERN OF THE DESERT - MULTI-TRUNK	7' H x 5' H 2" CALIPER	27	24" BOX Not to be placed within 25' of any overhead electric
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VINE		Macfadyena unguis-cati CAT CLAW VINE	15 Gallon	52	To be staked and Dry H2O to be applied
ACCENTS		Yucca rupicola TWISTED LEAF YUCCA	15 Gallon	98	X
		Fouquieria splendens OCOTILLO	Bareroot -6' Planted 7 Cane Minimum	16	X
		Carnegiea gigantea SAGUARO CACTUS	6' Planted	10	X
SEED MIX		Native Seed Mix (Do Not Treat w/Herbicide) SONORAN WILDFLOWER SEED MIX *The native seed mix will go down as part of a 50/50 Hydroseed/Rock installation per recommended procedures.*		1.75 Acres = 28 Pounds	See Native Seeding Special Provisions
		1/2" Screened Decomposed Granite MOUNTAIN VISTA BROWN		168,102 SF = 516 CY	
		Gabion Basket Tie Down Point for Dimension (Typ)	2' x 2' x 6'	165	

**SRP ROW Compliant Plant Material

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CHK BY	DATE
1.	POST FENCE DETAIL CHANGE	RS	JW	10/17
	POST SCHEDULE QTY REVISION	RS	JW	10/17
	BOX SIZE ADDED TO LEGEND	RS	JW	10/17

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CHK BY	DATE

REGISTERED LANDSCAPE ARCHITECT — 24745 — JANET L. WAIBEL — 7/13/2017 — ARIZONA, U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	3.68	3.99

TRACE CONSULTING
1201 E. Jefferson St, Suite 3
Phoenix, AZ 85034

Waibel & Associates Landscape Architecture
Phone 480.893.3649 Fax 480.893.3846
8611 South Priest Drive, Suite 101
Tempe AZ 85284
e-mail: janet @ waibel-la.com

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811 Call 811 or click Arizona811.com

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY & MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

LANDSCAPE DETAILS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
SEGMENT 3: 40TH ST TO 56TH ST
ST87600114

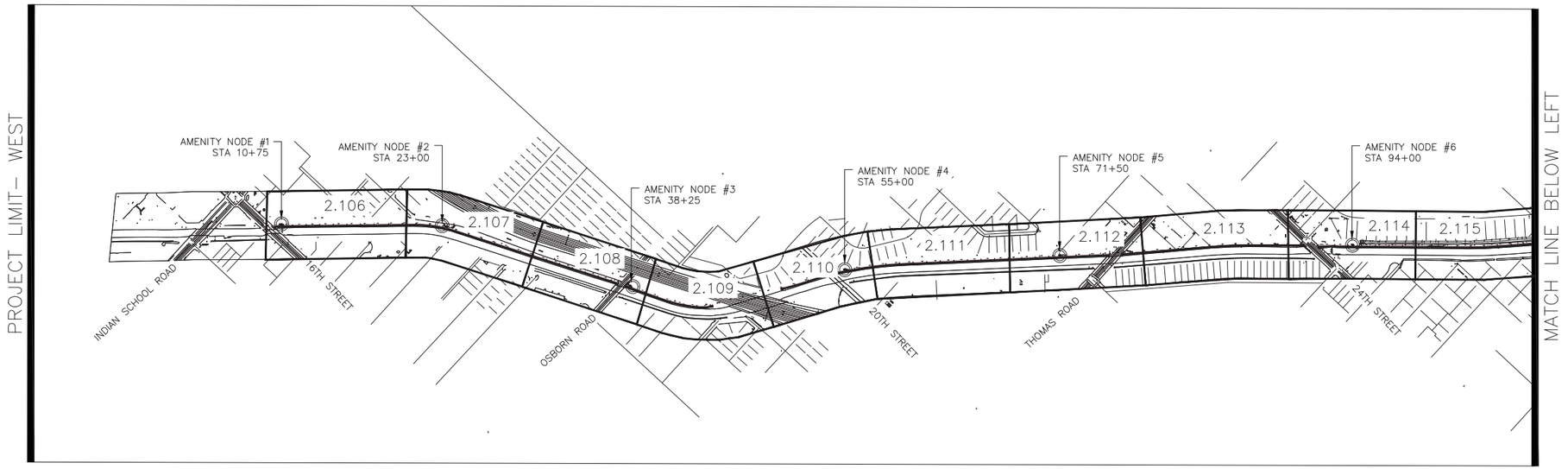
DR: RS	DES: RM	CK: JW	SHEET NO:	TOTAL SHEETS
DATE: 7/17	DATE: 7/17	DATE: 7/17		
SCALE: NTS			3.68	3.99

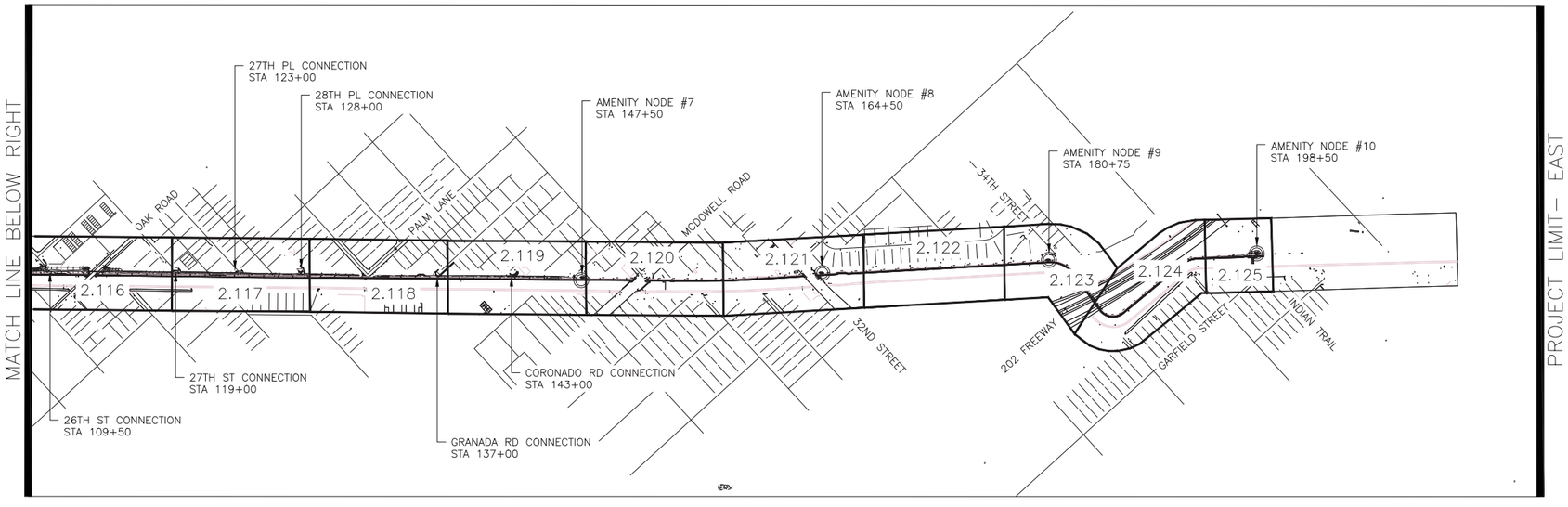
REVISED 10/2/2017

P:\DRAWINGS_CANAL\Grand Canal Segment 1 and 3\Canal Segment 3\Grand Canal Segment III - Landscape.dwg 8/17/2016 12:53 PM

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





GRAPHIC SCALE IN FEET
0 250 500 1000

City of Phoenix
N

Note: Amenity node details on sheet 2.101

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.100	2.182

ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
7/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

Waibel & Associates Landscape Architecture
master planning · gardens & consulting · urban design
Phone 480.893.3849 Fax 480.893.3846
8611 South Priest Drive, Suite 101
Tempe AZ 85284
e-mail: janct @ waibel-la.com

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

AMENITY NODE AND NEIGHBORHOOD CONNECTION OVERVIEW

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.100	2.182
SCALE				

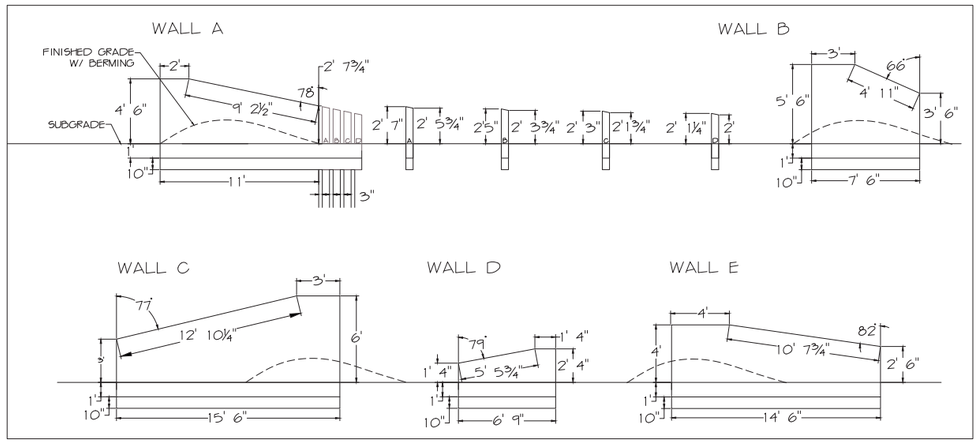
ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

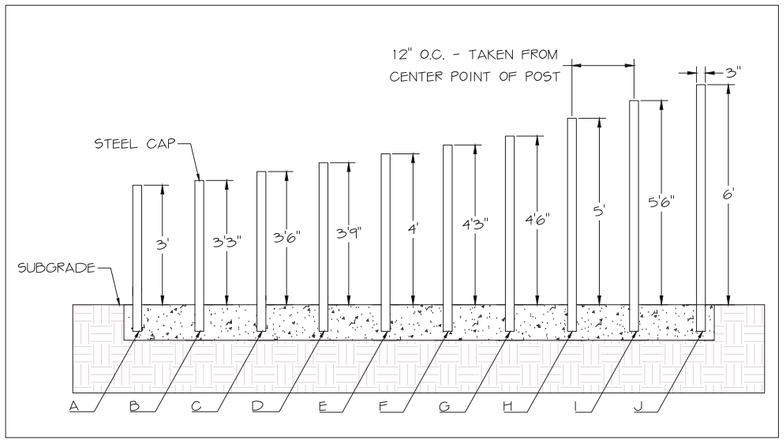
REVISION BY CITY OF PHOENIX

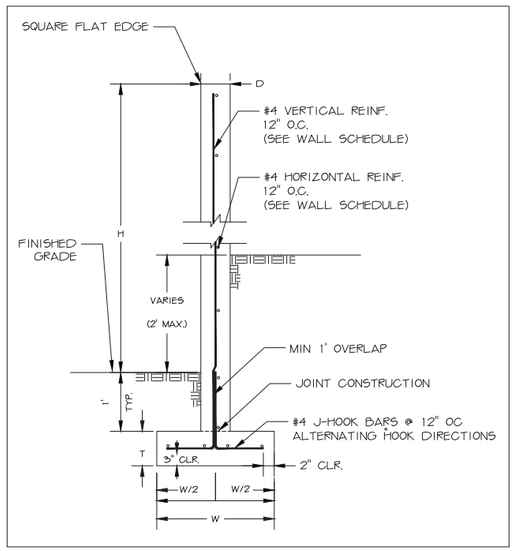
NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET







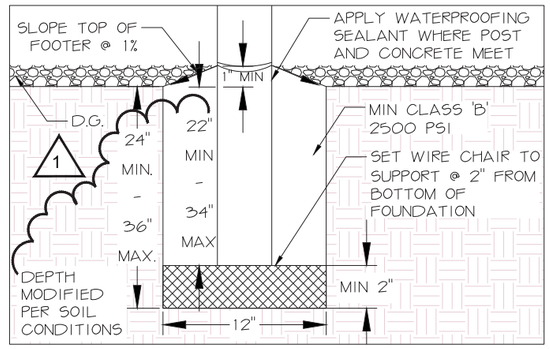
WALL NOTES:
- ALL CONCRETE SHALL BE CLASS 'S' (F' C= 3000 PSI)
- ALL WALL FACES ARE POURED IN PLACE, IN FORMS MADE FROM ORIENTED STRAND PLYWOOD IN 12" HORIZONTAL SECTIONS SO PLYWOOD LEAVES THE RELIEF TEXTURE OF THE BOARD ON THE FACE OF THE CONCRETE WALLS.
- ALL REINFORCING STEEL SHALL HAVE 2 INCH CLEAR COVER UNLESS OTHERWISE NOTED.
- COMPACT BACKFILL FOR FOOTING AND WALL BASE MINIMUM 95% OF ASTM D698 MAXIMUM DRY DENSITY.
- SEE PROJECT PLANS FOR WALL LAYOUT, FINISHED GRADE ELEVATIONS.
- DIMENSIONS SHALL NOT BE SCALED FROM DRAWING.

WALL SCHEDULE								
					REBAR REINFORCEMENT			FACTORED AVERAGE SOIL BEARING PRESSURE (PSF)
WALL TYPE	WALL THICK. (D)	WALL HEIGHT• (H)	FTG. DEPTH (T)	FTG. WIDTH (W)	WALL VERT.	FOOTING BOTTOM TRANS.	FOOTING BOTTOM LONG.	
A	8"	4'-6"	10"	2'	#4 @ 12"	#4 @ 12"	2-#4	1200
B	8"	5'-6"	10"	2'	#4 @ 12"	#4 @ 12"	2-#4	1200
C	8"	6'	10"	2'-6"	#4 @ 12"	#4 @ 12"	4-#4	1300
D	8"	2'-4"	10"	1'-6"	#4 @ 12"	#4 @ 12"	2-#4	1000
E	8"	4'	10"	2'	#4 @ 12"	#4 @ 12"	2-#4	1200

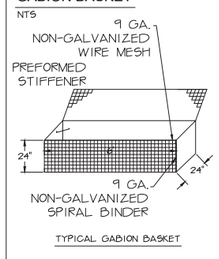
• WALL HEIGHT MEASURED FROM FINISHED GRADE EXCLUSIVE OF VARYING MOUND HEIGHTS AROUND WALLS

POST SCHEDULE		
POST TYPE	POST HEIGHT FROM SUBGRADE	QTY
A	3'	19
B	3'-3"	39
C	3'-6"	42
D	3'-9"	52
E	4'	57
F	4'-3"	63
G	4'-6"	51
H	5'	40
I	5'-6"	42
J	6'	23

NOTES:
- ALL POSTS ARE 3" GALVANIZED STEEL, LENGTH VARIES: SEE ABOVE
- HEIGHT REPRESENTS POST DIMENSION ABOVE SUBGRADE
- ALL GALVANIZED POSTS TO BE TREATED WITH GALVANIZED STEEL COLORANT OR APPROVED EQUAL PRIOR TO INSTALLATION.
- SPACING BETWEEN ALL POSTS IS 12" O.C. TAKEN FROM CENTER POINT OF POST) AND TO BE SET INTO ONE CONTINUOUS FOOTING FOR EACH LENGTH OF FENCING
- POST FENCES ALL SET IN ONE CONTINUOUS FOOTING FOR EACH RUN.
- POSTS TO BE SET PLUMB & TEMPORARILY SUPPORTED UNTIL CONCRETE FOOTING IS SET.

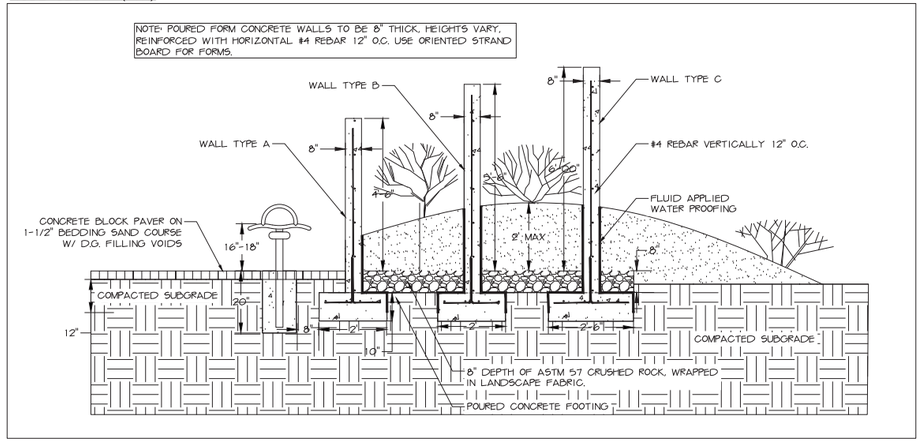


GABION BASKET

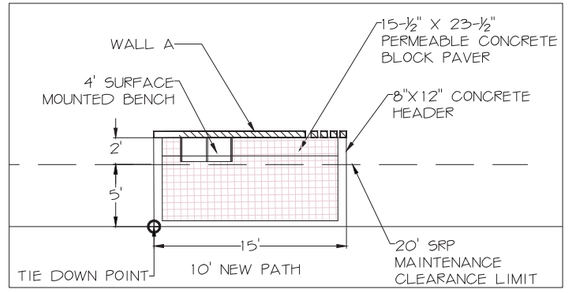


NOTES:
- ALL GABION BASKETS TO BE FILLED WITH 4"-8" RIVER ROCK, ARRANGED WITH FLAT EDGE OF ROCK FACING OUT OF BASKET, FIT ROCKS TIGHTLY TOGETHER.
- PRE-FORMED STIFFENERS SHALL BE USED TO PRODUCE A FLAT, SMOOTH EXTERNAL SURFACE. STIFFENERS SHALL BE INSTALLED PRIOR TO ROCK PLACEMENT.
- WHEN FILLING BASKETS, ROCK SHALL BE PLACED IN THREE 8-INCH LAYERS.
- THE LAST LAYER OF ROCK SHALL SLIGHTLY OVERFILL THE GABIONS SUCH THAT THE LID WILL REST ON ROCK WHEN IT IS CLOSED.

NODE SECTION (TYP)



ALL NODES (EXCEPT NODE 2, SEE SHEET 2.102 FOR DETAILED DIM. (TYP.):



REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT 24745 JANET L. WAIBEL 9/17/2017 ARIZONA, U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.101	2.182

ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

Waibel & Associates Landscape Architecture
master planning | gardens & consulting | urban design
Phone 480.893.3849 Fax 480.893.3846
8611 South Priest Drive, Suite 101
Tempe AZ 85284
e-mail: janet @ waibel-la.com

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

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AMENITY NODE DETAILS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.101	2.182

REVISED 10/2/2017

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

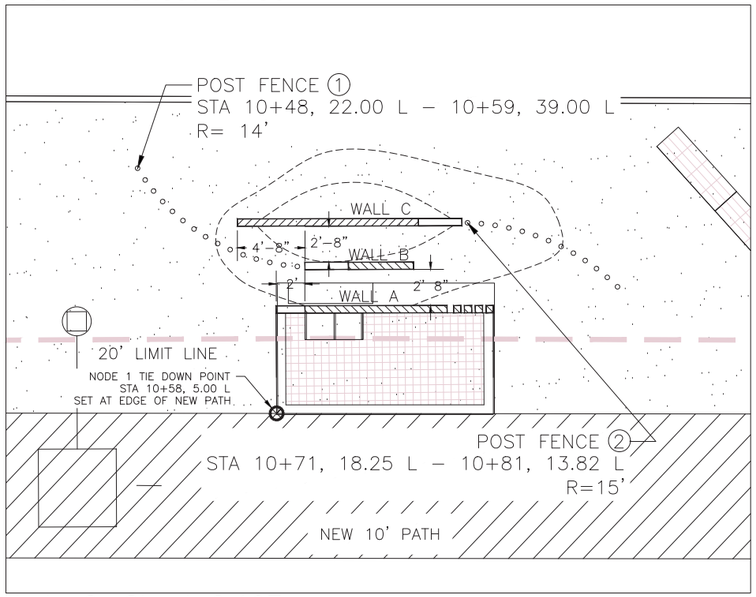
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

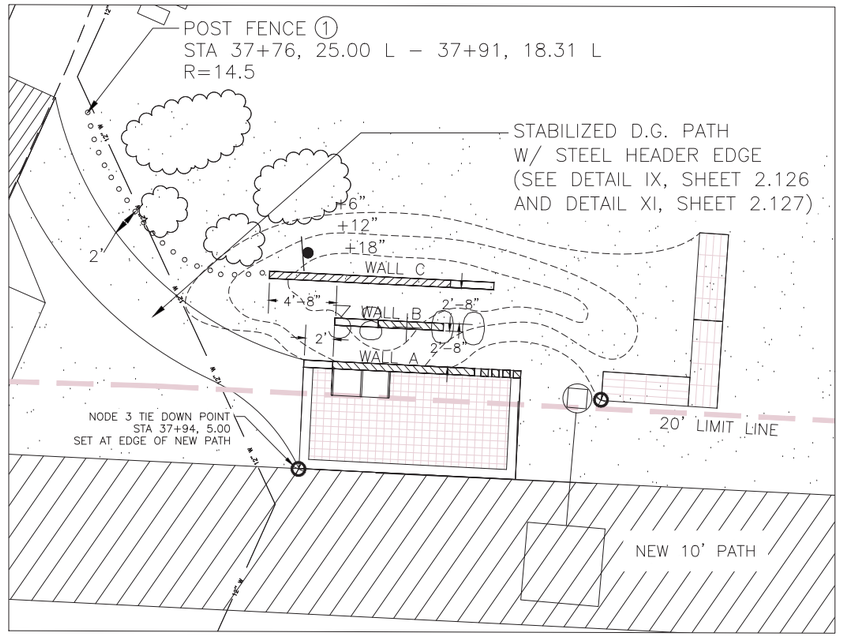
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

Node 1: Sheet 2.106

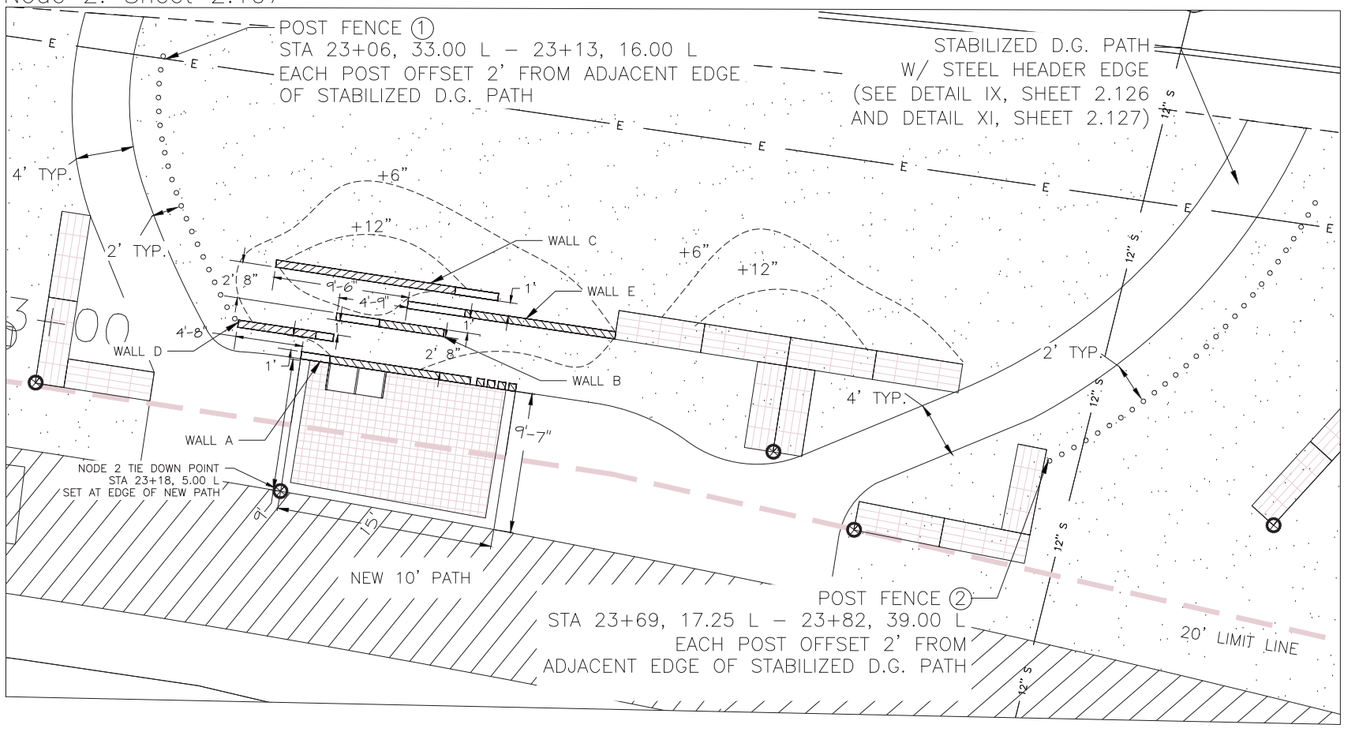


Node 3: Sheet 2.108



GRAPHIC SCALE IN FEET
0 5 10

Node 2: Sheet 2.107



Post Fence Schedule: See Sheet 2.101 for Post Sizes

NODE 1 POST FENCES

① B A B C D E F G H I J I H G

② J I H G F G F E D E D C B

NODE 2 POST FENCES

① G H I J I H I J I H G F E D C B A B C D E

② A B C C D E F G H I I J J I H H I J I I H G F E D C B

NODE 3 POST FENCE

① E F G H I J I H G F E D C B A B C D E F

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.102	2.182

ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

Notes
1. Nodes are outside pole and wire setup.
2. Contractor to provide clean fill for berming and complete all fine grading to transition to existing grades.
3. Refer to Landscape Plans for tree and shrub types.
4. Provide submittals and samples for all materials.
5. Refer to civil and electrical plans.
6. Coordinate all sleeves, electrical work and concrete pours to ensure inclusion of all elements and prevent conflicts.
7. All tie down points are dimensioned from the center line of the new concrete path.

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AMENITY NODES

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

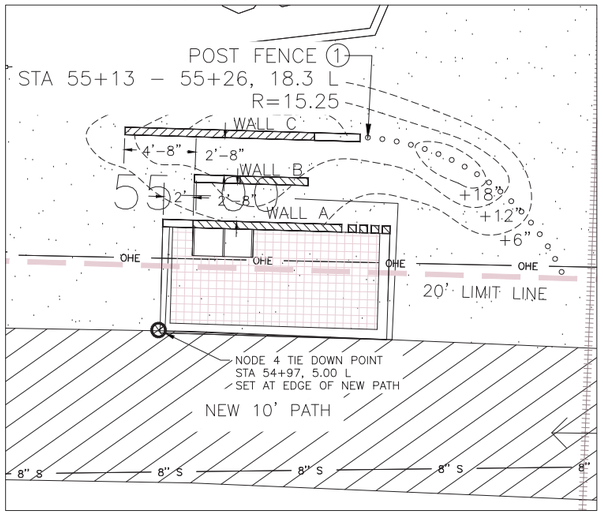
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.102	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

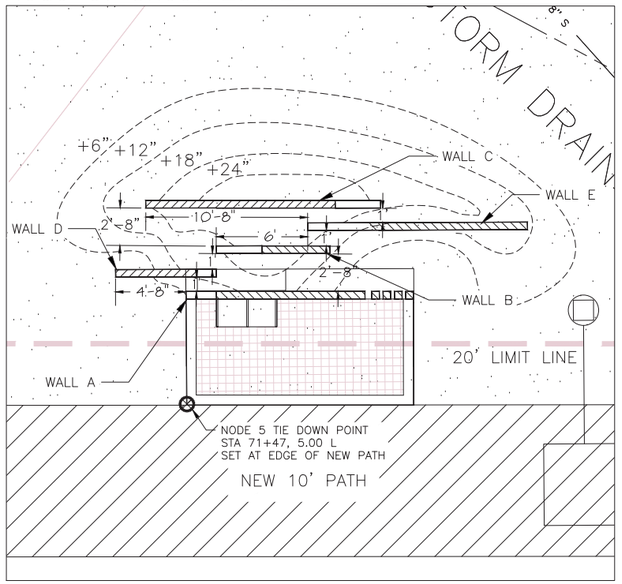
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

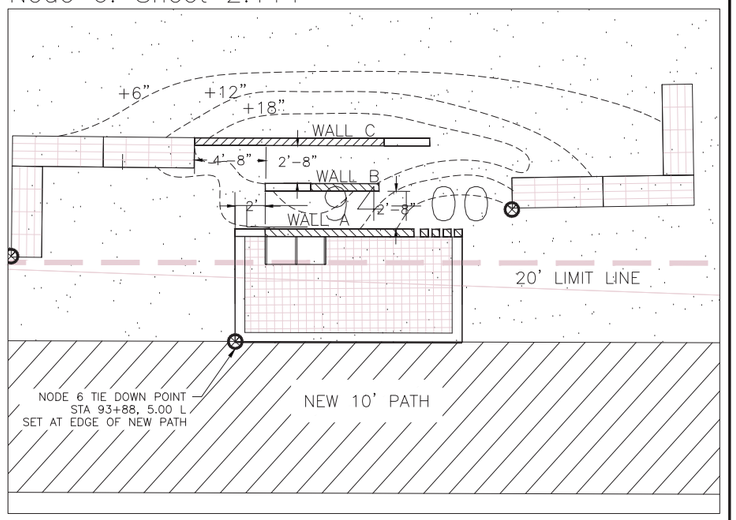
Node 4: Sheet 2.110



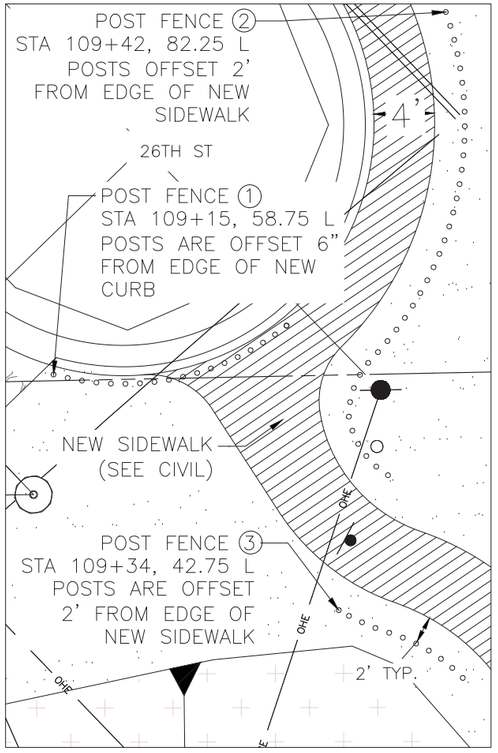
Node 5: Sheet 2.112



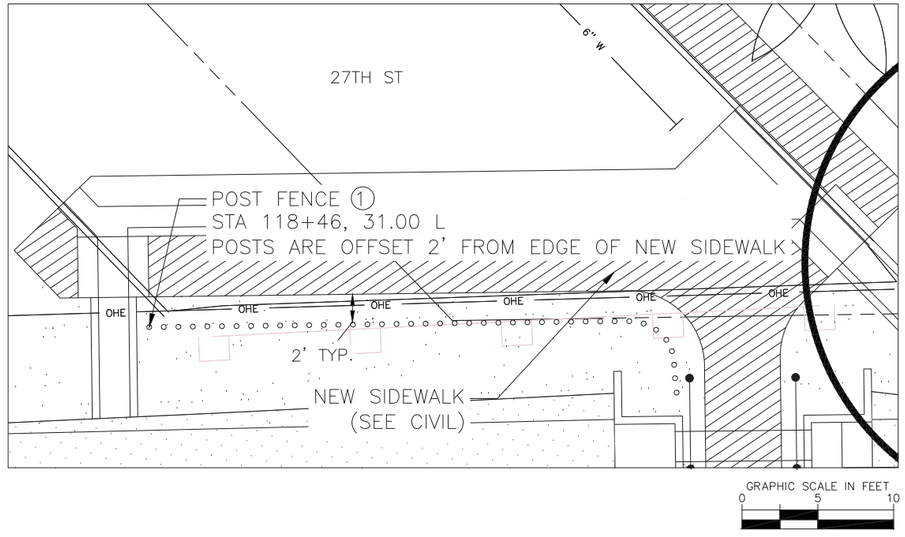
Node 6: Sheet 2.114



26th Street Neighborhood Connection: Sheet 2.116



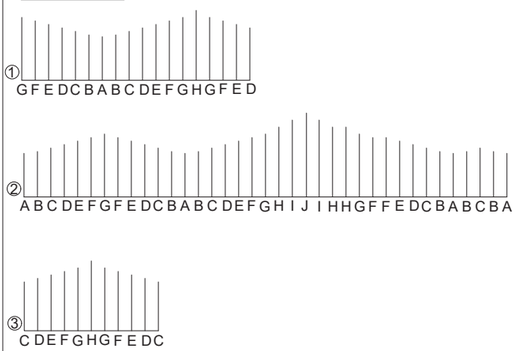
27th Street Neighborhood Connection: Sheet 2.117



Post Fence Schedule: See Sheet 2.101 for Post Sizes

NODE 4 POST FENCE

26TH ST CONNECTION
POST FENCES



27TH ST CONNECTION
POST FENCE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
9/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.103	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

Notes

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AMENITY NODES

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

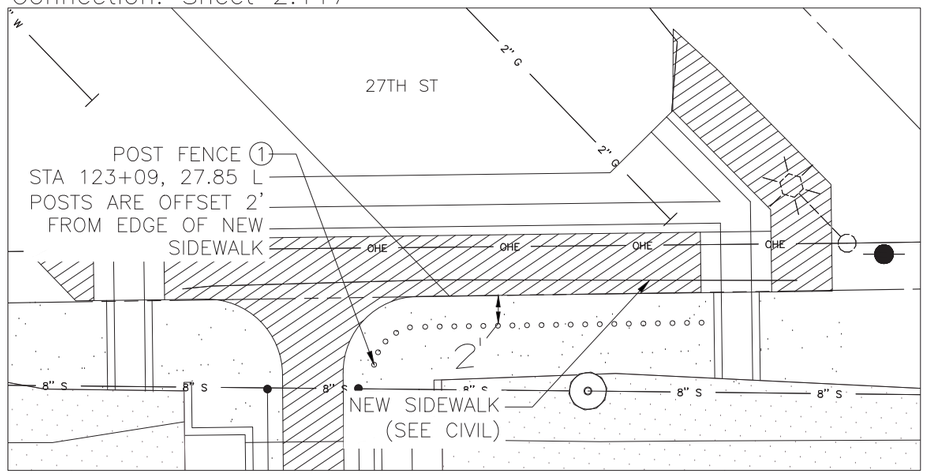
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.103	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

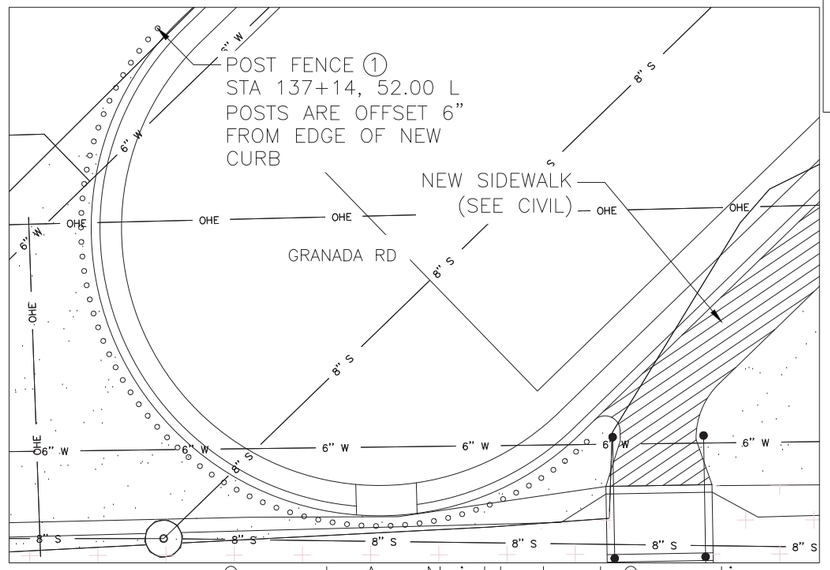
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

27th Place Neighborhood Connection: Sheet 2.117



Granada Ave Neighborhood Connection: Sheet 2.118



Post Fence Schedule: See Sheet 2.101 for Post Schedule

27TH PL CONNECTION POST FENCE

① D E F F G H H I J I H G F E D C B A B C D E F G F

28TH ST CONNECTION POST FENCE

① G F E D C B A B C D E F E D C B B C D E F E D C B A B C D E F G H I

② I H G F F E D C D E E F G H H I J I H G F G F E D D B C D D

③ I J I H G F E D C B

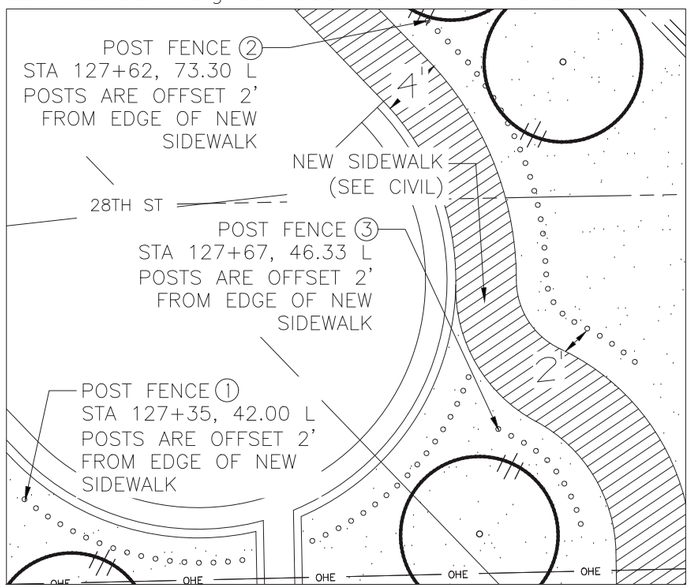
GRANADA RD POST FENCE

① A B C D E F G H I J J I I H G F F E D C C D E F E F G H I J J I H G F F E D E F G H I J J I H G G F E D C D E E F G G F E D C B A

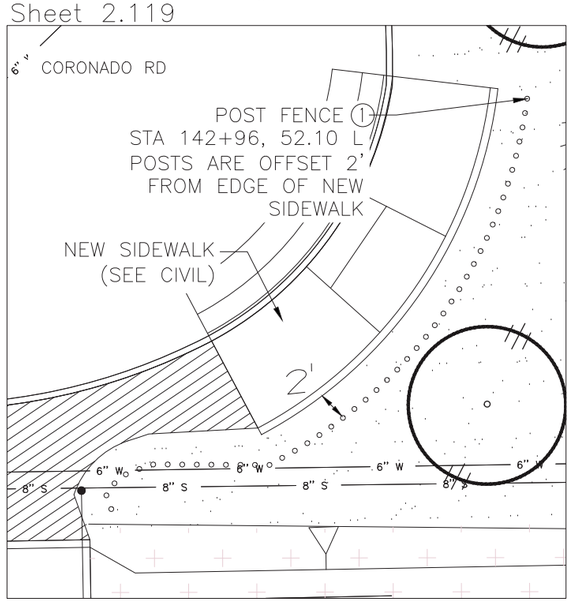
CORONADO RD POST FENCE

① G G H I J I H G F E D E F F G H I J J I H G F E F E D C C D E F F G H I I J J I H G F E D C

28th Street Neighborhood Connection: Sheet 2.117



Coronado Ave Neighborhood Connection: Sheet 2.119



GRAPHIC SCALE IN FEET
0 5 10

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.104	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

Notes
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REVISION BY CITY OF PHOENIX

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AMENITY NODES

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

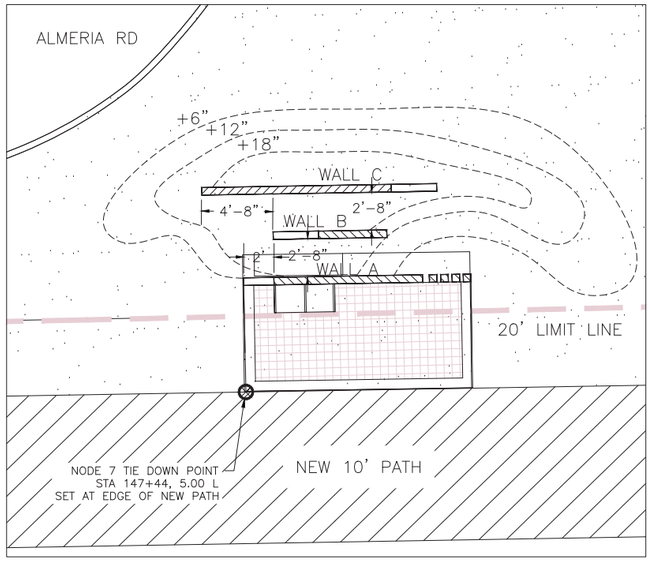
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.104	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

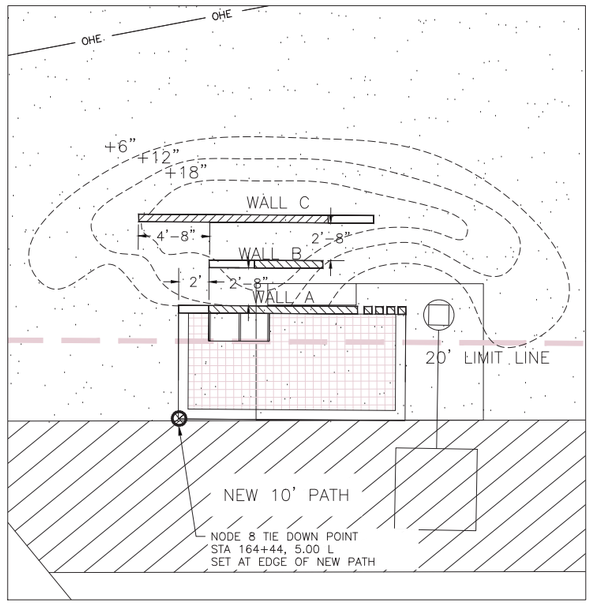
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

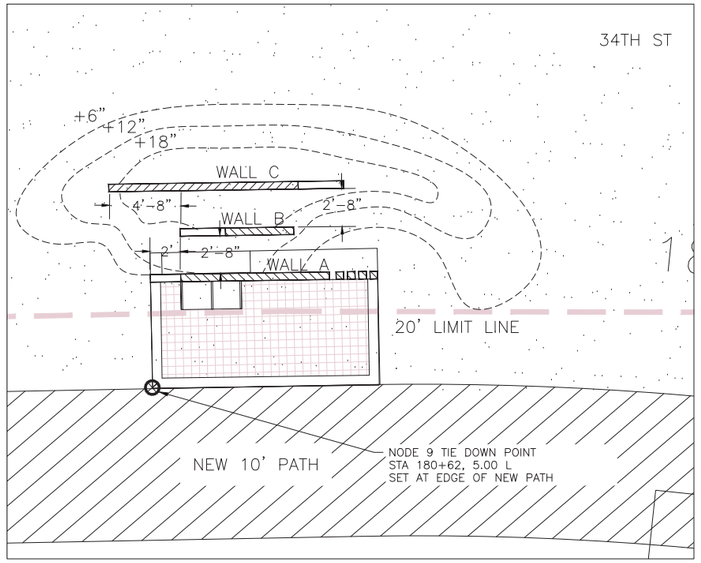
Note 7: Sheet 2.119



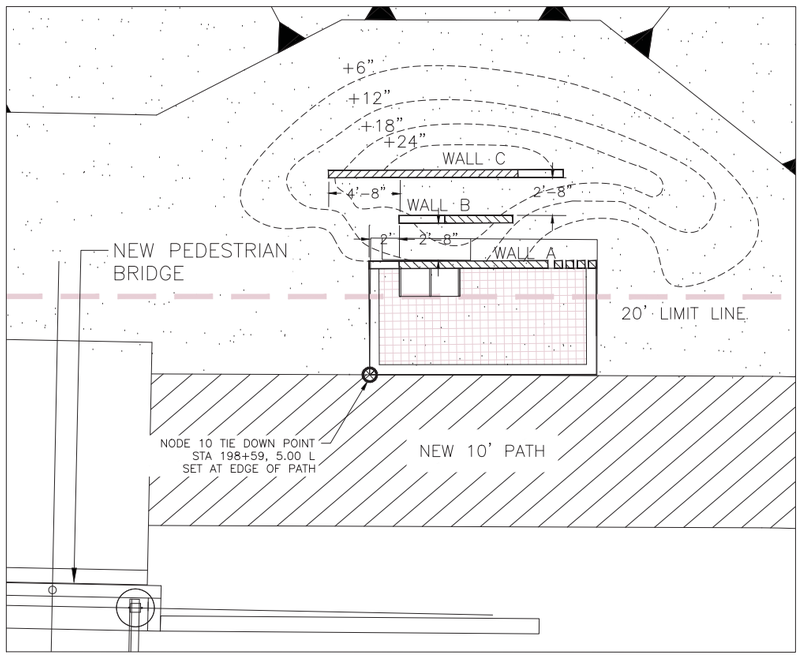
Node 8: Sheet 2.121



Node 9: Sheet 2.123



Node 10: Sheet 2.125



GRAPHIC SCALE IN FEET
0 5 10

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

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REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
7/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.105	2.182

eac ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

Notes

1. Nodes are outside pole and wire setup.
2. Contractor to provide clean fill for berming and complete all fine grading to transition to existing grades.
3. Refer to Landscape Plans for tree and shrub types.
4. Provide submittals and samples for all materials.
5. Refer to civil and electrical plans.
6. Coordinate all sleeves, electrical work and concrete pours to ensure inclusion of all elements and prevent conflicts.
7. All tie down points are dimensioned from the center line of the new concrete path.

Waibel & Associates
Landscape Architecture
master planning · gardens & consulting · urban design

Phone 480.893.3849 Fax 480.893.3846
8611 South Priest Drive, Suite 101
Tempe AZ 85284
e-mail: janet @ waibel-la.com

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

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AMENITY NODES

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

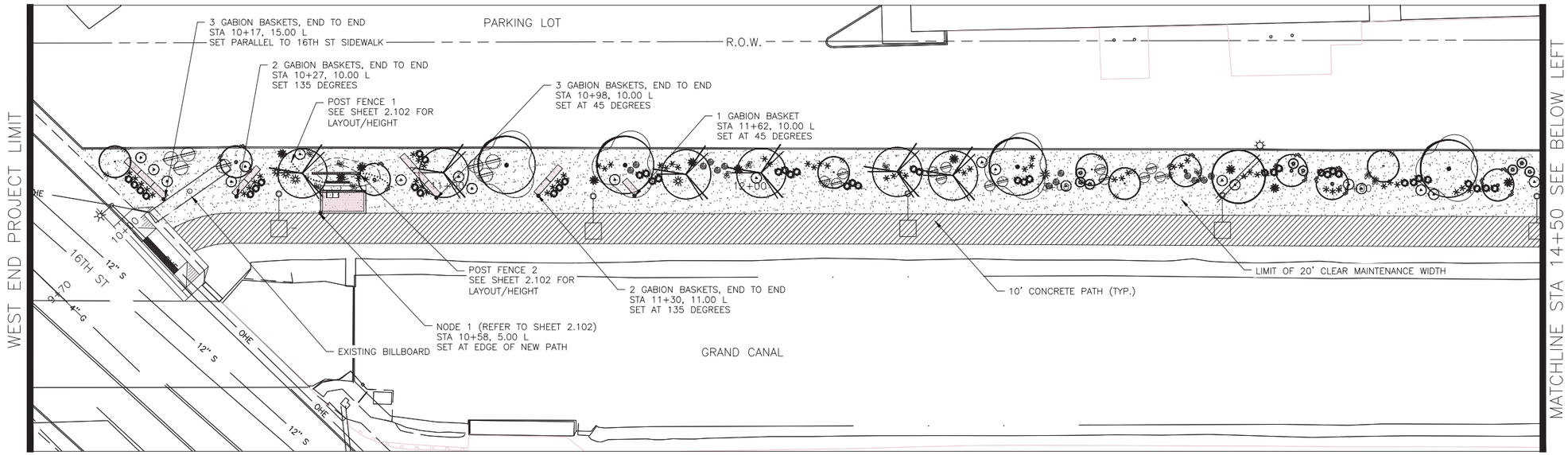
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

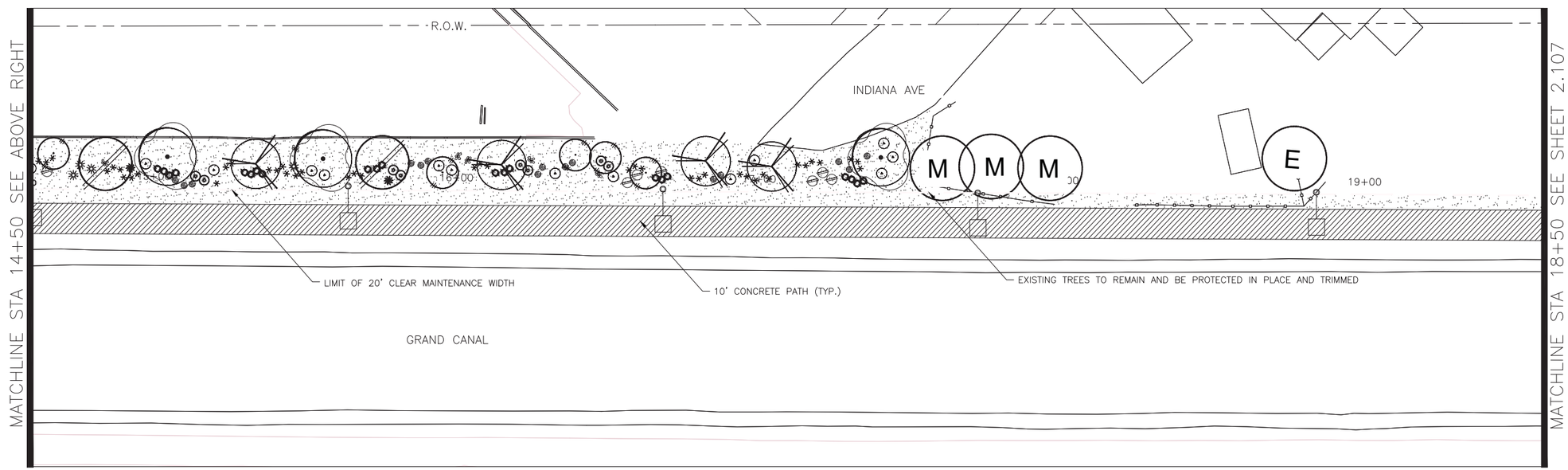
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.105	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





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GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

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REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
07/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.106	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
TREES	M	Existing Mesquite Tree to Remain	
	PV	Existing Palo Verde Tree to Remain	
	E	Existing Eucalyptus Tree to Remain	
		Prosopis Hybrid Thornless MESQUITE HYBRID THORNLESS	10' H x 8' W MULTI-TRUNK
		Acacia aneura * MULGA TREE	9' H x 6' W 2" CALIPER
		Parkinsonia praecox PALO BREA	10' H x 7' W MULTI-TRUNK
		Olneya tesota IRONWOOD TREE	10' H x 7' W MULTI-TRUNK
		Chilopsis linearis * DESERT WILLOW	9' H x 7' W MULTI-TRUNK
		Lysiloma thornberi * FERN OF THE DESERT	6' H x 4' W MULTI-TRUNK
		Acacia craspedocarpa * LEATHER-LEAF ACACIA	6' H x 4' W 2" CALIPER
		Acacia willardiana* PALO BLANCO	8' H x 3' W 1.5" CALIPER
		* SRP Compliant Tree	
SHRUBS		Existing Oleander to Remain	
		Caesalpinia mexicana * SIERRA SUN CACALACO	65 GAL
		Leucophyllum laevigatum CHIHUAHUAN SAGE	5 GAL
		Ephedra viridis MORMON TEA	5 GAL
		Stipa tenuissima MEXICAN THREAD GRASS	5 GAL
		Ericameria laricifolia TURPENTINE BUSH	5 GAL
		Encelia farinosa * BRITTLEBUSH	5 GAL
		Chrysactinia mexicana * DAMIANITA	5 GAL
		* SRP Compliant Plant	
ACCENTS		Opuntia violacea santa rita PURPLE PRICKLY PEAR	15 GAL
		Fouquieria splendens OCOTILLO	6'-7' HEIGHT
		Yucca rupicola TWISTED LEAF YUCCA	15 GAL
MATERIALS		Decomposed Granite 1" DEPTH, MOUNTAIN VISTA BROWN	½" SCREENED
		Native Seed Mix (DO NOT TREAT THESE AREAS WITH PRE-EMERGENT HERBICIDE) SONORAN WILDFLOWER SEED MIX *The native seed mix will go down as part of a 50/50 Hydroseed Rock installation per recommended procedures. The irrigation system will be available until plantings are well established or until the City decides it is no longer needed.*	
		Gabion Basket	2' x 2' x 6'
		Tie Down Point for Gabion Baskets and Nodes	Offset dimension measured from center line of new path

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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

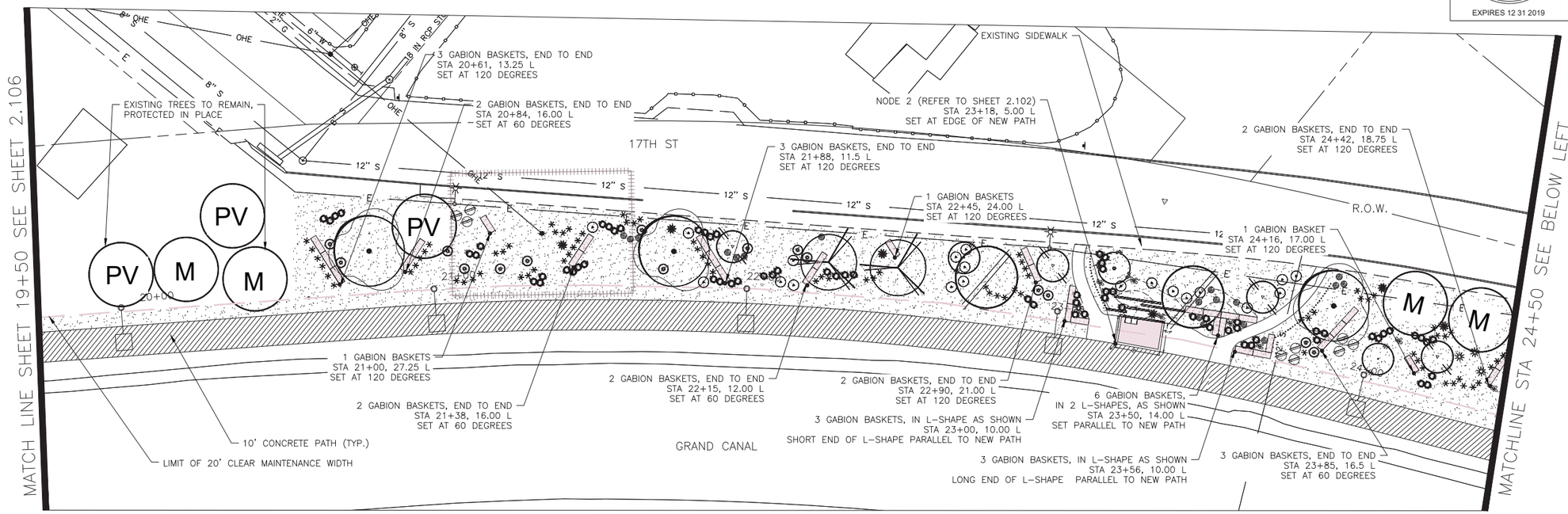
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.106	2.182

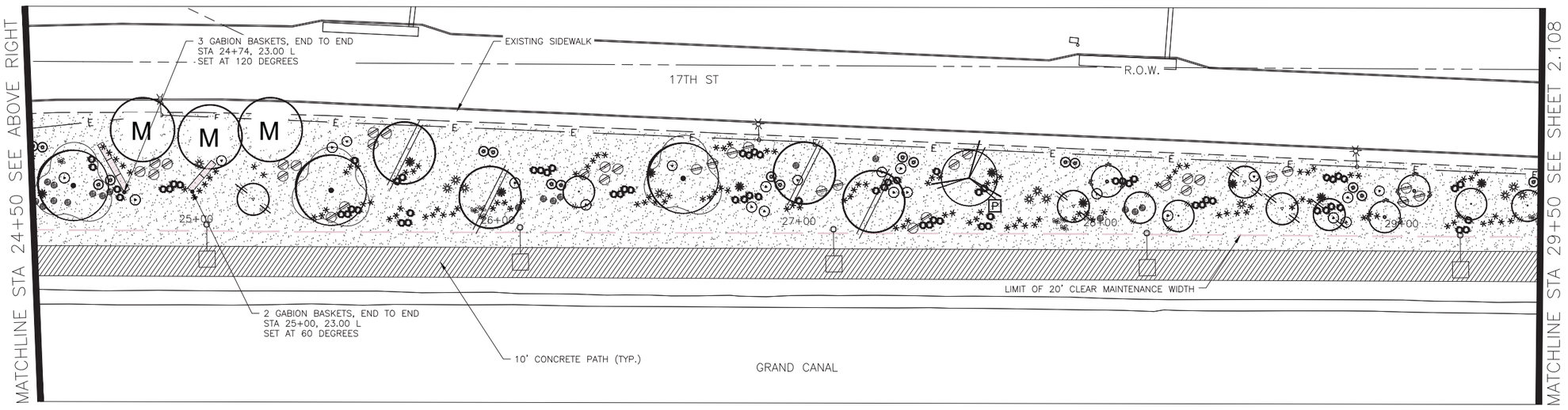
ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



City of Phoenix N



City of Phoenix N

GRAPHIC SCALE IN FEET
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1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT 24745 JANET L. WAIBEL 07/14/2017 ARIZONA, U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.107	2.182

ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
TREES	M PV E	Existing Mesquite Tree to Remain Existing Palo Verde Tree to Remain Existing Eucalyptus Tree to Remain	
		Prosopis Hybrid Thornless MESQUITE HYBRID THORNLESS	10' H x 8' W MULTI-TRUNK
		Acacia aneura * MULGA TREE	9' H x 6' W 2" CALIPER
		Parkinsonia praecox PALO BREA	10' H x 7' W MULTI-TRUNK
		Olneya tesota IRONWOOD TREE	10' H x 7' W MULTI-TRUNK
		Chilopsis linearis * DESERT WILLOW	9' H x 7' W MULTI-TRUNK
		Lysiloma thornberi * FERN OF THE DESERT	6' H x 4' W MULTI-TRUNK
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		Acacia willardiana* PALO BLANCO * SRP Compliant Tree	8' H x 3' W 1.5" CALIPER
SHRUBS		Existing Oleander to Remain	
		Caesalpinia mexicana * SIERRA SUN CACALACO	65 GAL
		Leucophyllum laevigatum CHIHUAHUAN SAGE	5 GAL
		Ephedra viridis MORMON TEA	5 GAL
		Stipa tenuissima MEXICAN THREAD GRASS	5 GAL
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		Chrysactinia mexicana * DAMIANITA * SRP Compliant Plant	5 GAL
ACCENTS		Opuntia violacea santa rita PURPLE PRICKLY PEAR	15 GAL
		Fouquieria splendens OCOTILLO	6'-7' HEIGHT
		Yucca rupicola TWISTED LEAF YUCCA	15 GAL
MATERIALS		Decomposed Granite 1" DEPTH, MOUNTAIN VISTA BROWN	½" SCREENED
		Native Seed Mix (DO NOT TREAT THESE AREAS WITH PRE-EMERGENT HERBICIDE) SONORAN WILDFLOWER SEED MIX *The native seed mix will go down as part of a 50/50 Hydroseed Rock installation per recommended procedures. The irrigation system will be available until plantings are well established or until the City decides it is no longer needed.*	
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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

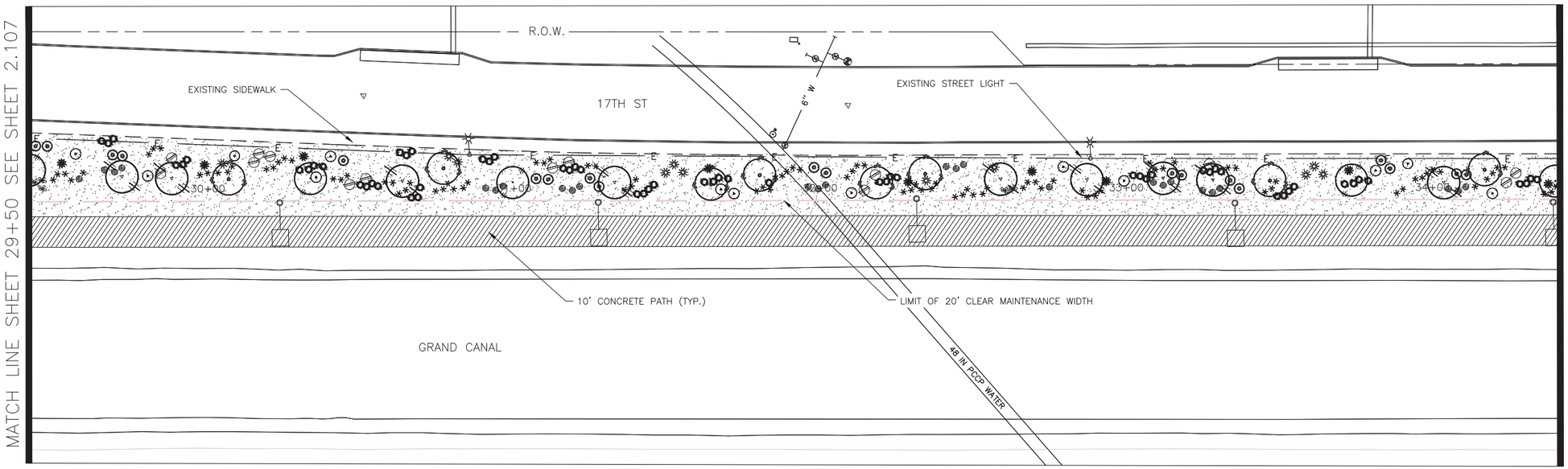
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

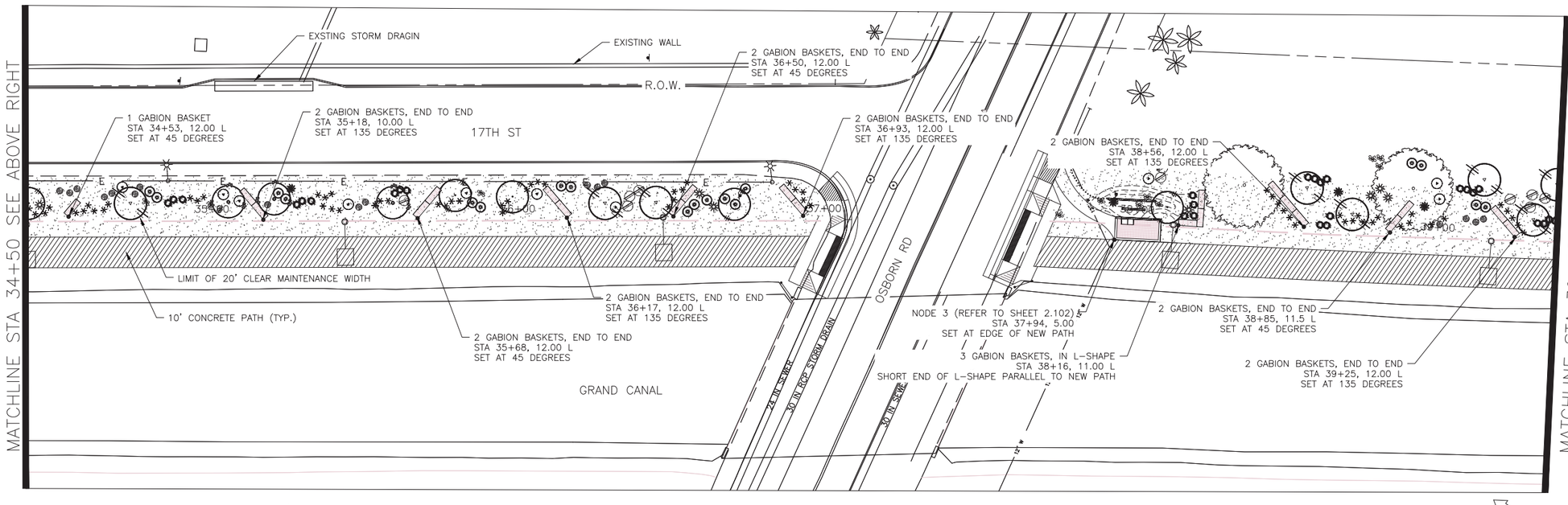
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.107	2.182
SCALE				

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





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GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
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24745
JANET L. WAIBEL
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9	ARIZ.	ST87600114	2.108	2.182

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DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.108	2.182

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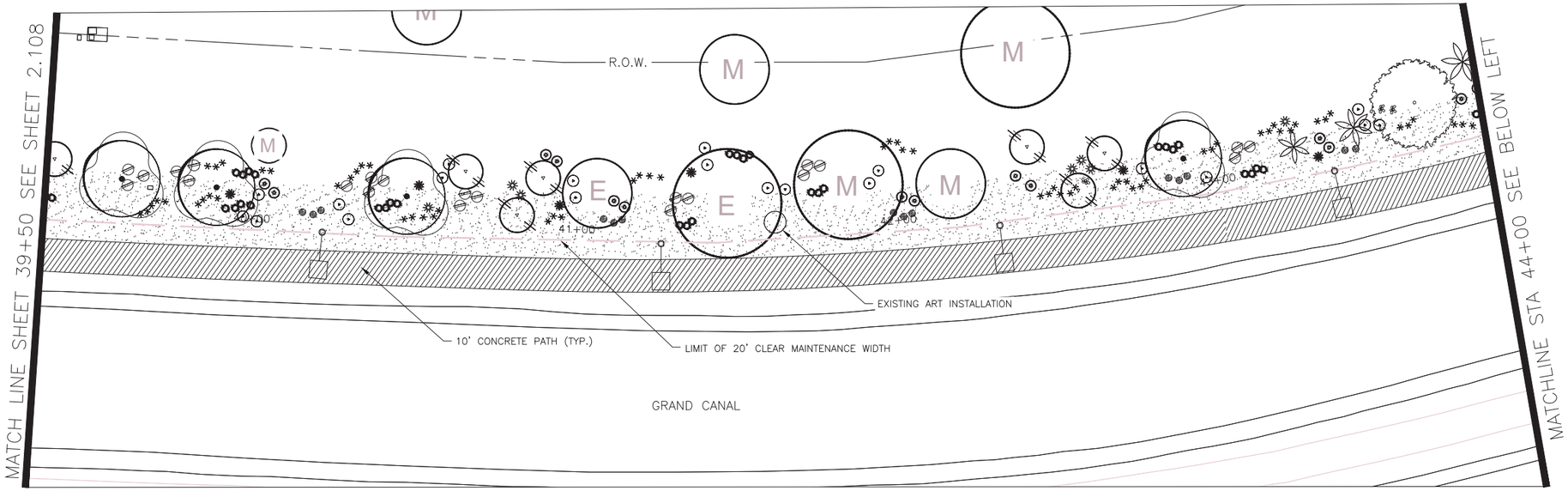
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



City of Phoenix
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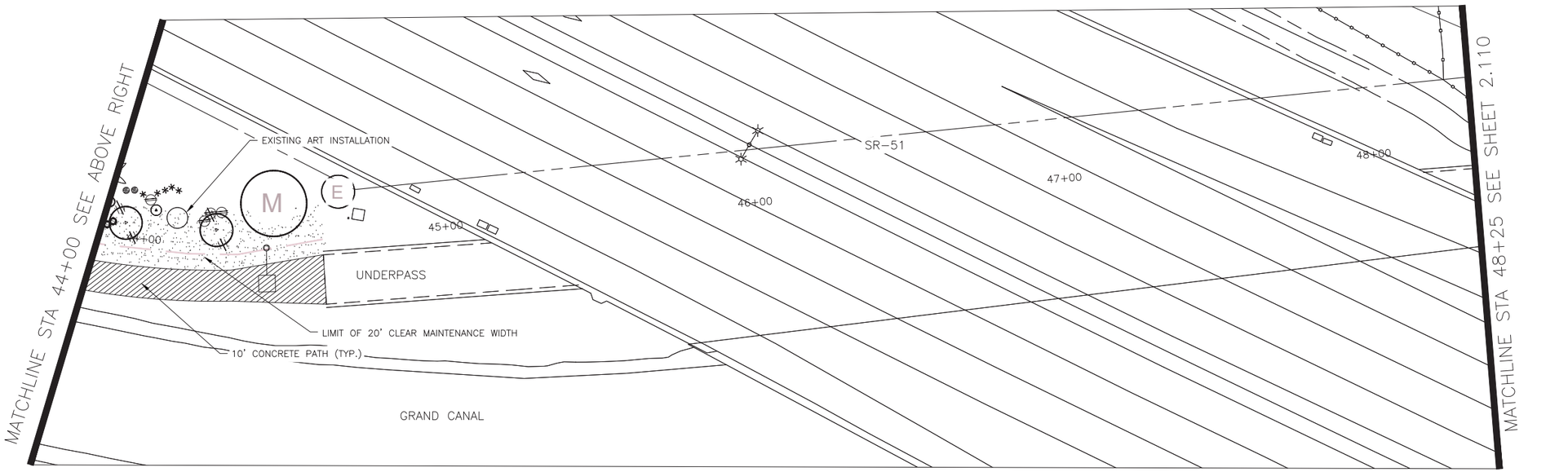

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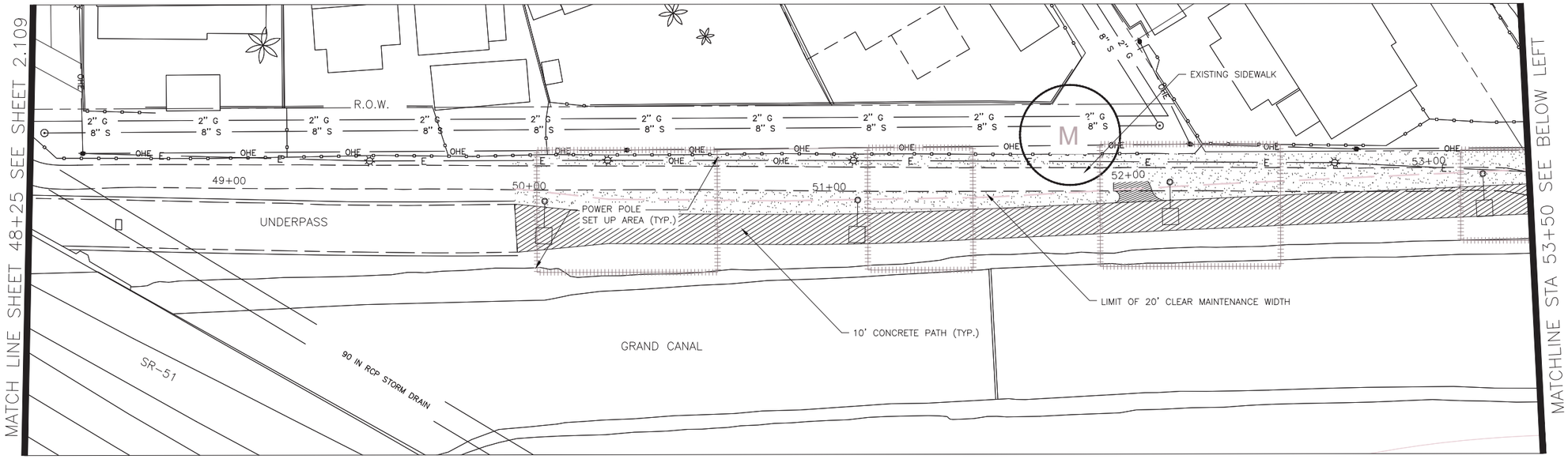

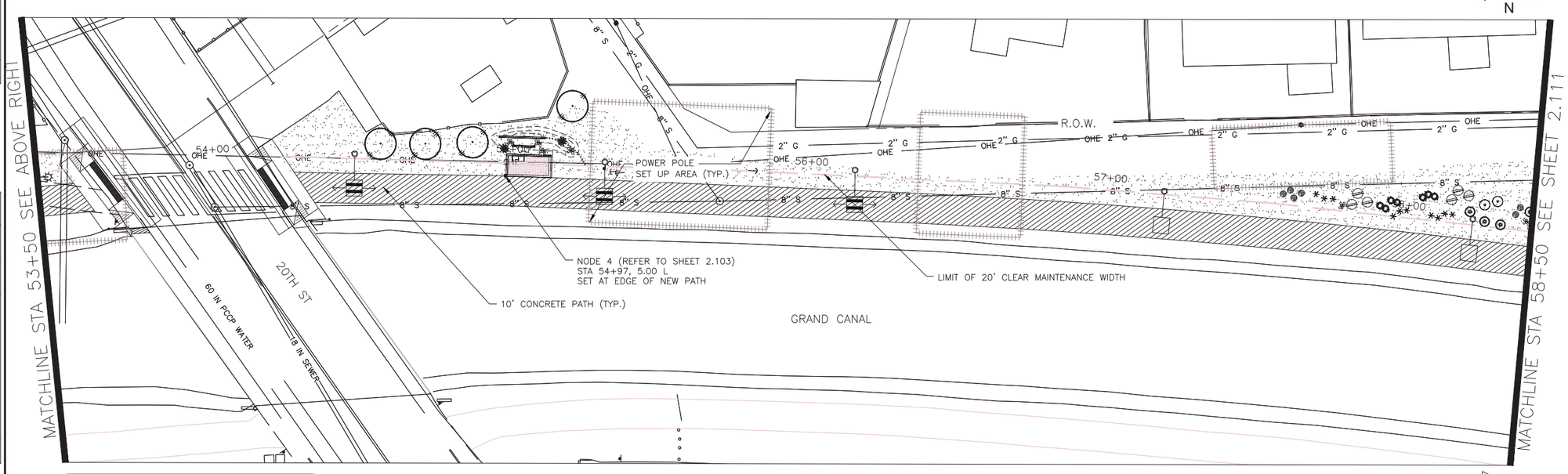

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20' 0' 20'

City of Phoenix
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F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.110	2.182

ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
TREES	M	Existing Mesquite Tree to Remain	
	PV	Existing Palo Verde Tree to Remain	
	E	Existing Eucalyptus Tree to Remain	
		Prosopis Hybrid Thornless MESQUITE HYBRID THORNLESS	10' H x 8' W MULTI-TRUNK
		Acacia aneura * MULGA TREE	9' H x 6' W 2" CALIPER
		Parkinsonia praecox PALO BREA	10' H x 7' W MULTI-TRUNK
		Olneya tesota IRONWOOD TREE	10' H x 7' W MULTI-TRUNK
		Chilopsis linearis * DESERT WILLOW	9' H x 7' W MULTI-TRUNK
		Lysiloma thornberi * FERN OF THE DESERT	6' H x 4' W MULTI-TRUNK
		Acacia craspedocarpa * LEATHER-LEAF ACACIA	6' H x 4' W 2" CALIPER
		Acacia willardiana* PALO BLANCO	8' H x 3' W 1.5" CALIPER
		* SRP Compliant Tree	
SHRUBS		Existing Oleander to Remain	
		Caesalpinia mexicana * SIERRA SUN CACALACO	65 GAL
		Leucophyllum laevigatum CHIHUAHUAN SAGE	5 GAL
		Ephedra viridis MORMON TEA	5 GAL
		Stipa tenuissima MEXICAN THREAD GRASS	5 GAL
		Ericameria laricifolia TURPENTINE BUSH	5 GAL
		Encelia farinosa * BRITTLEBUSH	5 GAL
		Chrysactinia mexicana * DAMIANITA	5 GAL
		* SRP Compliant Plant	
ACCENTS		Opuntia violacea santa rita PURPLE PRICKLY PEAR	15 GAL
		Fouquieria splendens OCOTILLO	6'-7' HEIGHT
		Yucca rupicola TWISTED LEAF YUCCA	15 GAL
MATERIALS		Decomposed Granite 1" DEPTH, MOUNTAIN VISTA BROWN	½" SCREENED
		Native Seed Mix (DO NOT TREAT THESE AREAS WITH PRE-EMERGENT HERBICIDE) SONORAN WILDFLOWER SEED MIX *The native seed mix will go down as part of a 50/50 Hydroseed Rock installation per recommended procedures. The irrigation system will be available until plantings are well established or until the City decides it is no longer needed.*	
		Gabion Basket	2' x 2' x 6'
		Tie Down Point for Gabion Baskets and Nodes	Offset dimension measured from center line of new path

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Phone 480.893.3849 Fax 480.893.3846
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"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

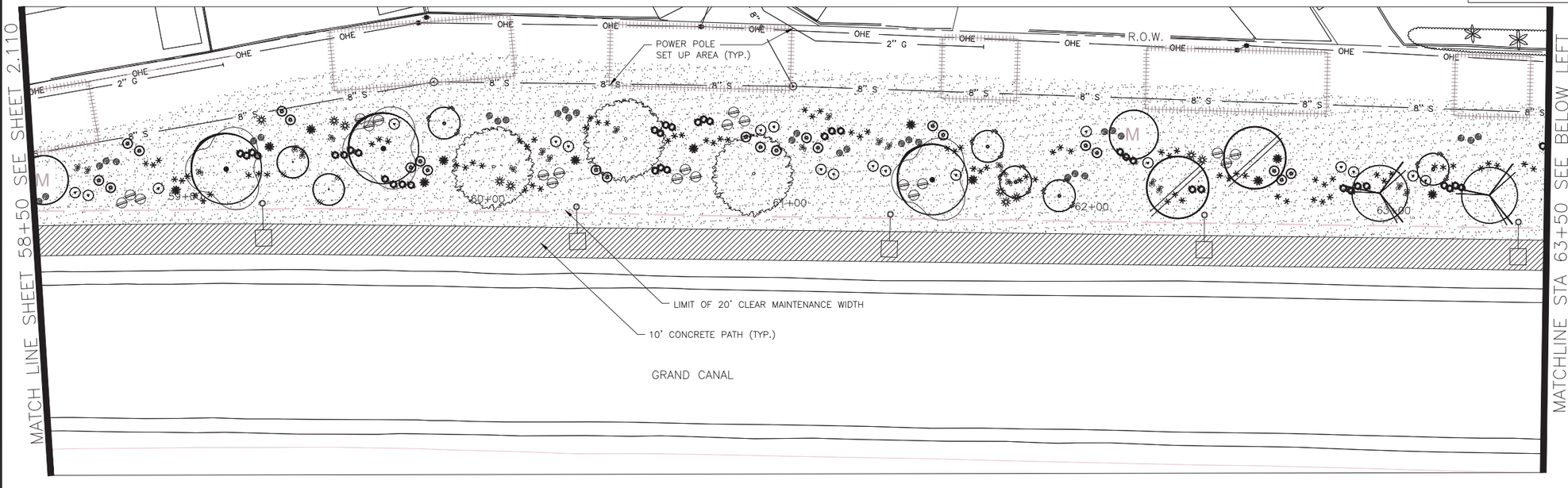
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

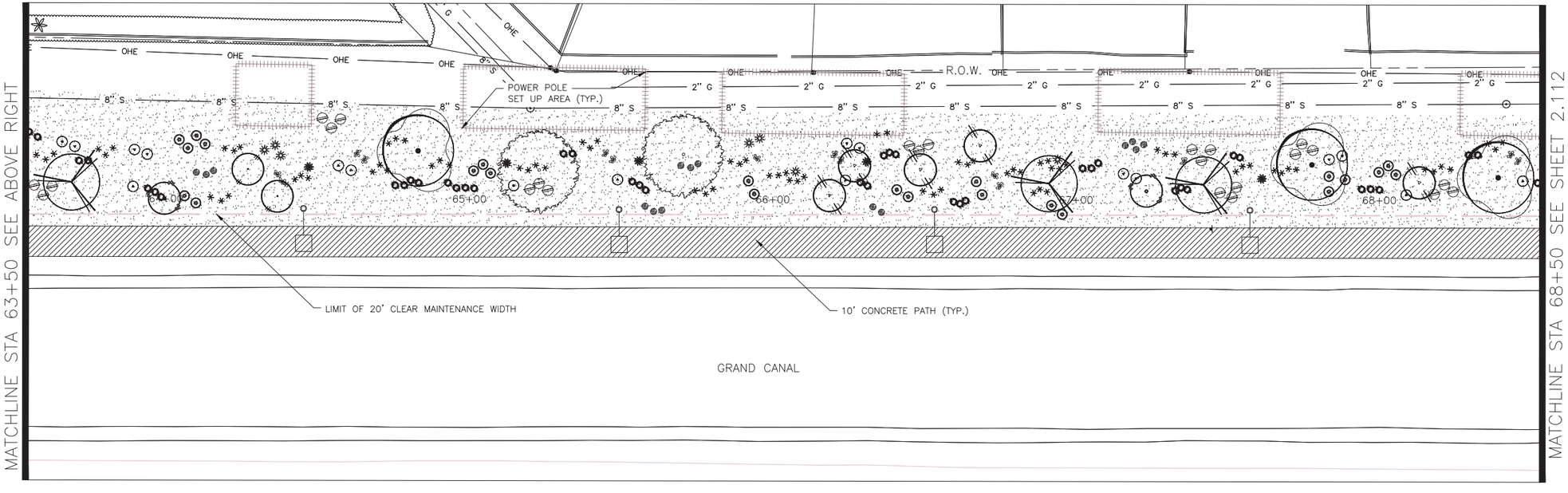
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.110	2.182
SCALE				

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





NOTE:
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GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
9/17/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.111	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
TREES	M / PV / E	Existing Mesquite Tree to Remain Existing Palo Verde Tree to Remain Existing Eucalyptus Tree to Remain	
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		Acacia aneura * MULGA TREE	9' H x 6' W 2" CALIPER
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		Yucca rupicola TWISTED LEAF YUCCA	15 GAL
MATERIALS		Decomposed Granite 1" DEPTH, MOUNTAIN VISTA BROWN	½" SCREENED
		Native Seed Mix (DO NOT TREAT THESE AREAS WITH PRE-EMERGENT HERBICIDE) SONORAN WILDFLOWER SEED MIX *The native seed mix will go down as part of a 50/50 Hydroseed Rock installation per recommended procedures. The irrigation system will be available until plantings are well established or until the City decides it is no longer needed.*	
		Gabion Basket	2' x 2' x 6'

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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

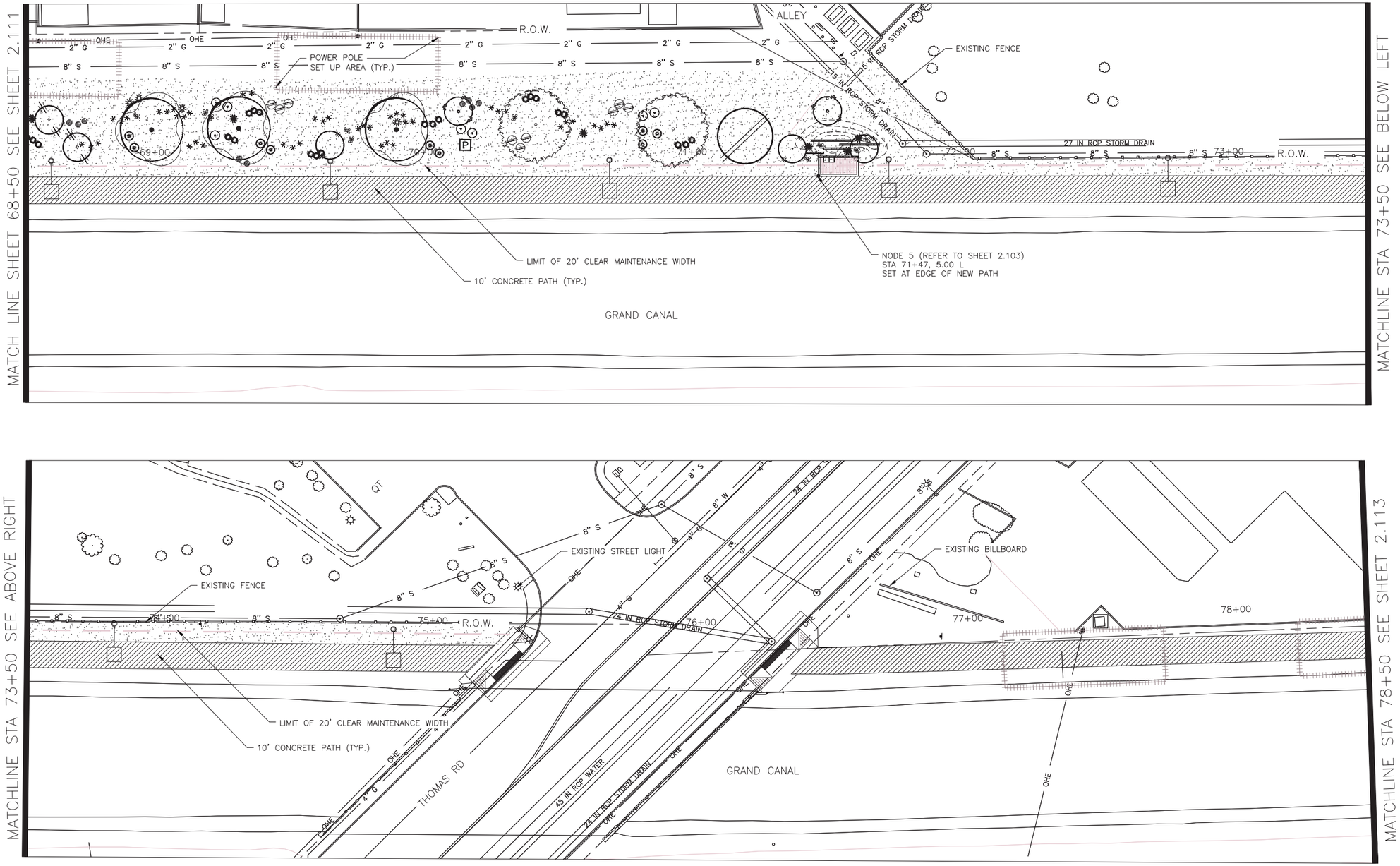
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.111	2.182
SCALE				

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



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GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
9/17/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.112	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
TREES	M / PV / E	Existing Mesquite Tree to Remain Existing Palo Verde Tree to Remain Existing Eucalyptus Tree to Remain	
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SHRUBS		Existing Oleander to Remain	
		Caesalpinia mexicana * SIERRA SUN CACALACO	65 GAL
		Leucophyllum laevigatum CHIHUAHUAN SAGE	5 GAL
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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

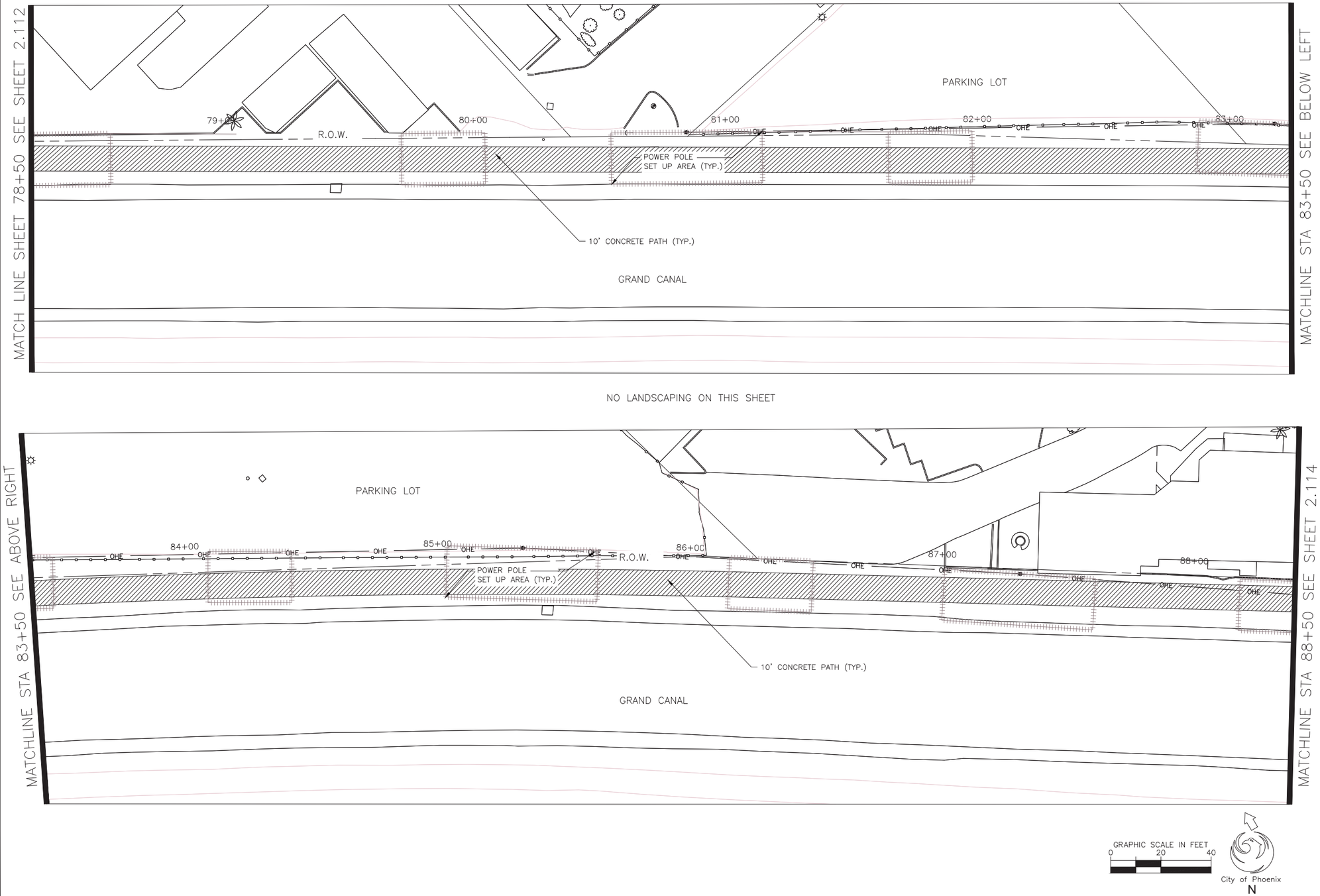
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.112	2.182
SCALE				

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

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REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
9/17/14/2017
ARIZONA, U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.113	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

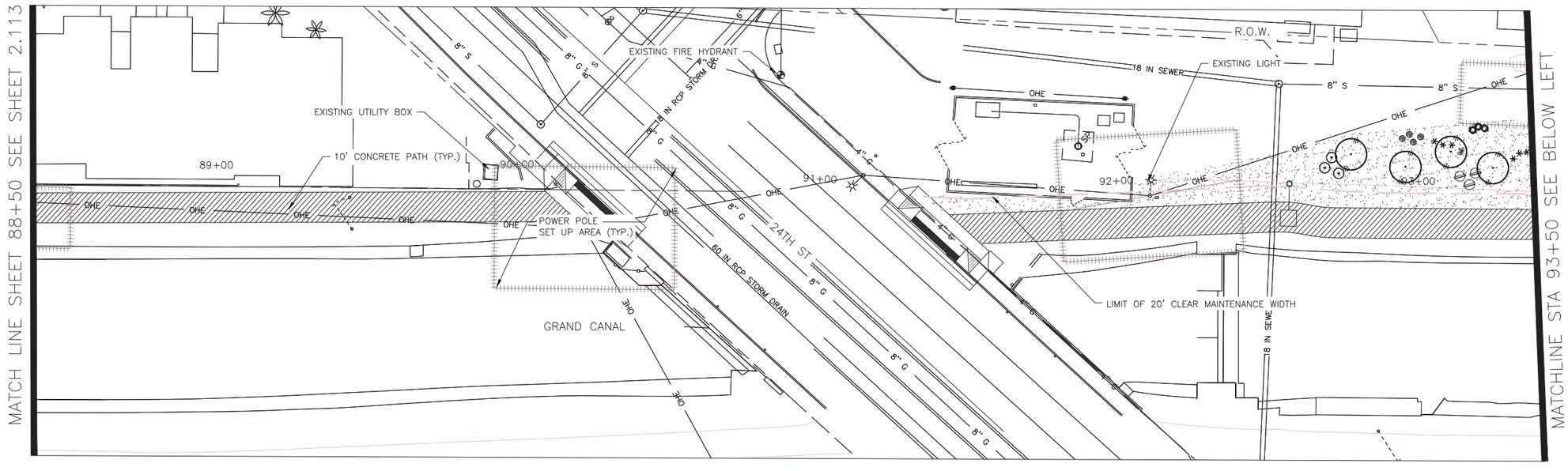
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

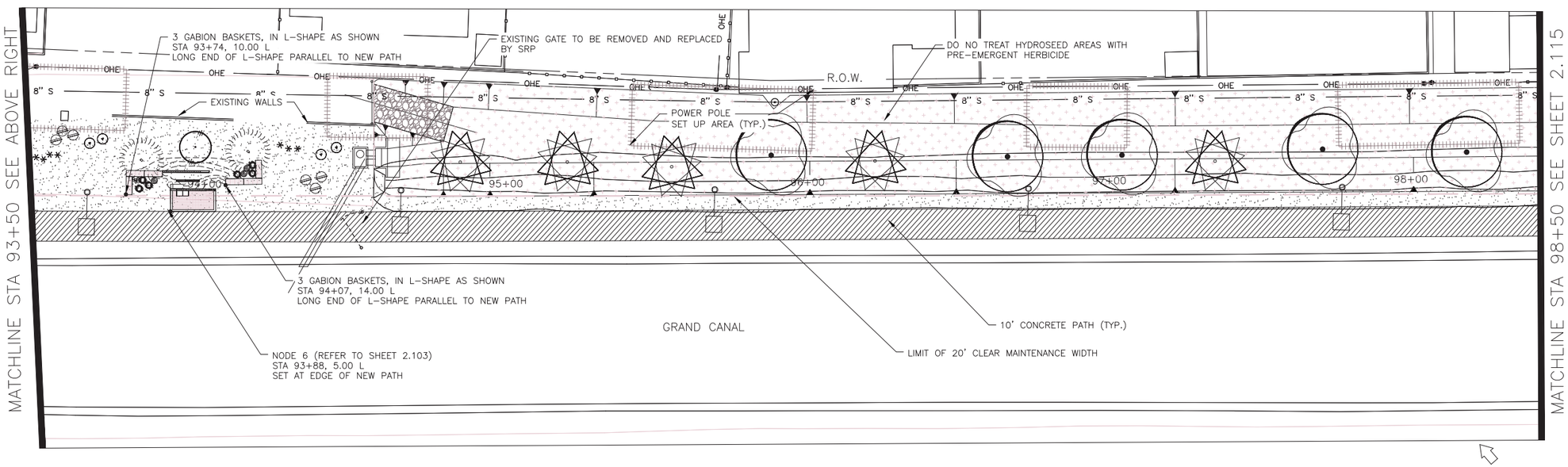
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.113	2.182
SCALE				

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

REVISION BY CITY OF PHOENIX

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1	POST FENCE DETAIL CHANGE	RM	JW	10/17
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REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
9/17/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

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eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
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STREET TRANSPORTATION DEPARTMENT

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16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
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SCALE				

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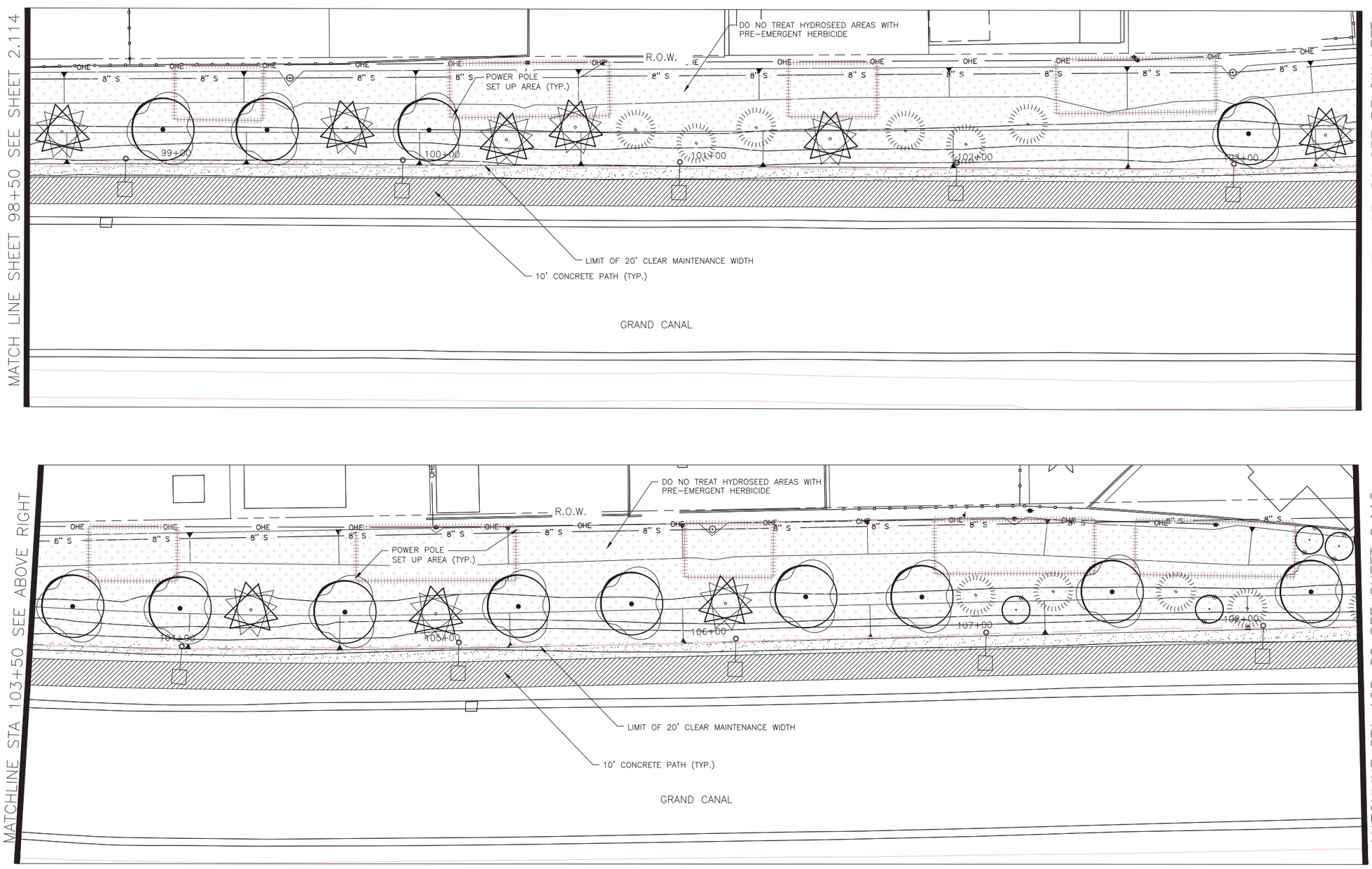
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



GRAPHIC SCALE IN FEET
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City of Phoenix
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REVISION BY CITY OF PHOENIX

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REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE

REVISION BY CITY OF PHOENIX

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REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
07/14/2017
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EXPIRES 12 31 2019

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eac ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
TREES	M	Existing Mesquite Tree to Remain	
	PV	Existing Palo Verde Tree to Remain	
	E	Existing Eucalyptus Tree to Remain	
		Prosopis Hybrid Thornless MESQUITE HYBRID THORNLESS	10' H x 8' W MULTI-TRUNK
		Acacia aneura * MULGA TREE	9' H x 6' W 2" CALIPER
		Parkinsonia praecox PALO BREA	10' H x 7' W MULTI-TRUNK
		Olneya tesota IRONWOOD TREE	10' H x 7' W MULTI-TRUNK
		Chilopsis linearis * DESERT WILLOW	9' H x 7' W MULTI-TRUNK
		Lysiloma thornberi * FERN OF THE DESERT	6' H x 4' W MULTI-TRUNK
		Acacia craspedocarpa * LEATHER-LEAF ACACIA	6' H x 4' W 2" CALIPER
		Acacia willardiana* PALO BLANCO	8' H x 3' W 1.5" CALIPER
		* SRP Compliant Tree	
SHRUBS		Existing Oleander to Remain	
		Caesalpinia mexicana * SIERRA SUN CACALACO	65 GAL
		Leucophyllum laevigatum CHIHUAHUAN SAGE	5 GAL
		Ephedra viridis MORMON TEA	5 GAL
		Stipa tenuissima MEXICAN THREAD GRASS	5 GAL
		Ericameria laricifolia TURPENTINE BUSH	5 GAL
		Encelia farinosa * BRITTLEBUSH	5 GAL
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		* SRP Compliant Plant	
ACCENTS		Opuntia violacea santa rita PURPLE PRICKLY PEAR	15 GAL
		Fouquieria splendens OCOTILLO	6'-7' HEIGHT
		Yucca rupicola TWISTED LEAF YUCCA	15 GAL
MATERIALS		Decomposed Granite 1" DEPTH, MOUNTAIN VISTA BROWN	½" SCREENED
		Native Seed Mix (DO NOT TREAT THESE AREAS WITH PRE-EMERGENT HERBICIDE) SONORAN WILDFLOWER SEED MIX *The native seed mix will go down as part of a 50/50 Hydroseed Rock installation per recommended procedures. The irrigation system will be available until plantings are well established or until the City decides it is no longer needed.*	
		Gabion Basket	2' x 2' x 6'

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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

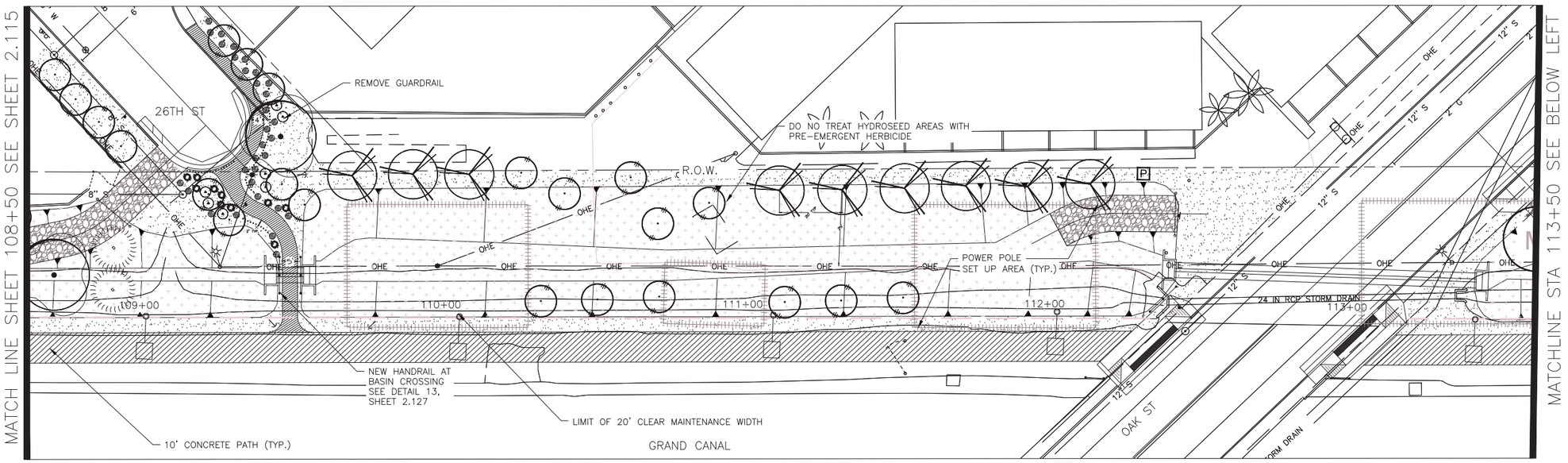
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

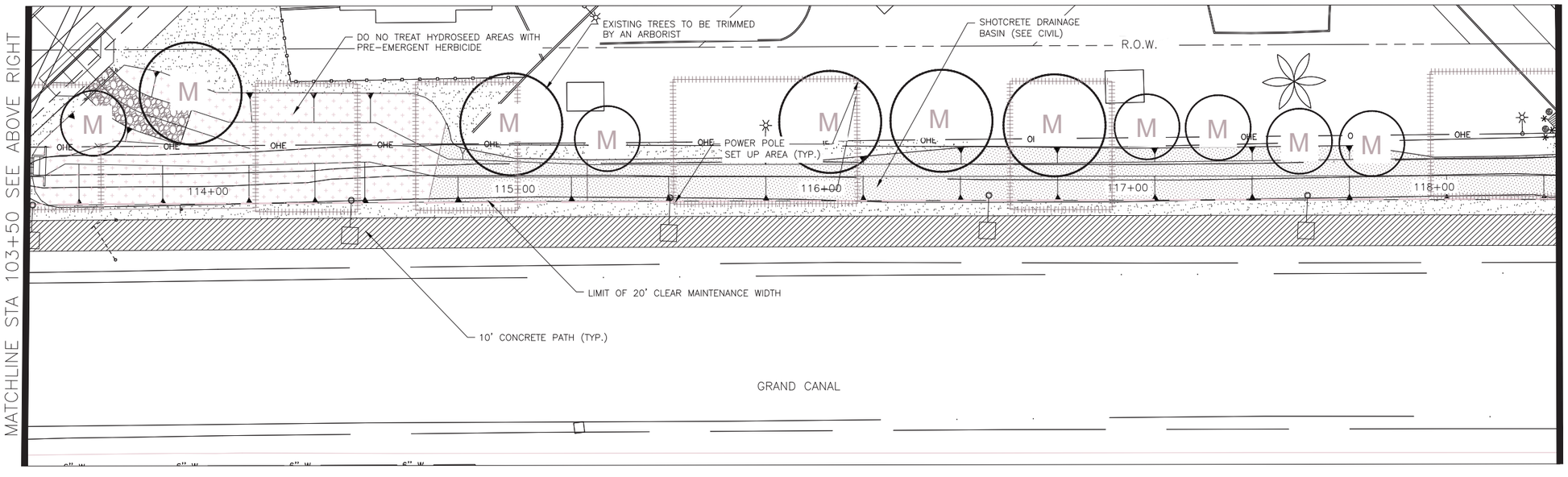
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.115	2.182
SCALE				

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





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GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
07/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.116	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.116	2.182
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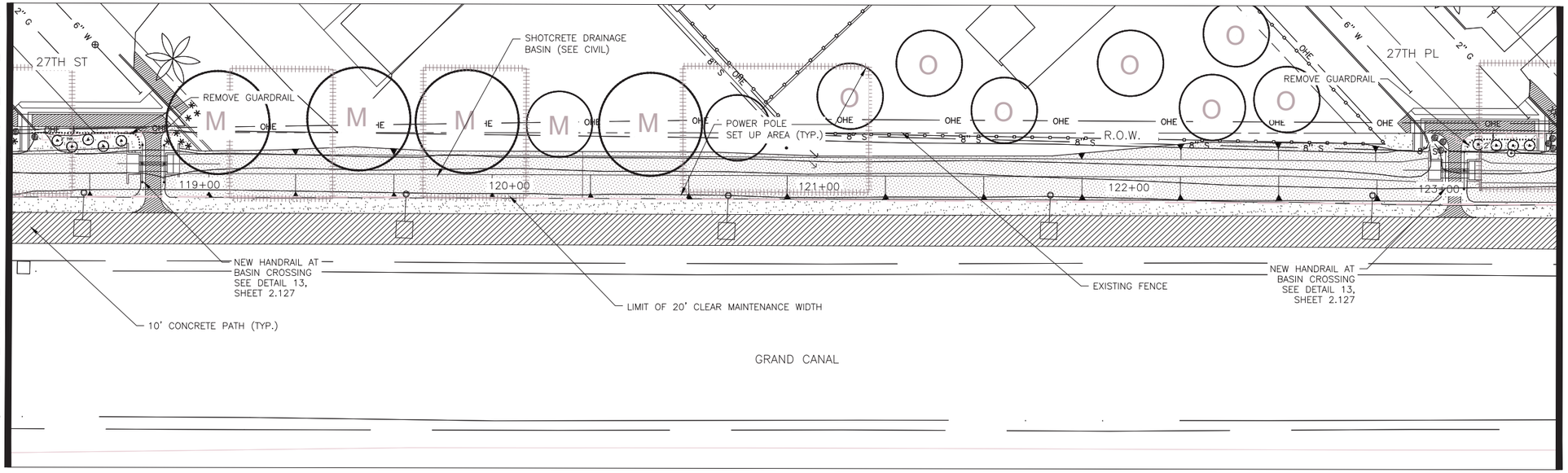
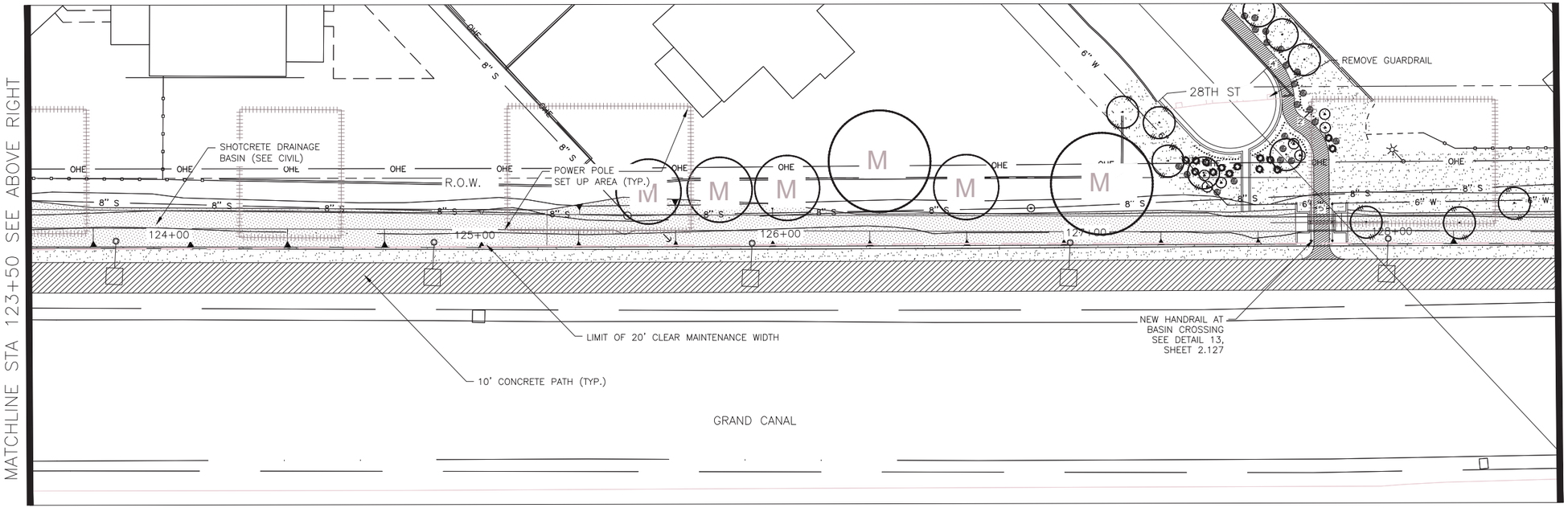
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





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GRAPHIC SCALE IN FEET
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City of Phoenix
N

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
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1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
7/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.117	2.182

ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

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STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.117	2.182
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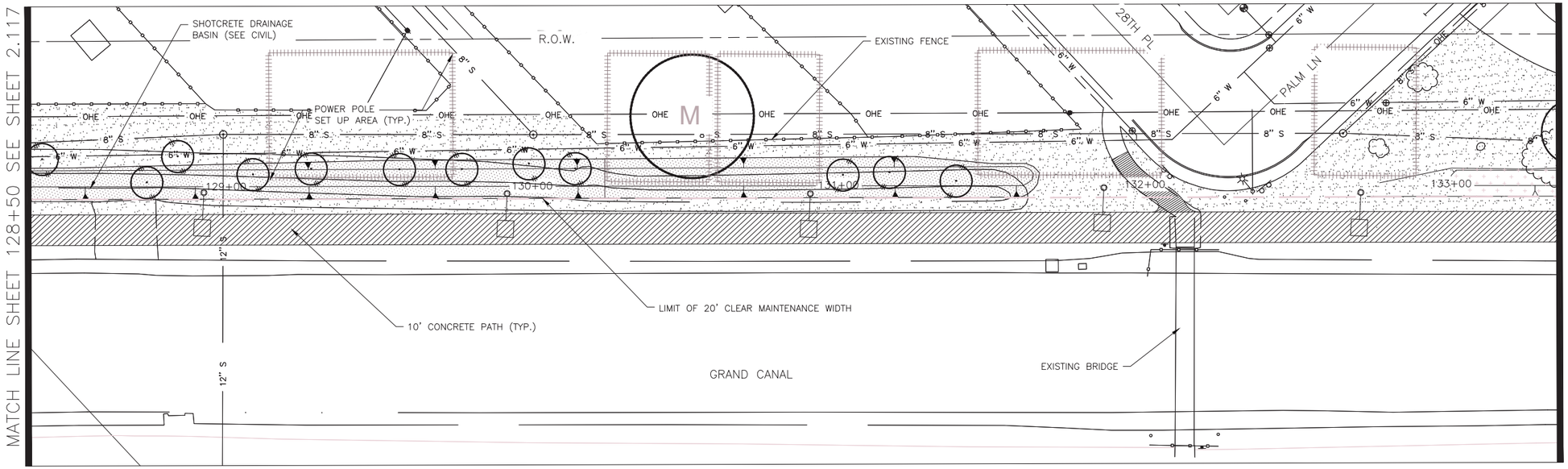
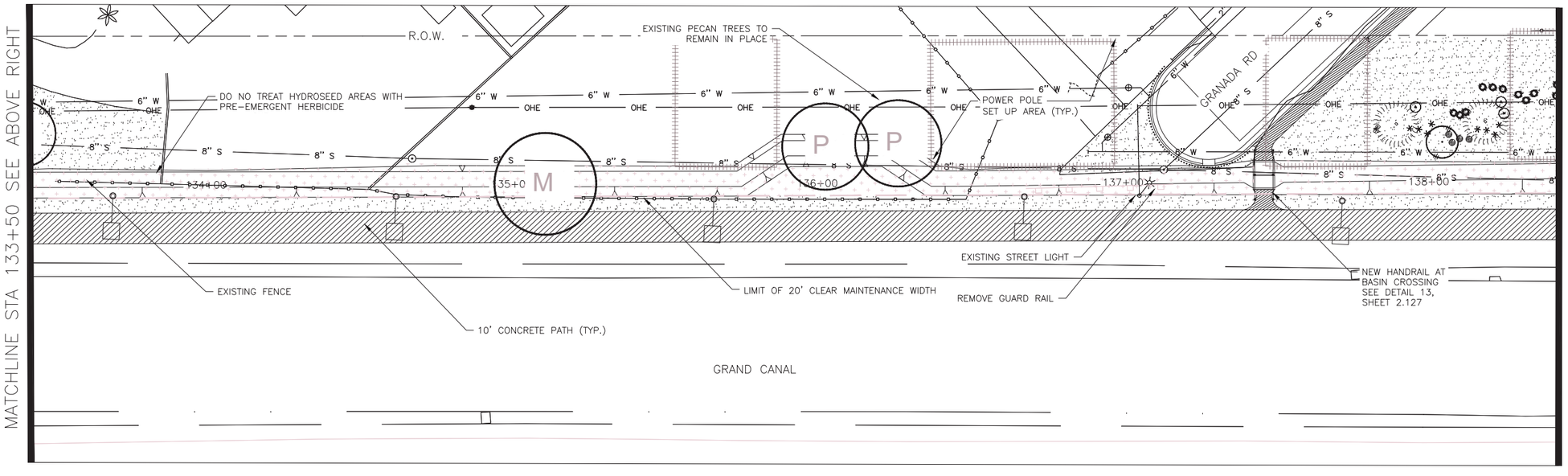
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





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City of Phoenix
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REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
9/17/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.118	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
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STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

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GRAND CANALSCAPE PHASE II

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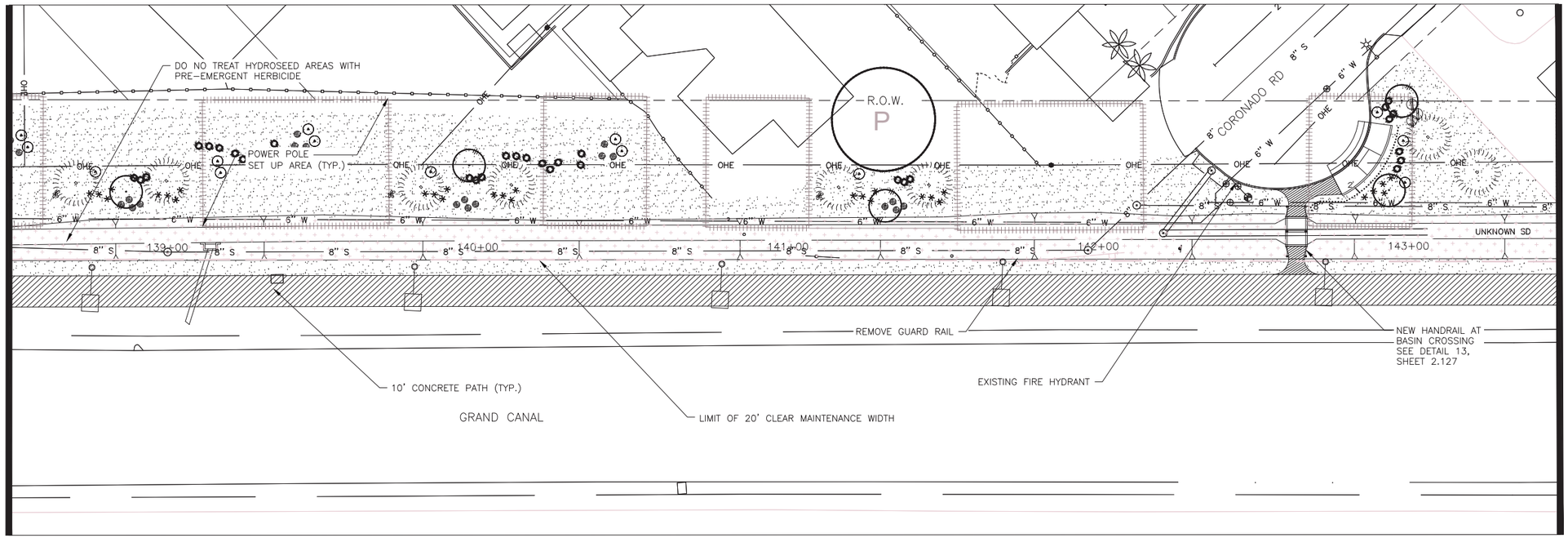

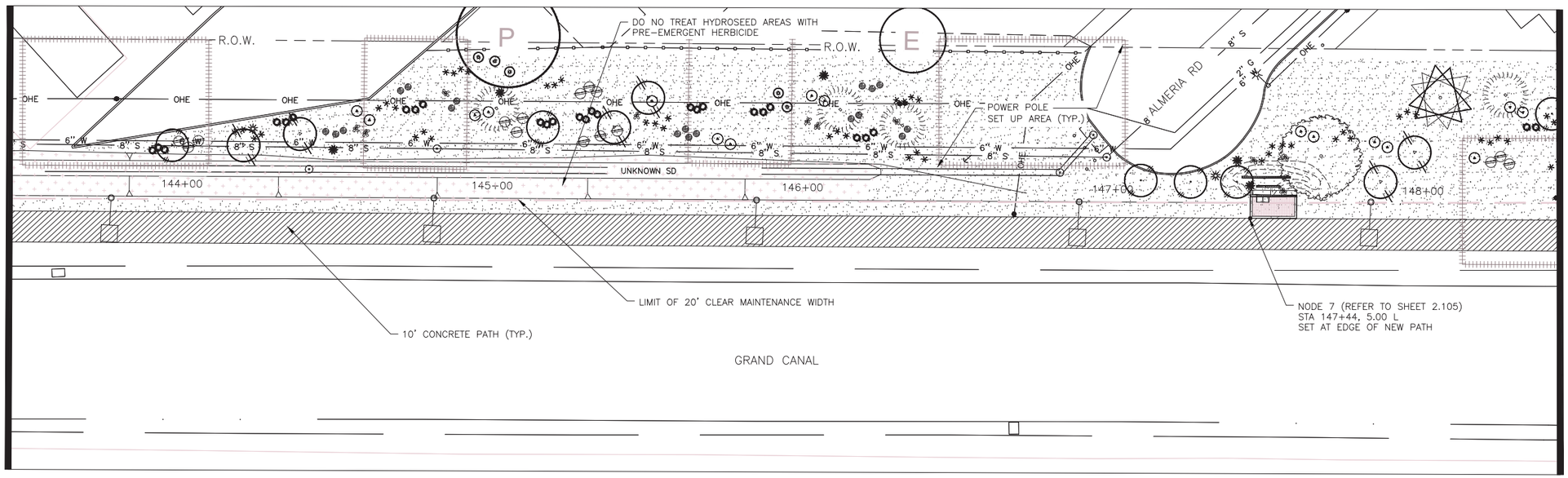

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		Tie Down Point for Gabion Baskets and Nodes	Offset dimension measured from center line of new path

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STREET TRANSPORTATION DEPARTMENT

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ST87600114

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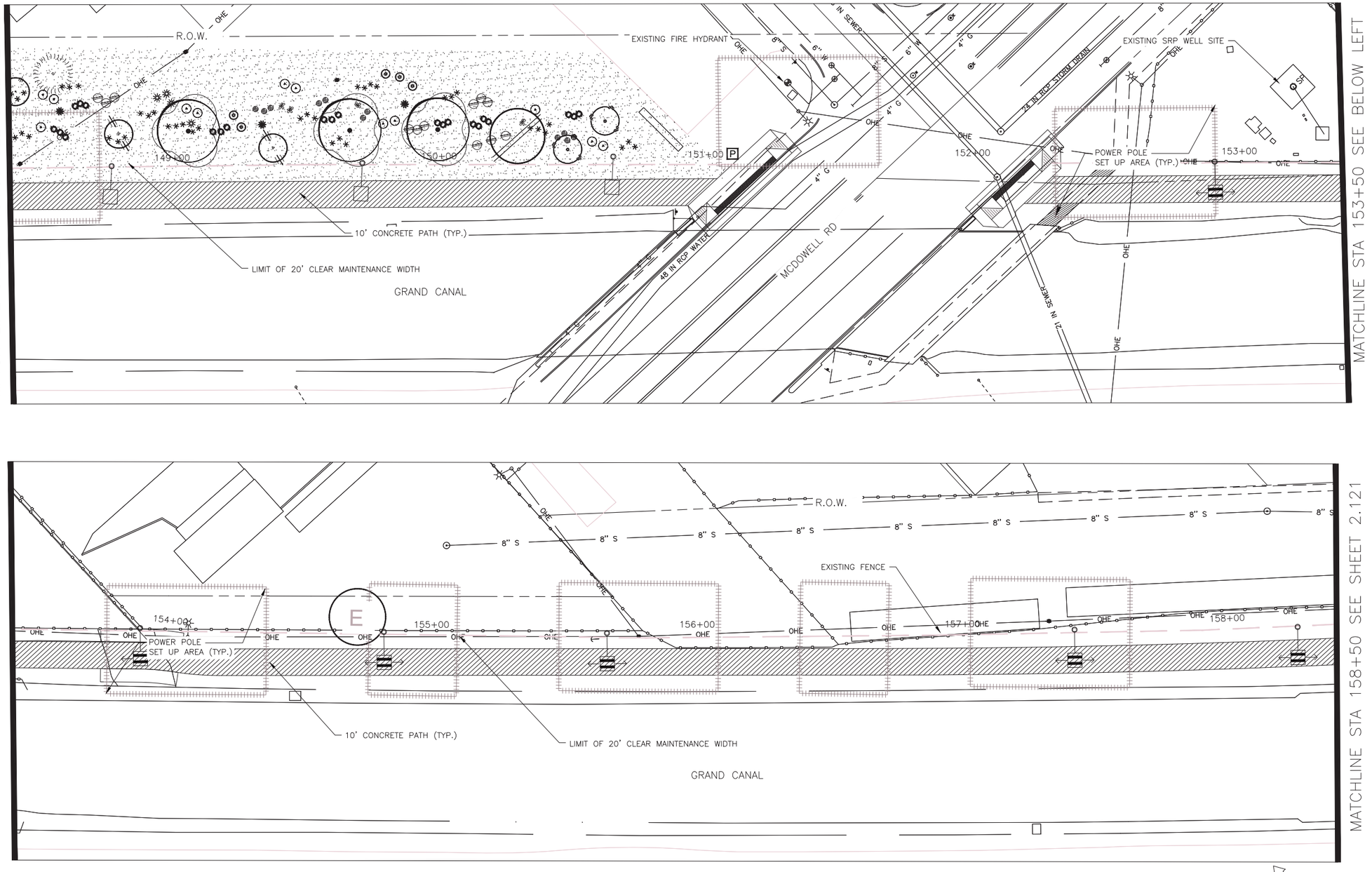

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REVISION BY CITY OF PHOENIX

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1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
07/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.120	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
TREES	M	Existing Mesquite Tree to Remain	
	PV	Existing Palo Verde Tree to Remain	
	E	Existing Eucalyptus Tree to Remain	
		Prosopis Hybrid Thornless MESQUITE HYBRID THORNLESS	10' H x 8' W MULTI-TRUNK
		Acacia aneura * MULGA TREE	9' H x 6' W 2" CALIPER
		Parkinsonia praecox PALO BREA	10' H x 7' W MULTI-TRUNK
		Olneya tesota IRONWOOD TREE	10' H x 7' W MULTI-TRUNK
		Chilopsis linearis * DESERT WILLOW	9' H x 7' W MULTI-TRUNK
		Lysiloma thornberi * FERN OF THE DESERT	6' H x 4' W MULTI-TRUNK
		Acacia craspedocarpa * LEATHER-LEAF ACACIA	6' H x 4' W 2" CALIPER
		Acacia willardiana* PALO BLANCO	8' H x 3' W 1.5" CALIPER
		* SRP Compliant Tree	
SHRUBS		Existing Oleander to Remain	
		Caesalpinia mexicana * SIERRA SUN CACALACO	65 GAL
		Leucophyllum laevigatum CHIHUAHUAN SAGE	5 GAL
		Ephedra viridis MORMON TEA	5 GAL
		Stipa tenuissima MEXICAN THREAD GRASS	5 GAL
		Ericameria laricifolia TURPENTINE BUSH	5 GAL
		Encelia farinosa * BRITTLEBUSH	5 GAL
		Chrysactinia mexicana * DAMIANITA	5 GAL
		* SRP Compliant Plant	
ACCENTS		Opuntia violacea santa rita PURPLE PRICKLY PEAR	15 GAL
		Fouquieria splendens OCOTILLO	6'-7' HEIGHT
		Yucca rupicola TWISTED LEAF YUCCA	15 GAL
MATERIALS		Decomposed Granite 1" DEPTH, MOUNTAIN VISTA BROWN	½" SCREENED
		Native Seed Mix (DO NOT TREAT THESE AREAS WITH PRE-EMERGENT HERBICIDE) SONORAN WILDFLOWER SEED MIX *The native seed mix will go down as part of a 50/50 Hydroseed Rock installation per recommended procedures. The irrigation system will be available until plantings are well established or until the City decides it is no longer needed.*	
		Gabion Basket	2' x 2' x 6'

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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

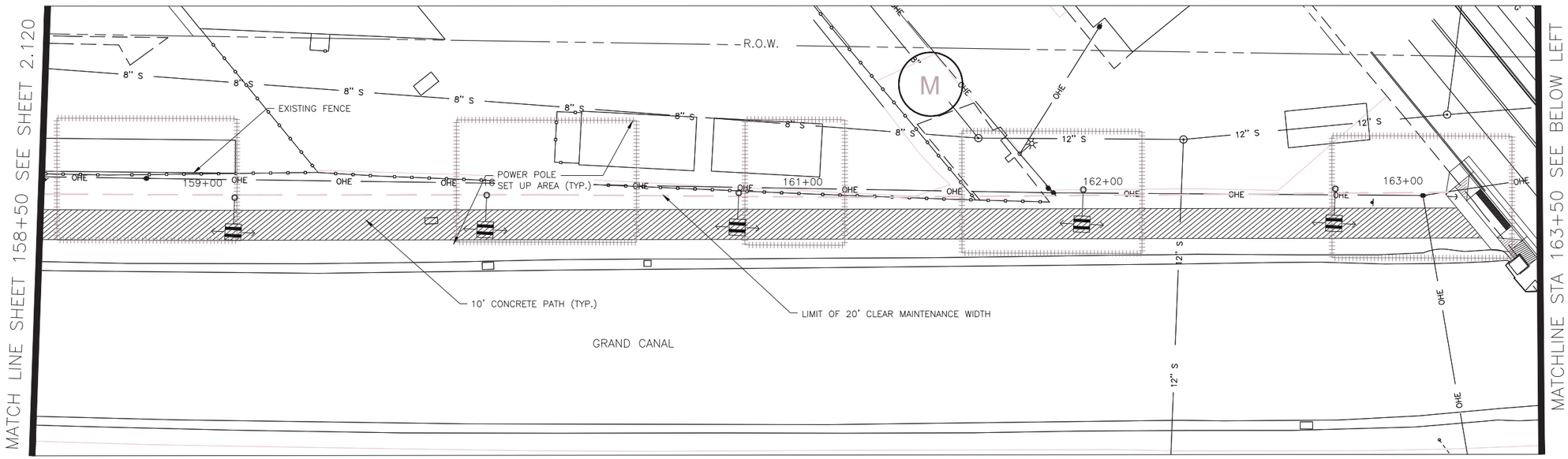
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

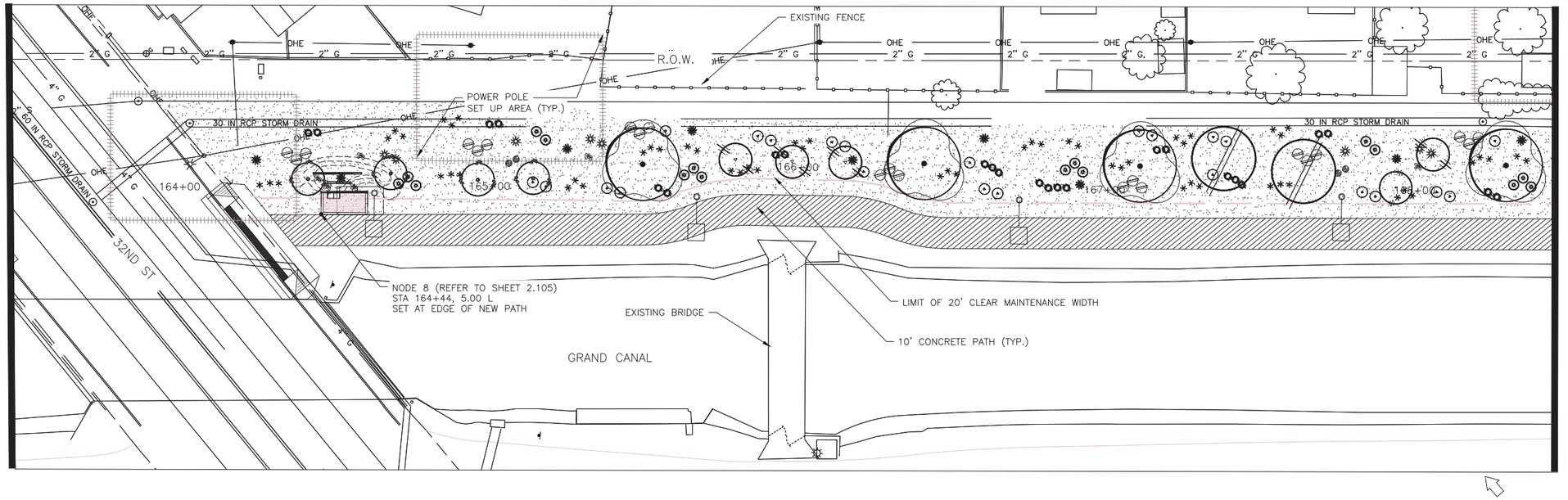
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.120	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

REVISION BY CITY OF PHOENIX

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REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
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ARIZONA, U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.121	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
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ARIZONA, U.S.A.

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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

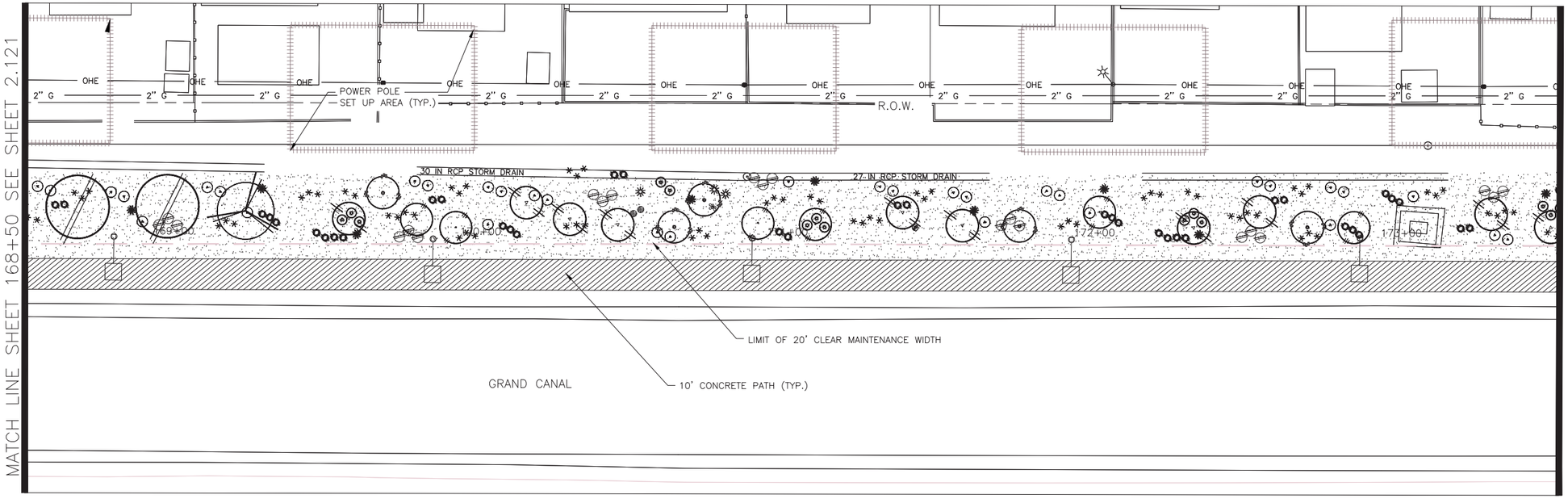
GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

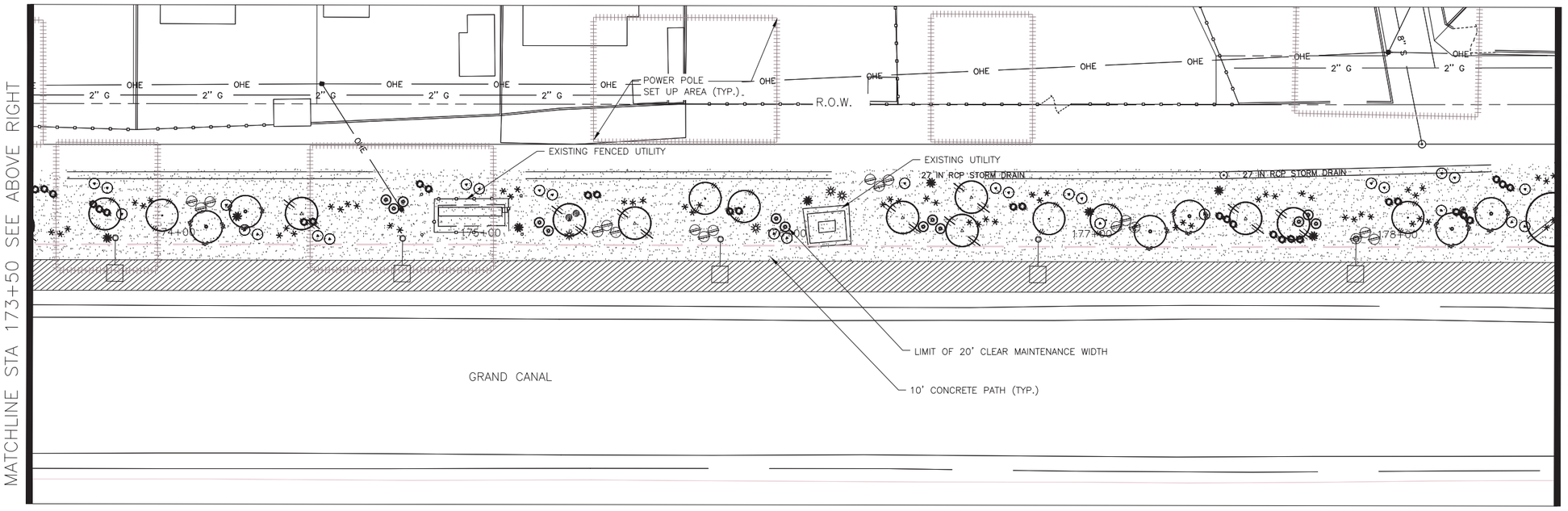
DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.121	2.182
SCALE				

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
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REVISION BY CITY OF PHOENIX

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REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
9/17/14/2017
ARIZONA, U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
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eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

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STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.122	2.182
SCALE				

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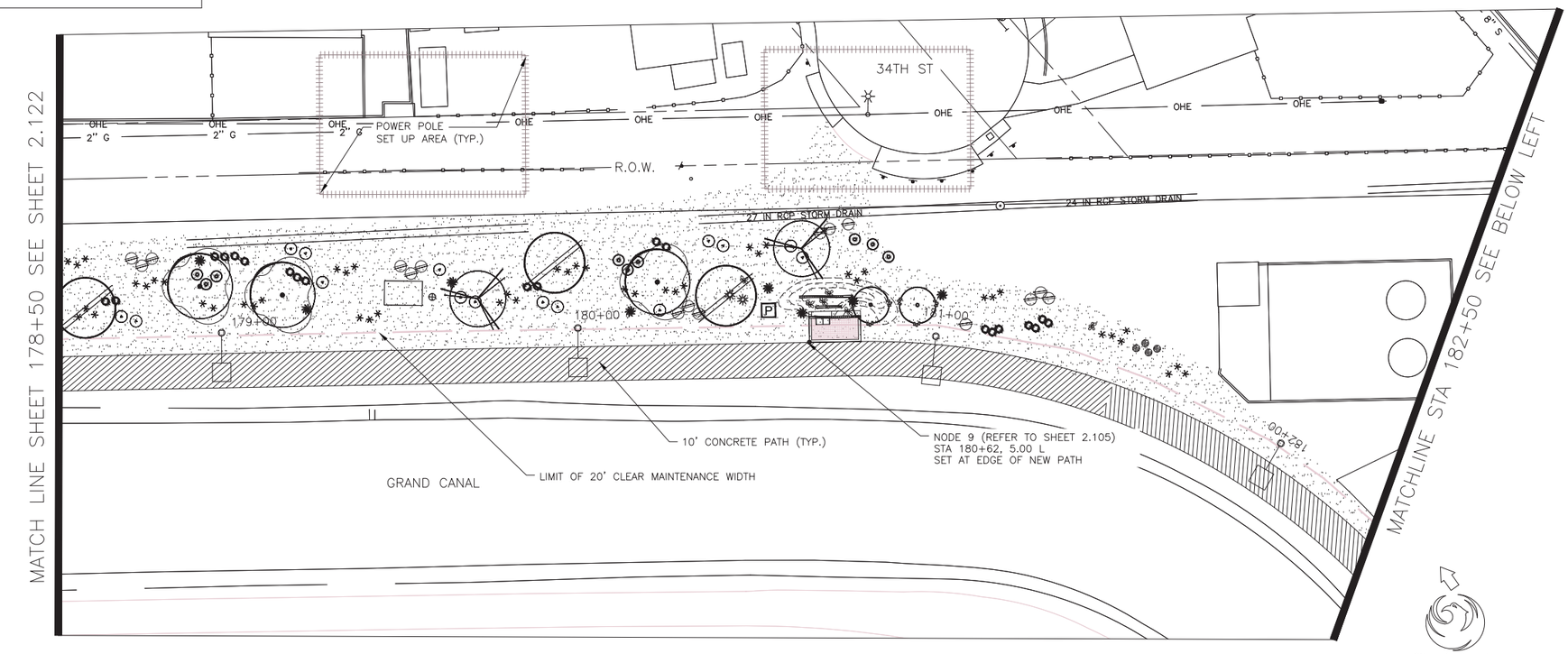
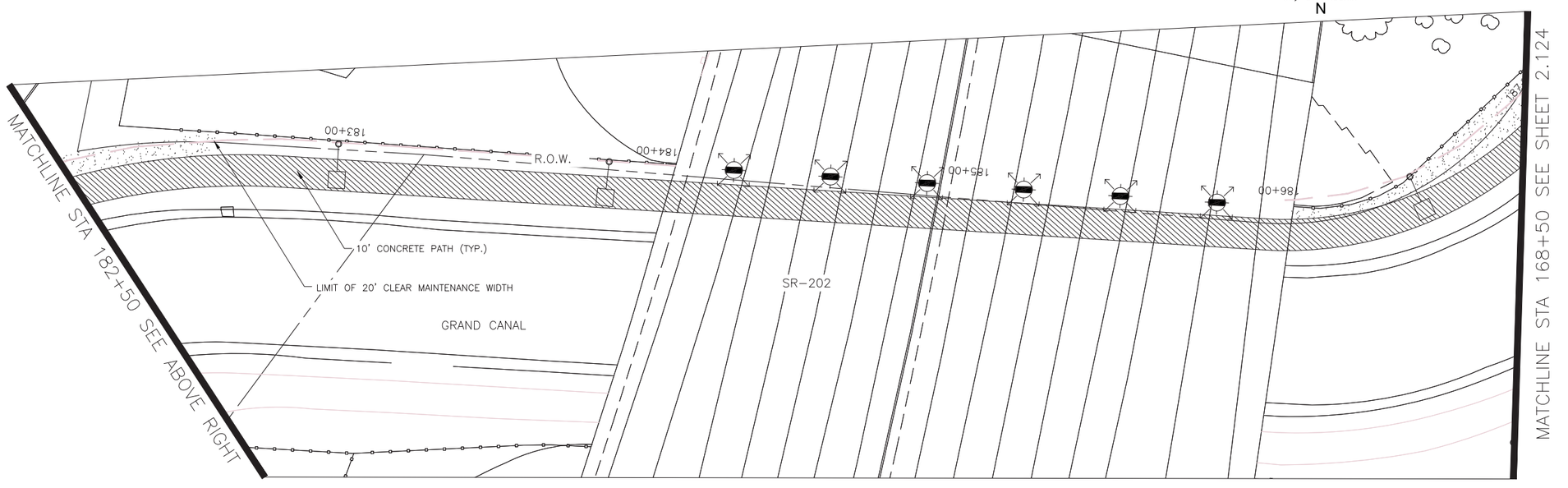
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET





City of Phoenix
N

GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
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REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
07/14/2017
ARIZONA, U.S.A.
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CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
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		Gabion Basket	2' x 2' x 6'
		Tie Down Point for Gabion Baskets and Nodes	Offset dimension measured from center line of new path

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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.123	2.182
SCALE				

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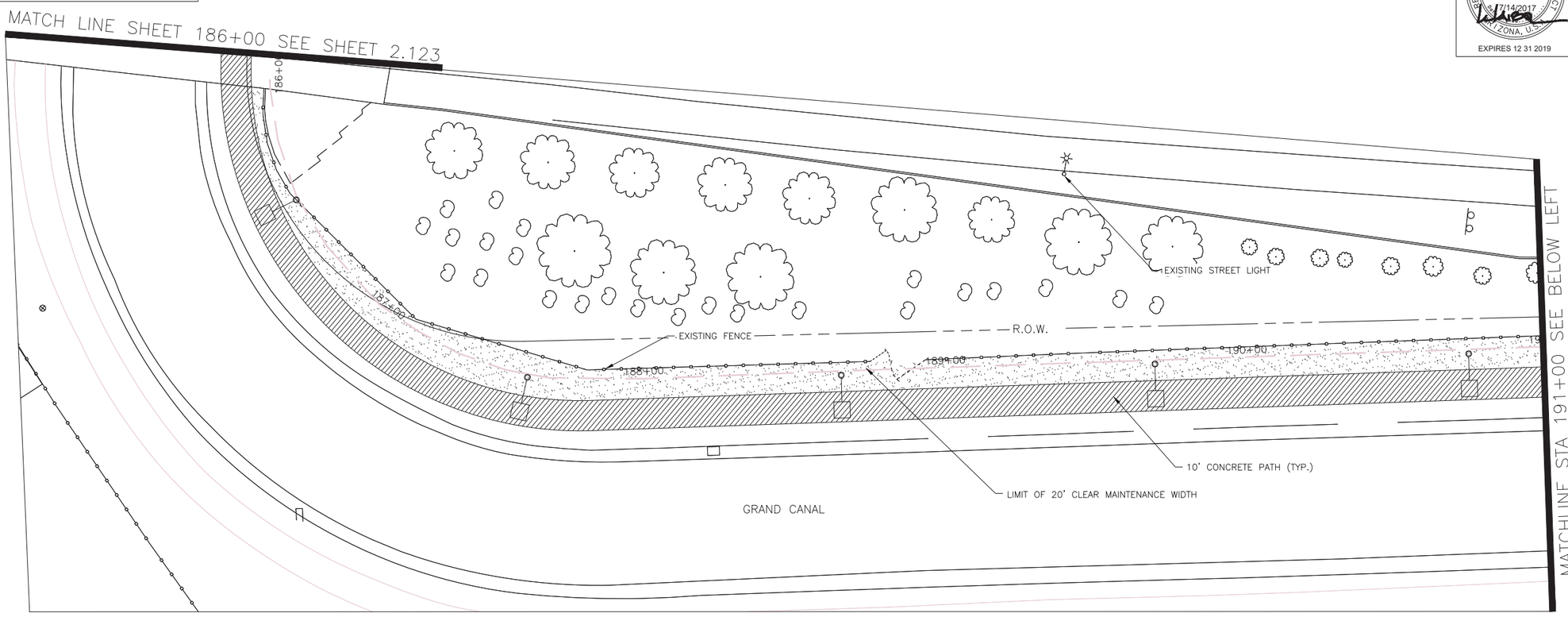
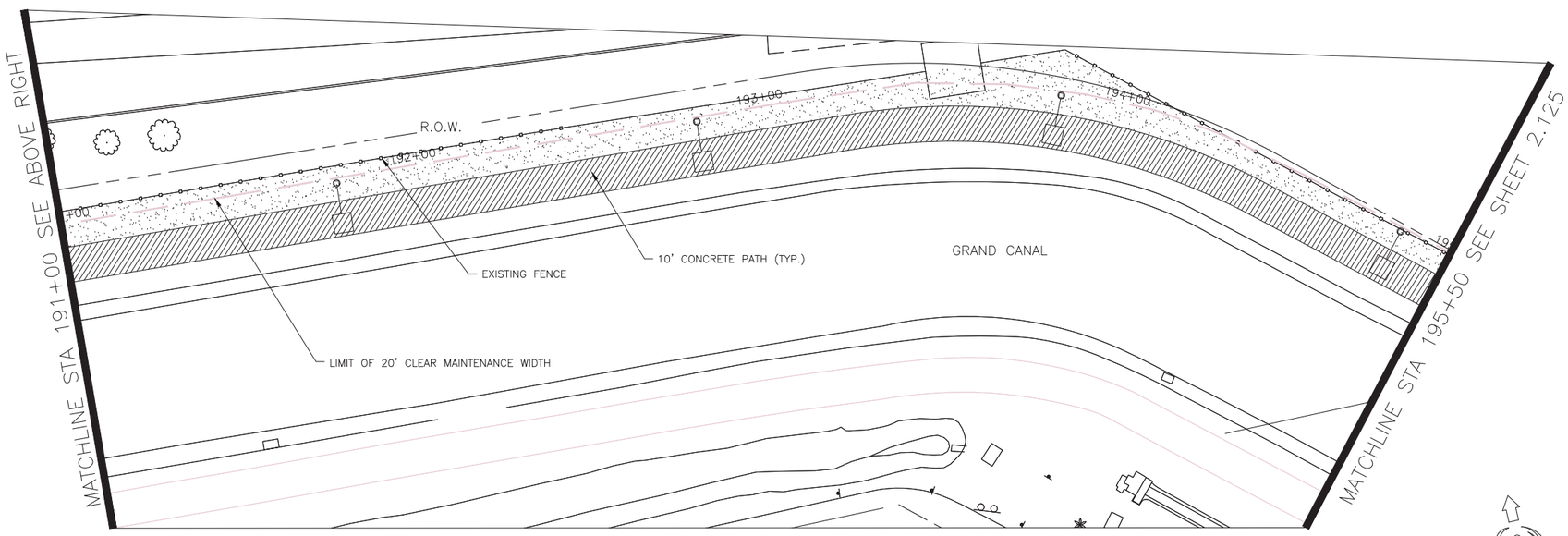
ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



NO LANDSCAPING ON THIS SHEET



NOTE:
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GRAPHIC SCALE IN FEET
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City of Phoenix
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ST87600114

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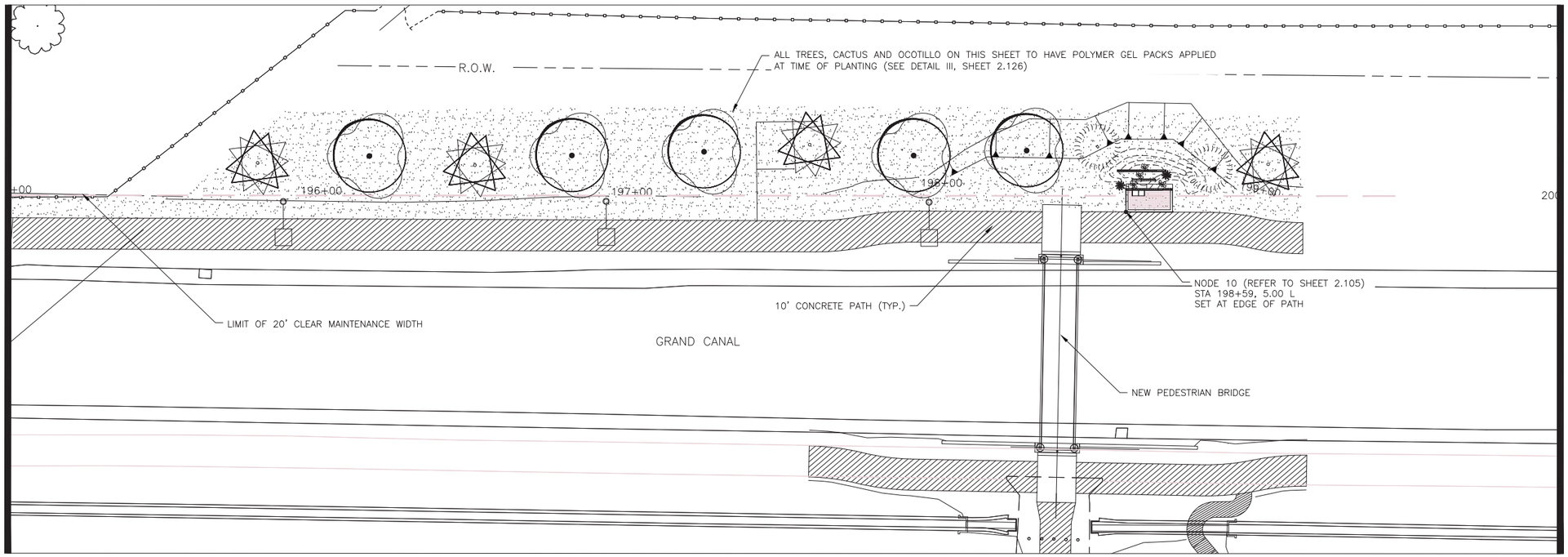
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET



NOTE:
ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.

GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
10/17/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.125	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE
TREES	M PV E	Existing Mesquite Tree to Remain Existing Palo Verde Tree to Remain Existing Eucalyptus Tree to Remain	
		Prosopis Hybrid Thornless MESQUITE HYBRID THORNLESS	10' H x 8' W MULTI-TRUNK
		Acacia aneura * MULGA TREE	9' H x 6' W 2" CALIPER
		Parkinsonia praecox PALO BREA	10' H x 7' W MULTI-TRUNK
		Olneya tesota IRONWOOD TREE	10' H x 7' W MULTI-TRUNK
		Chilopsis linearis * DESERT WILLOW	9' H x 7' W MULTI-TRUNK
		Lysiloma thornberi * FERN OF THE DESERT	6' H x 4' W MULTI-TRUNK
		Acacia craspedocarpa * LEATHER-LEAF ACACIA	6' H x 4' W 2" CALIPER
		Acacia willardiana* PALO BLANCO	8' H x 3' W 1.5" CALIPER
		* SRP Compliant Tree	
SHRUBS		Existing Oleander to Remain	
		Caesalpinia mexicana * SIERRA SUN CACALACO	65 GAL
		Leucophyllum laevigatum CHIHUAHUAN SAGE	5 GAL
		Ephedra viridis MORMON TEA	5 GAL
		Stipa tenuissima MEXICAN THREAD GRASS	5 GAL
		Ericameria laricifolia TURPENTINE BUSH	5 GAL
		Encelia farinosa * BRITTLEBUSH	5 GAL
		Chrysactinia mexicana * DAMANITA	5 GAL
		* SRP Compliant Plant	
ACCENTS		Opuntia violacea santa rita PURPLE PRICKLY PEAR	15 GAL
		Fouquieria splendens OCOTILLO	6'-7' HEIGHT
		Yucca rupicola TWISTED LEAF YUCCA	15 GAL
MATERIALS		Decomposed Granite 1" DEPTH, MOUNTAIN VISTA BROWN	½" SCREENED
		Native Seed Mix (DO NOT TREAT THESE AREAS WITH PRE-EMERGENT HERBICIDE) SONORAN WILDFLOWER SEED MIX *The native seed mix will go down as part of a 50/50 Hydroseed Rock installation per recommended procedures. The irrigation system will be available until plantings are well established or until the City decides it is no longer needed.*	
		Gabion Basket	2' x 2' x 6'
		Tie Down Point for Gabion Baskets and Nodes	Offset dimension measured from center line of new path

Waibel & Associates
Landscape Architecture
master planning · gardens & consulting · urban design
Phone 480.893.3849 Fax 480.893.3846
8611 South Priest Drive, Suite 101
Tempe AZ 85284
e-mail: janet @ waibel-la.com

Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.125	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

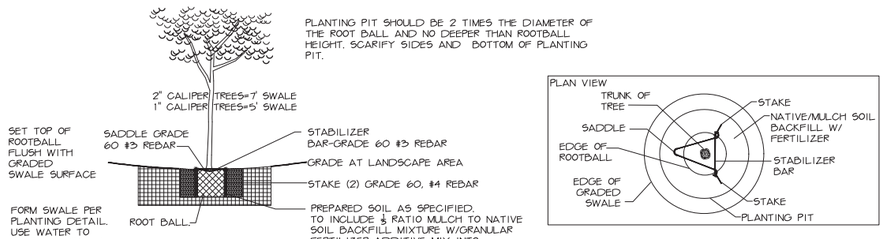
16TH STREET TO 36TH STREET

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

I. TREE PLANTING AND STAKING

NTS



BELOW GRADE STAKING SYSTEM SHALL BE INSTALLED AS RECOMMENDED BY GINGER TREE INNOVATIONS OR PRE-APPROVED EQUAL

TREE FERTILIZER SHALL BE 8-8-8 GUARANTEED ANALYSIS FOR N-P-K AND INCLUDE A MYCORRHIZAL INOCULANT ROOT GROWTH HORMONE AND WATER SAVING ELEMENTS

ADDITIONAL FERTILIZER SPECS

S 8.0%	ZN .5%
CU .05%	FE .5%
FE .5%	INDOLE-3-BUTYRIC ACID .246%
MG 1.0%	VIT. B1 .05%
MN .05	POLYMER ABSORBENT 10%

RATE OF APPLICATION

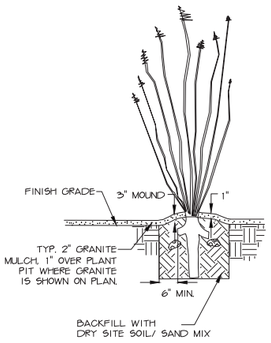
2 CUPS MIN. PER 24" BOX & LARGER

1 CUP MIN. PER 15 GAL.

¼ CUP PER 5 GAL. & SMALLER

II. OCOTILLO PLANTING

NTS

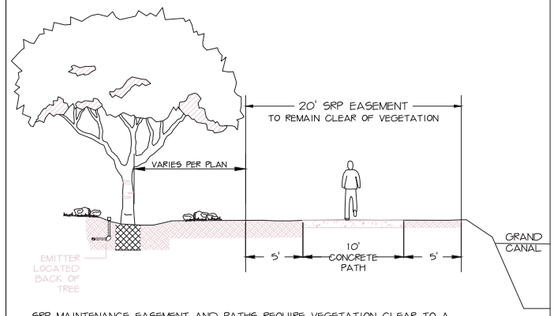


NOTES:

1. ROOT PRUNE ALL SHREDDED OR DAMAGED ROOTS.
2. ENSURE ALL WOUNDS TO THE ROOT SYSTEM ARE CLEAN CUT BEFORE PLANTING. APPLY DUSTING SULFUR TO ALL AREAS BELOW GRADE.
3. PLANT PIT SHALL BE 3 TIMES THE DIAMETER OF ROOTS AND NO DEEPER THAN THE EXTENSION OF THE ROOTS
4. BACKFILL PIT WITH 6" LAYERS OF RODDED, COMPACTED 1/3 GOLF SAND AND 2/3 DRY SITE SOIL MIX.
5. USE 3"-4" ROCKS TO ANCHOR ROOTS.
6. PLANTING DEPTH SHALL BE THE DEPTH AT WHICH PLANT WAS GROWN OR DEEPER BUT THE TAPERING OF THE ROOT COLLAR MUST BE VISIBLE.
7. ENSURE SURFACE WATER CAN NOT STAND AGAINST THE ROOT COLLAR.
8. ALL OCOTILLO PLACEMENT SHALL MATCH ORIGINAL ORIENTATION W/ORIGINAL NORTH SIDE FACING NORTH.
9. DO NOT WATER FOR THREE WEEKS FOLLOWING PLANTING.
10. WATER WEEKLY THROUGHOUT THE SUMMER AFTER INITIAL 3 WEEK ESTABLISHMENT PERIOD.

III. CONCRETE PATH CLEARANCE

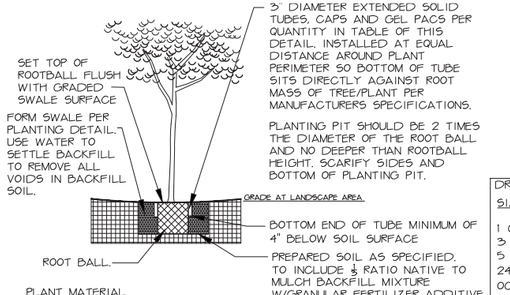
NTS



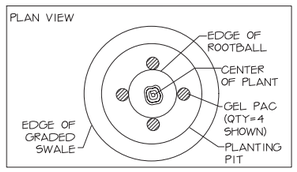
SRP MAINTENANCE EASEMENT AND PATHS REQUIRE VEGETATION CLEAR TO A HEIGHT OF 10 FEET. MATURE TREE CANOPY CAN NOT BE WITHIN SRP MAINTENANCE EASEMENT.

IV. DRYH20 INSTALLATION

NTS - PLACE WHERE INDICATED ON PLAN AND WHERE PERMANENT IRRIGATION SYSTEM IS NOT INSTALLED.



PLANT MATERIAL INSTALLATION PER STANDARD DETAILS LOCATED ON LANDSCAPE DETAIL SHEET



DRY H20 SCHEDULE

SIZE	HEIGHT	90 DAY SUPPLY	ZONE
1 GAL	1" - 1.5"	1 TUBE/ 2 GEL PACS PER	5
3 GAL	1.5" - 2'	1 TUBE/ 2 GEL PACS PER	5
5 GAL	2' - 3'	1 TUBE/ 2 GEL PACS PER	5
24" BOX	8'-11'	4 TUBE/ 8 GEL PACS PER	5
OCOTILLO	6'-7'	1 TUBE/ 2 GEL PACS PER	5
SAGUARO	6'-7'	1 TUBE/ 2 GEL PACS PER	5

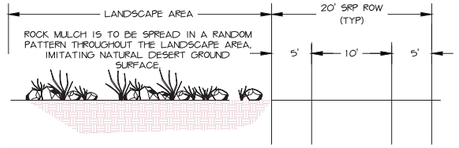
CLIMATE ZONE: 5 = SOUTHWEST — 1 TUBE = 45DAY SUPPLY

NOTES:

1. CONTRACTOR SHALL SUBMIT A PRODUCT SUBMITTAL FOR WATER GEL PACS AND TUBES FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
2. PLANT PIT BASINS CANNOT EXCEED A 2:1 SLOPE
3. PROVIDE SMOOTH TRANSITION TO FINISH GRADE
4. SOIL SHOULD BE WATERED AT TIME OF INITIAL TUBE INSTALLATION.
5. REMOVE GEL FROM PACKAGE PRIOR TO PLACEMENT IN TUBES.
6. FILL EACH TUBE WITH REQUIRED # GEL PACKS ONCE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

V. 50/50 HYDROSEED ROCK MIXTURE

NTS



NOTES:

THE ROCK MULCH MATERIAL SHALL BE ANGULAR AND 3"-6" IN SIZE. FOR COLOR SELECTION REFER TO LANDSCAPE LEGEND.

ROCK MULCH IS TO BE INSTALLED PRIOR TO SEEDING

THE ROCK MULCH WILL NOT BE PLACED UNTIL SUB-GRADES HAVE BEEN APPROVED AND AFTER IRRIGATION WORK IS COMPLETED.

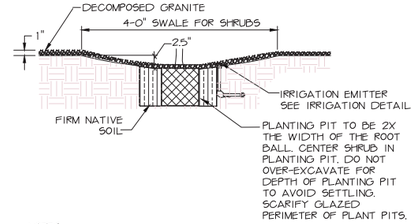
NO PRE-EMERGENT HERBICIDE SHALL BE APPLIED.

LANDSCAPE ARCHITECT SHALL BE CONTACTED TO BE AVAILABLE FOR FINAL APPROVAL OF ROCK SPREAD.

OBTAIN ROCKS WHICH HAVE BEEN SCREENED TO REMOVE ROCK SMALLER THAN 3" AND LARGER THAN 6". THE CONTRACTOR WILL SUBMIT A 1.0 CUBIC FOOT SAMPLE OF ROCK MULCH PRIOR TO DELIVERY OR INSTALLATION ON THE PROJECT SITE.

VI. SHRUB PLANTING

NTS

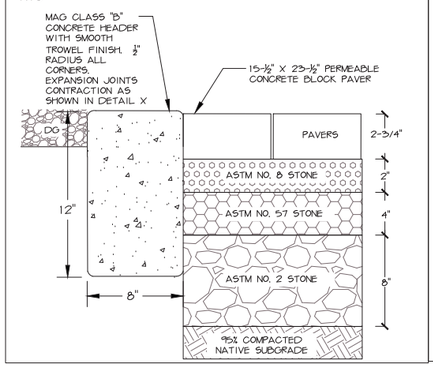


NOTES:

1. SIDES OF PLANTING PITS SHALL BE RAKED TO LOOSEN SOIL PRIOR TO SETTING SHRUB IN PIT.
2. GENTLY LOOSEN ROOTS AROUND EXTERIOR OF ROOT BALL.
3. PLANTS TO BE PRE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO DELIVERY TO SITE. IF PLANTS ARE OF QUESTIONABLE HEALTH AT TIME OF PLANTING CONTACT OWNER'S REPRESENTATIVE.
4. REMOVE ENTIRE CONTAINER FROM ALL PLANTS PRIOR TO PLANTING.
5. DO NOT PRUNE NEW PLANTS WITHOUT LANDSCAPE ARCHITECT APPROVAL/DIRECTION. TEST PLANT PITS FOR DRAINAGE.

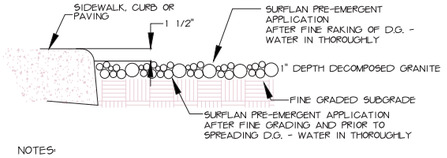
VII. PERMEABLE CONCRETE BLOCK PAVER WITH CONCRETE HEADER

NTS



VIII. DECOMPOSED GRANITE

NTS

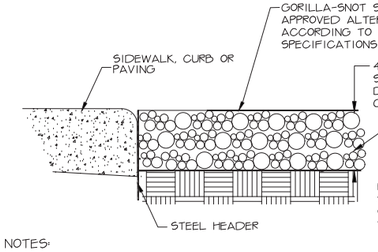


NOTES:

1. DECOMPOSED GRANITE FINISH GRADE TO BE RAKED SMOOTH. DG FINISH GRADE SHALL BE 1 1/2" BELOW ALL ADJACENT PAVING/CURBS
2. SUBMIT COLOR SAMPLE OF DECOMPOSED GRANITE FOR APPROVAL BY LANDSCAPE ARCHITECT.
3. SUBMIT CERTIFIED PESTICIDE APPLICATOR'S LICENSE PRIOR TO CONSTRUCTION. SUBMIT PRODUCT LABEL FOR APPROVAL.
4. APPLY PRE-EMERGENT HERBICIDE PER MANUFACTURER INSTRUCTIONS. TWO (2) APPLICATIONS ARE REQUIRED. ONE BEFORE PLACEMENT OF D.G. (AFTER SUBGRADE HAS BEEN APPROVED) AND ONE AFTER SPREADING D.G. CERTIFIED PESTICIDE APPLICATOR SHALL CONDUCT APPLICATION. LICENSE AND NOTIFICATION OF APPLICATION SHALL BE PROVIDED MIN. 48 HOURS IN ADVANCE OF APPLICATION. WATER IN EACH APPLICATION PER MANUFACTURER'S INSTRUCTIONS.
5. D.G. SIZE/STYLE AS SPECIFIED ON PLANT LEGEND

IX. STABILIZED DECOMPOSED GRANITE

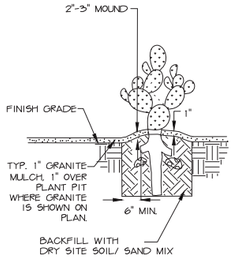
NTS



NOTES:

1. STABILIZED DECOMPOSED GRANITE FINISH GRADE SHALL BE SMOOTH AND EVEN. STABILIZED D.G. FINISH GRADE SHALL BE FLUSH WITH ALL ADJACENT PAVING/CURBS
2. PREPARE 10'X10' SAMPLE INSTALLATION OUTSIDE PROJECT AREA FOR APPROVAL AS PROJECT STANDARD
3. SEE STABILIZER SPECIFICATION FOR INSTALLATION PROCEDURE TO MANUFACTURERS SPECS.

X. CACTUS PLANTING



NOTES:

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2. ENSURE ALL WOUNDS TO THE ROOT SYSTEM ARE CLEAN CUT BEFORE PLANTING. APPLY DUSTING SULFUR TO ALL AREAS BELOW GRADE.
3. PLANT PIT SHALL BE 3 TIMES THE DIAMETER OF ROOTS AND NO DEEPER THAN THE EXTENSION OF THE ROOTS
4. BACKFILL PIT WITH 6" LAYERS OF RODDED, COMPACTED 1/3 GOLF SAND AND 2/3 DRY SITE SOIL MIX.
5. USE 3"-4" ROCKS/RIP RAP TO ANCHOR ROOTS.
6. PLANTING DEPTH SHALL BE THE DEPTH AT WHICH PLANT WAS GROWN OR DEEPER BUT THE TAPERING OF THE ROOT COLLAR MUST BE VISIBLE.
7. ENSURE SURFACE WATER CAN NOT STAND AGAINST THE ROOT COLLAR. SLOPE GRADE AWAY FROM BASE OF CACTUS.
8. ALL CACTUS PLACEMENT SHALL MATCH ORIGINAL ORIENTATION W/ORIGINAL NORTH SIDE FACING NORTH.
9. DO NOT WATER FOR THREE WEEKS FOLLOWING PLANTING.
10. WATER WEEKLY THROUGHOUT THE SUMMER. MAINTAIN ORIGINAL GROWING ORIENTATION.

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT 24745 JANET L. WAIBEL 7/14/2017 ARIZONA, U.S.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.126	2.182

eac ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

GENERAL NOTES:
DECOMPOSED GRANITE—
AS PER NOTED ON PLANS AND SPECIFICATIONS. SUBMIT SAMPLE FOR LANDSCAPE ARCHITECTS APPROVAL.

M.A.G. NOTE—
SEE M.A.G. SPECIFICATIONS, CITY OF PHOENIX SUPPLEMENT TO M.A.G., SPECIAL PROVISIONS AND DETAILS FOR ADDITIONAL REQUIREMENTS

LANDSCAPE NOTES:
1. ALL LANDSCAPE AREAS SHALL BE TREATED WITH PRE-EMERGENT HERBICIDE EXCEPT FOR HYDROSEED AREAS.
2. ALL PLANTED AREAS SHALL BE COVERED WITH 2" LAYER OF DECOMPOSED GRANITE.
3. ALL PLANTINGS SHALL BE KEPT A MINIMUM OF 5' FROM FIRE HYDRANTS.

Waibel & Associates Landscape Architecture
master planning · gardens & consulting · urban design
Phone 480.893.3849 Fax 480.893.3846
8611 South Priest Drive, Suite 101
Tempe AZ 85284
e-mail: janet @ waibel-la.com

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LANDSCAPE DETAILS I

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.126	2.182

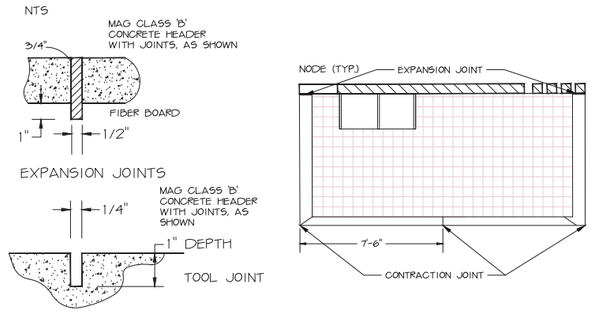
ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

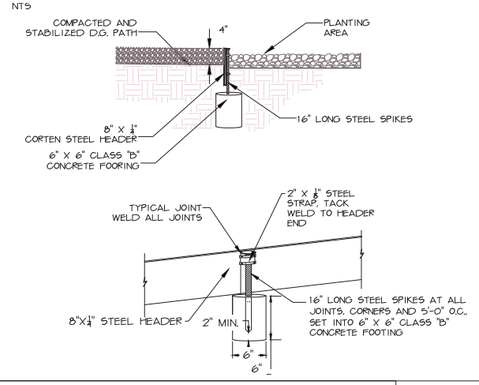
XI. EXPANSION AND CONTRACTION JOINTS FOR CONCRETE HEADER

NTS



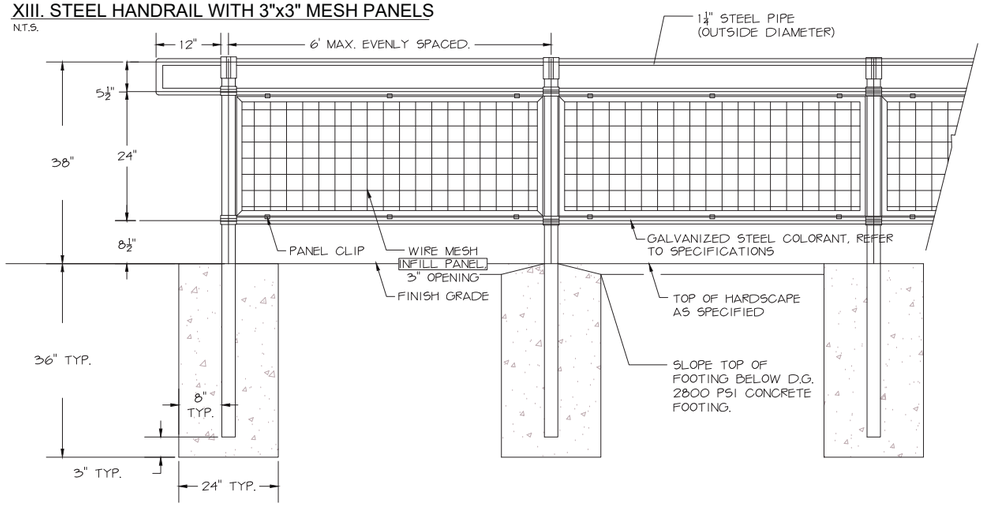
XII. STEEL HEADER FOR STABILIZED D.G. PATHS

NTS



XIII. STEEL HANDRAIL WITH 3"x3" MESH PANELS

N.T.S.

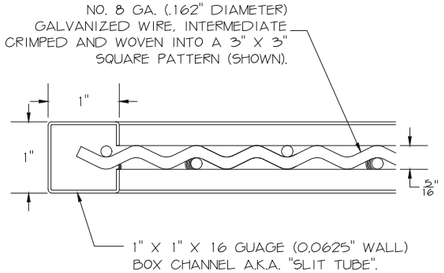


NOTES:

1. PROVIDE ELASTOMERIC EXPANSION JOINT FOR CONCRETE ADJACENT TO VERTICAL SUPPORTS. SET COMPLETELY FLUSH TO CONCRETE AND REMOVE EXCESS FROM ADJACENT MATERIALS AND SURFACES.
2. SLOPE TOP OF FOOTING TO DRAIN, BELOW 2" D.G.
3. GRIND ALL WELDS SMOOTH AND REMOVE/SAND ALL BURS AND ROUGHNESS AT ALL LOCATIONS.
4. PROVIDE VERTICAL SUPPORTS AT 6' MAX O.C. AND AT CHANGES IN HEIGHT.

XIV. WIRE MESH FRAME

N.T.S.



SONORAN DESERT WILDFLOWER SEED MIX			
WILDFLOWER MIX	COMMON NAME	BOTANICAL NAME	PLS lbs/acre
ANNUALS **all SRP approved	Mexican Poppy	*Eschscholzia californica ssp. mexicana*	2
	Arizona Poppy	*Kallstroemia grandiflora*	2
	Desert Lupine	*Lupinus sparsiflorus*	2
	Arizona Lupine	*Lupinus arizonicus*	2
PERENNIALS **all SRP approved	Paper Flower	*Psilostrophe cooperi*	1
	Evening Primrose	*Oenothera caespitosa*	1
	Desert Marigold	*Baileya multiradiata*	1
	Rock Penstemon	*Penstemon baccarifolius*	2
	Coral Penstemon	*Penstemon superbus*	2
	Desert Ageratum	*Ageratum corymbosum*	2
	Daminiata daisy	*Chrysactinia mexicana*	1

LANDSCAPE NOTES:

1. LANDSCAPE AREAS ARE DEFINED AS ALL NON PAVED AREAS DISTURBED BY CONSTRUCTION. SLIGHT VARIATIONS MAY EXIST BETWEEN ACTUAL SITE CONDITIONS AND DRAWINGS. CONTRACTOR SHALL ADJUST PLANTING LAYOUT AS REQUIRED TO MAINTAIN PLANT QUANTITIES AND DESIGN INTENT. FOR AREAS OVER 100 S.F. CONTACT LANDSCAPE ARCHITECT FOR REVISION TO PLANT LAYOUT.
2. NO PLANT SUBSTITUTIONS, TYPE, SIZE, OR QUANTITY, OR DEVIATIONS FROM THE APPROVED LANDSCAPE OR IRRIGATION PLANS, ARE ALLOWED WITHOUT PRIOR APPROVAL FROM THE CITY OF PHOENIX
3. COORDINATE ALL NECESSARY EXCAVATION AREAS WITH OWNER'S REPRESENTATIVE.
4. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL LANDSCAPE SLEEVING. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR. VERIFY ANY EXISTING SLEEVES INSTALLED BY OTHER CONTRACTORS.
5. IRRIGATION AND ELECTRICAL SLEEVES TO BE SCHEDULE 40 PVC. ALL SLEEVES TO EXTEND 6" BEYOND CONCRETE STRUCTURES. ALLOW AT LEAST 4" – 6" FROM END OF SLEEVES TO FIRST FITTING ON IRRIGATION LINES. ALL SLEEVES TO BE 24" BELOW GRADE AND/OR AS PER PROJECT DETAILS.
6. COMMON SLEEVES MAY BE USED FOR LATERAL LINES AND MAINLINES. CONTRACTOR IS RESPONSIBLE FOR ADEQUATE SIZE SLEEVE SO ALL PIPES MOVE FREELY WITHIN THE SLEEVE. CONTRACTOR TO 'AS BUILT' ALL SLEEVE SIZES AND LOCATIONS.
7. MARK BACK OF CURBS AT SLEEVE LOCATIONS BY NOTCHING THE CONCRETE WITH 1/2" "V" NOTCH OR VERTICALLY PLACED #4 REBAR AS BUILT.
8. FINISHED GRADE(S) NOTED ON THE LANDSCAPE PLAN TO BE FIELD VERIFIED/APPROVED AND MODIFIED AS PER ARCHITECTURAL CIVIL DRAWINGS.
9. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS NOT SHOWN ON DRAWINGS.
10. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER CARE AND HANDLING OF TREES AND PLANTS FOR DELIVERY AND PLACEMENT IN PLANTING PIT. TREES THAT ARE DROPPED FROM TRUCKS OR DROPPED INTO PITS SHALL BE REJECTED FOR REPLACEMENT BY THE LANDSCAPE CONTRACTOR. IF ROOTBALLS FALL APART DURING THE PLANTING OPERATION THE PLANT SHALL NOT BE PLANTED. NEW PLANT MATERIALS SHALL BE PROVIDED TO REPLACE THOSE THAT ROOTBALLS FALL APART.
11. PLANT CONTAINERS SHALL BE CUT TO REMOVE ROOTBALLS THAT ARE TIGHT IN THE CONTAINER. THE CONTRACTOR SHALL NOT REMOVE THE PLANT FROM THE CONTAINER BY THE TRUNK.
12. THE LANDSCAPE CONTRACTOR SHALL WARRANT THE TREES AND SHRUBS FOR ONE YEAR FROM THE DATE OF FINAL PROJECT ACCEPTANCE, BY THE CITY OR SUBSTANTIAL PROJECT COMPLETION.
13. THE CITY OF PHOENIX GENERAL NOTES ARE THE ONLY NOTES APPROVED ON THIS PLAN. ADDITIONAL GENERAL NOTES GENERATED BY THE SEALANT AND PLACED ON THE PLANS ARE NOT APPROVED AS PART OF THIS PLAN AND ARE NOTED AS SUCH ON THE PLANS.
14. THE DESIGN ON THESE PLANS IS ONLY APPROVED BY THE CITY IN SCOPE AND NOT IN DETAIL. CONSTRUCTION QUANTITIES ON THESE PLANS ARE NOT VERIFIED BY THE CITY. APPROVAL OF THESE PLANS ARE FOR PERMIT PURPOSES ONLY AND SHALL NOT PREVENT THE CITY FROM REQUIRING CORRECTION OF ERRORS IN THE PLANS WHERE SUCH ERRORS ARE SUBSEQUENTLY FOUND TO BE IN VIOLATION OF ANY LAW, ORDINANCE, HEALTH, SAFETY, OR OTHER DESIGN ISSUES.
15. CONSTRUCTION WITHIN THE RIGHT–OF–WAY SHALL CONFORM TO THE LATEST APPLICABLE MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND DETAILS AND THE LATEST CITY OF PHOENIX SUPPLEMENT TO THE MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS.
16. ALL PLANT MATERIAL AND SPECIFICATIONS SHALL CONFORM TO THE ARIZONA NURSERY ASSOCIATION STANDARDS.
17. ALL RIGHT–OF–WAY AND CITY REQUIRED (PERIMETER, RETENTION, AND PARKING) PLANT MATERIAL SHALL BE IN COMPLIANCE WITH THE DEPARTMENT OF WATER RESOURCES LOW WATER USE PLANT LIST.
18. ALL EXISTING TREES AND SHRUBS IN RIGHT–OF–WAY DESIGNATED TO REMAIN BUT ARE DAMAGED OR DESTROYED WILL BE REPLACED IN LIKE SIZE AND KIND BY THE CONTRACTOR.
19. TREES ADJACENT TO PEDESTRIAN WALKWAYS SHOULD HAVE A MINIMUM CANOPY CLEARANCE OF SIX FEET EIGHT INCHES (6'8") PER SECTION 507 TAB A.II.A.3.1.10 OF THE CITY OF PHOENIX ZONING ORDINANCE.
20. PLANT QUANTITIES AND CALIPER SIZES PROVIDED IN THE LEGEND ON THE APPROVED PLANS ARE REQUIRED TO BE INSTALLED IN THE FIELD, ANY DEVIATIONS FROM THE PLAN WILL REQUIRE A SUBMITTAL OF A PROPOSED SUBSTITUTION FOR COP APPROVAL PRIOR TO INSTALLATION.
21. STAKE OR MARK ALL NODES, IRRIGATION EQUIPMENT, SIGN LOCATIONS AND ELECTRICAL EQUIPMENT FOR COP APPROVAL PRIOR TO CONSTRUCTION.

LANDSCAPE LEGEND

	SYMBOL	NAME	SIZE	QTY.	NOTES
TREES	M / PV / E	Existing Mesquite Tree to Remain Existing Palo Verde Tree to Remain Existing Eucalyptus Tree to Remain			
		Prosopis Hybrid Thornless MESQUITE HYBRID THORNLESS	10' H x 8' W MULTI-TRUNK	61	36" BOX
		Acacia aneura * MULGA TREE	9' H x 6' W 2" CALIPER	30	36" BOX
		Parkinsonia praecox PALO BREA	10' H x 7' W MULTI-TRUNK	11	36" BOX
		Olneya tesota IRONWOOD TREE	10' H x 7' W MULTI-TRUNK	19	36" BOX
		Chilopsis linearis * DESERT WILLOW	9' H x 7' W MULTI-TRUNK	21	36" BOX
		Lysiloma thornberi * FERN OF THE DESERT	6' H x 4' W MULTI-TRUNK	32	24" BOX
		Acacia craspedocarpa * LEATHER-LEAF ACACIA	6' H x 4' W 2" CALIPER	49	24" BOX
		Acacia willardiana* PALO BLANCO	8' H x 3' W 1.5" CALIPER	71	24" BOX
		* SRP Compliant Tree			
SHRUBS		Existing Oleander to Remain			
		Caesalpinia mexicana * SIERRA SUN CACALACO	65 GAL	117	MULTI-TRUNK
		Leucophyllum laevigatum CHIHUAHUAN SAGE	5 GAL	344	X
		Ephedra viridis MORMON TEA	5 GAL	220	X
		Stipa tenuissima MEXICAN THREAD GRASS	5 GAL	1141	X
		Ericameria laricifolia TURPENTINE BUSH	5 GAL	322	X
		Encelia farinosa * BRITTLEBUSH	5 GAL	296	X
		Chrysactinia mexicana * DAMIANITA	5 GAL	678	X
		* SRP Compliant Plant			
ACCENTS		Opuntia violacea santa rita PURPLE PRICKLY PEAR	15 GAL	139	X
		Fouquieria splendens OCOTILLO	6'-7' HEIGHT	117	X
		Yucca rupicola TWISTED LEAF YUCCA	15 GAL	95	X
MATERIALS		Decomposed Granite 1" DEPTH, MOUNTAIN VISTA BROWN	½" SCREENED	1025 C.Y. 1538 TONS	X
		Native Seed Mix (DO NOT TREAT THESE AREAS WITH PRE-EMERGENT HERBICIDE) SONORAN WILDFLOWER SEED MIX *The native seed mix will go down as part of a 50/50 Hydroseed Rock installation per recommended procedures. The irrigation system will be available until plantings are well established or until the City decides it is no longer needed.*		2.3 Acres	See Native Seeding Special Provisions and Sheet 2.127 for seed mix
		Gabion Basket	2' x 2' x 6'	79	

REGISTERED LANDSCAPE ARCHITECT 24745 JANET L. WAIBEL 07/14/2017 ARIZONA, U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.127	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

GENERAL NOTES:
DECOMPOSED GRANITE–
AS PER NOTED ON PLANS AND SPECIFICATIONS. SUBMIT SAMPLE FOR LANDSCAPE ARCHITECTS APPROVAL.

M.A.G. NOTE–
SEE M.A.G. SPECIFICATIONS, CITY OF PHOENIX SUPPLEMENT TO M.A.G., SPECIAL PROVISIONS AND DETAILS FOR ADDITIONAL REQUIREMENTS

LANDSCAPE NOTES:
1. ALL LANDSCAPE AREAS SHALL BE TREATED WITH PRE–EMERGENT HERBICIDE EXCEPT FOR HYDROSEED AREAS.
2. ALL PLANTED AREAS SHALL BE COVERED WITH 2" LAYER OF DECOMPOSED GRANITE.
3. ALL PLANTINGS SHALL BE KEPT A MINIMUM OF 5' FROM FIRE HYDRANTS.

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LANDSCAPE DETAILS II

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.127	2.182

REVISED 10/2/2017

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

REVISION BY CITY OF PHOENIX				
NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX				
NO.	DESCRIPTION	REV BY	CKD BY	DATE

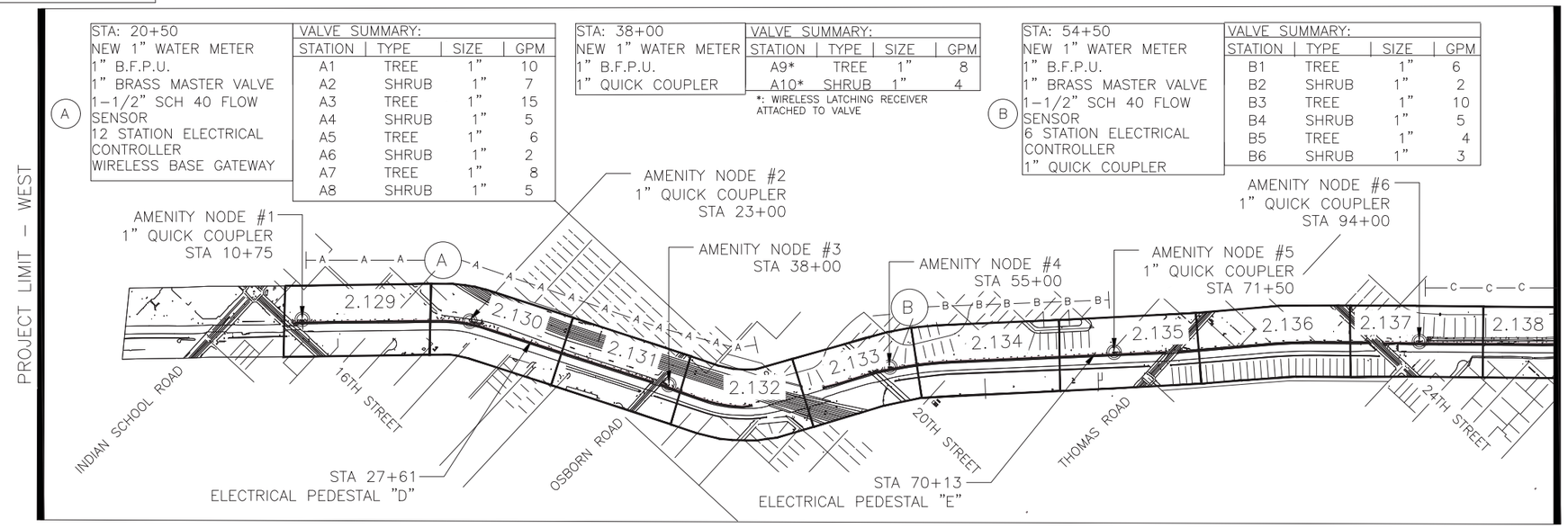
REVISION BY CITY OF PHOENIX				
NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

IRRIGATION OVERVIEW:

NOTES:
1. EQUIPMENT LOCATIONS ARE APPROXIMATE, SUBJECT TO APPROVAL BY C.O.P.



STA: 20+50
NEW 1" WATER METER
1" B.F.P.U.
1" BRASS MASTER VALVE
1-1/2" SCH 40 FLOW SENSOR
12 STATION ELECTRICAL CONTROLLER
WIRELESS BASE GATEWAY

VALVE SUMMARY:

STATION	TYPE	SIZE	GPM
A1	TREE	1"	10
A2	SHRUB	1"	7
A3	TREE	1"	15
A4	SHRUB	1"	5
A5	TREE	1"	6
A6	SHRUB	1"	2
A7	TREE	1"	8
A8	SHRUB	1"	5

STA: 38+00
NEW 1" WATER METER
1" B.F.P.U.
1" QUICK COUPLER

VALVE SUMMARY:

STATION	TYPE	SIZE	GPM
A9*	TREE	1"	8
A10*	SHRUB	1"	4

*: WIRELESS LATCHING RECEIVER ATTACHED TO VALVE

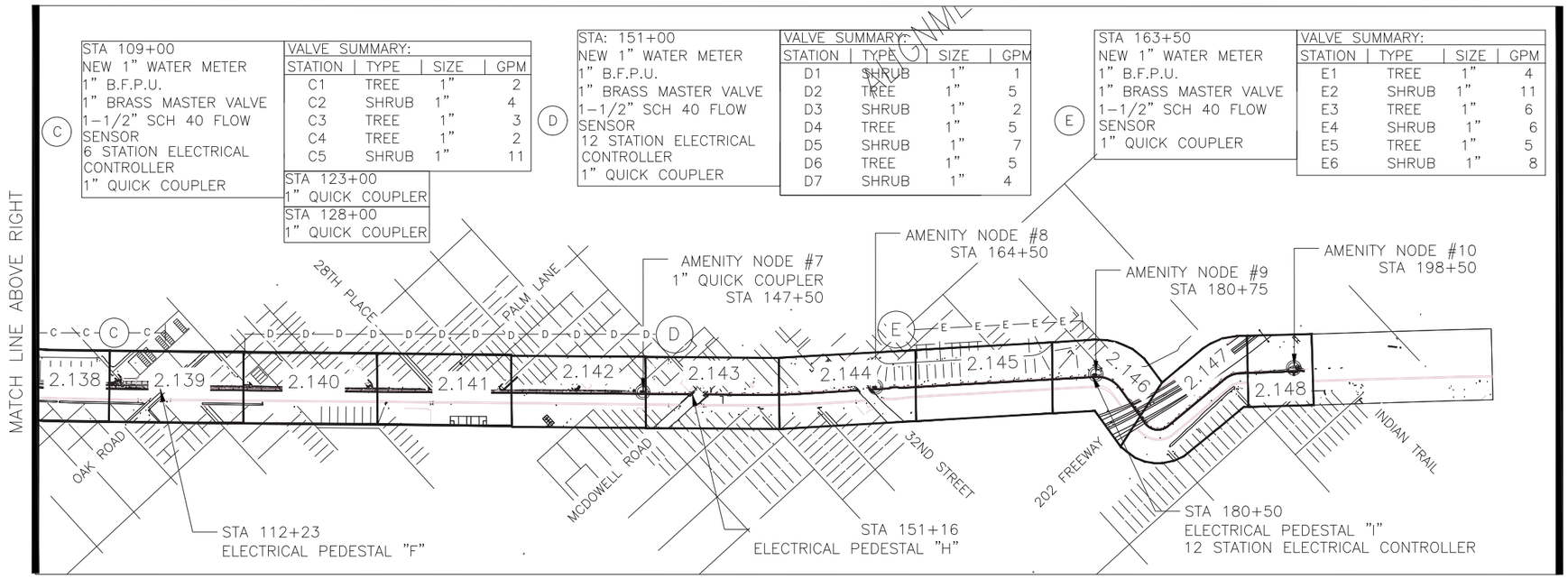
STA: 54+50
NEW 1" WATER METER
1" B.F.P.U.
1" BRASS MASTER VALVE
1-1/2" SCH 40 FLOW SENSOR
6 STATION ELECTRICAL CONTROLLER
1" QUICK COUPLER

VALVE SUMMARY:

STATION	TYPE	SIZE	GPM
B1	TREE	1"	6
B2	SHRUB	1"	2
B3	TREE	1"	10
B4	SHRUB	1"	5
B5	TREE	1"	4
B6	SHRUB	1"	3

GRAPHIC SCALE IN FEET
0 250 500 1000

City of Phoenix
N



STA 109+00
NEW 1" WATER METER
1" B.F.P.U.
1" BRASS MASTER VALVE
1-1/2" SCH 40 FLOW SENSOR
6 STATION ELECTRICAL CONTROLLER
1" QUICK COUPLER

VALVE SUMMARY:

STATION	TYPE	SIZE	GPM
C1	TREE	1"	2
C2	SHRUB	1"	4
C3	TREE	1"	3
C4	TREE	1"	2
C5	SHRUB	1"	11

STA 123+00
1" QUICK COUPLER

STA 128+00
1" QUICK COUPLER

STA: 151+00
NEW 1" WATER METER
1" B.F.P.U.
1" BRASS MASTER VALVE
1-1/2" SCH 40 FLOW SENSOR
12 STATION ELECTRICAL CONTROLLER
1" QUICK COUPLER

VALVE SUMMARY:

STATION	TYPE	SIZE	GPM
D1	SHRUB	1"	1
D2	TREE	1"	5
D3	SHRUB	1"	2
D4	TREE	1"	5
D5	SHRUB	1"	7
D6	TREE	1"	5
D7	SHRUB	1"	4

STA 163+50
NEW 1" WATER METER
1" B.F.P.U.
1" BRASS MASTER VALVE
1-1/2" SCH 40 FLOW SENSOR
1" QUICK COUPLER

VALVE SUMMARY:

STATION	TYPE	SIZE	GPM
E1	TREE	1"	4
E2	SHRUB	1"	11
E3	TREE	1"	6
E4	SHRUB	1"	6
E5	TREE	1"	5
E6	SHRUB	1"	8

GRAPHIC SCALE IN FEET
0 250 500 1000

City of Phoenix
N

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
7/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.128	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

GENERAL NOTES:
VALVE NOTES–
1. ONLY ONE VALVE PER VALVE BOX AND ALL HARDWARE TO BE STAINLESS STEEL. ANY BOLTS ON COVER TO HAVE WASHERS.
2. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX (WRAP AROUND ½" PIPE 15–TIMES).
3. STEP–UP VALVE W/ 45 DEG. FITTINGS TO MAINTAIN 6" BETWEEN VALVE AND TOP OF BOX.
4. EMBOSS COVER WITH ½" NO. WHICH CORRESPONDS TO VALVE NO. ON IRRIGATION PLANS.
5. CONTRACTOR TO PROVIDE A LIST OF GPS COORDINATE POINTS FOR ALL VALVE BOXES THAT ARE TO BE BURIED.

SLEEVE NOTES–
1. SLEEVE UNDER ALL PAVEMENT AND DRIVEWAY THAT ARE CROSSED WITH IRRIGATION PIPE OR CONTROLLER WIRE.
2. USE SCHEDULE 40 PIPE. SIZES AS FOLLOWED UNLESS OTHERWISE NOTED ON PLANS; FOR PIPE ½" TO 1–¼", USE 3" SLEEVE, FOR PIPES 1–½" TO 2", USE 4" SLEEVE AND FOR CONTROLLER WIRE, USE 3" SLEEVE.
3. ALL SLEEVES FOR CONTROLLER WIRE, CROSSING STREET PAVING SHALL HAVE A PULL BOX AT EACH END, ALL WIRE SHALL HAVE PENN–TIE CONNECTORS IN EACH PULL BOX.
4. ALL CONTROLLER WIRE SPLICES SHALL BE CONTAINED WITHIN A PULL BOX.

M.A.G. NOTE–
SEE M.A.G. SPECIFICATIONS, CITY OF PHOENIX SUPPLEMENT TO M.A.G., SPECIAL PROVISIONS AND DETAILS FOR ADDITIONAL REQUIREMENTS

IRRIGATION NOTE:
1. IRRIGATION DESIGN IS SCHEMATIC ONLY. ALL CONSTRUCTION AND INSTALLATION OF IRRIGATION SYSTEM SHALL BE WITHIN CITY RIGHTS–OF–WAY OR EASEMENTS. REFER TO LANDSCAPING SPECS. AND DETAILS FOR ADDITIONAL INFORMATION.
2. IRRIGATION LINE SIZES ARE AS SHOWN. FOR ANY DISCREPANCIES, NOTIFY LANDSCAPE ARCHITECT.

IRRIGATION CONTROLLER ZONES

A — A	STA 10+25	–	44+50
B — B	STA 55+00	–	71+50
C — C	STA 94+00	–	112+25
D — D	STA 118+50	–	151+15
E — E	STA 164+50	–	181+50

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IRRIGATION OVERVIEW

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
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SCALE			2.128	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

CONTRACTOR TO FLAG ALL EQUIPMENT LOCATIONS IN THE FIELD FOR APPROVAL BY C.O.P. PRIOR TO INSTALLATION.

REGISTERED LANDSCAPE ARCHITECT 24745 JANET L. WAIBEL 7/14/2017 ARIZONA, U.S.A. EXPIRES 12 31 2019

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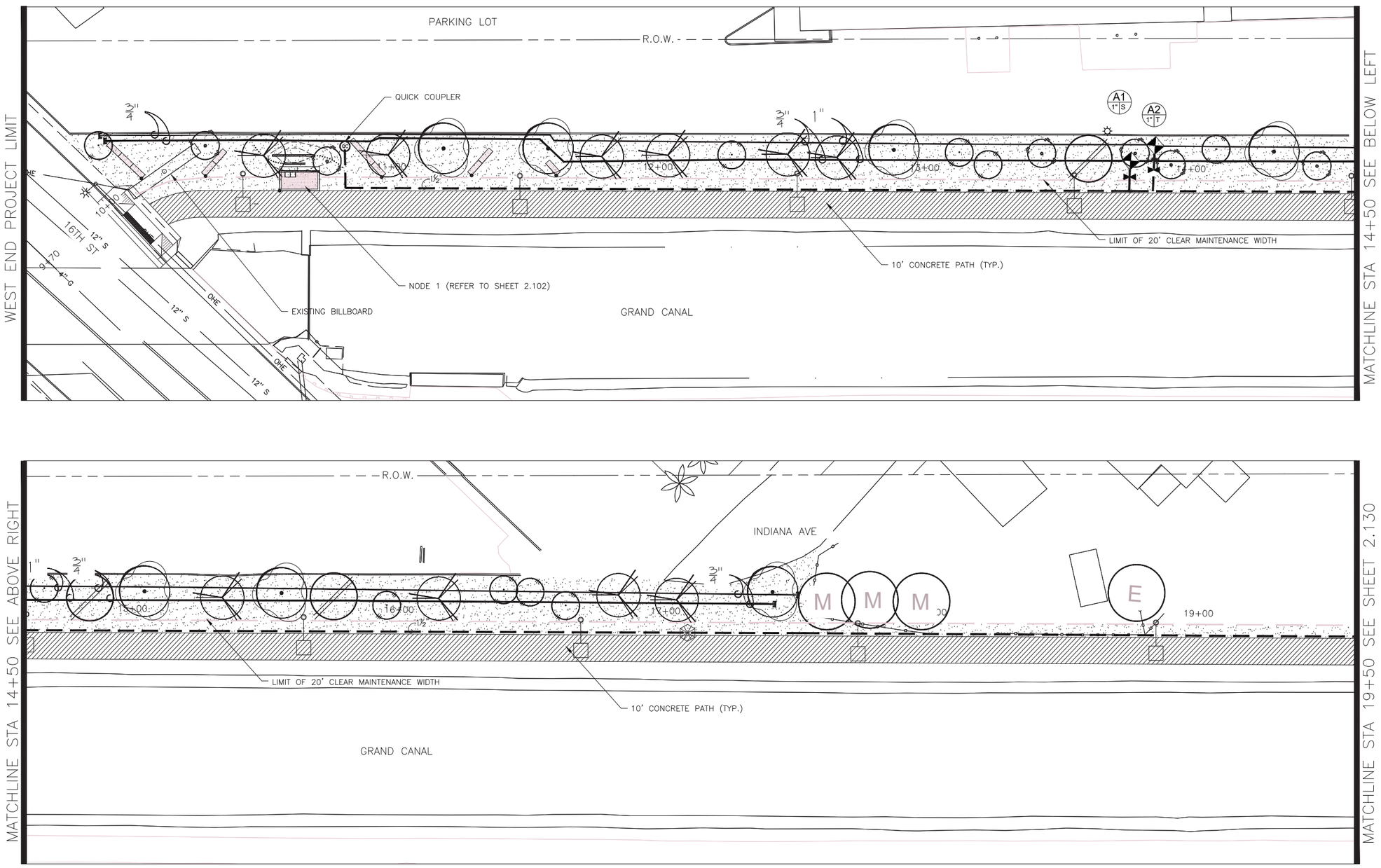

IRRIGATION LEGEND

Symbol	Description
M	New Water Meter - See plans for locations
P	Electrical Power Pedestal
C	Controller
WG	Base Wireless Gateway
BFPU	Backflow Prevention Unit with Enclosure
MV	Master Valve
FS	Flow Sensor
	1" Remote Control Valve Pressure Regulator Wye Strainer (not shown on plan)
WR	Wireless DC Latching Receiver
	Mainline Gate Valve (not shown on plan, place at midpoint of mainline between valves)
	Ball Valve
QC	Quick Coupler
	Emitter Irrigation Line for Trees
	Emitter Irrigation Line for Shrubs
	Multi-port Emitter for Trees and Shrubs (1 per tree, 1 per 6 shrubs) (not shown on plan)
	Single-port Emitter- As Needed (not shown on plan)
	Flush Cap, Typical end of all lateral lines
	Sch 40 PVC Sleeving under all pavement
	Mainline - 1 1/2" Schedule 40 PVC

Valve Key

Station Number — A1 — GPM

Valve Size — 1" X

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NOTE:
ALL GROUND-DISTURBING ACTIVITIES MUST BE MONITORED BY THE ARCHAEOLOGIST PROVIDED BY THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ARCHAEOLOGIST.

GRAPHIC SCALE IN FEET 0 20 40

City of Phoenix N

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
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REVISION BY CITY OF PHOENIX

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ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

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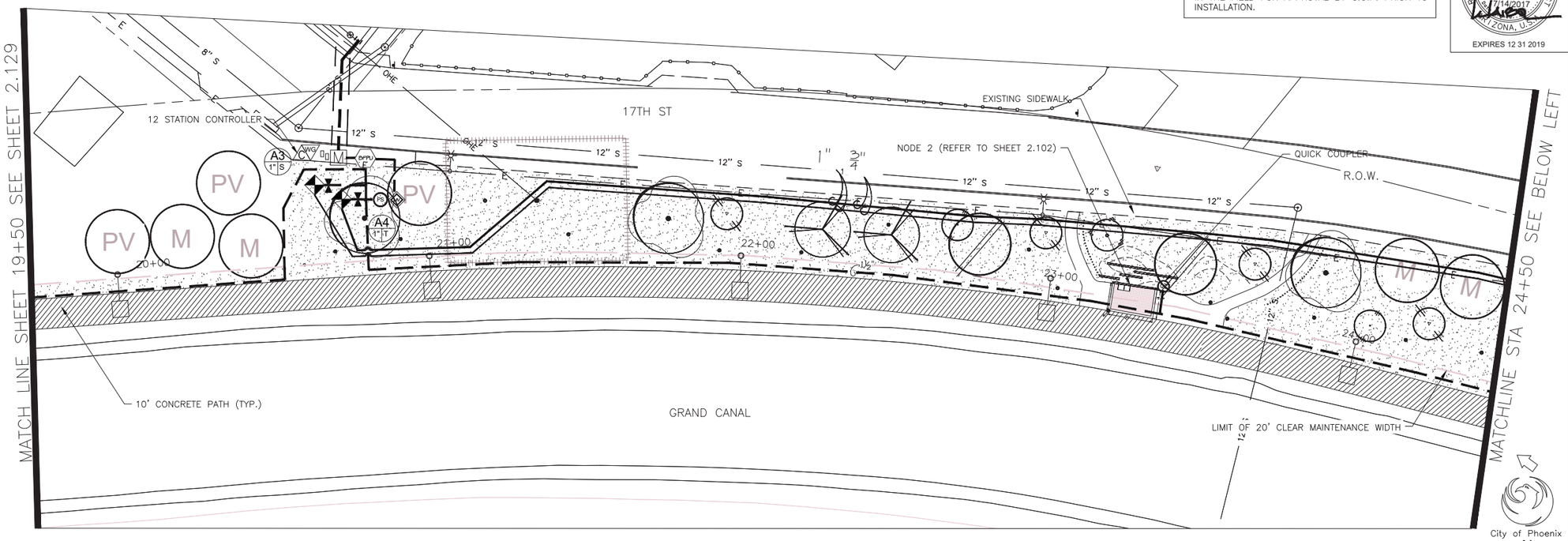

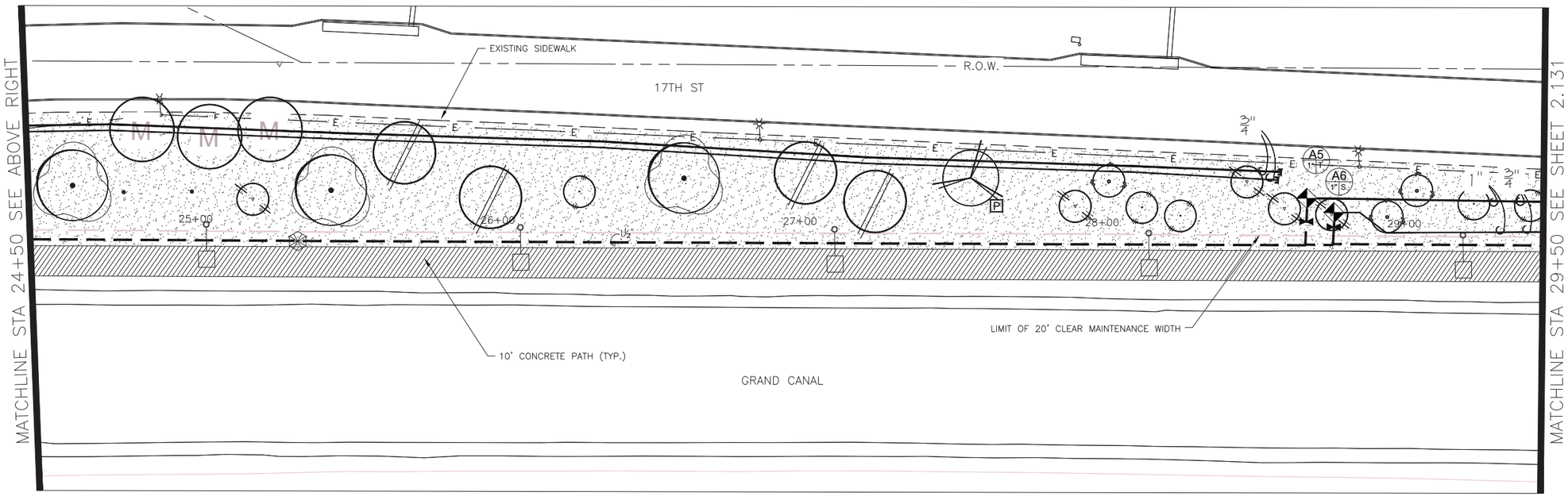

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eac ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

IRRIGATION LEGEND

Symbol	Description
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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.130	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

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REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
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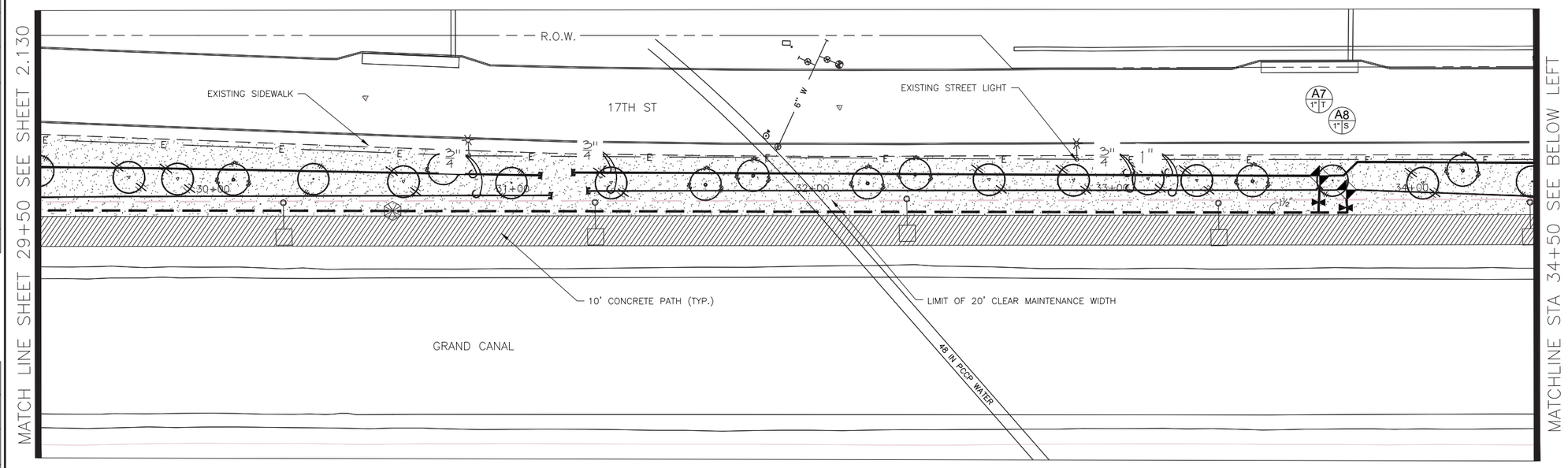
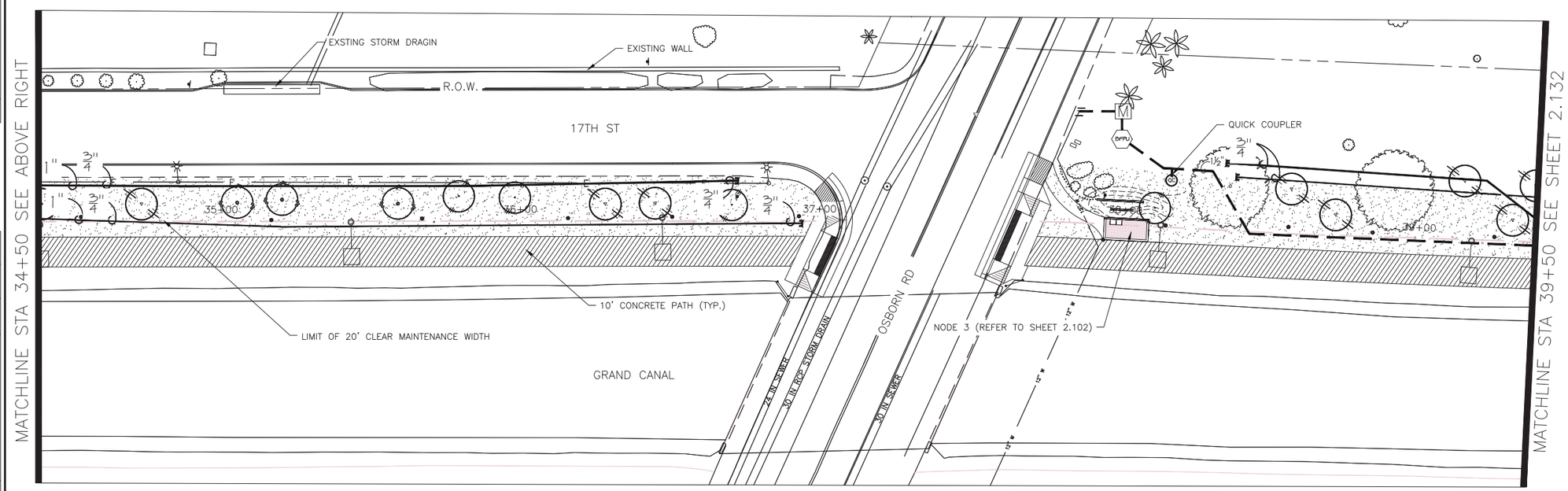
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17





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GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

IRRIGATION LEGEND

Symbol	Description
M	New Water Meter - See plans for locations
P	Electrical Power Pedestal
C	Controller
WG	Base Wireless Gateway
BFPU	Backflow Prevention Unit with Enclosure
MV	Master Valve
FS	Flow Sensor
	1" Remote Control Valve Pressure Regulator Wye Strainer (not shown on plan)
WR	Wireless DC Latching Receiver
	Mainline Gate Valve (not shown on plan, place at midpoint of mainline between valves)
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	Emitter Irrigation Line for Trees
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Valve Key
Station Number
A1
1" X
Valve Size
GPM

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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.131	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

CONTRACTOR TO FLAG ALL EQUIPMENT LOCATIONS IN THE FIELD FOR APPROVAL BY C.O.P. PRIOR TO INSTALLATION.

REGISTERED LANDSCAPE ARCHITECT 24745 JANET L. WAIBEL 7/14/2017 ARIZONA, U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.132	2.182

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CONSULTING ENGINEER

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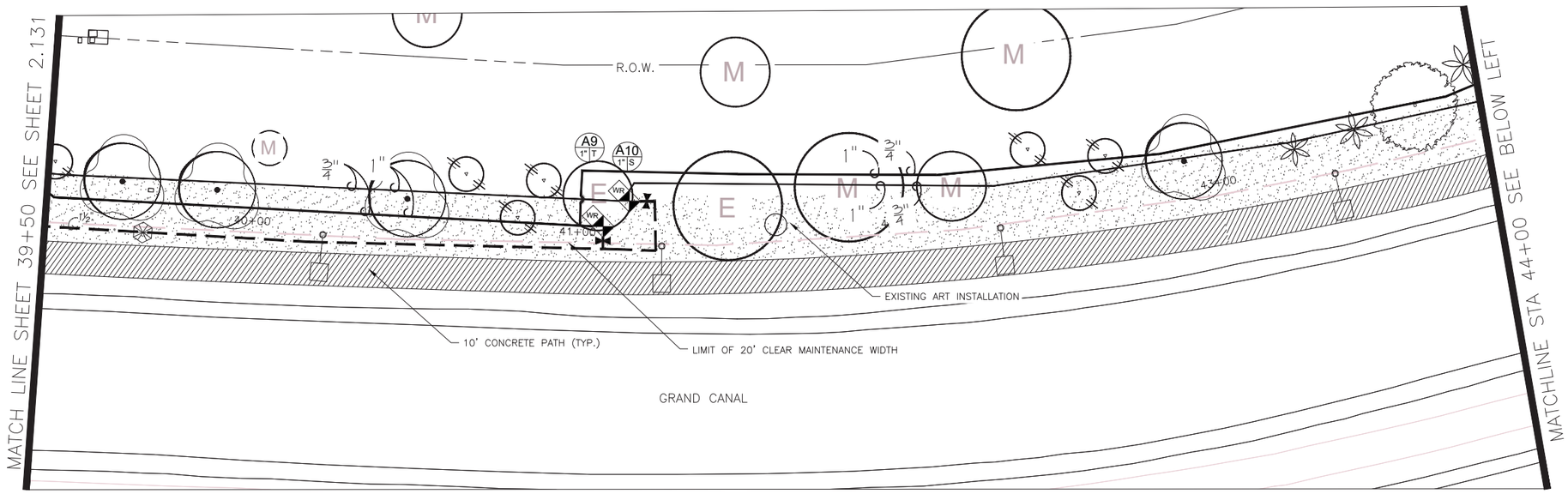

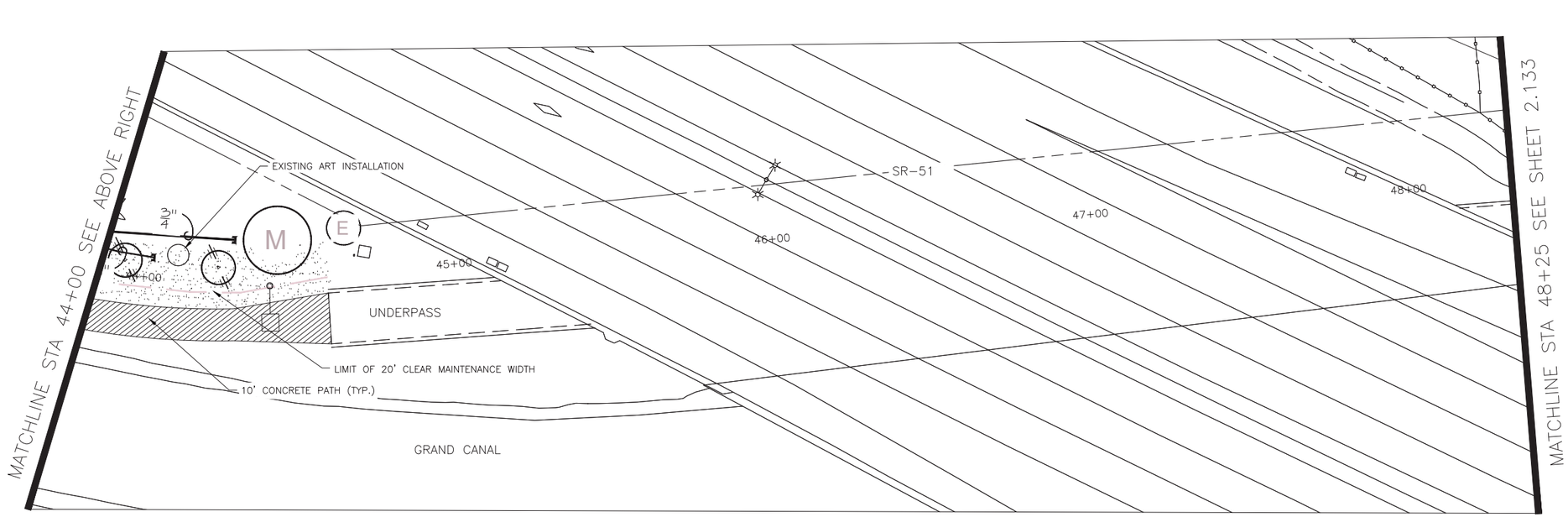

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City of Phoenix
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Valve Key

Station Number — A1 — GPM

Valve Size — 1" X

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GRAND CANALSCAPE PHASE II
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ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

CONTRACTOR TO FLAG ALL EQUIPMENT LOCATIONS IN THE FIELD FOR APPROVAL BY C.O.P. PRIOR TO INSTALLATION.

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
AZ
10/17/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
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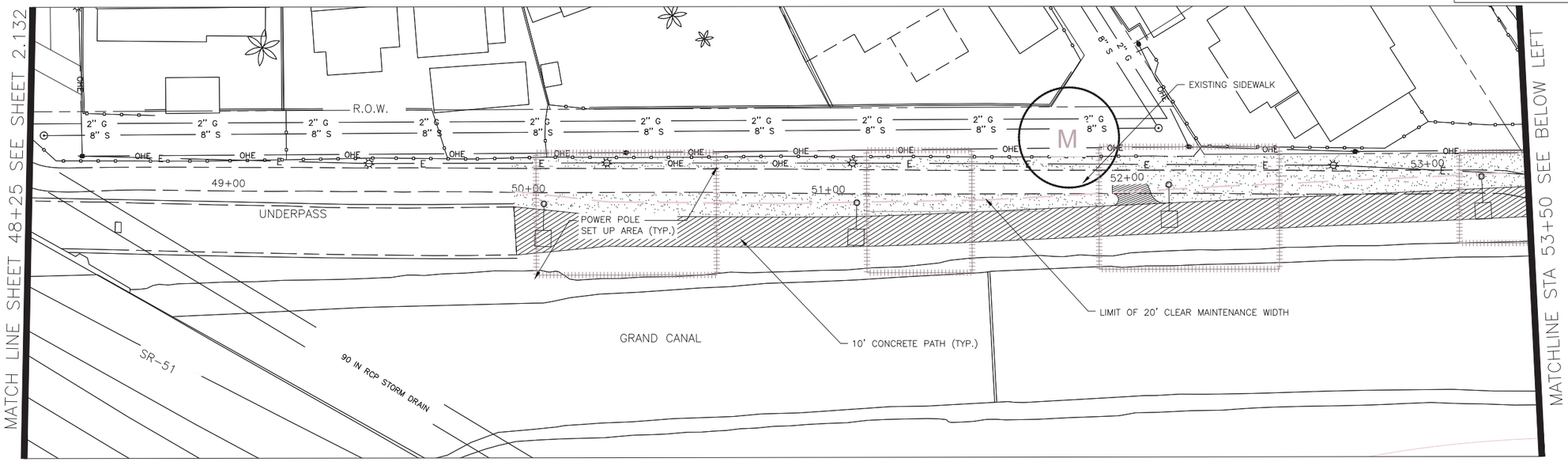
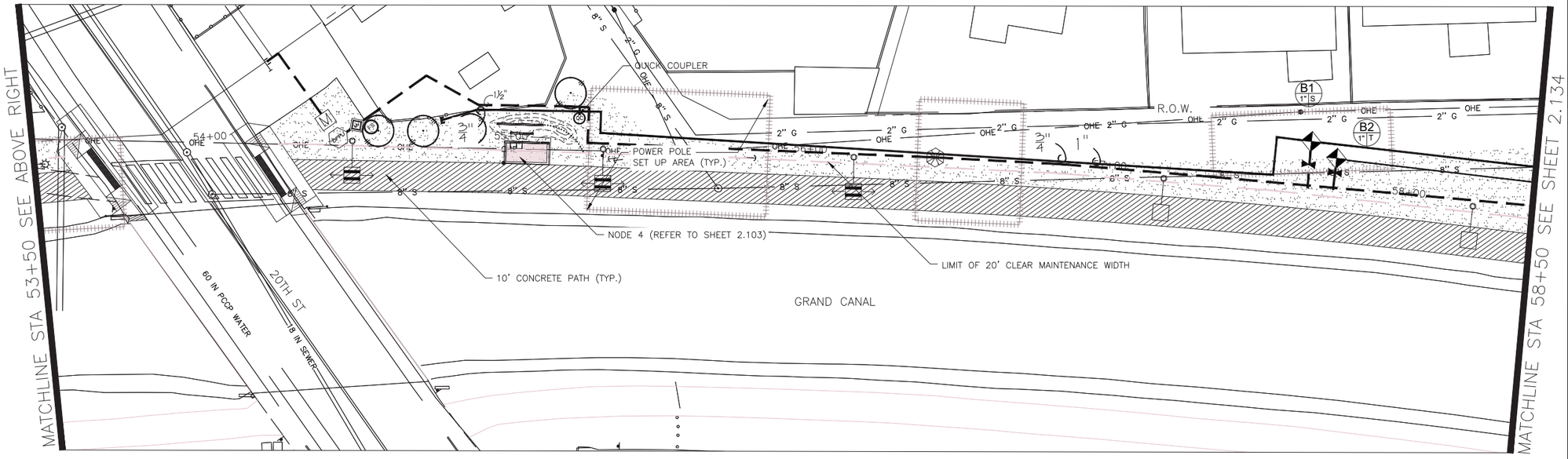


City of Phoenix
N



GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

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Station Number — A1 — GPM
Valve Size — 1" — X

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CITY OF PHOENIX, ARIZONA
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GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
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ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

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REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
07/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
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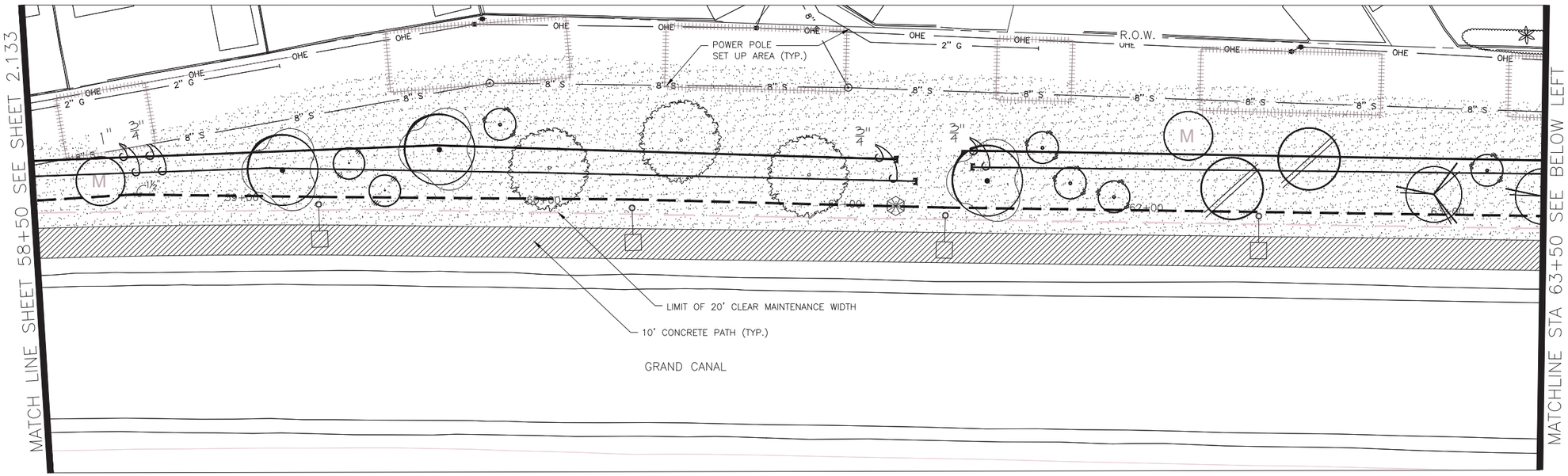

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City of Phoenix
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GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

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DATE: 09/16	DATE: 09/16	DATE: 09/16	2.134	2.182
SCALE				

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REVISION BY CITY OF PHOENIX

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10/17/2017
ARIZONA, U.S.A.
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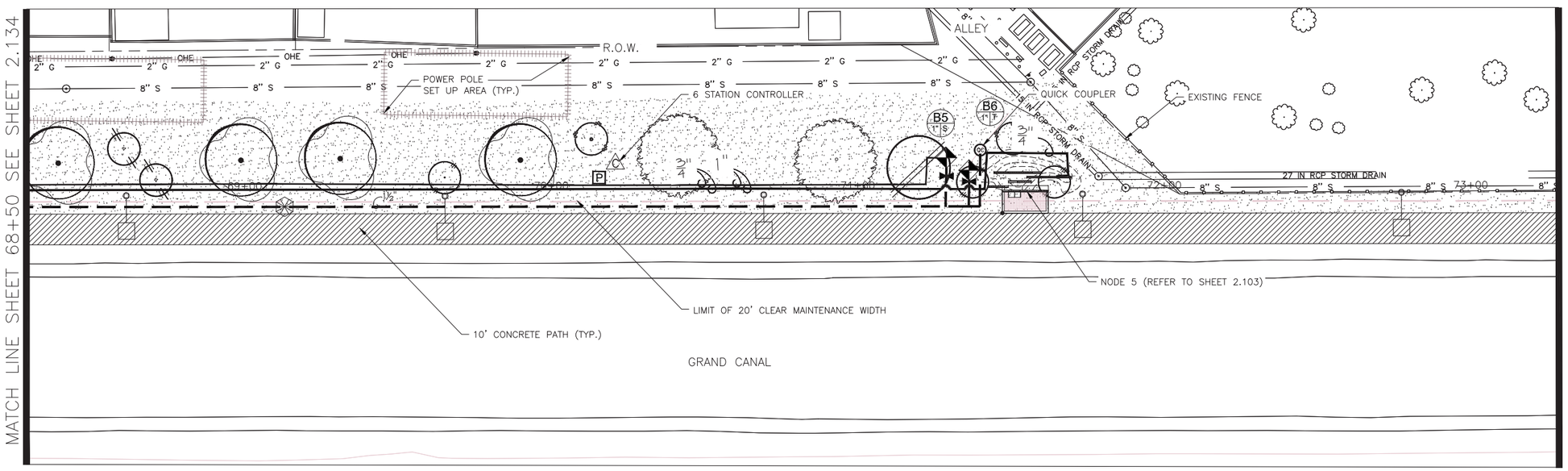

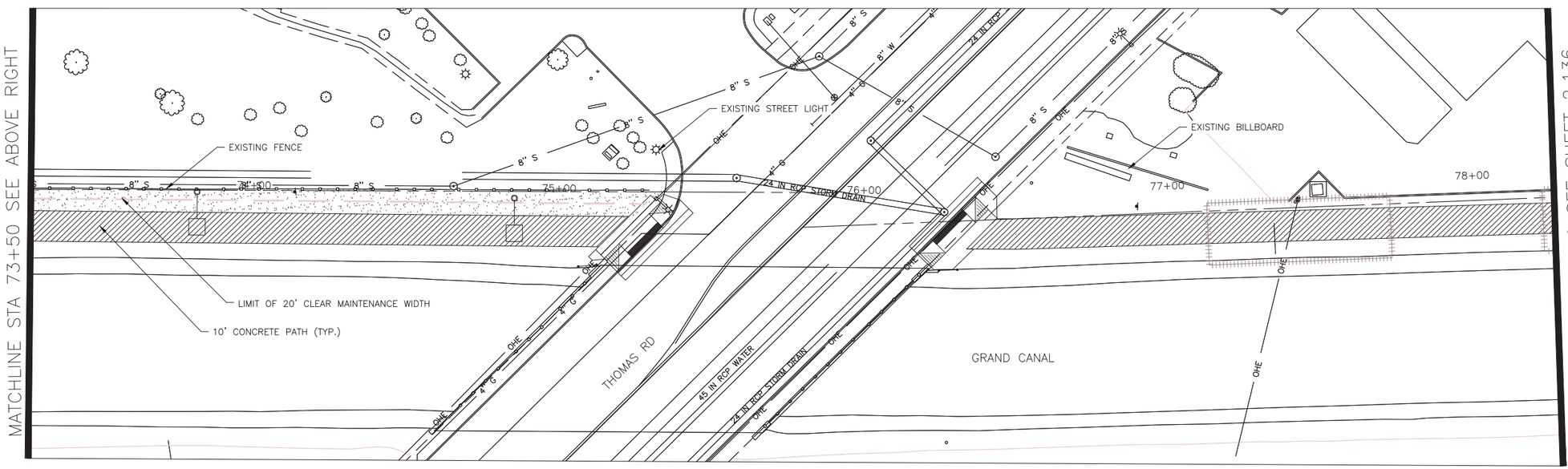

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GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

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3/17/14/2017
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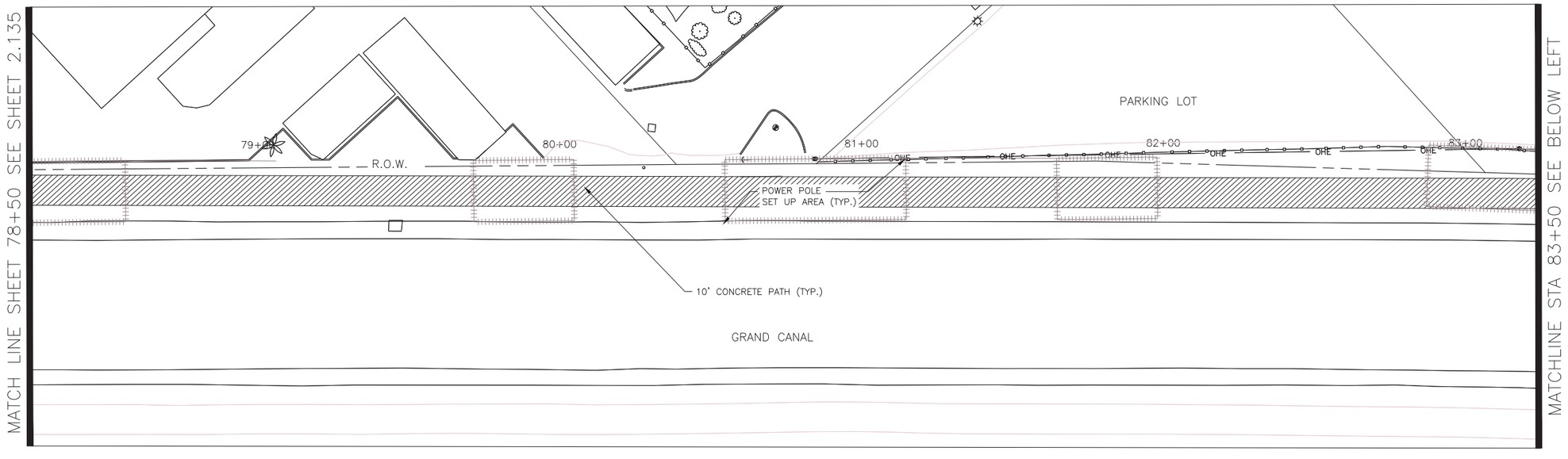

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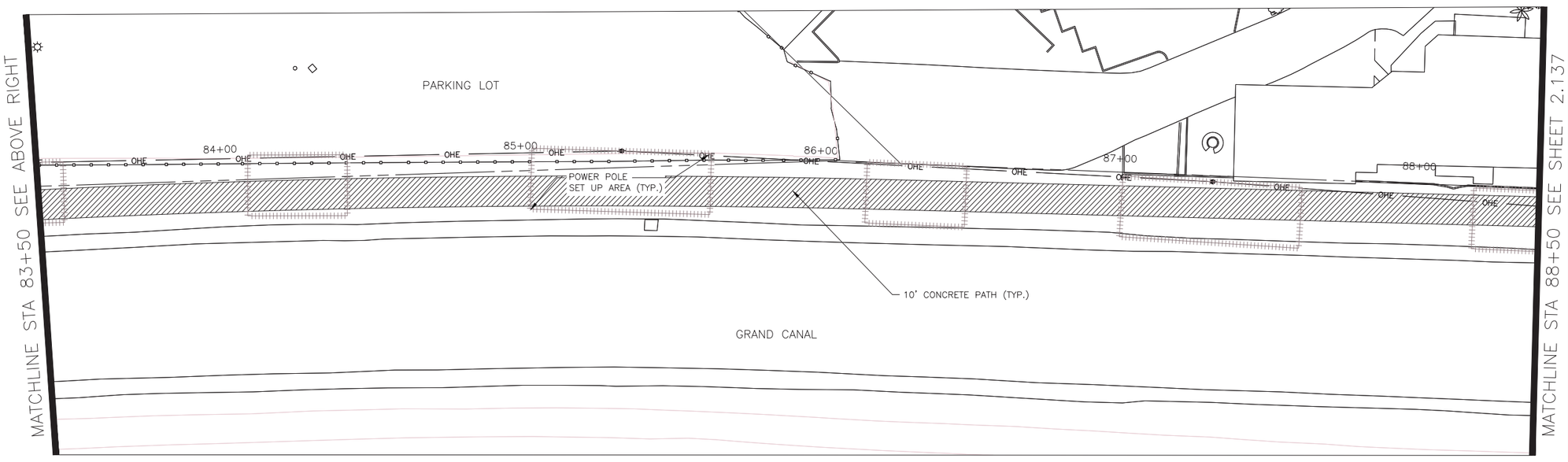

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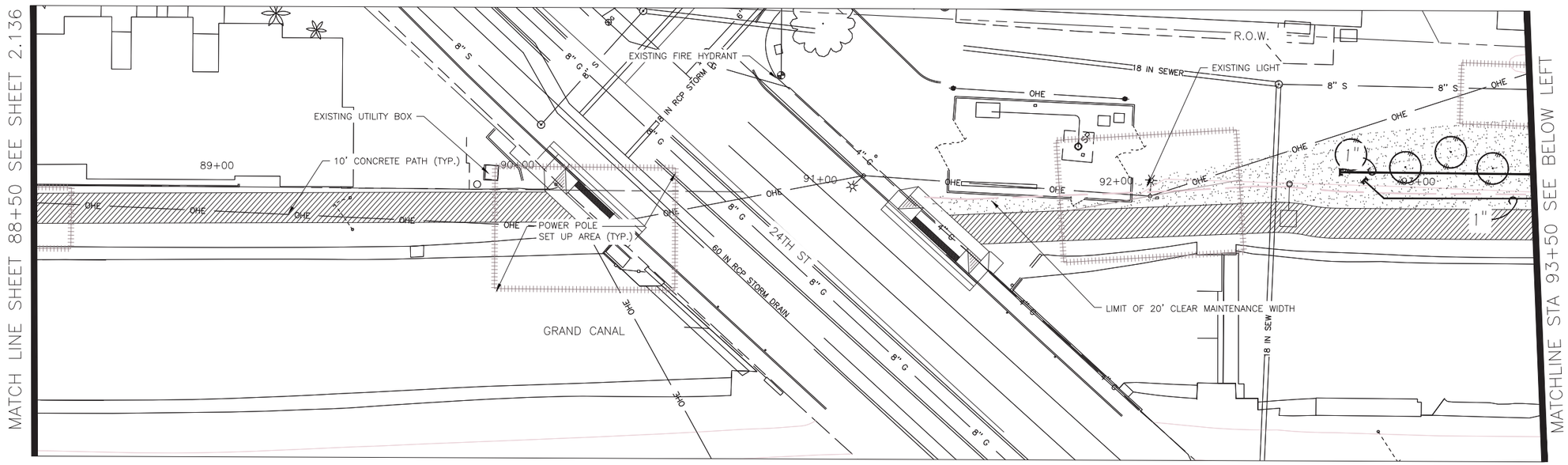

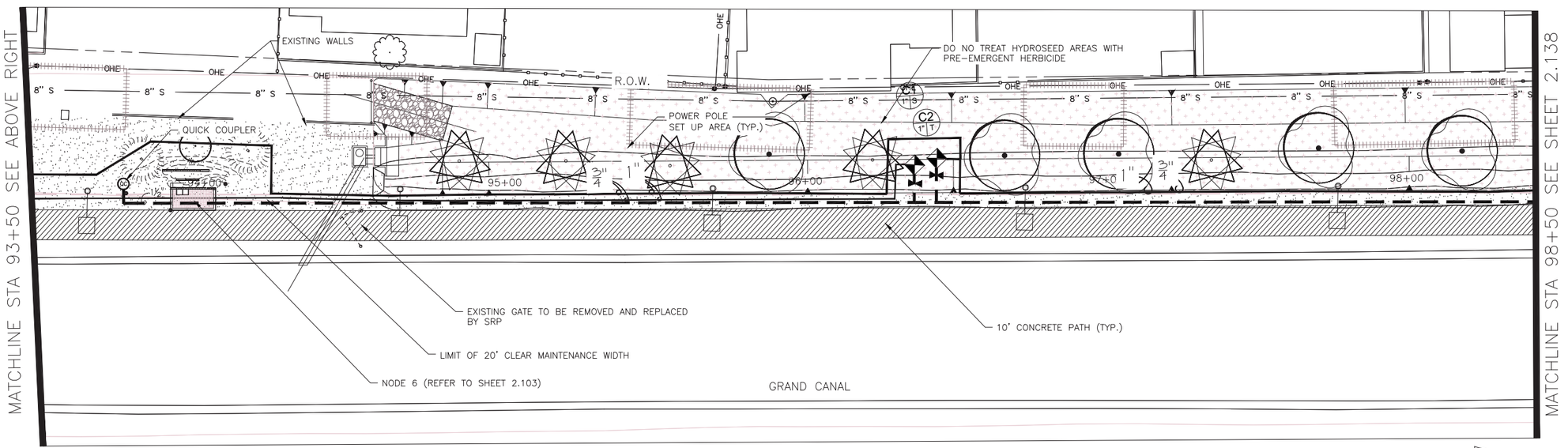

GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

IRRIGATION LEGEND

Symbol	Description
M	New Water Meter - See plans for locations
P	Electrical Power Pedestal
C	Controller
WG	Base Wireless Gateway
BFPU	Backflow Prevention Unit with Enclosure
MV	Master Valve
FS	Flow Sensor
	1" Remote Control Valve Pressure Regulator Wye Strainer (not shown on plan)
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	Mainline Gate Valve (not shown on plan, place at midpoint of mainline between valves)
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Valve Key
Station Number
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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.137	2.182
SCALE				

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

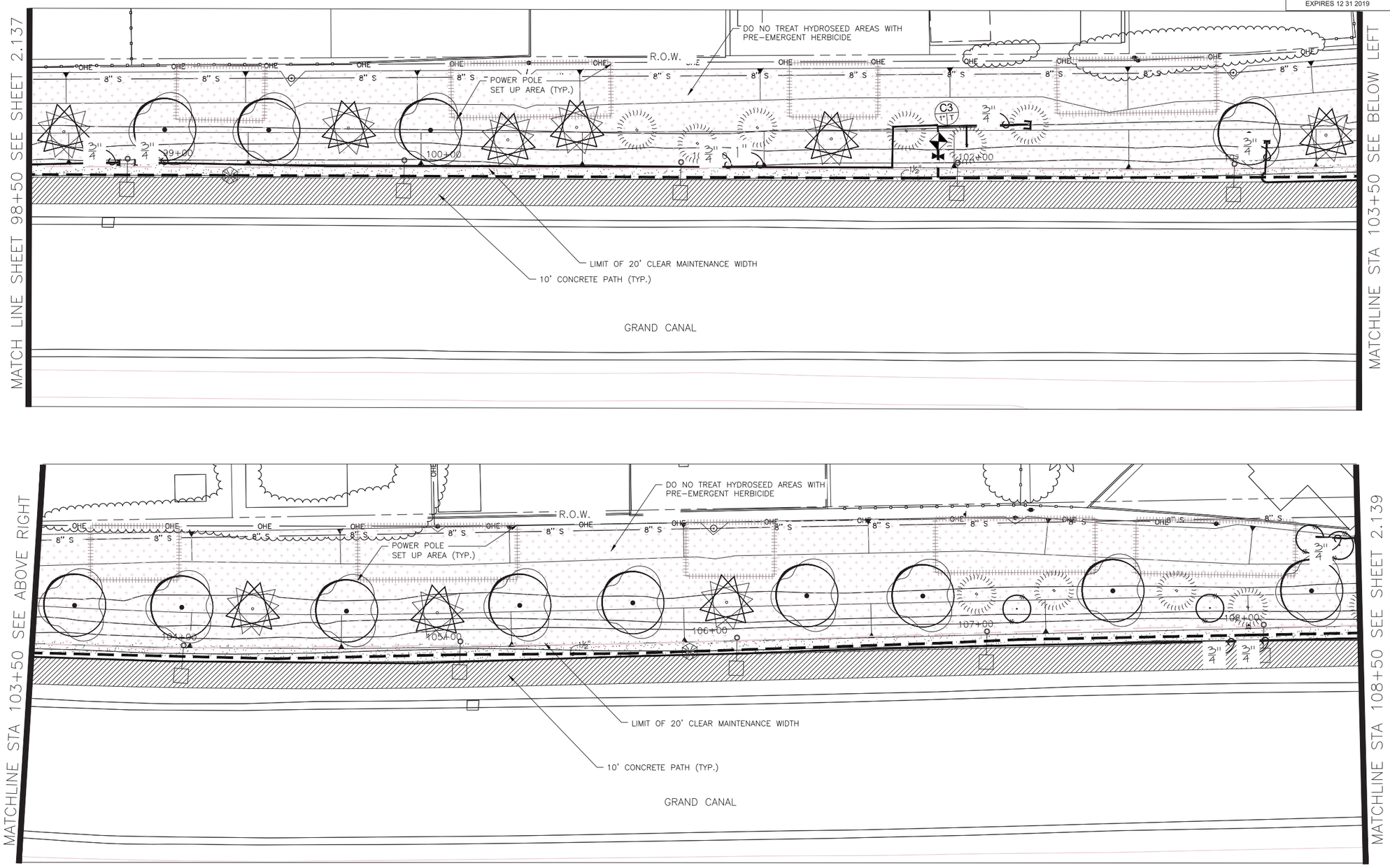
GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

CONTRACTOR TO FLAG ALL EQUIPMENT LOCATIONS IN THE FIELD FOR APPROVAL BY C.O.P. PRIOR TO INSTALLATION.

REGISTERED LANDSCAPE ARCHITECT 24745 JANET L. WAIBEL 07/14/2017 ARIZONA, U.S.A.

EXPIRES 12 31 2019



GRAPHIC SCALE IN FEET 0 20 40

City of Phoenix N

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.138	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL | DR: JKA | CK: RCA | DATE: 09/16/16

IRRIGATION LEGEND

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GRAND CANALSCAPE PHASE II
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ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.138	2.182

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

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EXPIRES 12 31 2019

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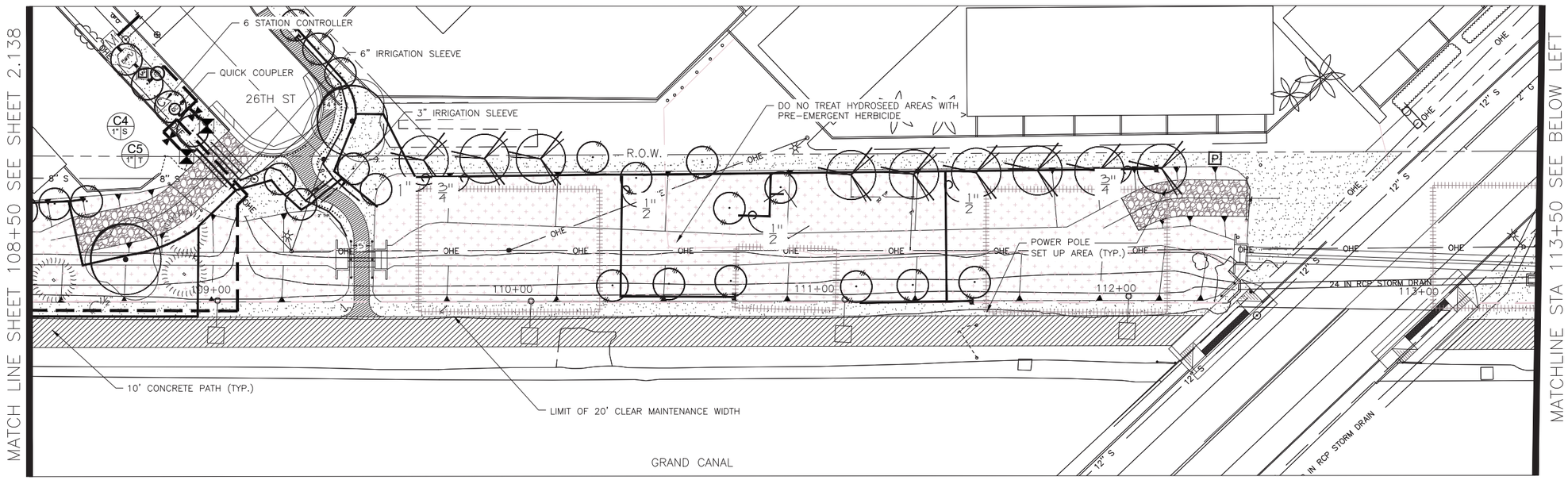

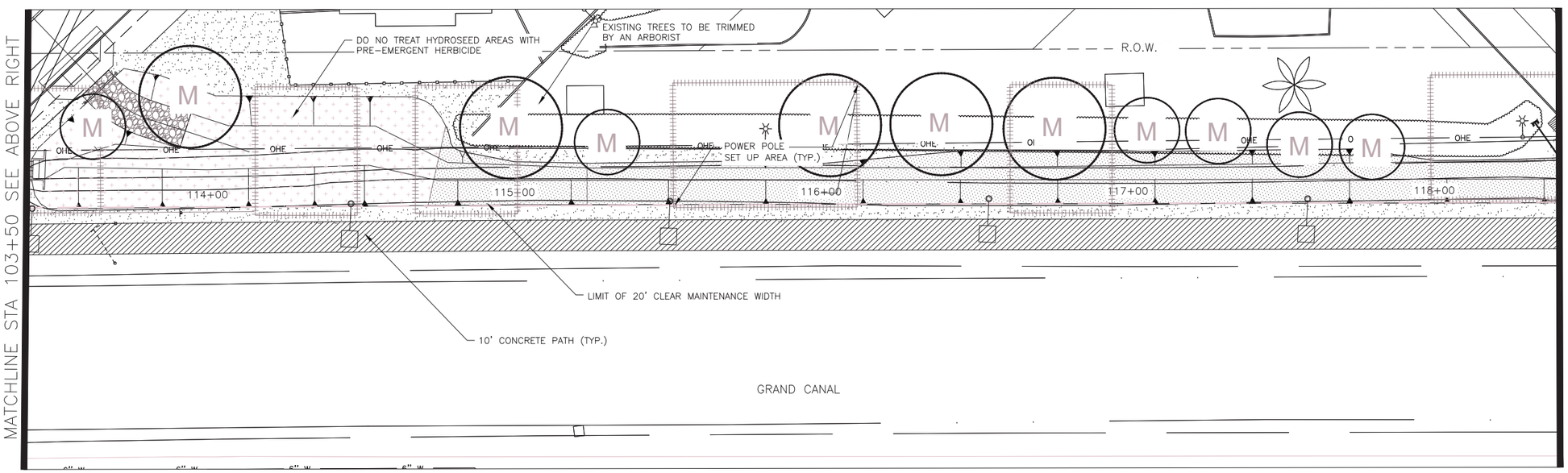

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GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

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CITY OF PHOENIX, ARIZONA
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GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.139	2.182

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
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EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.140	2.182

eac ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

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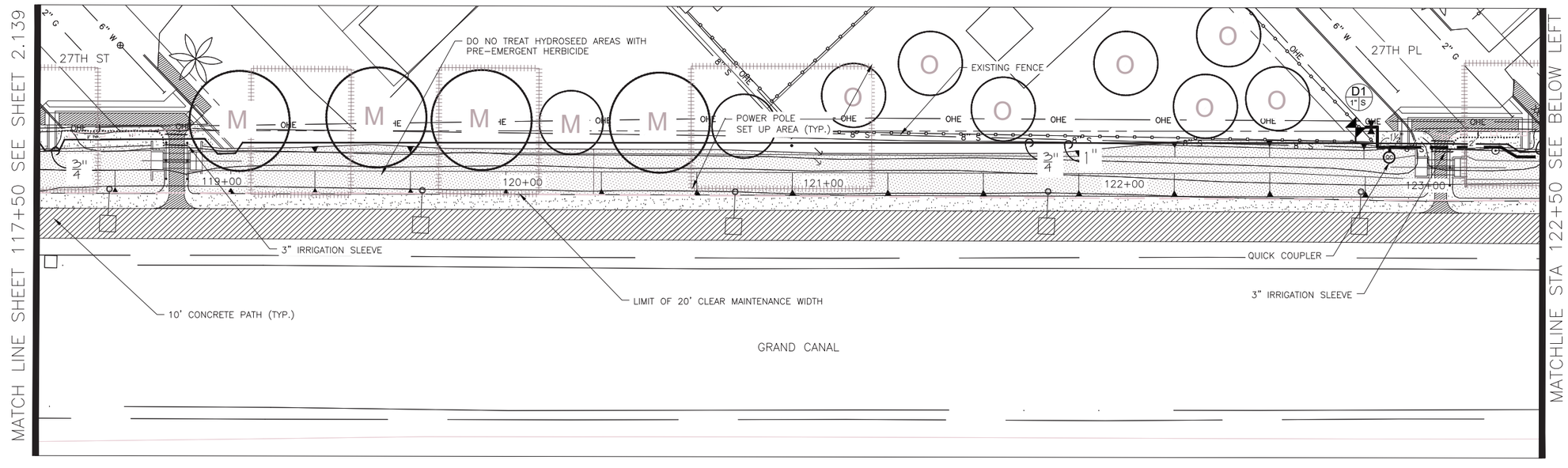

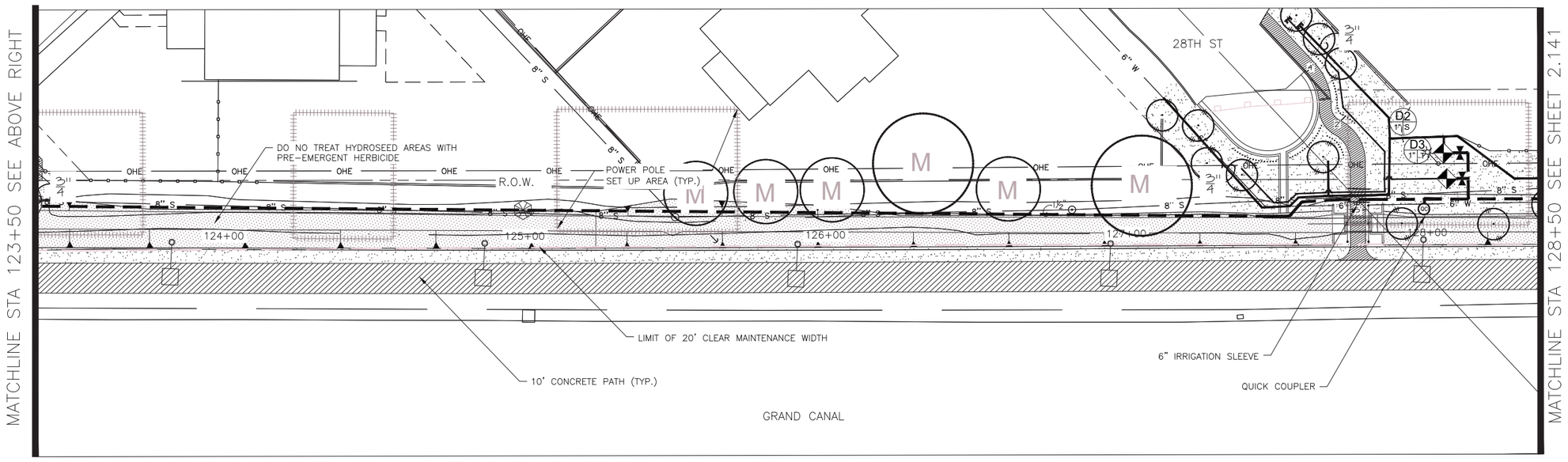

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GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

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16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
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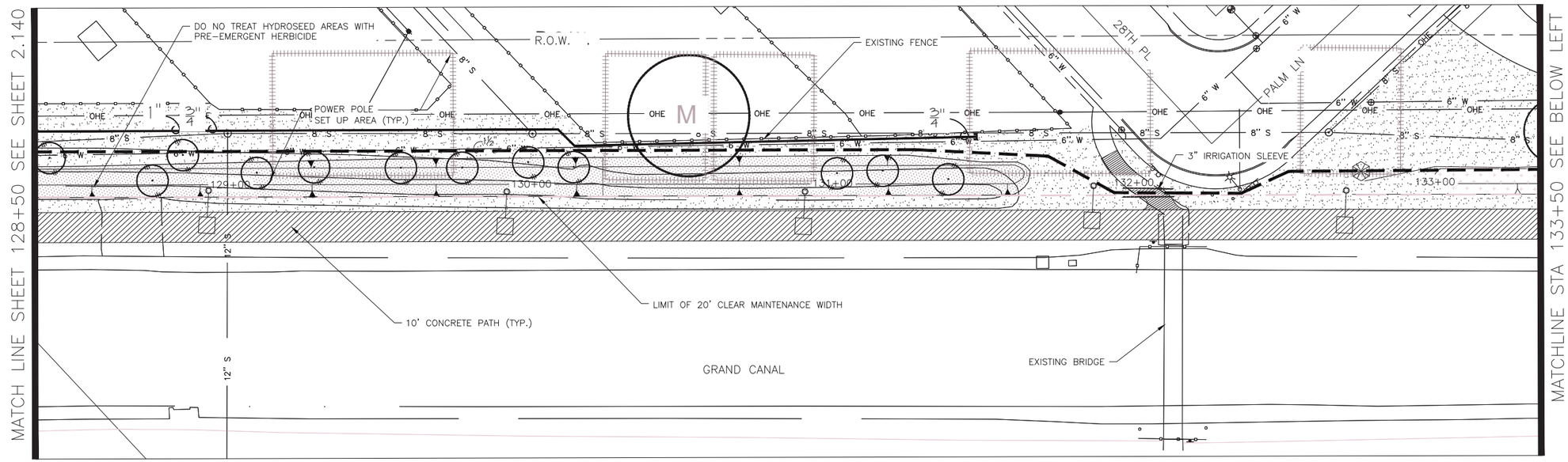

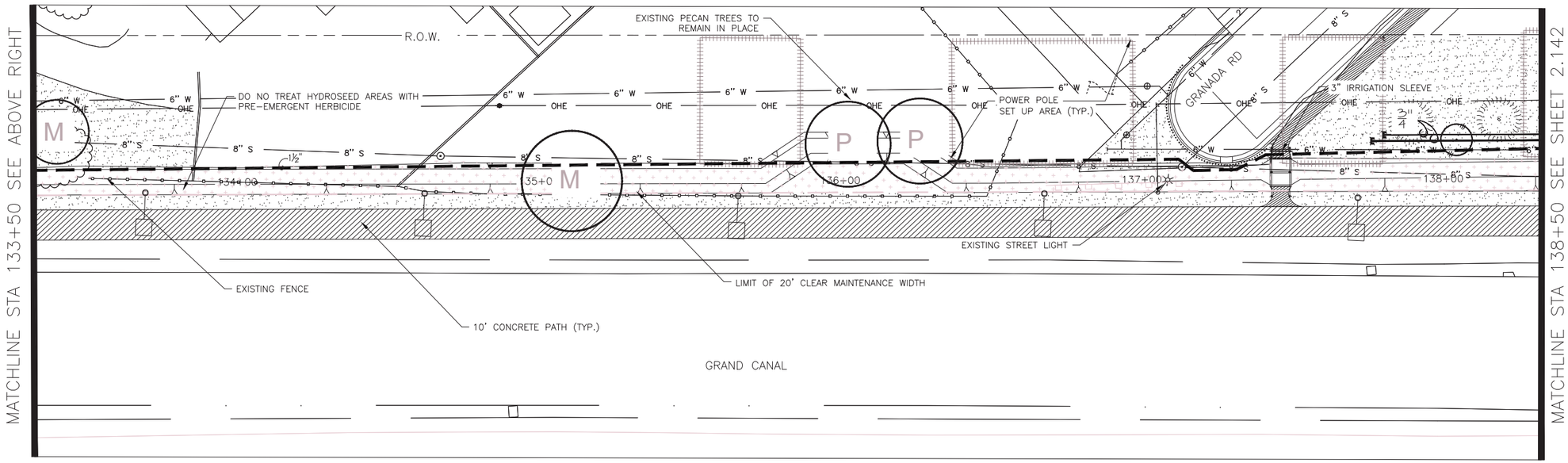

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0 20 40

City of Phoenix
N

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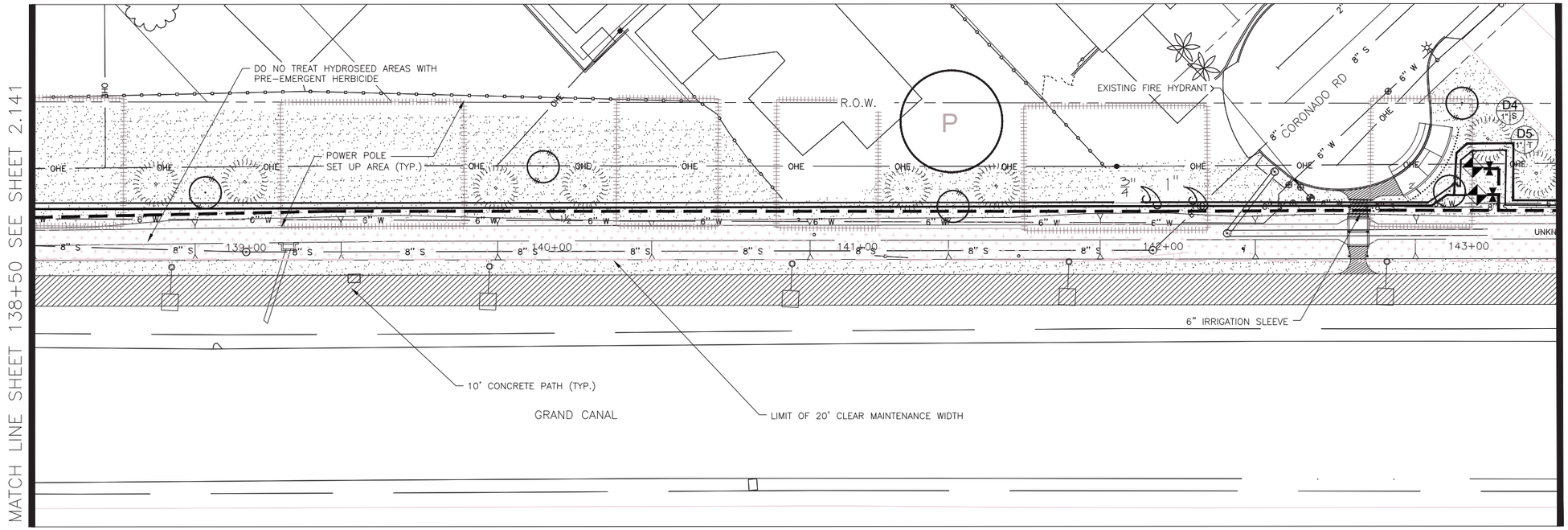

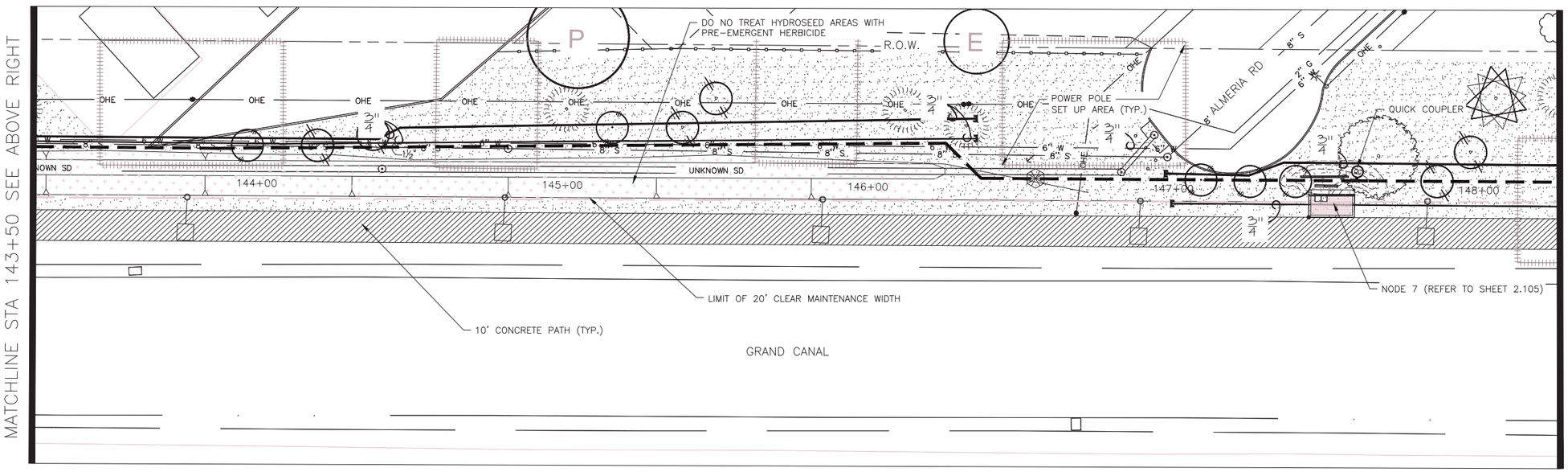

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City of Phoenix
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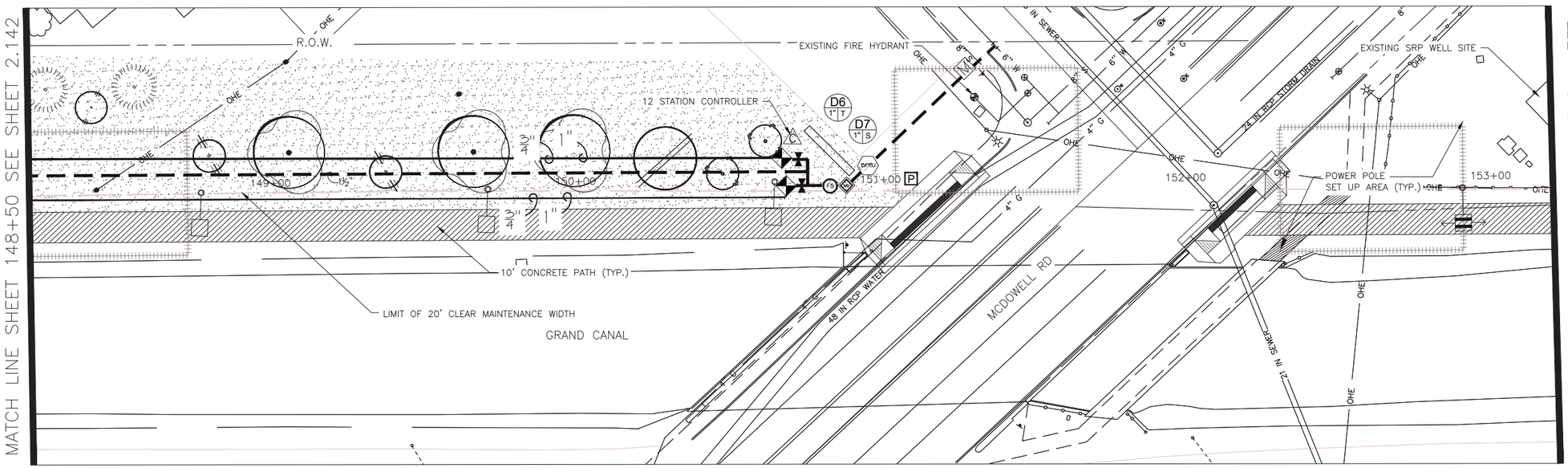

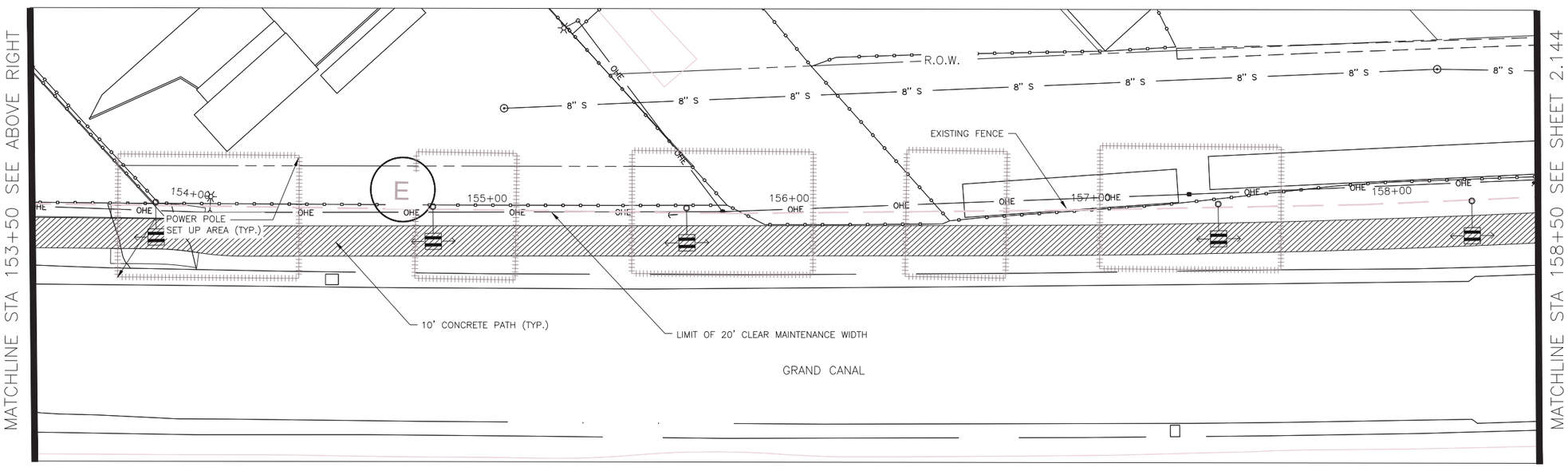

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CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16	2.143	2.182
SCALE				

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

CONTRACTOR TO FLAG ALL EQUIPMENT LOCATIONS IN THE FIELD FOR APPROVAL BY C.O.P. PRIOR TO INSTALLATION.

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
9/17/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.144	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

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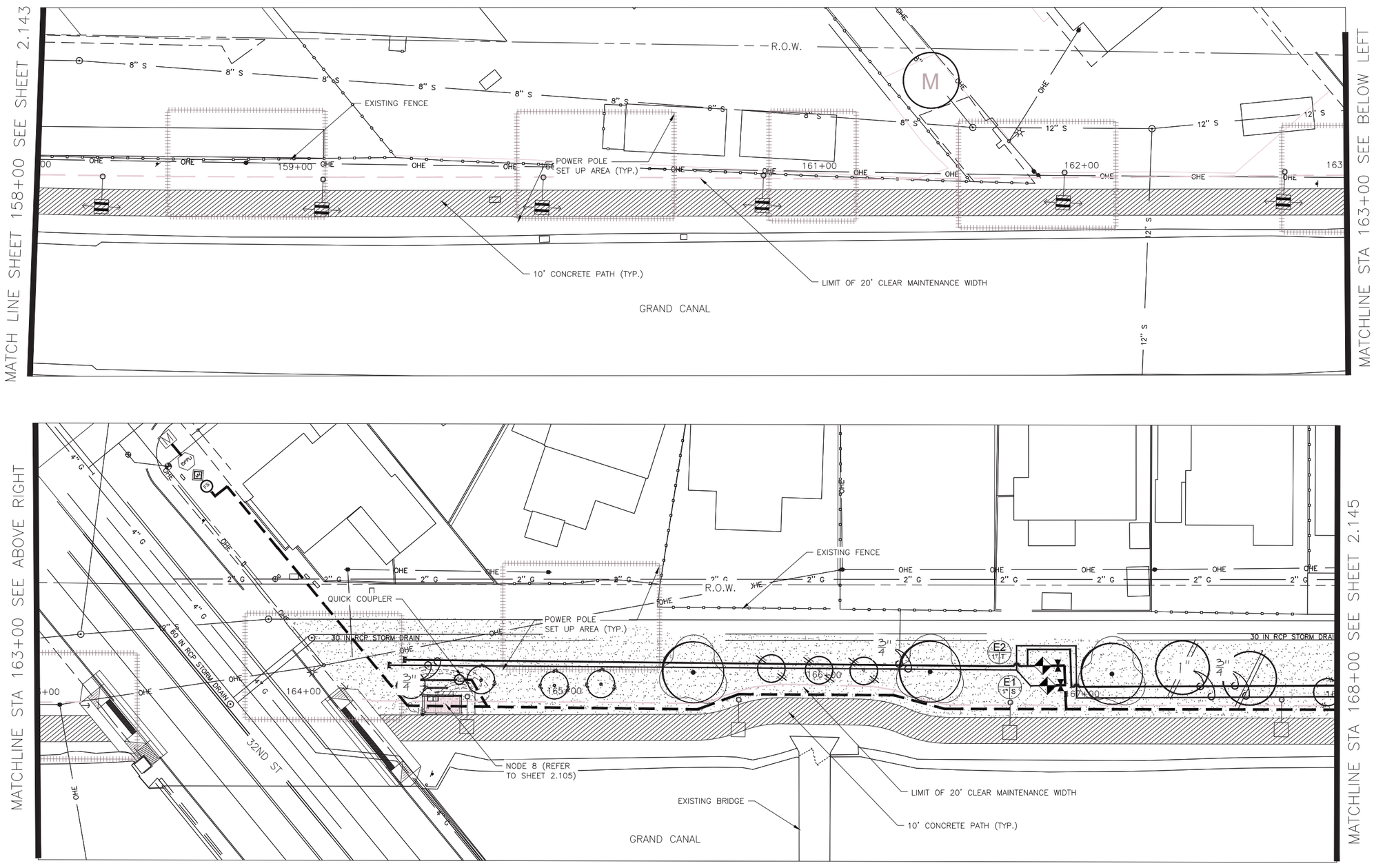

IRRIGATION LEGEND

Symbol	Description
M	New Water Meter - See plans for locations
P	Electrical Power Pedestal
C	Controller
WG	Base Wireless Gateway
BFPU	Backflow Prevention Unit with Enclosure
MV	Master Valve
FS	Flow Sensor
	1" Remote Control Valve Pressure Regulator Wye Strainer (not shown on plan)
WR	Wireless DC Latching Receiver
	Mainline Gate Valve (not shown on plan, place at midpoint of mainline between valves)
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QC	Quick Coupler
	Emitter Irrigation Line for Trees
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	Flush Cap, Typical end of all lateral lines
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	Mainline - 1 1/2" Schedule 40 PVC

Valve Key
Station Number
A1
GPM

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16TH STREET TO 36TH STREET

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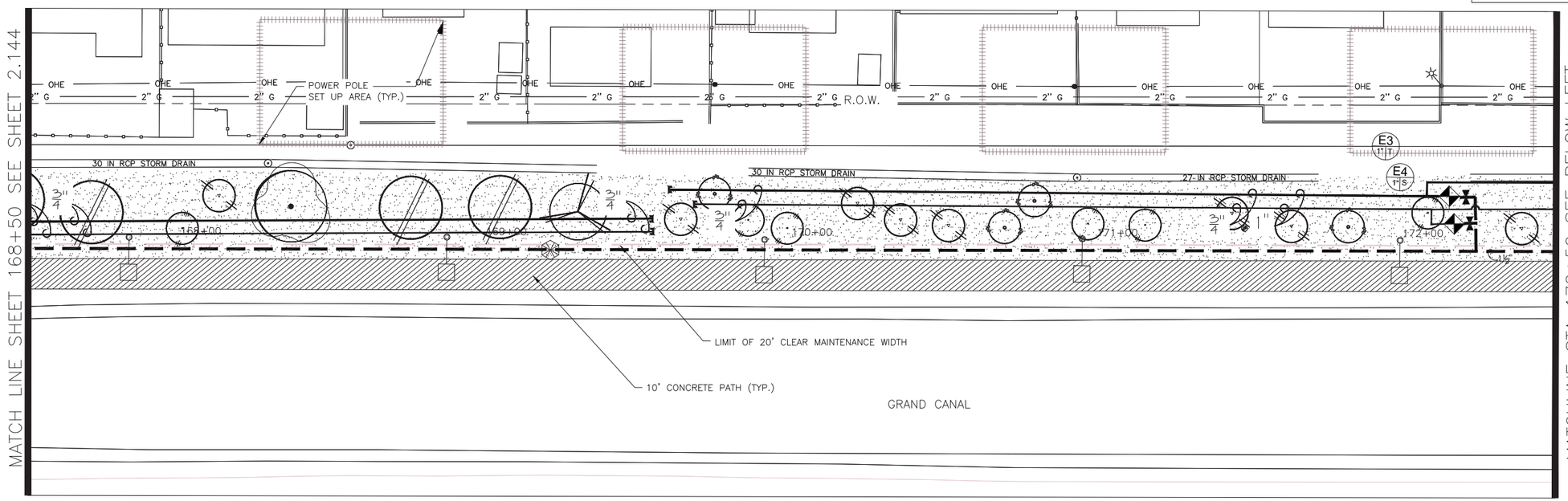

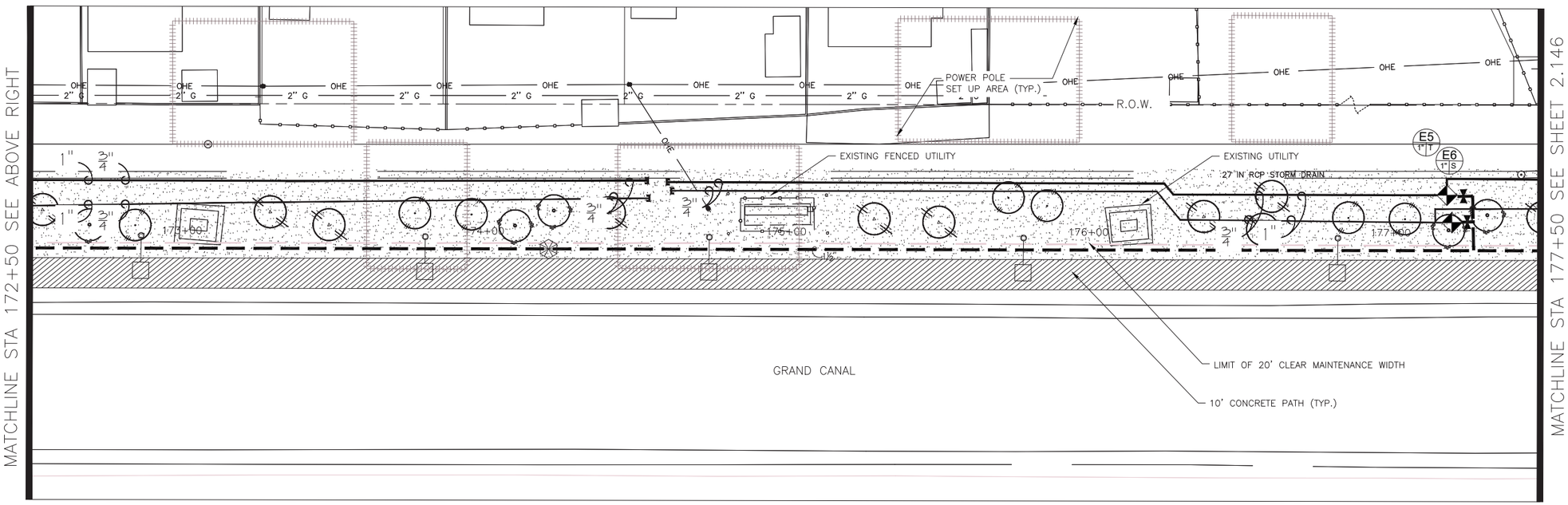

GRAPHIC SCALE IN FEET
0 20 40

City of Phoenix
N

IRRIGATION LEGEND

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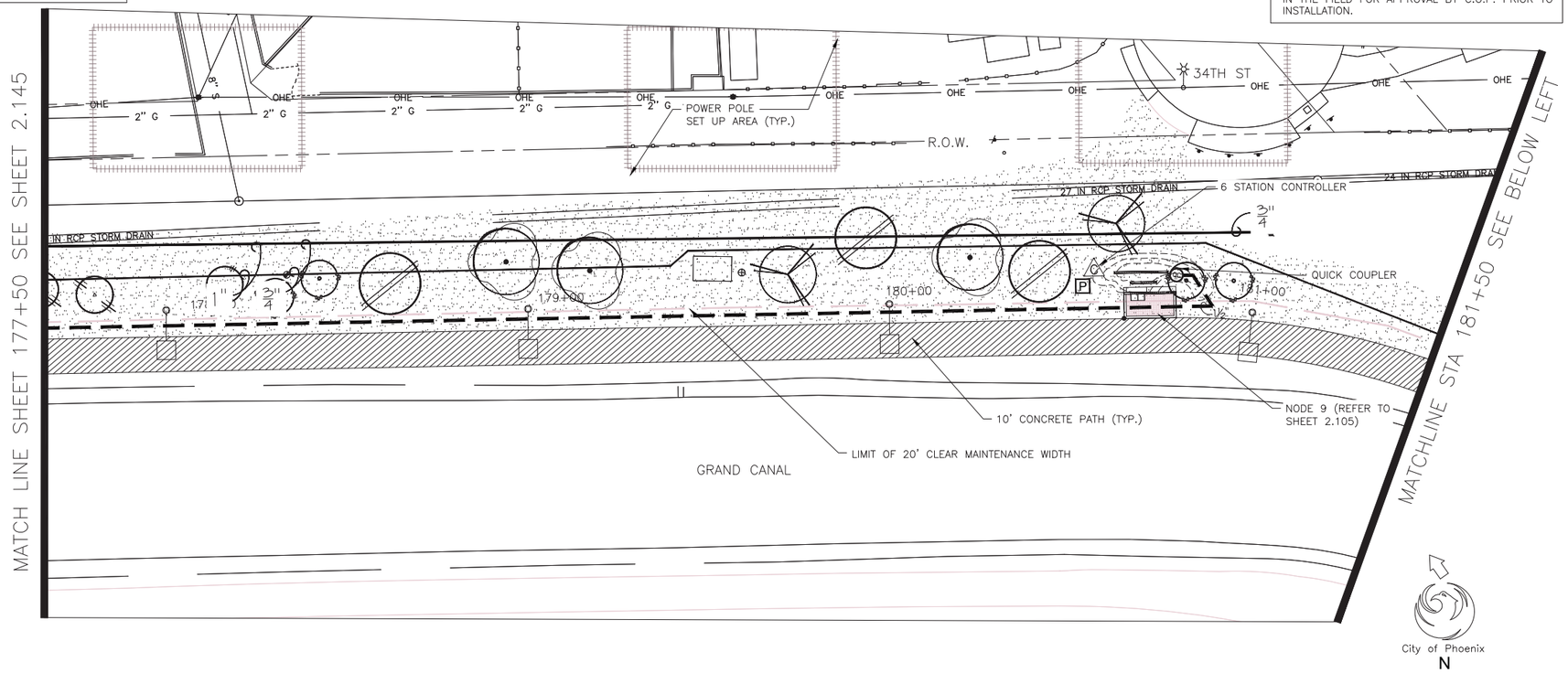

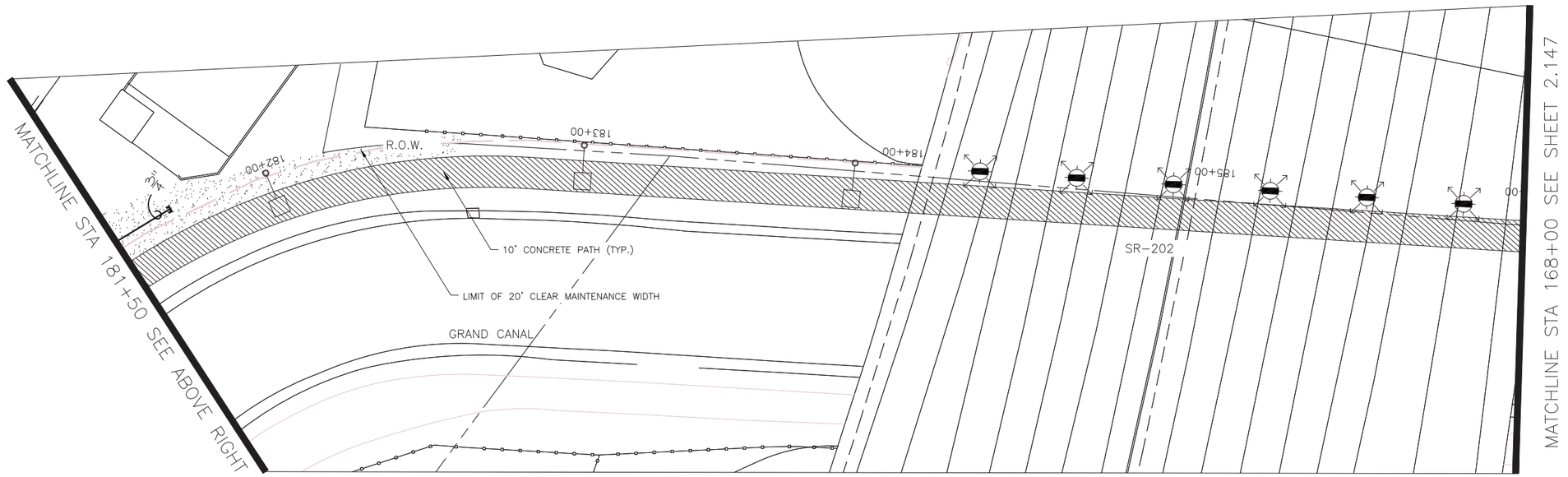

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MATCH LINE SHEET 186+00 SEE SHEET 2.146

186+00

187+00

EXISTING FENCE

R.O.W.

188+00

189+00

190+00

EXISTING STREET LIGHT

10' CONCRETE PATH (TYP.)

LIMIT OF 20' CLEAR MAINTENANCE WIDTH

GRAND CANAL

MATCHLINE STA 191+00 SEE BELOW LEFT

NO IRRIGATION ON THIS SHEET

MATCHLINE STA 191+00 SEE ABOVE RIGHT

192+00

193+00

194+00

EXISTING FENCE

10' CONCRETE PATH (TYP.)

GRAND CANAL

LIMIT OF 20' CLEAR MAINTENANCE WIDTH

MATCHLINE STA 195+00 SEE SHEET 2.148

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City of Phoenix
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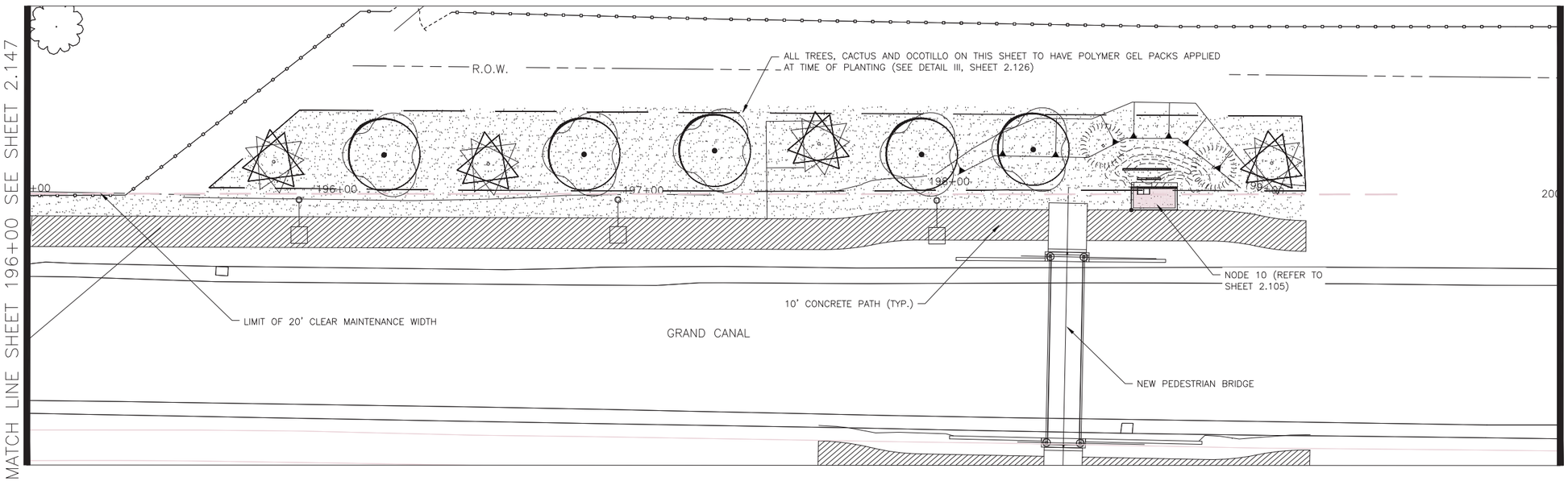

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GRAND CANALSCAPE PHASE II

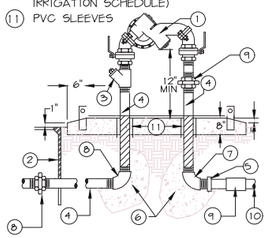
16TH STREET TO 36TH STREET

I. REDUCED PRESSURE BACKFLOW

NTS

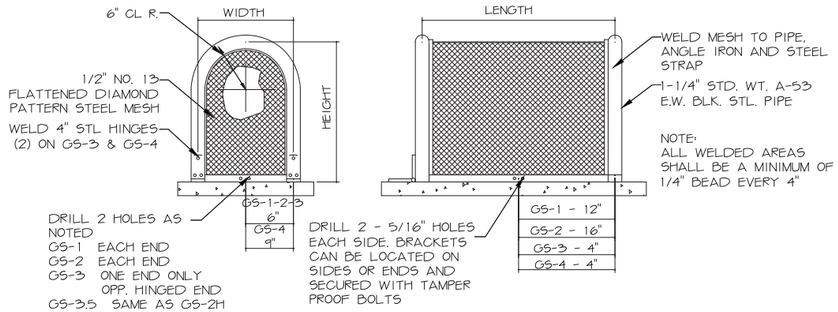
1. ALL PIPE/FITTINGS TO BE TYPE "L" COPPER.
2. ASSEMBLY SHALL BE APPROVED BY U.S.C. FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH.
3. INSTALL BACKFLOW PREVENTION ASSEMBLY WITH RELIEF PORT FACING TOWARD THE GROUND.
4. BACKFLOW PREVENTION ASSEMBLY MUST BE LEVEL AND INSTALLED A MIN. OF 12" FROM RELIEF PORT TO GRADE.
5. TEST COCKS, (4) SHALL BE FITTED WITH BRASS PLUGS AND INST. W/ TEFLON TAPE.
6. SHUTOFF VALVES TO BE RESILIENT BALL TYPE W/ REMOVABLE HANDLES. COMPRESSION TYPE FITTINGS ARE NOT ALLOWED.
7. STAKE LOCATION OF ASSEMBLY FOR APPROVAL BY THE ENGINEER BEFORE INSTALLATION BEGINS.
8. A COPPER/BRASS UNION MUST BE INSTALLED IN THE MIDDLE OF THE DOWNSTREAM RISER.
9. PROVIDE TEST CERTIFICATION FROM CITY APPROVED TESTING COMPANY PRIOR TO APPROVAL.
10. COPPER FITTINGS SHALL BE INSTALLED W/ LEAD FREE SOLDER JOINTS.
11. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

(2) CONC. METER BOX, INSTALLED BY CITY
(3) PROVIDE CMB MODEL 3131 BRONZE "Y" STRAINER W/40 MESH SCREEN.
(4) COPPER PIPE (TYPE "K" HARD)
(5) SCHED. 80 P.V.C. T.O.E. NIPPLE
(6) 1/2 CUBIC FOOT (MIN) CONC. THRUST BLOCK.
(7) BRASS OR COPPER 90 DEG. ELBOW
(8) BRONZE UNION.
(9) P.V.C. SCH 80 COUPLING
(10) P.V.C. MAINLINE PIPE (SEE IRRIGATION SCHEDULE)
(11) PVC SLEEVES



II. BACKFLOW SECURITY ENCLOSURE

NTS



NOTE:
AFTER ALL WELDING, ENTIRE UNIT SHALL BE PROCESSED WITH IRON PHOSPHATE PRETREATMENT.
ELECTROSTATIC APPLICATION OF POWDER SHALL BE FUSION BONDED - PRS-B-4004-C (BEIGE) OR COLOR SELECTION TO BE APPROVED BY OWNER

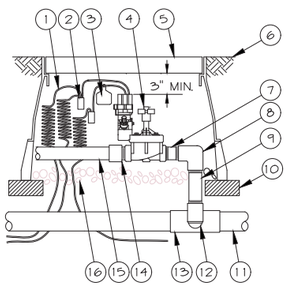
NOTE:
ALL BOLTS FOR HINGES & HASPS SHALL BE ZINC PLATED & TAMPER PROOF

GS = POWDER COATED STEEL GUARD SHACK

NTS

III. MASTER VALVE

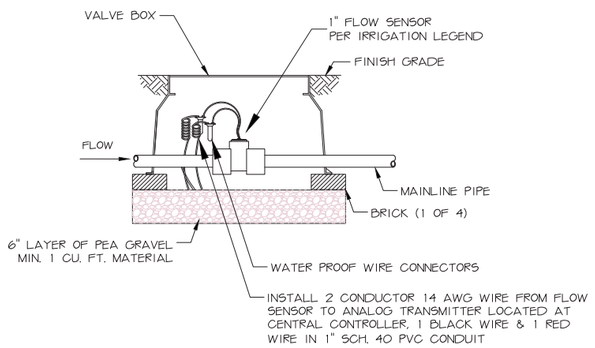
NTS



(1) 30-INCH LINEAR LENGTH OF WIRE, COILED
(2) WATERPROOF CONNECTION PER IRRIGATION LEGEND-1 (1 OF 2)
(3) ID TAG.
(4) REMOTE CONTROL VALVE. PER IRRIGATION LEGEND
(5) VALVE BOX WITH COVER. SEE NOTES
(6) FINISH GRADE/TOP OF MULCH
(7) PVC SCH 80 NIPPLE (CLOSE)
(8) PVC SCH 40 ELL
(9) PVC SCH 80 NIPPLE
(10) BRICK (1 OF 4)
(11) PVC MAINLINE PIPE
(12) SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL
(13) PVC SCH 40 TEE OR ELL
(14) PVC SCH 40 MALE ADAPTER
(15) PVC LATERAL PIPE
(16) 6-INCH MINIMUM DEPTH OF WASHED PEA GRAVEL

IV. FLOW SENSOR

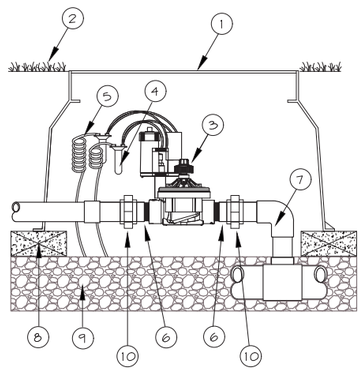
NTS



NOTE: INLET PIPE LENGTH TO SENSOR MUST BE MIN. 10X PIPE DIA. IN STRAIGHT, UNOBSTRUCTED PIPE, NO FITTINGS OR TURNS. OUTLET PIPE LENGTH FROM SENSOR MUST BE MIN. 5X PIPE DIA. IN STRAIGHT, UNOBSTRUCTED RUN OF PIPE, NO FITTINGS OR TURNS.

V. EMITTER VALVE ASSEMBLY

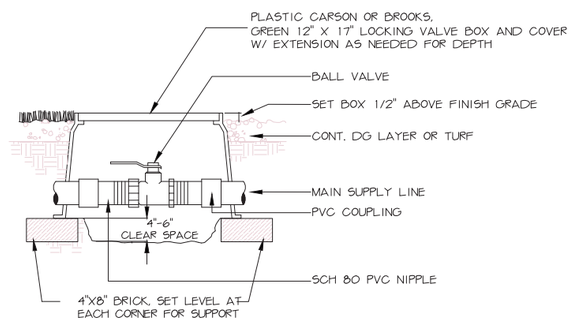
NTS



(1) STANDARD VALVE BOX
(2) FINISH GRADE
(3) REMOTE CONTROL VALVE
(4) WATERPROOF CONNECTORS (2)
(5) 18-24" COILED WIRE
(6) SCH 80 T.O.E. NIPPLE
(7) MAIN LINE PIPE & FITTINGS
(8) BRICK SUPPORTS (4)
(9) PEA GRAVEL
(10) PVC SLIP UNIONS

VI. ISOLATION BALL VALVE

NTS BRONZE, 2 PIECE, FULL PORT

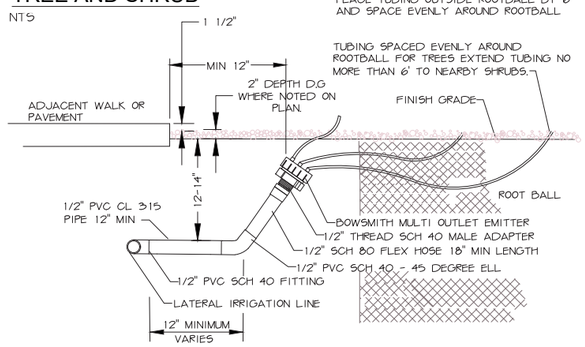


NOTES:
1. COMPACT SOIL AROUND VALVE BOX TO SAME DENSITY AS UNDISTURBED ADJACENT SOIL.
2. VALVE BOX SHALL BE SET PARALLEL WITH GRADE.

VII. MULTI-EMITTER FOR TREE AND SHRUB

PLACE EMITTER AT UPHILL SIDE OF PLANT WHERE PLANTING OCCURS ON A SLOPE. PLACE TUBING OUTSIDE ROOTBALL BY 6" AND SPACE EVENLY AROUND ROOTBALL

NTS



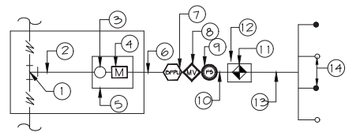
TYPICAL MULTI EMITTER INSTALLATION FOR TREES OR SHRUBS BOWSMITH MULTI EMITTER MODEL ML 206 OR ML 210 WITH ALL OUTLETS OPEN.

VIII. WATER SYSTEM SCHEMATIC

NTS

(1) WATER TAP
(2) WATER MAIN
(3) CURB STOP
(4) WATER METER
(5) CONCRETE WATER METER VAULT PER MAG SPECIFICATIONS
(6) TYPE "K" COPPER PIPE TO BACKFLOW PREVENTION DEVICE
(7) BACKFLOW PREVENTER (SEE IRRIGATION SCHEDULE)
(8) MASTER VALVE
(9) FLOW SENSOR
(10) PVC MAINLINE PIPE (SEE IRRIGATION SCHEDULE)
(11) ELECTRIC REMOTE CONTROL VALVE
(12) PLASTIC VALVE BOX WITH LOCKING COVER (STAINLESS STEEL HARDWARE)
(13) PVC LATERAL
(14) BUBBLER OR EMITTER OUTLET PER PLAN

NOTE: WATER FROM EACH EMITTER MUST APPLY TO EACH TREE. ARRANGE EMITTER TUBING TO SURROUND ALL SIDES OF ROOTBALL FOR EVEN DISTRIBUTION OF FLOW.



REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

REGISTERED LANDSCAPE ARCHITECT 24745 JANET L. WAIBEL 9/14/2017 ARIZONA, U.S.A.

EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.149	2.182

ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

GENERAL NOTES:
VALVE NOTES-
1. ONLY ONE VALVE PER VALVE BOX AND ALL HARDWARE TO BE STAINLESS STEEL. ANY BOLTS ON COVER TO HAVE WASHERS.
2. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX (WRAP AROUND ½" PIPE 15-TIMES).
3. STEP-UP VALVE W/ 45 DEG. FITTINGS TO MAINTAIN 6" BETWEEN VALVE AND TOP OF BOX.
4. EMBOSS COVER WITH ½" NO. WHICH CORRESPONDS TO VALVE NO. ON IRRIGATION PLANS.
5. CONTRACTOR TO PROVIDE A LIST OF GPS COORDINATE POINTS FOR ALL VALVE BOXES THAT ARE TO BE BURIED.

SLEEVE NOTES-
1. SLEEVE UNDER ALL PAVEMENT AND DRIVEWAY THAT ARE CROSSED WITH IRRIGATION PIPE OR CONTROLLER WIRE.
2. USE SCHEDULE 40 PIPE. SIZES AS FOLLOWED UNLESS OTHERWISE NOTED ON PLANS; FOR PIPE ½" TO 1-¼", USE 3" SLEEVE, FOR PIPES 1-½" TO 2", USE 4" SLEEVE AND FOR CONTROLLER WIRE, USE 3" SLEEVE.
3. ALL SLEEVES FOR CONTROLLER WIRE, CROSSING STREET PAVING SHALL HAVE A PULL BOX AT EACH END, ALL WIRE SHALL HAVE PENN-TIE CONNECTORS IN EACH PULL BOX.
4. ALL CONTROLLER WIRE SPLICES SHALL BE CONTAINED WITHIN A PULL BOX.

M.A.G. NOTE-
SEE M.A.G. SPECIFICATIONS, CITY OF PHOENIX SUPPLEMENT TO M.A.G., SPECIAL PROVISIONS AND DETAILS FOR ADDITIONAL REQUIREMENTS

IRRIGATION NOTE:
1. IRRIGATION DESIGN IS SCHEMATIC ONLY. ALL CONSTRUCTION AND INSTALLATION OF IRRIGATION SYSTEM SHALL BE WITHIN CITY RIGHTS-OF-WAY OR EASEMENTS. REFER TO LANDSCAPING SPECS. AND DETAILS FOR ADDITIONAL INFORMATION.
2. IRRIGATION LINE SIZES ARE AS SHOWN. FOR ANY DISCREPANCIES, NOTIFY LANDSCAPE ARCHITECT.

Waibel & Associates Landscape Architecture
master planning · gardens & consulting · urban design
Phone 480.893.3849 Fax 480.893.3846
8611 South Priest Drive, Suite 101
Tempe AZ 85284
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Two working days before you dig, CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

IRRIGATION DETAILS I

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.149	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

16TH STREET TO 36TH STREET

REVISION BY CITY OF PHOENIX

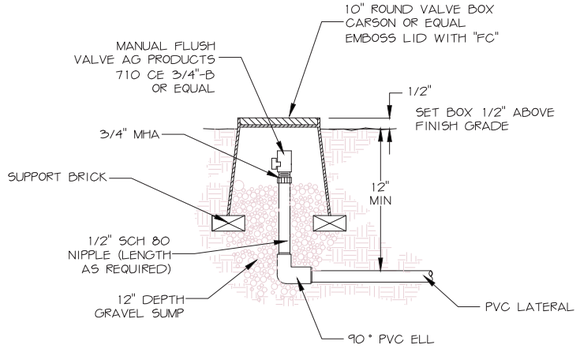
NO.	DESCRIPTION	REV BY	CK'D BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CK'D BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

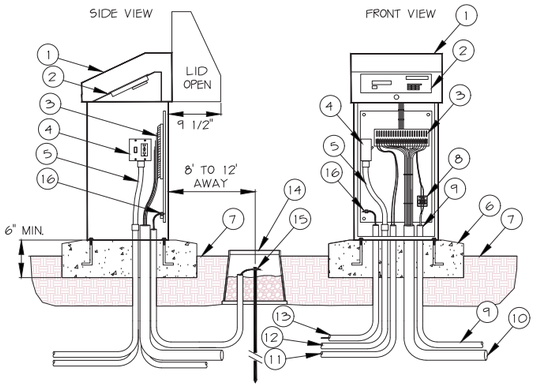
IX. MANUAL FLUSH VALVE

NTS



IX. STAINLESS STEEL CONTROLLER PEDESTAL

NTS FOR RAINMASTER EAGLE PLUS-I TWO-WIRE CONTROLLER: SA6-RM2-TW OR APPROVED OTHER

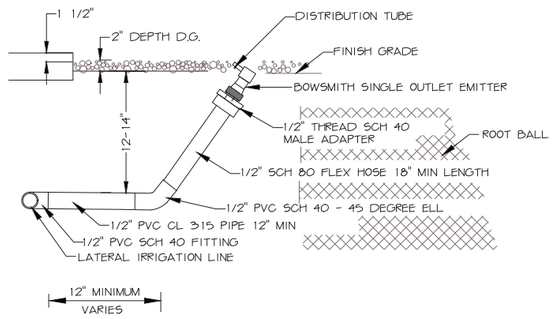


1. STRONGBOX STAINLESS STEEL NEMA 3R RAINPROOF ENCLOSURE (UL LISTED).
2. SATELLITE ASSEMBLY (OPTIONAL) ASSEMBLED IN ENCLOSURE BY JOHN DEERE GREEN TECH.
3. TERMINAL STRIP FOR VALVE WIRES.
4. POWER SWITCH / GFCI RECEPTACLE.
5. ELECTRICAL FLEX CONDUIT FOR POWER.
6. 6" MIN THICK, CONCRETE PAD WITH ANCHOR BOLTS PER MANUFACTURER RECOMMENDATIONS.
7. FINISHED GRADE.
8. FLOW SENSOR TERMINAL BOARD.
9. CONDUIT AND SWEEP ELL WITH FLOW SENSOR CABLE.
10. CONDUIT AND SWEEP ELL FOR LEAD WIRES.
11. CONDUIT AND SWEEP ELL FOR MASTER VALVE WIRES.
12. CONDUIT AND SWEEP ELL FOR 110 VAC POWER LINE.
13. CONDUIT AND SWEEP ELL FOR GROUND WIRE.
14. 10" ROUND VALVE BOX AROUND GROUND ROD. FILL WITH 3/4" CRUSHED ROCK.
15. 5/8" X 8' GROUND ROD WITH #6 GROUND WIRE AND CLAMP. LOCATE 8'-12' FROM ENCLOSURE.
16. #6 GROUND WIRE SECURED TO BACKBOARD GROUNDING TERMINAL.

NOTES:
1. CONTRACTOR TO CONFIRM WIRING CONFIGURATION PER THIS PROJECT AND PROVIDE ADEQUATE CONDUIT FOR WIRES TO MOVE FREELY WITHIN CONDUIT FOR COMPLETE AND CLEAN INSTALLATION INTO CABINET. BUNDLE WIRE WITH PLASTIC WIRE TIE TO PROVIDE NEAT AND ORGANIZED INSTALL.
2. CABINET DIMENSIONS: 16"W X 38"H X 15.5"D

XI. EMITTER SINGLE OUTLET

NTS

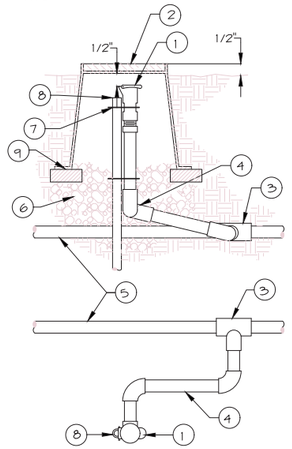


BOWSMITH EMITTER MODEL- SL 210 ONE PER SHRUB. USE GLUE SPECIFIC FOR FLEX HOSE CONNECTIONS

LOCATE EMITTER ON UP-HILL SIDE OF PLANT CENTER WHERE APPLICABLE

XII. QUICK COUPLER ASSEMBLY

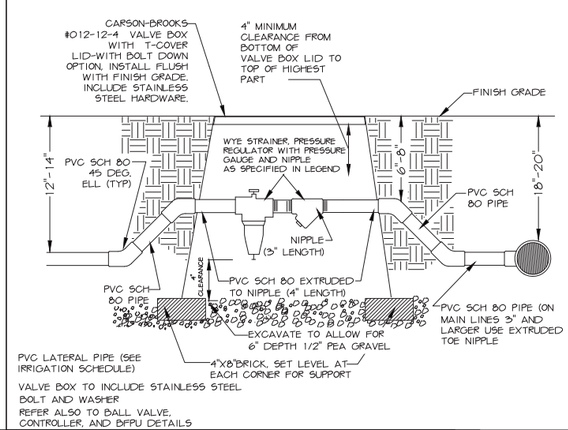
NTS



1. BRASS QUICK COUPLER VALVE.
2. VALVE BOX COVER SET TOP OF VALVE BOX1/2" ABOVE FINISHED GRADE.
3. PVC SCH 40 SLIP TEE
4. LASCO UNITIZED SWING JOINT W/STABILIZED BRASS NIPPLE (#G 175-218)
5. PVC MAINLINE PIPE (SEE SCHEDULE)
6. 6" LAYER 1/2" PEA GRAVEL. MIN 1 C.F. EXTEND BEYOND BOX ALL EDGES 6"
7. STAINLESS STEEL STRAP (2)
8. #4 MIN. REBAR 36" LONG
9. 4" X 8" STANDARD BRICK

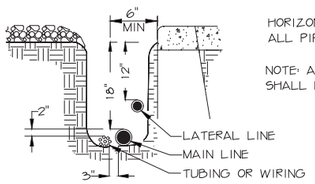
NOTES:
1. VALVE BOX SHALL INCLUDE STAINLESS STEEL BOLT AND WASHER
2. EMBOSS COVER WITH "QC" OR AS OTHERWISE DIRECTED
3. PROVIDE 4" X 8" BRICKS TO SUPPORT VALVE BOX SECURELY ON GRAVEL

XIII. PRESSURE REGULATOR AND WYE STRAINER



XIV. TRENCHING DETAIL

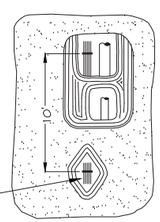
NTS



HORIZONTAL DISTANCE BETWEEN ALL PIPE MIN-3"

NOTE: ALL PIPING 3" AND LARGER SHALL HAVE 24"-26" OF COVER

ALL PIPE INSTALLATION, TRENCH EXCAVATION, BACK FILLING AND COMPACTION SHALL CONFORM TO MAG. SEC. 401.3 AND 601.

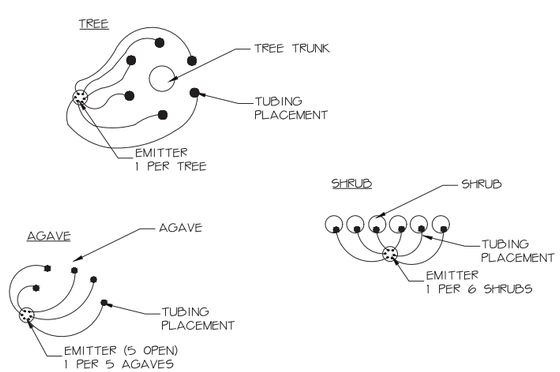


TAPE AND BUNDLE TUBING OR WIRING AT 10'-0" INTERVALS

NOTE:
1. DEPTH DIMENSION MAY VARY WHERE INDICATED ON IRRIGATION PLANS.
2. TOP OF WIRE BUNDLE SHOULD BE 2" BELOW TOP OF PIPE
3. ELECTRICAL CONDUIT LOCATED 18" BELOW GRADE.

XV. EMITTER PLACEMENT

NTS



XVI. IRRIGATION PIPE SCHEDULE

NTS

PIPE SCHEDULE

PIPE SIZE	GPM TO EMITTER RISERS ONLY
1/2"	6-10
3/4"	11-15
1"	16-25
1-1/4"	26-35
1-1/2"	

SLEEVE SCHEDULE

PIPE SIZE	SLEEVE SIZE
1/2" - 3/4"	3"
1" - 2"	4"

REGISTERED LANDSCAPE ARCHITECT
24745
JANET L. WAIBEL
07/14/2017
ARIZONA, U.S.A.
EXPIRES 12 31 2019

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.150	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

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2. IRRIGATION LINE SIZES ARE AS SHOWN. FOR ANY DISCREPANCIES, NOTIFY LANDSCAPE ARCHITECT.

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IRRIGATION DETAILS 2

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.150	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL

GRAND CANALSCAPE PHASE II

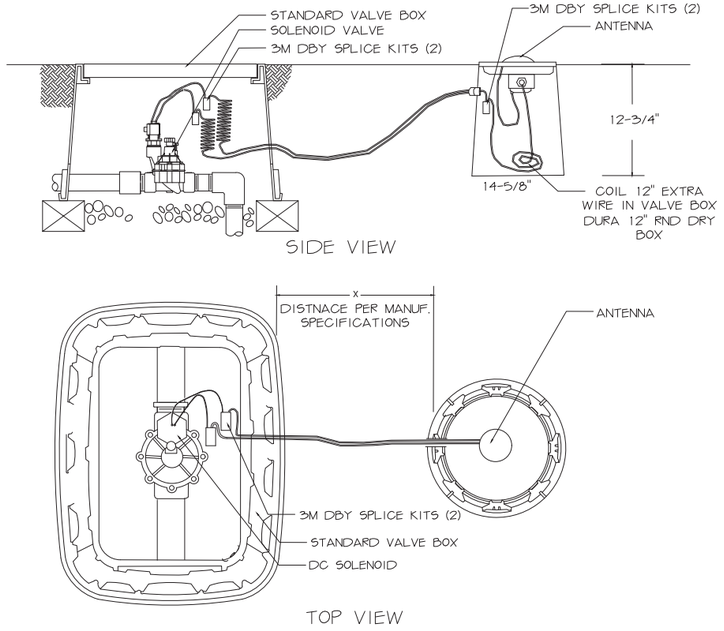
16TH STREET TO 36TH STREET

IRRIGATION LEGEND

Symbol	Description	Listed Model	Approved Alternate #1	Approved Alternate #2
M	New Water Meter - See plans for locations			
P	Electrical Power Pedestal			
C	Controller	Rain Master Eagle-RME18EGI-SPED-T	Tucor RKW+	Toro CC-M12-PED
WG	Base Wireless Gateway	Tucor Nexus BWR-400-G6	N/A	N/A
BFPU	Backflow Prevention Unit with Enclosure	Febco 825-YA 1"	Wilkins 975XL2SE	Watts 909AGC
MV	Master Valve	Griswold #2160 Open	Buckner Superior 3100-100	Bermad 910D
FS	Flow Sensor	Irritrol FS-B100	Rain Bird FS100B	Hunter Flow-Sync
	1" Remote Control Valve Pressure Regulator Wye Strainer (not shown on plan)	Rain Bird 100-EFB-CP Watts LFX65B 1" Watts LF777S 1"	Hunter IBV-101G-FS Apollo PR1PRLF Apollo YB1LF	Buckner Superior 3200-100 Wilkins 500XLYSBR 1" Wilkins 500XLYSBR 1"
WR	Wireless DC Latching Receiver	Tucor BWR-400 WVR-VB12	N/A	N/A
	Mainline Gate Valve (not shown on plan, place at midpoint of mainline between valves)	NIBCO T-113 1"	Apollo 101S1	Watts WGV-X 1"
	Ball Valve	NIBCO T-FP-600A	Watts FBV-4 1"	MATCO 757T05
QC	Quick Coupler	Rainbird 44-LRC	Hunter HQ-44LRC	Toro 470-100-2SLVC
	Emitter Irrigation Line for Trees	Cresline 1" & 3/4" SCH 40	Jain 1" & ¾" SCH 40	DIG Corp 1" & ¾" SCH 40
	Emitter Irrigation Line for Shrubs	Cresline 1" & 3/4" SCH 40	Jain 1" & ¾" SCH 40	DIG Corp 1" & ¾" SCH 40
	Multi-port Emitter for Trees and Shrubs (1 per tree, 1 per 6 shrubs) (not shown on plan)	Bowsmith ML 210	Rainbird XBT-10-6	Salco Products SLV-PS6-1
	Single-port Emitter- As Needed (not shown on plan)	Bowsmith SL 210	Rainbird XB-10PC	Salco Products SLV-PS-1
	Flush Cap, Typical end of all lateral lines	Rainbird MDCFCAP	Orbit 67468	Jain Power Loc w/ ¾" FHT Threaded Cap

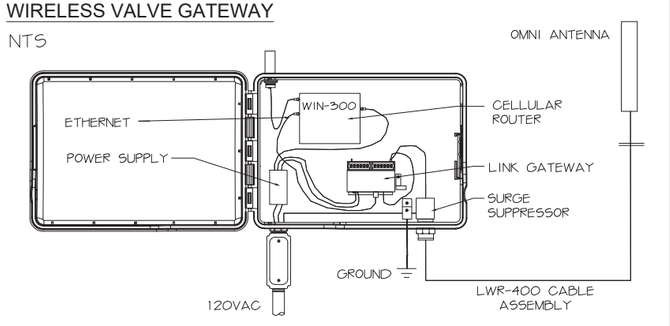
WIRELESS VALVE ASSEMBLY

NTS



WIRELESS VALVE GATEWAY

NTS



IRRIGATION NOTES:

1. IRRIGATION SYSTEM HAS BEEN DESIGNED FOR A STATIC WATER PRESSURE OF 60 P.S.I.. CONTRACTOR TO FIELD VERIFY PRESSURE PRIOR TO STARTING IRRIGATION INSTALLATION. NOTIFY CONSULTANT OF ANY DIFFERENCE FROM STATED PRESSURE. IF CONTRACTOR FAILS TO NOTIFY CONSULTANT THE ASSUMES FULL RESPONSIBILITY FOR ANY SYSTEM ALTERATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THE INSTALLATION OF A FULLY AUTOMATED IRRIGATION SYSTEM PRIOR TO STARTING PLANTING. IF INSTALLATION OR OPERATION OF THE IRRIGATION SYSTEM IS INTERRUPTED FOR ANY REASON, THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTINUE MANUAL WATERING OF ALL PLANT MATERIAL UNTIL THE IRRIGATION SYSTEM IS FULLY OPERATIVE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WATER SERVICE CONNECTIONS TO THE WATER METER. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONNECTIONS DOWN STREAM OF THE WATER METER AND EXTEND TAP SIZE TYPE "K" HARD COPPER FROM WATER METER THROUGH BACKFLOW PREVENTER.
4. REFER TO GENERAL CONSTRUCTION NOTES FOR ADDITIONAL CONSIDERATIONS THAT RELATE TO SCOPE OF WORK WITHIN THIS SECTION.
5. ALL IRRIGATION EQUIPMENT TO BE LOCATED IN DECOMPOSED GRANITE LANDSCAPE AREAS WITHIN PROPERTY BOUNDARIES OF THE PROJECT. SPECIFIC WRITTEN PERMISSION SHALL BE OBTAINED TO LOCATE VALVES OR IRRIGATION EQUIPMENT IN TURF AREAS. ALL LINES AND EQUIPMENT ARE SCHEMATIC AND ARE SOMETIMES SHOWN IN ROADWAYS, SIDEWALKS, OR OUTSIDE PROPERTY LINES. THIS IS DONE FOR CLARITY PURPOSES ONLY. LOCATE VALVES AND BACKFLOW PREVENTION UNITS WITHIN AREAS SO THAT THEY ARE AS VISUALLY UNOBTRUSIVE AS POSSIBLE.
6. DO NOT INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES, OR DIFFERENCES IN AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING PLANS. SUCH OBSTRUCTIONS OR CONFLICTS SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER AND LANDSCAPE ARCHITECT IMMEDIATELY. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISION NECESSARY.
7. THE IRRIGATION SYSTEM DESIGN IS BASED ON A MINIMUM OPERATING PRESSURE OF 35 P.S.I AND A MAXIMUM FLOW DEMAND OF 25 GPM. THE CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE LANDSCAPE DESIGNER IMMEDIATELY.
8. ALL MATERIAL USED SHALL BE INSTALLED AS DETAILED. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND OWNER'S REPRESENTATIVE AND /OR LANDSCAPE ARCHITECT.
9. THE OWNER'S REPRESENTATIVE MAY, AT ANY TIME, TAKE AND ANALYZE SAMPLES OF MATERIALS AND EQUIPMENT FOR CONFORMITY TO SPECIFICATIONS. THE CONTRACTOR SHALL MAKE SUCH SAMPLES AVAILABLE UPON REQUEST. REJECTED MATERIAL SHALL BE IMMEDIATELY REMOVED FORM THE SITE AND REPLACED AT THE CONTRACTOR'S EXPENSE.
10. INSTALL BACKFLOW PREVENTION UNITS PIPING BETWEEN THE POINT OF CONNECTION AND THE BFPU PER LOCAL CODES. THE FINAL LOCATION OF THE BACKFLOW PREVENTION UNIT SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
11. 120 VOLT SERVICE TO BE PROVIDED BY ELECTRICAL CONTRACTOR. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR POWER CONNECTION TO CONTROLLER. UNLESS IT IS PROVIDED BY PROJECT PLANS. CONTRACTOR SHALL INCLUDE BID PRICING FOR APPLICATION PERMIT FEES AND ALL COSTS PERTAINING TO PROVISION OF POWER FOR IRRIGATION OR LIGHTING FOR PROJECT. COORDINATE CONNECTIONS, LOCATIONS, EQUIPMENT NEEDS WITH ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING MATERIALS AND LABOR TO PROVIDE SPECIFIED ELECTRICAL SERVICE TO ALL CONTROLLER LOCATIONS. ALL ELECTRICAL WORK TO BE AS PER MANUFACTURER'S SPECIFICATIONS AND AS PER LOCAL CODE.
13. LEVEL OF PEA GRAVEL IN IRRIGATION BOXES SHALL BE A MINIMUM OR 2" BELOW THE BOTTOM OF THE VALVE SO THAT THE VALVE IS COMPLETELY VISIBLE. ALL PEA GRAVEL IN THE VALVE BOX TO BE CLEANED FROM TOP OF VALVE SO THAT THE VALVE IS COMPLETELY VISIBLE. THE LIP OF THE VALVE BOX IS ALSO TO BE FREE OF DEBRIS.
14. 24 VOLT WIRE SHALL BE 600V, UF US APPROVED, #14 GAUGE, SINGLE STRAND, PLASTIC, INSULATED COPPER WIRE. COMMON WIRES TO BE WHITE. CONTROL WIRES TO BE RED. NO BLACK WIRING IS TO BE USED. TAPE AND BUNDLE WIRE EVERY 10' AND LAY BESIDE MAINLINE IN TRENCH. SPLICE IN VALVE BOXES ONLY, USING ELASTOMERIC SILICONE CONNECTIONS. PROVIDE 18" SLACK AT EACH ELBOW IN MAINLINE TRENCH AND AT EACH REMOTE CONTROL VALVE. PULL ONE ADDITIONAL SPARE CONTROL WIRE TO EACH VALVE BOX LOCATION FOR POTENTIAL FUTURE USE. COLOR OF EXTRA CABLE SHALL BE YELLOW.
15. ONE VALVE PER BOX. LOCATE PRESSURE REGULATOR AND 'Y' STRAINER IN A SEPARATE VALVE BOX JUMBO VALVE BOX MAY BE USED IN LIEU OF TWO SEPARATE BOXES FOR ONE VALVE/PRESSURE REGULATOR/WYE ASSEMBLY.
16. ALL DRIP SYSTEMS TO BE FLUSHED THROUGH FLUSH CAPS. FLUSH CAPS TO BE LOCATED IN 10" ROUND TAN COLOR ECONOMY VALVE BOXES WITH LIDS.
17. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTION OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED BY THE LANDSCAPE ARCHITECT.
18. BACKFILL SHALL BE PLACED IN TWO OR MORE COMPACTED LIFTS. SETTLING OF TRENCHES BY MORE THAN AN INCH SHALL BE BROUGHT TO FINISH GRADE AT NO ADDITIONAL COST TO THE OWNER.
19. ALL PLANTS REQUIRING MORE THAN ONE DRIP EMITTER SHALL HAVE EMITTERS DISTRIBUTED EVENLY AROUND PERIMETER OF THE PLANTING WELL. EMISSION POINTS AT THE ROOTBALLS SHALL BE LOCATED ON THE UPHILL SIDE. POSITION EMITTER PER DETAILS.
20. MAINTAIN A 3' CLEARANCE FOR ALL PLANTING AND IRRIGATION AROUND FIRE HYDRANTS.
21. PRIOR TO OWNER'S APPROVAL, AN IRRIGATION TUNE UP MUST BE PERFORMED AS FOLLOWS:
    - A. ALL IRRIGATION EQUIPMENT (INCLUDING ALL PIPE LINES AND AND SLEEVES) TO BE DOCUMENTED FROM TWO STATIONARY POINTS.
    - B. ALL DRIP SYSTEMS TO BE FLUSHED BEGINNING WITH 'Y' STRAINER, WORKING AWAY FROM THE PRESSURE REGULATOR.
    - C. ALL IRRIGATION SPRINKLER HEADS TO BE FLUSHED OF DEBRIS AND FLOW CONTROLS. ADJUSTED TO ACHIEVE 100% COVERAGE FOR TURF AREAS AS APPLICABLE. AVOID OVERSPRAY ON ALL STREETS, CURBS, WALKS AND STRUCTURES.
    - D. ALL IRRIGATION HEADS TO BE FIELD AND MANUALLY ADJUSTED TO THE PROPER HEIGHT.
22. SETBACK ALL SPRAY AND STREAM TYPE IRRIGATION HEADS 8" FROM BACK OF CURB, SIDEWALK, AND/OR DRIVEWAYS TO REDUCE OVER SPRAY. ALTERNATIVES TO ACHIEVE SIMILAR RESULTS SHALL BE APPROVED BY LA OR OWNER'S REPRESENTATIVE.
23. PLANS ARE DRAWN FOR CLARITY TO INDICATE COVERAGE AREAS FOR THE SYSTEM. IRRIGATION LATERALS MAY BE PLACED IN COMMON TRENCHES TO AVOID EXTENSIVE RUNS UNDER PAVEMENT, WHERE APPROPRIATE.
24. LANDSCAPE CONTRACTOR IS FULLY RESPONSIBLE TO PROVIDE OWNER WITH A COMPLETE SET OF AS-BUILT DRAWINGS THAT ARE COMPLETELY LEGIBLE AND ACCURATE FOR THE ACTUAL INSTALLATION THAT WAS DONE BY THE LANDSCAPE CONTRACTOR. LANDSCAPE CONTRACTOR HIRED TO DO THE INSTALLATION SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE AS BUILT DRAWINGS.

REGISTERED LANDSCAPE ARCHITECT 24745 JANET L. WAIBEL 07/14/2017 ARIZONA, U.S.A.

EXPIRES 12 31 2019

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	POST FENCE DETAIL CHANGE	RM	JW	10/17
1	ADD BOX SIZE TO PLANT LEG.	RM	JW	10/17

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST87600114	2.151	2.182

eec ENGINEERING & ENVIRONMENTAL CONSULTANTS
CONSULTING ENGINEER

DES: JL	DR: JKA	CK: RCA	DATE: 09/16/16

GENERAL NOTES:

VALVE NOTES–
1. ONLY ONE VALVE PER VALVE BOX AND ALL HARDWARE TO BE STAINLESS STEEL. ANY BOLTS ON COVER TO HAVE WASHERS.
2. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX (WRAP AROUND ½" PIPE 15–TIMES).
3. STEP–UP VALVE W/ 45 DEG. FITTINGS TO MAINTAIN 6" BETWEEN VALVE AND TOP OF BOX.
4. EMBOSS COVER WITH ½" NO. WHICH CORRESPONDS TO VALVE NO. ON IRRIGATION PLANS.
5. CONTRACTOR TO PROVIDE A LIST OF GPS COORDINATE POINTS FOR ALL VALVE BOXES THAT ARE TO BE BURIED.

SLEEVE NOTES–
1. SLEEVE UNDER ALL PAVEMENT AND DRIVEWAY THAT ARE CROSSED WITH IRRIGATION PIPE OR CONTROLLER WIRE.
2. USE SCHEDULE 40 PIPE. SIZES AS FOLLOWED UNLESS OTHERWISE NOTED ON PLANS; FOR PIPE ½" TO 1–¼", USE 3" SLEEVE, FOR PIPES 1–½" TO 2", USE 4" SLEEVE AND FOR CONTROLLER WIRE, USE 3" SLEEVE.
3. ALL SLEEVES FOR CONTROLLER WIRE, CROSSING STREET PAVING SHALL HAVE A PULL BOX AT EACH END, ALL WIRE SHALL HAVE PENN–TIE CONNECTORS IN EACH PULL BOX.
4. ALL CONTROLLER WIRE SPLICES SHALL BE CONTAINED WITHIN A PULL BOX.

M.A.G. NOTE–
SEE M.A.G. SPECIFICATIONS, CITY OF PHOENIX SUPPLEMENT TO M.A.G., SPECIAL PROVISIONS AND DETAILS FOR ADDITIONAL REQUIREMENTS

IRRIGATION NOTE:
1. IRRIGATION DESIGN IS SCHEMATIC ONLY. ALL CONSTRUCTION AND INSTALLATION OF IRRIGATION SYSTEM SHALL BE WITHIN CITY RIGHTS–OF–WAY OR EASEMENTS. REFER TO LANDSCAPING SPECS. AND DETAILS FOR ADDITIONAL INFORMATION.
2. IRRIGATION LINE SIZES ARE AS SHOWN. FOR ANY DISCREPANCIES, NOTIFY LANDSCAPE ARCHITECT.

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Two working days before you dig, CALL FOR THE BLUE STAKES 602–263–1100 Blue Stake Center

"CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA."

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2–28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

IRRIGATION DETAILS 3

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

GRAND CANALSCAPE PHASE II
16TH STREET TO 36TH STREET
ST87600114

DES: JL	DR: JKA	CK: RCA	SHEET NO:	TOTAL SHEETS
DATE: 09/16	DATE: 09/16	DATE: 09/16		
SCALE			2.151	2.182

ST87600114, GRAND CANALSCAPE PHASE II 16TH STREET TO 36TH STREET, 100% SUBMITTAL