

## TEMPORARY SPILLWAY IMPROVEMENT AGREEMENT

This Agreement is made and entered into this 8 day of August, 2025, by and between the **City of Broken Arrow**, an Oklahoma municipal corporation (hereinafter referred to as "City"), and the **Shenandoah Valley Property Owner's Association** (hereinafter referred to as "POA").

### RECITALS

WHEREAS, the POA has requested assistance from the City regarding the leaking spillway located within the Shenandoah Valley at Battle Creek subdivision ("Property"); and

WHEREAS, the City has agreed to perform temporary work to address immediate concerns related to the spillway, but does not assume responsibility for ongoing or future improvements to the structure on the Property; and

WHEREAS, both parties acknowledge that the work performed by the City is a temporary solution and does not constitute a commitment to future maintenance or enhancements.

### AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the parties agree as follows:

- 1. Scope of Work** The City agrees to perform temporary work on the spillway to address immediate concerns as described in Exhibit A (attached). The work performed shall not be considered a permanent solution, nor shall it obligate the City to undertake further improvements or maintenance.
- 2. No Future Responsibility** The POA acknowledges and agrees that the City shall not be responsible for any additional work, repairs, or improvements beyond the temporary measures outlined in this Agreement. Any future enhancements or maintenance shall be the sole responsibility of the POA.
- 3. Right of Entry.** It is agreed that City personnel shall have the right to enter upon the Property during the contract term, for the purpose of performing the work on the Property described in Exhibit A.
- 4. Indemnification** The POA shall indemnify, defend, and hold harmless the City from any claims, damages, or liabilities arising from the condition, maintenance, or future improvements of the spillway following the completion of the temporary work.
- 5. Disclaimer.** The City disclaims any and all liability occasioned by the use of the Property subsequent to work described in Exhibit A being performed on the Property. Each and every user of the Property does so at its own risk and with full knowledge of the nature

of the work on the Property. The City makes no representations as to the condition of the Property after the work has been completed.

**6. Effective Date & Termination** This Agreement shall be effective upon execution by both parties and shall remain in effect until the City has completed the work described in Exhibit A.

**7. General Provisions**

- a. Entire Agreement: This Agreement constitutes the full and complete understanding between the parties regarding the subject matter herein.
- b. Modification: Any modifications must be in writing and signed by both parties.
- c. Governing Law: This Agreement shall be governed by the laws of the State of Oklahoma.
- d. Each party represents and warrants that it has the authority to enter into this Agreement.
- e. Severability: If any provision of this Agreement is determined to be invalid or unenforceable, the remaining provisions shall remain in full force and effect.
- f. No Joint Venture: Nothing in this Agreement shall be construed by the parties hereto or by any third party to create the relationship of principal and agent, or of partnership, or of joint venture, or of any other association of a similar nature,

[Signatures appear on the following page]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first written above.

**HOA:**  
**Shenandoah Valley Homeowners Association**

By: \_\_\_\_\_

Date: \_\_\_\_\_

**CITY:**  
**City of Broken Arrow, a Municipal Corporation**

By: \_\_\_\_\_  
Michael L. Spurgeon, City Manager

Date: \_\_\_\_\_

Attest: \_\_\_\_\_  
City Clerk [Seal]

Date: \_\_\_\_\_

Approved as to form:

\_\_\_\_\_  
Assistant City Attorney

**SURVEY CONTROL DATA**

- HORIZONTAL CONTROL MONUMENTS  
OKLAHOMA STATE PLANE COORDINATE SYSTEM - LAMBERT NORTH PROJECTION
- BASIS OF BEARING:  
LOCAL GRID BEARING
- VERTICAL CONTROLS (BM):  
NAVD 1988
- SECTION NUMERICAL DESCRIPTION (S-T-R):  
SECTION 27, T-19-N, R-14-E

**BEFORE YOU DIG! CALL OKIE 1-800-522-6543**



UTILITIES LOCATION SHOWN ON PLAN AND PROFILE WERE OBTAINED FROM INFORMATION PROVIDED BY UTILITY SYSTEM OWNER IN CONJUNCTION WITH EXISTING PHYSICAL FEATURES VISIBLE AT THE TIME OF THE TOPOGRAPHIC SURVEY. LOCATIONS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

**UTILITY CONTACTS**

CITY OF BROKEN ARROW, OKLAHOMA, E&C PROJECT ENGINEER, BLAKE EDWARDS 485 N. POPLAR AVE. BROKEN ARROW, OKLAHOMA 74012 (918) 259-7000 EXT. 7632 (918) 259-8453 (FAX)	CITY OF BROKEN ARROW, OKLAHOMA WATER & SEWER, TIMOTHY ROBINS, P.E. 485 N. POPLAR AVE. BROKEN ARROW, OKLAHOMA 74012 (918) 259-7000 EXT. 7375 (918) 251-3383 (FAX)
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CITY OF BROKEN ARROW, OKLAHOMA STREETS/STORMWATER, TIM WILSON 2302 S. 1ST PLACE BROKEN ARROW, OKLAHOMA 74012 (918) 259-7000 EXT. 7380 (918) 251-3383 (FAX)	OKLAHOMA NATURAL GAS (GOV'T RELOCATIONS) ATTN: TIM HELBIG 5848 EAST 15TH STREET TULSA, OKLAHOMA 74112 (918) 831-8387 (918) 729-4681 (CELL)
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COX COMMUNICATIONS ATTN: CHRIS LONG 11811 E. 51ST STREET TULSA, OK 74146 (918) 286-4665 (918) 286-4018 (FAX)	OKLAHOMA NATURAL GAS (EXISTING CONST.) ATTN: DUANE COOPER 5848 EAST 15TH STREET TULSA, OKLAHOMA 74112 (918) 645-1953
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WINDSTREAM COMMUNICATION ATTN: MICHAEL LATHAM 11200 S. 225TH E. AVE. BROKEN ARROW, OKLAHOMA 74014 (903) 791-3107 (903) 748-1824	AEP / PSO ATTN: JOSEPH CHEBAIBAI 5223 S GARNETT ROAD TULSA, OK 74149 (918) 232-4571 (918) 247-8466 (FAX)
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**CONVENTIONAL SYMBOLS**

- SECTION LINES
- PROPOSED ROAD
- R/W RIGHT-OF-WAY LINES - NEW
- PRES. R/W RIGHT-OF-WAY LINES - EXISTING
- X FENCES
- O— OVERHEAD ELECTRIC LINES
- DT— OVERHEAD TELEPHONE LINES
- SS— SANITARY SEWERS
- G— GAS LINES
- W— WATER LINES
- UT— UNDERGROUND TELEPHONE LINES
- CTV— CABLE TELEVISION LINES
- STM— STORM SEWER
- UCT— UNDERGROUND CABLE TELEVISION LINES
- UE— UNDERGROUND ELECTRIC



**BROKEN ARROW**  
*Where Opportunity lives*

# SHENANDOAH VALLEY AT BATTLE CREEK POND OUTLET STRUCTURE

PROJECT NUMBER SW23030

**INDEX OF SHEETS**

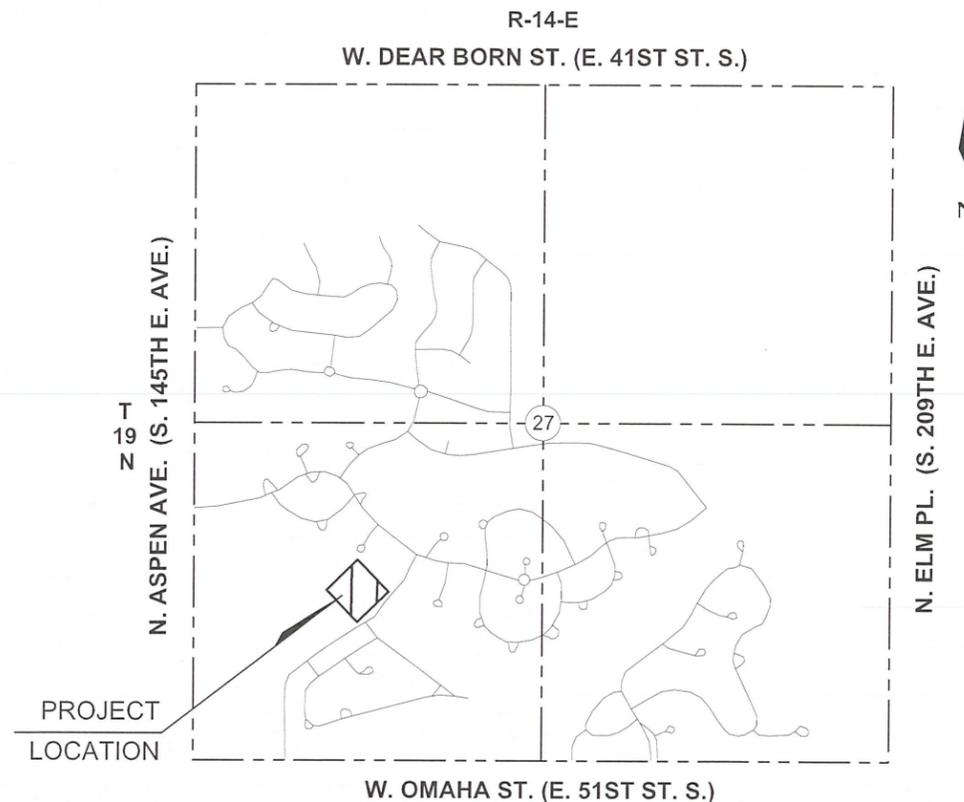
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**BROKEN ARROW COUNCIL**

MAYOR	DEBRA WIMPEE
VICE-MAYOR	CHRISTI GILLESPIE
MEMBER AT LARGE	JOHNNIE PARKS
WARD-2	LISA FORD
WARD-4	JUSTIN GREEN

**BEST MANAGEMENT PRACTICES MANUAL:**

REFER TO [HTTPS://WWW.BROKENARROWOK.GOV/GOVERNMENT/PUBLIC-WORKS/ENGINEERING-CONSTRUCTION/CONSTRUCTION ACTIVITY BEST MANAGEMENT PRACTICES GUIDANCE MANUAL 2023](https://www.brokenarrowok.gov/government/public-works/engineering-construction/construction-activity-best-management-practices-guidance-manual-2023)



PROJECT LOCATION SECTION 27 T-19-N, R-14-E, TULSA COUNTY

**ENGINEERING & CONSTRUCTION DEPARTMENT**  
485 NORTH POPLAR AVENUE  
BROKEN ARROW, OK. 74012

CITY OF BROKEN ARROW STANDARD CONSTRUCTION SPECIFICATIONS, FEBRUARY 20, 2024, SHALL GOVERN ALL CONSTRUCTION AS SUPPLEMENTED BY OKLAHOMA STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION, APPROVED BY THE DEPARTMENT OF TRANSPORTATION 2019.

**APPROVED**  
*Michael L. Spurgeon* DATE 2/24/25  
MICHAEL L. SPURGEON  
CITY MANAGER/ GENERAL MANAGER

**RECOMMENDED FOR APPROVAL**

*Charlie Bright* DATE 11/21/2024  
CHARLIE BRIGHT, P.E.  
DIRECTOR OF ENGINEERING & CONSTRUCTION

*Tim Wilson* DATE 12/2/2024  
TIM WILSON  
DIRECTOR OF STREETS & STORMWATER

*Daniel A. Keithline* 11/6/2024  
DANIEL A. KEITHLINE, P.E.  
ENGINEER OF RECORD



**GENERAL CONSTRUCTION NOTES**

- ALL PAVING, DRAINAGE, AND EROSION CONTROL SHALL BE DESIGNED IN ACCORDANCE WITH THE CURRENT CITY OF BROKEN ARROW ENGINEERING DESIGN CRITERIA MANUALS, LAND SUBDIVISION CODE, AND CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CITY OF BROKEN ARROW STANDARD CONSTRUCTION SPECIFICATIONS.
- ALL PAVING, DRAINAGE, AND EROSION CONTROL CONSTRUCTION SHALL BE INSPECTED BY THE ENGINEERING & CONSTRUCTION DEPARTMENT CONTRACT ADMINISTRATOR IN ACCORDANCE WITH CITY OF BROKEN ARROW REGULATIONS.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL PARTICIPATE IN A PRE-CONSTRUCTION CONFERENCE WITH THE ENGINEERING & CONSTRUCTION DEPARTMENT. AT THIS CONFERENCE, THE CONTRACTOR SHALL FURNISH CERTIFICATION FROM THE MANUFACTURER/SUPPLIER THAT ALL MATERIALS MEET APPLICABLE SPECIFICATION. THIS INFORMATION SHALL INCLUDE MOISTURE DENSITY CURVES FOR MATERIALS TO BE USED FOR EMBANKMENT OR SUBGRADE CONSTRUCTION, AGGREGATE GRADATION TESTS, AND MIX DESIGNS FOR PORTLAND CEMENT CONCRETE. CERTIFICATIONS SHALL BE SUPPLIED IN FIVE (5) COPIES. MATERIALS SHALL NOT BE INSTALLED UNTIL THEY HAVE BEEN APPROVED BY THE CITY.
- EROSION CONTROL SHALL START WITH INITIAL CONSTRUCTION AND BE PRACTICED THROUGHOUT THE ENTIRE DURATION OF THE PROJECT.
- SILT FENCES SHALL BE CONSTRUCTED ADJACENT TO ALL DRAINAGE WAYS.
- VEGETATIVE COVER SHALL BE ESTABLISHED ON ALL DISTURBED AREAS AS SOON AS THE WORK IS COMPLETED.
- ROAD CLOSURES MUST BE COORDINATED A MINIMUM OF TWENTY-FOUR (24) HOURS IN ADVANCE. ROADS WILL NOT BE CLOSED FOR OVER EIGHT (8) HOURS WITHOUT WRITTEN PERMISSION FROM THE DIRECTOR OF ENGINEERING & CONSTRUCTION DEPARTMENT FOR THE CITY OF BROKEN ARROW.
- ALL ADDITIONAL WORK NOT LISTED WILL BE CONSIDERED INCIDENTAL AND PAID FOR AS OTHER ITEMS OF WORK.
- WATER WILL BE PROVIDED VIA THE NEAREST CITY OF BROKEN ARROW HYDRANT AT NO COST TO THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CONSTRUCTION METER FROM THE CITY, PAYING A \$1,200 ESCROW DEPOSIT FOR USE OF METER. THE ESCROW MONEY WILL BE RETURNED TO THE CONTRACTOR WHEN THE CONSTRUCTION METER IS RETURNED. FAILURE TO RETURN THE METER WITHIN 2 WORKING DAYS AFTER THE CONTRACT ADMINISTRATOR DETERMINES THE METER IS NO LONGER REQUIRED ON THE PROJECT COULD RESULT IN WATER CHARGES. LOSS OF SOME OR ALL OF THE ESCROW DEPOSIT, AND CONTRACTOR EARNINGS WITHHELD. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES TO CONSTRUCTION METER OR HYDRANT HE MAY CAUSE. CONTRACTOR IS RESPONSIBLE FOR TRANSPORT AND DISTRIBUTION OF WATER AS NEEDED.
- THE CONTRACTOR WILL BE REQUIRED TO ESTABLISH VEGETATIVE COVER ON ANY DISTURBED AREAS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL.
- ACCESS MUST BE MAINTAINED TO ALL COMMERCIAL AND RESIDENTIAL PROPERTIES DURING THE PROJECT.
- THE CONTRACTOR OR CONTRACTOR'S REPRESENTATIVE SHALL ATTEND A PUBLIC MEETING BEFORE PROJECT KICKOFF, IF REQUIRED.
- THE CONTRACTOR SHALL KEEP OPEN TRENCHES DRAINED. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC. PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES: THE "OKIE" NOTIFICATION CENTER 811 OR 1-800-522-6543. DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION PLANS. THE CONTRACT ADMINISTRATOR MAY ADD OR DELETE CONTROL MEASURES AS NECESSARY.
- CONTRACTOR SHALL COORDINATE WITH THE CITY OF BROKEN ARROW CONSTRUCTION ADMINISTRATOR PRIOR TO PLACING SIDEWALKS.
- CONTRACTORS SHALL PROTECT AND USE CAUTION AROUND ALL TREES NOT MARKED FOR REMOVAL.
- THE CONTRACTOR SHALL PRESERVE PUBLIC AND PRIVATE PROPERTY DURING THE PROSECUTION OF THE WORK AND NOT MOVE, DISTURB, OR DAMAGE LAND MONUMENTS AND PROPERTY MARKS UNTIL DIRECTED BY THE CONTRACT ADMINISTRATOR.
- THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO PUBLIC AND PRIVATE PROPERTY RESULTING FROM ANY OF THE FOLLOWING:
  - ACTS, OMISSIONS, NEGLIGENCE, OR MISCONDUCT IN THE CONTRACTORS METHOD OF PERFORMING THE WORK.
  - DEFECTIVE WORK OR MATERIALS, OR
  - NON-PERFORMANCE OF THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR RESTORING DAMAGED OR DISTURBED PROPERTY TO A SIMILAR OR EQUAL TO THAT EXISTING BEFORE DAMAGE/DISTURBANCE OCCURRED, AT NO ADDITIONAL COST TO THE CITY.

**ADDITIONAL GENERAL CONSTRUCTION NOTES:**

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST **OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT)** 2019 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE 2019 ROADWAY DESIGN STANDARD DRAWINGS AND THE CURRENT **CITY OF BROKEN ARROW** STANDARD CONSTRUCTION SPECIFICATIONS
- THE CONTRACTOR SHALL COMPLY WITH ALL **FEDERAL, STATE AND LOCAL LAWS** GOVERNING SAFETY, HEALTH, AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTION ON AS HIS OWN RESPONSIBILITY OR AS THE ENGINEER MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY DURING PERFORMANCE OF WORK UNDER THIS CONTRACT.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE AND COMPLY WITH ALL **OSHA RULES AND REGULATIONS**.
- THE CONTRACTOR SHALL EXECUTE THE **NOI** AND EXECUTE ALL WORK ACCORDANTLY.
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL **EXISTING UTILITIES** BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ALL DAMAGES WHICH MIGHT RESULT FROM HIS FAILURE TO LOCATE AND PRESERVE ALL UTILITIES AND PROPERTIES.
- THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL **NOTIFY EACH UTILITY OWNER** PRIOR TO COMMENCEMENT OF WORK TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS.
- THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF OKLAHOMA **ONE-CALL SYSTEM**, INC. NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS NOR LATER THAN 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO THE COMMENCEMENT OF WORK. THE PHONE NUMBER IS 1-800-522-6543.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF BROKEN ARROW AND PROPERTY OWNERS A MINIMUM OF **FORTY-EIGHT (48) HOURS NOTICE** PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
- ALL **MATERIALS NOT USED** OR REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OFF SITE IN ACCORDANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL LAWS.
- PUBLIC NEIGHBORHOOD STREETS & GOLF CART PATH** SHALL BE KEPT CLEAN AND CLEAR OF WORK-RELATED EQUIPMENT, WORKER VEHICLES, AND PROJECT MATERIALS. NEARBY DRIVEWAYS SHALL NOT BE BLOCKED BEYOND ANY REASONABLE SHORT DURATION REQUIRED FOR ACTIVITY.
- CONTRACTOR SHALL MAINTAIN A **CLEAN CONSTRUCTION SITE** AT ALL TIMES. TRASH, PALLETS, CONTAINERS, BINDINGS, WRAPPERS, ETC. SHALL BE PICKED UP WHEN NO LONGER IN USE AND DEPOSITED IN APPROPRIATE TRASH CONTAINERS.
- PROJECT **SAFETY BARRICADES AND FENCING** SHALL BE ADEQUATE TO PROTECT THE PUBLIC AND NEARBY PRIVATE RESIDENCES FROM ENTERING THE PROJECT AREA.
- TRAFFIC CONTROL** DEVICES AND SIGNS SHALL BE INSTALLED IN A MANNER APPROVED BY THE OWNER AND IN ACCORDANCE WITH THE CURRENT EDITION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PROPER INGRESS AND EGRESS SHALL BE PROFESSIONAL DESIGNED AND MANAGED IN ACCORDANCE TO MUTCD REQUIREMENTS. ALL COST SHALL BE INCLUDED IN THE CONTRACTOR BID.
- THE **11" X 17" PLANS** ARE CONSIDERED HALF SIZE PLANS AND 22" X 34" IS FULL SIZE PLANS.
- SOIL INVESTIGATION** WAS NOT PERFORMED ON THIS SITE.
- TOPOGRAPHIC SURVEY** WAS NOT PERFORMED ON THIS JOB.

PAY QUANTITIES					
PAY ITEM	ODOT SPEC NO.	DESCRIPTION	PAY NOTES	UNIT	QTY
1	202(A)2200	UNCLASSIFIED EXCAVATION	1	CY	2
2	415 7100	CONCRETE JOINT SEALING	2	LF	40
3	426(D)1500	POLYURETHANE INJECTION FOR PAVEMENT	3	LB	339
4	601(A)1100	TYPE I PLAIN RIPRAP (SIZE=6")	4	TON	14
5	641 2110	MOBILIZATION	5	LSUM	1
6	880(J)7110	CONSTRUCTION TRAFFIC CONTROL	6	LSUM	1
7	SPEC	WATER PRESSURE WASH	7	LSUM	1
8	SPEC	REMOVE & REINSTALL FENCE	8	LSUM	1

**PAY ITEMS NOTES**

ITEMS OF WORK - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST OKLAHOMA DEPARTMENT OF TRANSPORTATION OF STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CITY OF BROKEN ARROW CONSTRUCTION SPECIFICATIONS AND STANDARDS AND THE SPECIAL PROVISIONS SPECIFICATIONS. THE CONTRACT PROPOSAL DIVIDES THIS PROJECT INTO ITEMS OF WORK FOR THE PURPOSE OF PAYMENT TO THE CONTRACTOR FOR THE SUCCESSFUL COMPLETION OF EACH TASK. NO ADDITIONAL PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR INCIDENTALS OR APPURTENANCES NECESSARY TO COMPLETE THE WORK AS SPECIFIED OR REQUIRED UNDER EACH PAY ITEM. THE COST FOR PERFORMING THE WORK, INCLUDING MOBILIZATION, LABOR, MATERIALS, EQUIPMENT, TAXES, INSURANCE, BONDS AND WORK FOR WHICH NO SPECIFIC ITEMS ARE LISTED, SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS OF WORK AS A COMPLETE PROJECT.

- UNCLASSIFIED EXCAVATION** INCLUDES:
  - COST FOR EXCAVATING TWO(2) PITS AS SHOWN ON PLANS.
  - COST TO PERFORM THE EXCAVATION USING HAND TOOLS AND WHEEL BARRELS. NO HEAVY EQUIPMENT IS ALLOWED. THE GOAL IS TO PREVENT DAMAGE TO GRASS, SOIL, & SIDEWALK OUTSIDE OF THE PROJECT SCOPE.
  - THE CONTRACTOR SHALL BE PAID FOR UNCLASSIFIED EXCAVATION ON THE BASIS OF PLAN QUANTITY. ANY ADDITIONAL EXCAVATION REQUIRED OR OVERRUN OF PLAN QUANTITY WILL BE PAID FOR ON THE BASIS OF UNIT PRICE BID FOR THE ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SURVEY TO VERIFY ANY ADDITIONAL QUANTITIES.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL WASTE MATERIAL GENERATED DURING CONSTRUCTION EXCEPT FOR EARTHEN TYPE MATERIALS. WASTE MATERIAL MUST BE REMOVED FROM THE WORK SITE AND DISPOSED OF IN SUCH A MANNER AS TO NOT DAMAGE THE OWNER OR OTHER PERSONS AND IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
  - NO ADDITIONAL PAYMENT WILL BE CONSIDERED OUTSIDE THEORETICAL LIMITS OF GRADING AREAS.
- CONCRETE JOINT SEALING** INCLUDES:
  - REMOVAL AND INSTALLATION OF POLYURETHANE JOINT SEALANT ON THE EXISTING CONSTRUCTION JOINTS.
  - TO BE PERFORMED AFTER SURFACE PRESSURE WASH.
- POLYURETHANE INJECTION** INCLUDES:
  - COST TO INSTALL POLYURETHANE FOAM INJECTION IN TWO PITS AND ALONG THE DOWNSTREAM OUTLET STRUCTURE AS SHOWN ON THE PLANS.
  - IT IS ASSUMED 1 GALLON OF RESIN EXPANDS TO 1.56 CUBIC FEET AND 1 CUBIT FOOT EQUAL 8 LBS.
  - DRILLING THREE (3) 2-INCH DIAMETER HOLES AS SHOWN ON THE PLANS AND INSTALLING 4,000 PSI WATER PLUG. WATER PLUG SHALL BE FLUSH WITH THE EXISTING SURFACE AND EXTENDED MINIMUM 2-INCH BELOW THE SURFACE.
  - PRODUCT TO BE TERRATHANE 24-003 OR APPROVED EQUAL.
  - FOLLOW ALL MANUFACTURE PROCEDURES, STORAGE, AND INSTALLATION METHODS.
- TYPE I RIPRAP (SIZE=6")** INCLUDES:
  - STOCKPILING THE NEW RIPRAP OVER THE EXISTING RIPRAP OR POND OUTLET. STOCKPILE IS PROHIBITED ON GRASS OR GOLF CART PATH.
  - INSTALLING THE 6" RIPRAP SO THAT THE POLYURETHANE FOAM EXPANDES THROUGH THE RIPRAP GAPS.
  - INSTALLING 3/4" CLEAN ROCK AND SAND IN THE GAPS ALONG THE SURFACE TO PREVENT UV DAMAGE TO THE EURETHANE FOAM.
  - INSTALLING 6" RIPRAP TO LOCATIONS SHOWN ON THE PLANS.
  - THIS PAY ITEM SHALL NOT BEYOND OVERRUN. PLAN QUANTITY ONLY.
- MOBILIZATION** INCLUDES:
  - PER CITY OF BROKEN ARROW SPECIFICATIONS.
- CONSTRUCTION TRAFFIC CONTROL** INCLUDES:
  - NECESSARY SIDEWALK SIGNS OR CONES TO MANAGE PEDESTRIAN TRAFFIC CONTROL.
  - NECESSARY SIGNS TO MANAGE GOLF CART TRAFFIC.
  - SUFFICIENT SAFETY ORANGE FENCE TO PROTECT THE GENERAL PUBLIC DURING EXCAVATION OPERATIONS AND OTHER HAZARDS.
- WATER PRESSURE WASH** INCLUDES:
  - COST TO PERFORM 3,000 PSI PRESSURE TO EXISTING POND OUTLET SURFACE PRIOR TO INSTALLED JOINT SEALANT.
  - THE EXISTING SURFACE INCLUDES ALL EXPOSED CONCRETE SLABS & WALLS UPSTREAM OF THE CONCRETE GOLF CATH CROSSING WHICH IS APPROX. 300 SF.
- REMOVE & REINSTALL FENCE** INCLUDES:
  - REMOVE THE EXISTING FENCE WITHIN THE PROJECT LIMITS AND REINSTALLING USING EXISTING COMPONENTS AND MATCH EXISTING GRADE.

**RECOMMENDED CONSTRUCTION SEQUENCE:**

- REMOVE EXISTING FENCE.
- STOCKPILE THE NEW 6" RIPRAP. STOCKPILE ON EXISTING RIPRAP OR CONCRETE SPILLWAY TO PREVENT GRASS DAMAGE.
- HAND EXCAVATE THE TWO(2) 5'6" X 2'-0" X 1'-8" PITS.
- DRILL THREE(3) HOLES IN CONCRETE SURFACE.
- INJECT URETHANE RESIN IN PITS AND THE THREE HOLES.
- WHILE THE FOAM EXPANDS, PLACE 6" RIPRAP ON THE UPPER 1'-6" LAYER WHILE ALLOWING FOAM TO EXPAND THROUGH GAPS.
- COMPLETE THE DOWNSTREAM URETHANE INJECTION PER DETAILS.
- PLACE 4,000 PSI WATER PLUG IN THE DRILLED CONCRETE HOLES.
- COMPLETE THE UPSTREAM RIPRAP PLACEMENT.
- COMPLETE THE DOWNSTREAM RIPRAP PLACEMENT.
- FILL UPSTREAM RIPRAP GAPS WITH 3/4" CLEAN ROCK AND SAND TO PREVENT UV DAMAGE TO FOAM.
- REINSTALL THE EXISTING FENCE.
- REPAIR ANY DAMAGE THAT IS BEYOND THE SCOPE.



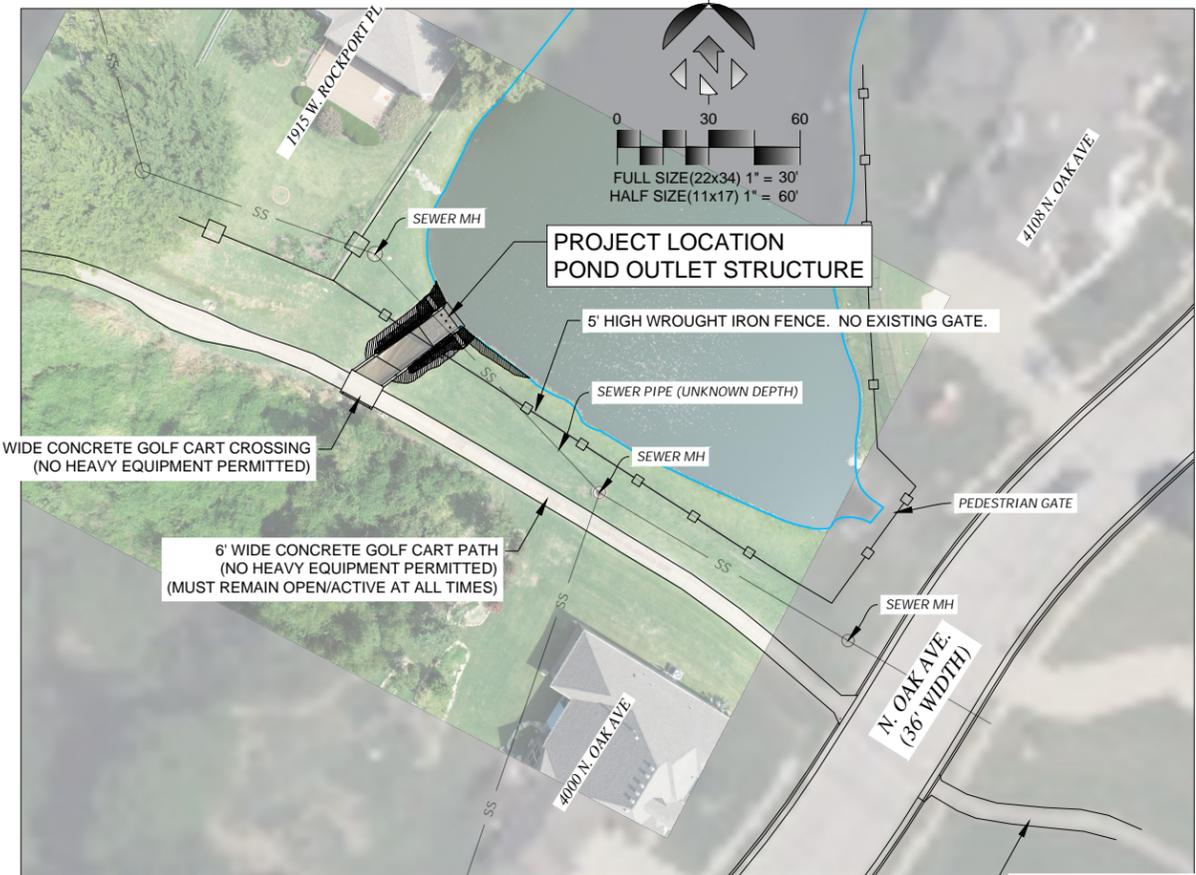
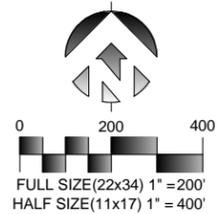
**SHENANDOAH VALLEY AT BATTLE CREEK  
POND OUTLET STRUCTURE  
PROJECT: SW23030**

**PAY ITEMS & NOTES**

DATE	REVISIONS	DESIGN	DRAFTED	DATE
		DAK	ZLM	11/6/2024
		REVIEWED	PROJECT NO. SW23030	
		APPROVED	SHEET	02
			OF	05

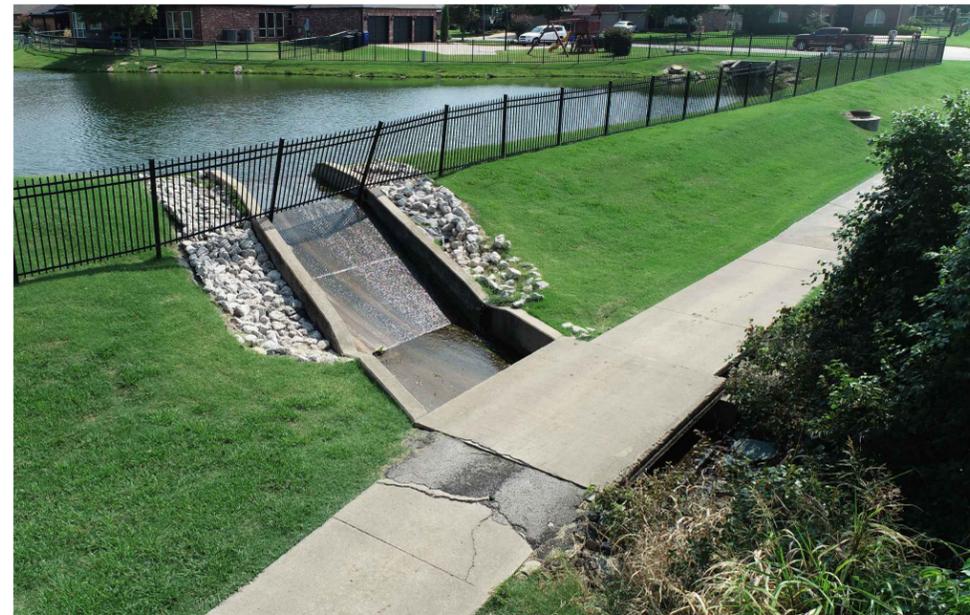


**1 PROJECT LOCATION**  
 FULL SIZE SCALE (22x34): 1" = 200'  
 HALF SIZE SCALE (11x17): 1" = 400'



**2 EXISTING SITE**  
 FULL SIZE SCALE (22x34): 1" = 30'  
 HALF SIZE SCALE (11x17): 1" = 60'

**6' WIDE CONCRETE GOLF CART PATH (NO HEAVY EQUIPMENT PERMITTED) (MUST REMAIN OPEN/ACTIVE AT ALL TIMES)**



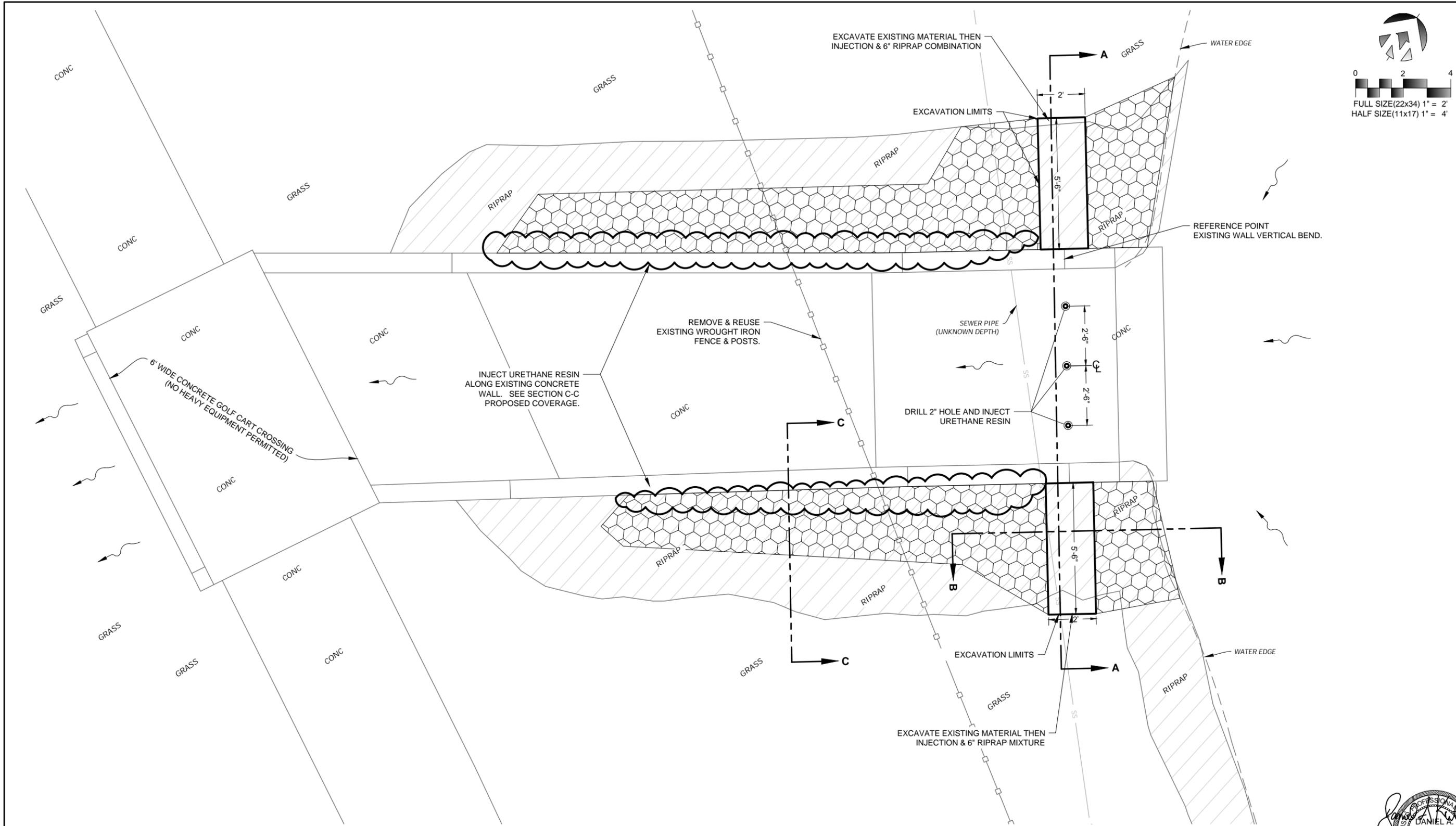
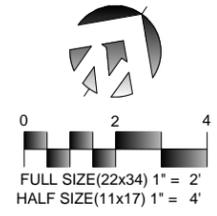
**3 EXISTING SITE**  
 FULL SIZE SCALE (22x34): NTS  
 HALF SIZE SCALE (11x17): NTS



**SHENANDOAH VALLEY AT BATTLE CREEK  
 POND OUTLET STRUCTURE  
 PROJECT: SW23030**

**PROJECT LOCATION**

DATE	REVISIONS	DESIGN	DRAFTED	DATE
		DAK	ZLM	11/6/2024
		REVIEWED	PROJECT NO. SW23030	
		APPROVED	SHEET 03	
			OF 05	



**1 PROJECT OVERVIEW**  
 FULL SIZE SCALE (22x34): 1" = 2'  
 HALF SIZE SCALE (11x17): 1" = 4'



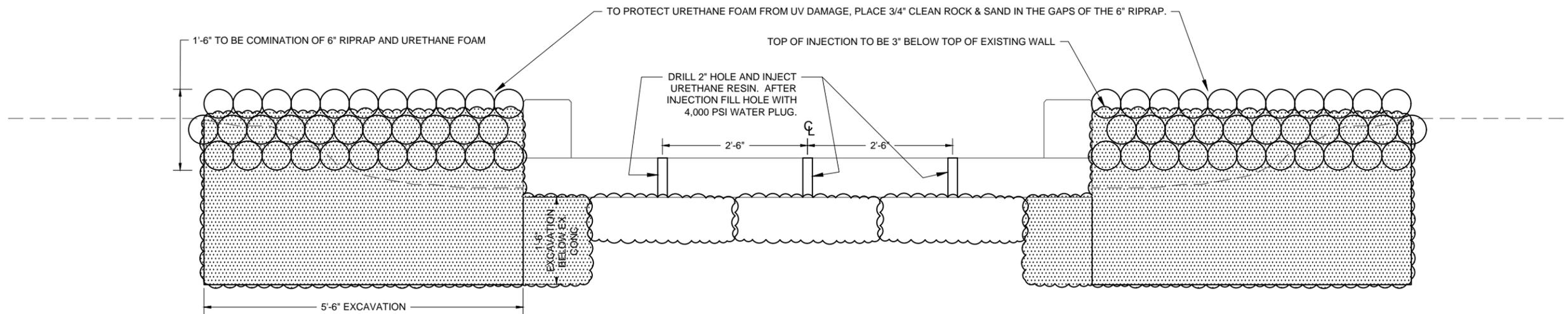
**SHENANDOAH VALLEY AT BATTLE CREEK  
 POND OUTLET STRUCTURE  
 PROJECT: SW23030**

**PROJECT OVERVIEW**

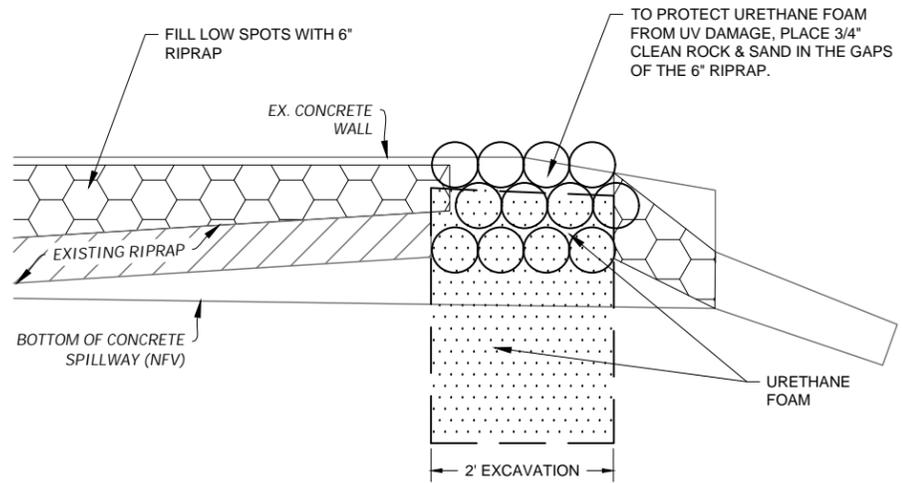
DATE	REVISIONS

DESIGN	DRAFTED	DATE
DAK	ZLM	11/6/2024
REVIEWED	PROJECT NO. SW23030	
APPROVED	SHEET 04	OF 05

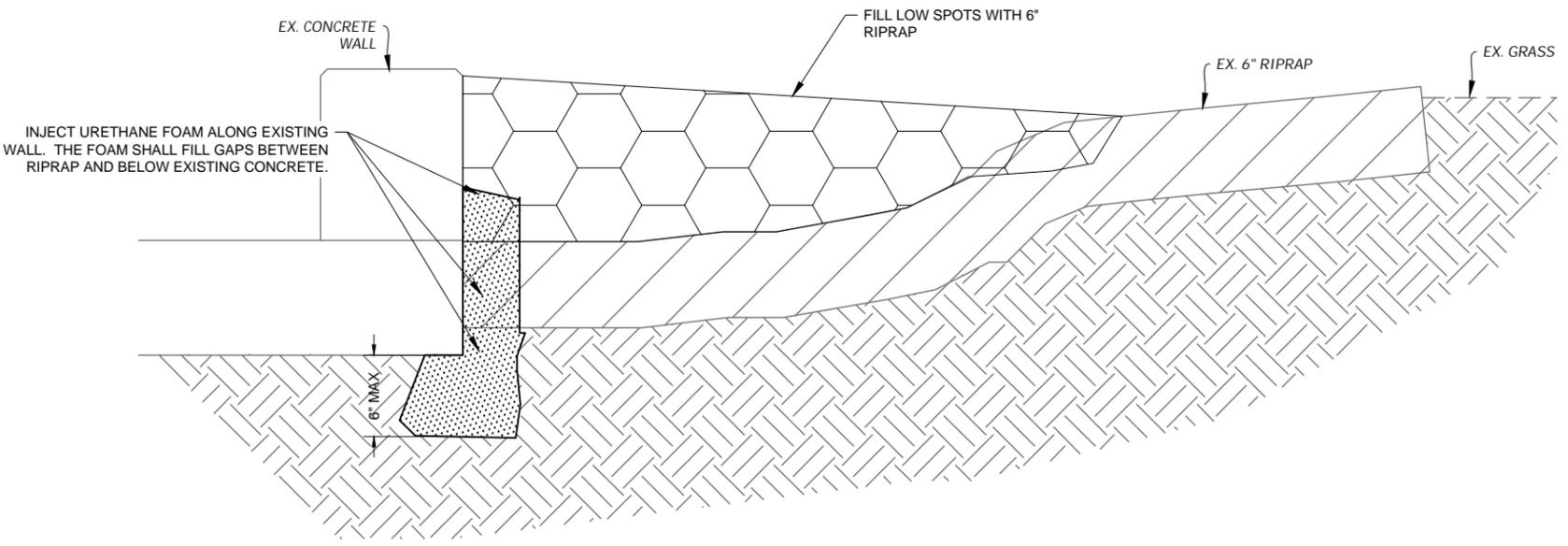
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1 SECTION A-A  
SCALE: 1" = 1'



2 SECTION B-B  
SCALE: 1" = 1'



3 SECTION C-C  
SCALE: 2" = 1'



**SHENANDOAH VALLEY AT BATTLE CREEK  
POND OUTLET STRUCTURE  
PROJECT: SW23030**

DETAILS

DATE	REVISIONS

DESIGN	DRAFTED	DATE
DAK	ZLM	11/6/2024
REVIEWED	PROJECT NO. SW23030	
APPROVED	SHEET	05
	OF	05

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