

- ① CONSTRUCT 7" DIA. MANHOLE PER DETAILS 1 OR 2, SHEET 31
- ② CONSTRUCT 4" DIA. MANHOLE WITH CONCRETE BASE PER RWRO STANDARD DETAIL 200.
- ③ CONSTRUCT CONCRETE COLLAR PER RWRO STANDARD DETAIL 212
- ④ CONSTRUCT CONCRETE COLLAR PER RWRO STANDARD DETAIL 215
- ⑤ PAVEMENT PATCH PER PAG STANDARD DETAIL 218. SEE DETAILS SHEET 25
- ⑥ CONSTRUCT 4" DIA. MANHOLE OVER EXISTING SEWER PER RWRO STANDARD DETAIL 300.



NOTES:

1. ALL STATING IS ALONG CENTERLINE OF SENEC AVE UNLESS OTHERWISE NOTED.
2. JACK & BORE METHODS FOR EACH BORING TO BE PER SPECIAL PROVISION PART 800. BORING CONTRACTOR TO REVIEW PLANS AND GEOLOGICAL REPORT TO DETERMINE THE BEST BORING METHOD TO REDUCE RISK TO EXISTING UTILITIES AND TO ACHIEVE LINE AND GRADE.
3. CONTRACTOR SHALL FIELD VERIFY EXISTING DEPTH ELEVATIONS PRIOR TO START OF PUBLIC SENE CONSTRUCTION.



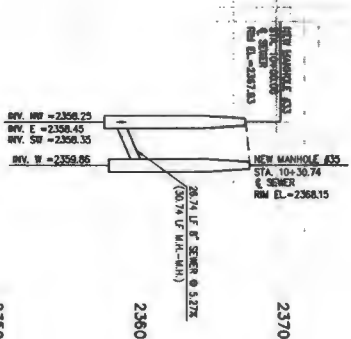
CONSTRUCTION



- ② CONSTRUCT 4" DIA. ANCHOR WITH CONCRETE BASE FOR REIN STANDARD DETAIL 202
- ③ CONSTRUCT CONCRETE COLUMN FOR REIN STANDARD DETAIL 211
- ④ PAVEMENT PATCH FOR P46 STANDARD DETAIL 214. SEE DETAILS SHEET 25
- ⑤ CONSTRUCT 4" DIA. ANCHOR OVER EXISTING STEEL FOR REIN STANDARD DETAIL 203



2. CONTRACTOR SHALL FIELD VERIFY EXISTING INVERT ELEVATIONS PRIOR TO START OF PAVEMENT CONSTRUCTION.

[illegible]

 **PIMA COUNTY**
WASTEWATER RECLAMATION

**PIMA COUNTY REGIONAL
WASTEWATER RECLAMATION
DEPARTMENT**

201 North Stone Avenue • Tucson, Arizona 85701-1207 • Phone: (520) 740-6500

SEI AUGMENTATION SEWER
REPLACEMENT PROJECT
(3SEI13)
OSBORNE AVENUE
PLAN AND PROFILE SHEET

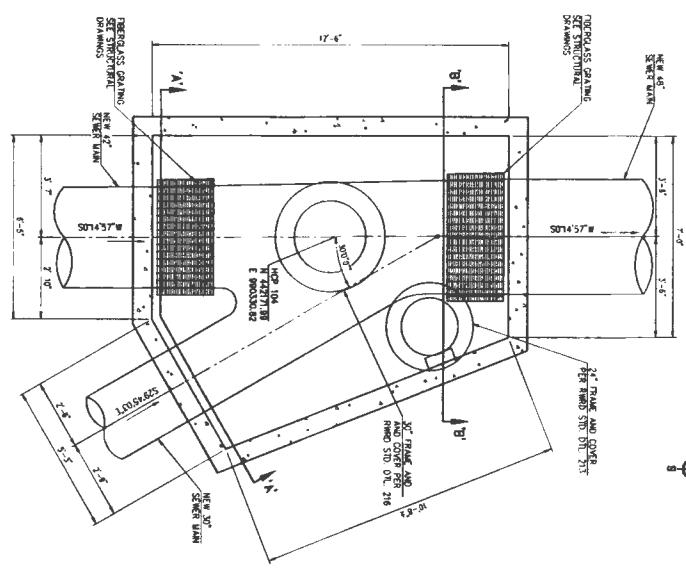
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SHEET NO. :	23 of 50

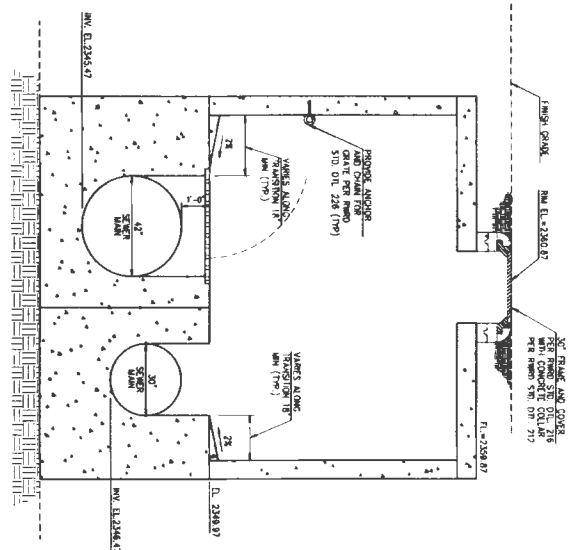


NOTE:
FOR STRUCTURAL DESIGN SEE SHEET 30

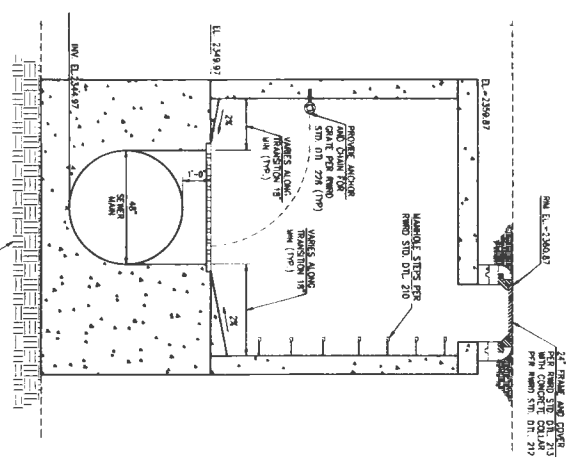
PLAN VIEW



SECTION 'A-A'



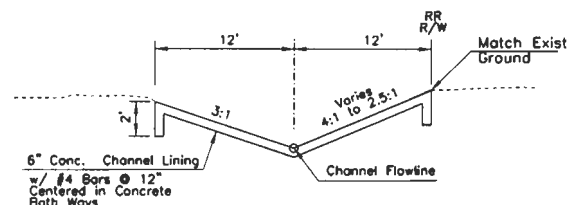
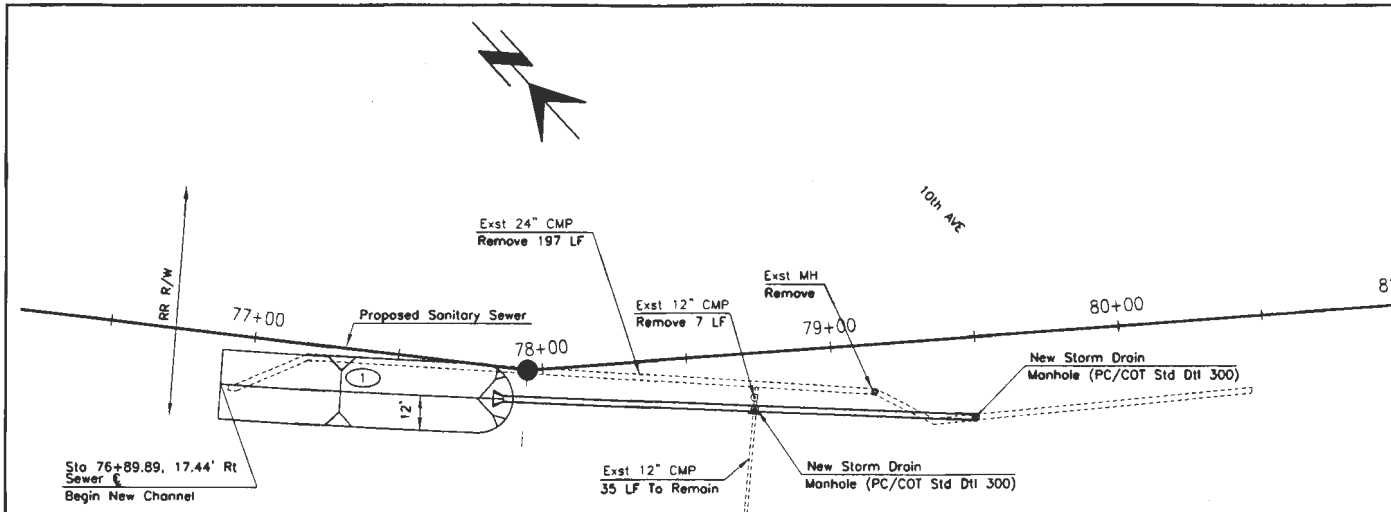
SECTION 'B-B'



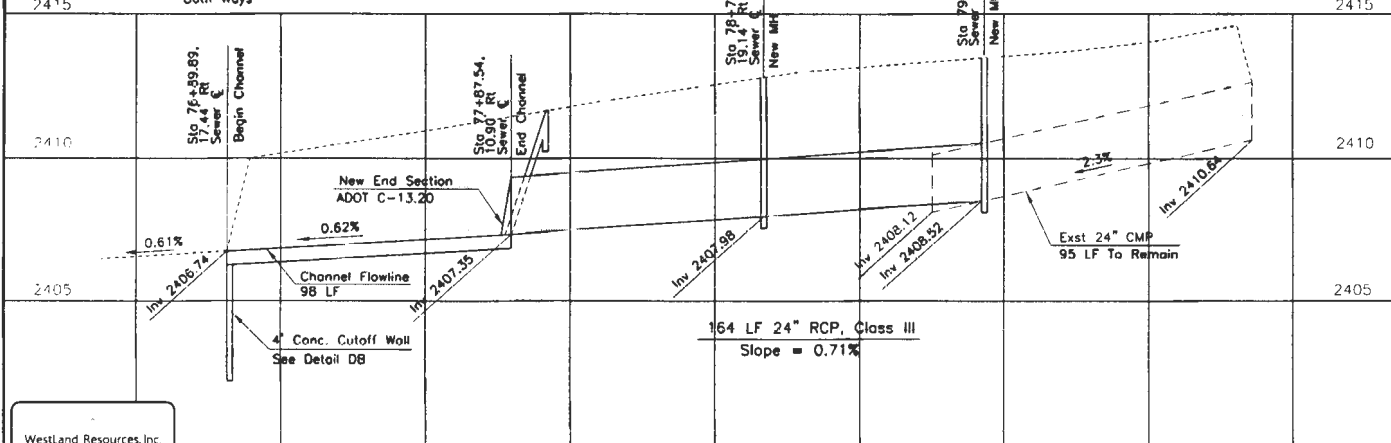
1 JUNCTION STRUCTURE #4
SIN. (4+00.51)
T-2
NOTE:
FOR STRUCTURAL DESIGN SEE SHEET 43



COMPACT TO 95% STANDARD
PROCTOR DENSITY PER RWMT
STANDARD SPECIFICATIONS
SEE NOTE 11, SHEET 2



CURVE DATA	
①	$\Delta = 01^{\circ}55'32''$
	$R = 2912.32'$
	$L = 97.88'$
	$T = 48.94'$



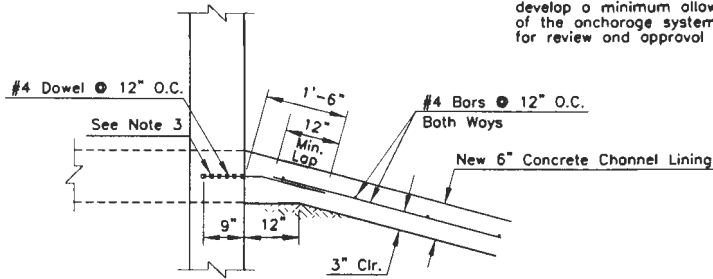
Westland Resources, Inc.
Tucson • Phoenix • Flagstaff
3601 E. River Road, Suite 100
Tucson, Arizona 85718 • Phone: (520) 298-0001



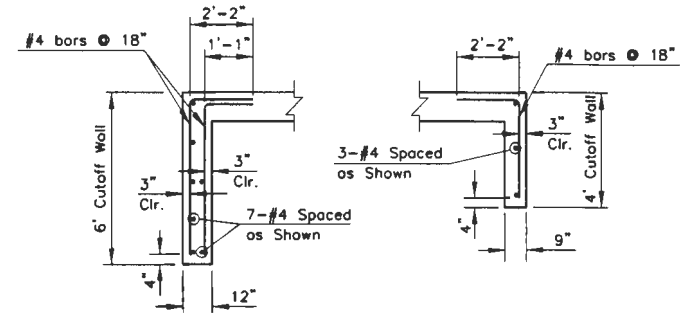
PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT	
201 North Stone Avenue • Tucson, Arizona 85701-1207 • Phone: (520) 740-6300	
SOUTHEAST INTERCEPTOR AUGMENTATION FEASIBILITY STUDY ALIGNMENT (3SE13) 10th AVENUE PLAN & PROFILE	
G-2014-XXX	
Scale: HORIZ. : 1"=20' VERT. : 1"=2'	
SHEET NO. : 01	
33 OF 50	

NOTES:

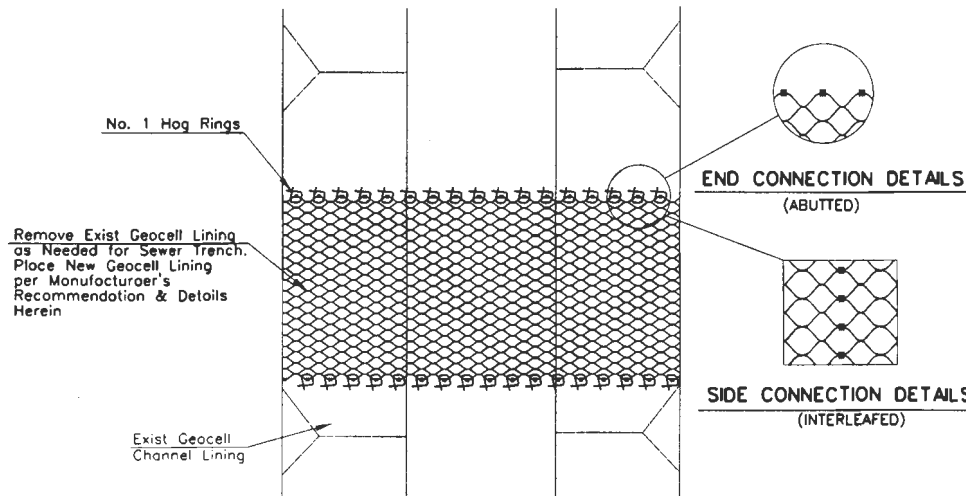
1. All reinforcing steel shall conform to ASTM A615, Grade 60.
2. Channel lining dowel shall be included in the bid price for the concrete channel lining.
3. Dowels shall be epoxy grouted into clean holes using approved epoxy and shall be installed in accordance with the epoxy manufacturer's recommendations. Epoxy grouted dowels shall develop a minimum allowable tension value of 4,800 lbs. Details of the anchorage system shall be submitted to the Engineer for review and approval prior to installation.



DETAIL DA
CONCRETE CHANNEL LINING TIE



DETAIL DB
CONCRETE CUTOFF WALLS



GEOCELL NOTES:

1. Adjacent sections of Geocell are fastened together using 1/2\"
2. The top edges of adjacent cell walls should be held flush when fastening.
3. Side connections between expanded Geocell sections should be interleafed as shown in side connection. Welded edge seams should be aligned when fastening.
4. End connections between Geocell sections should be butted as shown in end connection detail. The longitudinal centerlines of abutting external cells should be aligned and fastened at the cell wall contact point.
5. Use a No. 4 rebar stake with plastic hook cap to anchor the Geocell section to slope.
6. Geocell cells are to be filled with riprap, D50=4\"

DETAIL DC
GEOCELL DETAIL

WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
3601 S. Alamo Street, Suite 100
Tucson, Arizona 85711 • 481-1000
(760) 286-1000

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NOT FOR CONSTRUCTION

DATE	
APP'D	
REVISED	
NO.	
90 %	

PIMA COUNTY REGIONAL
WASTEWATER RECLAMATION
DEPARTMENT
PIMA COUNTY
201 North Stone Avenue • Tucson, Arizona 85701-1207 • Phone: (520) 740-6500

SOUTHEAST INTERCEPTOR AUGMENTATION
FEASIBILITY STUDY ALIGNMENT
(SSEIL3)
DRAINAGE DETAILS
G-2014-XX
DATE:
HORIZ. : 1\"/>



GENERAL

11. **SCOPE**
THE NOTES ON THIS SHEET AND THE STANDARD STRUCTURAL DETAILS ARE GENERAL. THEY APPLY TO THIS PROJECT. THE PROJECT IS SPECIFICALLY CALLED OUT OR NOT, EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS. IF THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION.
12. **APPLICABLE SPECIFICATIONS AND CODES**
A. INTERNATIONAL BUILDING CODE, 2012 APPLICABLE EDITIONS OF THE CODE REFERENCED STANDARDS
B. ACI 308-08
C. ACI 303-08
D. CITY OF TUCSON AMENDMENTS TO THE 2012 IBC
E. CITY OF TUCSON AND PIMA COUNTY STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, 2014
13. **DESIGN CATEGORY (APPLIES TO ALL STRUCTURES, UNLESS INDICATED)**
A. DEAD LOAD
1. ACTUAL STRUCTURE WEIGHT
2. EQUIPMENT WEIGHTS PER ELECTRICAL AND MECHANICAL DESIGN LOADS BASED ON AN ACTUAL EQUIPMENT PROVIDED
B. LIVE LOAD
1. OPERATION, PROCESS
EQUIPMENT AREAS, STORAGE
AND ELECTRICAL AREAS: 250 PSF
2. ELEVATED FLOORS: 100 PSF
3. LOADERS AND STAIRS: 100 PSF OR 300 LB CONCENTRATED LOAD
4. CONCENTRATED AREAS: 100 PSF MINIMUM OR LOAD AT ADJACENT FLOOR
5. SLAB ON GRADE: 250 PSF
6. TRUCK LOADS (ONLY WHERE INDICATED): AASHTO HS20-44 WITH APPLICABLE IMPACT LOADS, LANE LOADS, AND IMPACT FACTORS
C. WIND
1. BASIC WIND SPEED: 120 MPH
2. EXPOSURE: C
3. IMPORTANCE FACTOR: 1.0
4. ALL STRUCTURES ARE ENCLOSED EXCEPT AS FOLLOWS: NO EXCEPTIONS
D. SEISMIC
1. WATER BEARING STRUCTURES:
a. OCCUPANCY CATEGORY: II
b. IMPORTANCE FACTOR: 1.25
c. SPECTRAL RESPONSE ACCELERATION, $S_S = 0.271$
d. SPECTRAL RESPONSE ACCELERATION, $S_1 = 0.177$
e. SITE CLASS: D
2. SEISMIC DESIGN CATEGORY: B
3. SPECTRAL RESPONSE COEFFICIENT, $S_DS = 0.386$
4. SPECTRAL RESPONSE COEFFICIENT, $S_1 = 0.123$
5. SEISMIC FORCE REDUCTION FACTOR: ACI 308-08 WATER BEARING CONCRETE STRUCTURE
1. ANALYSIS PROCEDURE: ACI 308-08
2. ANALYSIS MODIFICATION FACTOR, $R = 1$
3. CONNECTIVE RESPONSE MODIFICATION FACTOR, $\alpha = 3$
E. SNOW LOAD
1. DROPPED SNOW LOAD = 0 PSF
2. FLAT ROOF SNOW LOAD = 0 PSF
3. EXPOSURE FACTOR = 1.0
4. IMPORTANCE FACTOR = 1.1
5. THERMAL FACTOR = 1.0
14. THE FOLLOWING NON-CONTRACTUAL, GEOLOGICAL REPORT WAS DEVELOPED PREVIOUSLY FOR THIS SITE AND IS THE BASIS OF THIS STRUCTURAL DESIGN: GEOLOGICAL FIRM NAME: CONFORMATION, INC.
ADDRESS: 1425 EAST 1ST AVENUE, SUITE 200, TUCSON, AZ 85714
REPORT NUMBER: 14-0424
REPORT DATE: OCTOBER 28, 2015 W/ ADDENDUM #1 DATED FEB. 22, 2016
ALLOWABLE [NET] BEARING: 2800 PSF FOR JUNCTION STRUCTURES BEARING 5 FEET OR MORE BELOW FINISHED GRADE.
UNIT WEIGHT OF CONCRETE: 150 PCF
COEFFICIENT OF FRICTION FOR CONCRETE CAST AGAINST SOIL = 0.30
DRAINAGE PASSIVE PRESSURE = 300 PCF
- | | ACTUAL | AS-BUILT |
|-------------------------------|--------|----------|
| DRAINAGE SOIL PRESSURE | 49 PCF | 80 PCF |
| SEISMIC LATERAL PRESSURE | 10 PCF | 32 PCF |
| LATERAL SURCHARGE COEFFICIENT | 0.45 | 0.45 |
15. **SAFETY**
SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR HAS BEEN DESIGN TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE.
16. **OPENINGS**
DRAWINGS FOR PIPES, DUCTS, CONDUITS, ETC. ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE ALL STRUCTURES OPENINGS AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. PERFORMANCE AND/OR OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.
17. **SPECIAL INSPECTIONS**
SPECIAL INSPECTIONS ARE REQUIRED IN ACCORDANCE WITH CHAPTER 1 AND CHAPTER 17 OF THE IBC. PROVIDED FOR THESE INSPECTIONS IS NOT THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE FOR FULL ACCESS TO THE WORK AREAS FOR SPECIAL INSPECTIONS AND SHALL PROVIDE FOR THESE INSPECTIONS IN HIS CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE SPECIFICATIONS. A STATEMENT OF CONTRACTOR RESPONSIBILITY SHALL BE SUBMITTED PRIOR TO THE WORK BEING CONSTRUCTED IN SECTION 1704. SEE NOTE A ON SHEET. CONTRACTOR STATEMENT OF RESPONSIBILITY FOR SPECIAL INSPECTION CONSTRUCTION TO THE IBC AND AASHTO SECTION 1704 SHALL BE SUBMITTED FOR APPROVAL. SPECIAL INSPECTIONS ARE REQUIRED FOR THE ITEMS OF WORK LISTED IN THE SCHEDULE ON THIS DETAIL.
18. **STANDARD DETAILS**
THE STANDARD DETAILS DEPICT TYPICAL DETAILING TO BE USED ON THIS PROJECT. IF CONDITIONS ARE NOT EXPLICITLY SHOWN ON THE DRAWINGS THEY SHALL BE MADE SIMILAR TO THE STANDARD DETAILS. OBTAIN APPROVAL OF ENGINEER IN WRITING BEFORE SIMILAR ADJUSTMENTS ARE MADE TO CONSTRUCTION.
19. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL.
20. **CONFLICTS**
IN CASES WHERE CONFLICTS OCCUR BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL CONTROL. FOR ALL PURPOSES, SUBMIT QUESTIONS IN WRITING TO ENGINEER FOR CLARIFICATION.

GENERAL STRUCTURAL NOTES (GSN) (CONTINUED)

CONCRETE

- C1. TYPE VY CEMENT
STRUCTURAL CONCRETE: $F_c = 4500$ PSI
CONCRETE FILL: $F_c = 3000$ PSI
fy = 80,000 PSI
- C2. CONCRETE COVER:
UNLESS OTHERWISE NOTED, PROVIDE CONCRETE COVER FOR REINFORCING AS FOLLOWS:
CONCRETE DEPOSITED AGAINST EARTH: 3"
ALL OTHER: 2"
SEE DRAWINGS FOR EXCEPTIONS
- C3. SEE SPECIFICATIONS FOR REINFORCING PLACEMENT REQUIREMENTS.
- C4. REFER TO OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION FOR EMBEDDED ITEMS. EMBEDDINGS ARE SHOWN ON STRUCTURAL DRAWINGS, BUT AS REQUIRED TO ACCOMMODATE ALL WORK, AS REQUIRED, OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. PERFORMANCE AGAINST OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.
- C5. PROVIDE 3/4" CHAMFERS AT ALL EXPOSED EDGES AND 1/2" CHAMFERS AT JOINTS AS SHOWN. NOT ALL CHAMFERS MAY BE SHOWN ON DRAWINGS.
- C6. FIELD ADJUST REINFORCING AT OPENINGS AND EMBEDDED ITEMS AS INDICATED.
- C7. ANCHOR BOLTS NOT SPECIFIED BY ENGINEER SHALL BE DESIGNED AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER, RETAINED BY THE CONTRACTOR, IN ACCORDANCE WITH APPLICABLE PRODUCT AND CODE REQUIREMENTS. SUBMIT AS A SHOP DRAWING FOR REVIEW AND APPROVAL BY THE ENGINEER. COORDINATE LOCATION, SIZE AND EMBEDMENT PRIOR TO CASTING CONCRETE.
- C8. CONTINUOUS WATERSTOP SHALL BE INSTALLED IN JOINTS SUBJECT TO STATIC WATER. WATERSTOP SHALL BE SHOWN ON THE DRAWINGS. PVC WATER STOP REQUIRED, INDEPENDENT NOTED OTHERWISE OR APPROVED IN WRITING. PROVIDE PREFABRICATED JOINTS, CORNERS, AND INTERSECTIONS PER STANDARD DETAILS. PROVIDE CRESTBEND MODEL #679 WATERSTOP OR APPROVED EQUIV.
- C9. ABSOLUTELY NO WELDING OF REINFORCING BARS OR TENDING TO BREAK REINFORCING BARS SHALL BE ALLOWED WITHOUT SPECIFIC APPROVAL FROM THE STRUCTURAL ENGINEER.
- C10. CONTRACTOR SHALL SUBMIT A CONCRETE PLACEMENT PLAN IDENTIFYING JOINT TYPES, JOINT LOCATIONS AND CONCRETE PLACEMENT SEQUENCE.
- C11. ALL CAST IN PLACE AND POST-INSTALLED ANCHORS INDICATED IN THE STRUCTURAL DOCUMENTS SHALL COMPLY WITH APPENDIX D OF ACI 318 AND CHAPTER 19 OF THE IBC. CONTRACTOR SHALL PROVIDE ANCHORING AND EMBEDMENT REQUIREMENTS FOR EACH ANCHOR EQUIVALENT LOAD CAPACITY. SUBMIT AND INSTALL PER THE ICC EVALUATION REPORT.
- POST-INSTALLED ANCHORS:
- PA1. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE STRUCTURAL DRAWINGS OR WHERE APPROVED IN WRITING BY THE ENGINEER. ALL ANCHOR INSTALLATIONS, INCLUDING CAST-IN-PLACE ANCHORS REQUIRE SPECIAL INSPECTION PER THE 2012 IBC AND PER THIS PROJECT REQUIREMENTS.
- PA2. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REINFORCING HOLES SHALL BE IDENTIFIED AND CLEARED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (NIPIS) AND ICC REPORTS.
- PA3. SPECIAL INSPECTION SHALL BE PROVIDED BY THE OWNER OR HIS DESIGNATED REPRESENTATIVE FOR ALL CAST-IN-PLACE, ADHESIVE AND MECHANICAL ANCHORS. SPECIAL INSPECTION AS REQUIRED BY THE BUILDING CODE AND ICC REPORTS. INDEPENDENT ON-SITE PROOF LOAD TESTING, PAID FOR BY THE CONTRACTOR, SHALL BE PERFORMED IN THE PRESENCE OF THE SPECIAL INSPECTOR FOR ALL ANCHORS INSTALLED WITHOUT SPECIAL INSPECTION.
- PA4. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER ALONG WITH CALCULATIONS THAT ARE VERIFIABLE AND REALISTIC. THE ENGINEER'S REVIEW OF THE REQUEST AND ANY SUCH CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT. THE SUBSTITUTION REQUEST, WITH ALL CALCULATIONS AND VERIFIABLE DATA, REQUIRED BY THE BUILDING CODE, PRODUCT ICC-ES REPORTS SHALL BE INCLUDED WITH THE SUBMITTAL PACKAGE.
- PA5. UNLESS NOTED OTHERWISE ON PLANS, ACCEPTABLE POST-INSTALLED CONCRETE ANCHORS SHALL BE ADHESIVE OR MECHANICAL ANCHORS. USE IN CRACKED CONCRETE AND SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC308. THE FOLLOWING LIST OF ADHESIVE ANCHORS ARE APPROVED FOR USE ON THIS PROJECT:
1. HITE-RE-500-SID BY HITEI
2. SET-101 BY SIMPSON STRONG-TIE
3. HITE-RE-1000 BY HITEI
4. SET-1000+ BY POWERS

TESTING AND INSPECTION FOR QUALITY ASSURANCE:

1. THE BUILDING CODE (2012 IBC AND LOCAL AMENDMENTS) SECTION 1704.1 REQUIRES THAT QUALIFIED SPECIAL INSPECTORS, WHO ARE CERTIFICATION HOLDERS OF THE INSPECTOR AND ARE APPROVED BY THE BUILDING OFFICIAL, PERFORM ALL SPECIAL INSPECTION DUTIES AND RESPONSIBILITIES AS REQUIRED BY THE BUILDING CODE.
2. THE SCHEDULES ON THIS SHEET CONTAIN A LIST OF SPECIAL INSPECTION ACTIVITIES REQUIRING QUALITY ASSURANCE PLAN REQUIRED BY THE BUILDING CODE (CHAPTER 17) FOR THE FABRICATION, ERECTION AND CONSTRUCTION OF THE STRUCTURAL SYSTEMS AS WELL AS THE REQUIREMENTS FOR QUALIFICATION OF PERSONNEL. ALL INSPECTORS SHALL BE QUALIFIED BY TRAINING AND EXPERIENCE FOR THE SPECIAL INSPECTION ACTIVITIES AS REQUIRED BY THE BUILDING CODE CHAPTER 17 "STRUCTURAL TESTS AND SPECIAL INSPECTIONS" FOR SPECIFIC TEST PROCEDURES.
3. TESTING AND INSPECTION REPORTS SHALL BE PREPARED FOR EACH INSPECTION ACTIVITY ON A DAILY BASIS WHENEVER WORK IS PERFORMED ON THAT ITEM. REPORTS SHALL BE DISTRIBUTED TO THE OWNER, CONTRACTOR, BUILDING OFFICIAL (IF REQUESTED), AND THE ARCHITECT FOR THEIR REVIEW, COMMENT, AND ACTION, AS NEEDED.
4. THE CONTRACTOR SHALL SUBMIT A STATEMENT OF RESPONSIBILITY CONTAINING THE FOLLOWING:
- a. ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.
- b. ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY BUILDING OFFICIAL.
- c. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORT.
- d. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.
5. SPECIAL INSPECTION FOR STAINLESS STEEL CONSTRUCTION SHALL BE SIMILAR TO THOSE REQUIRED FOR STRUCTURAL STEEL CONSTRUCTION.

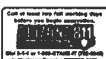
SCHEDULE OF SPECIAL INSPECTION SERVICES				
INSPECTION ITEM REQUIRED	FREQUENCY		CODE REFERENCE	REMARKS
	CONTINUOUS	PERIODIC		
GENERAL STRUCTURAL OBSERVATIONS				
CONDUCT DAILY VISUAL OBSERVATION OF THE STRUCTURAL SYSTEMS FOR GENERAL CONFORMANCE TO THE CONSTRUCTION DOCUMENTS. PREPARE WEEKLY REPORT OF OBSERVATIONS DESCRIBING WORK PROGRESS AND NON-CONFORMING ITEMS.	—	X		
SOIL & EARTHWORK				
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	—	X		
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	—	X	TABLE 1706.6	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	—	X		
VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	—		
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	—	X		
CONCRETE AND REINFORCING STEEL				
			TABLE 1706.3	
INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.	—	X	ACI 318: 3.5, 7.1-7.7	
INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE.	X	—	ACI 318: 8.1.3, 21.2.8	
INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	—	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	POST INSTALLED ANCHORS REQUIRE CONTINUOUS SPECIAL INSPECTION DURING INSTALLATION
VERIFYING USE OF REQUIRED DESIGN MIX.	—	X	ACI 318: CH. 4, 5.2 - 5.4	
AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE TEMPERATURE OF THE CONCRETE.	X	—	ASTM C172 ASTM C311 ACI 318: 5.6, 5.8	
INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	—	ACI 318: 5.9, 5.10	
INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	—	X	ACI 318: 5.11 - 5.13	
ERECTION OF PRECAST CONCRETE MEMBERS.	—	X	ACI 318: CH. 18	
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	—	X	ACI 318: 6.1.1	
DURING ALL COATING AT CONCRETE SURFACES, VERIFY SURFACE PREPARATION AND APPLICATION OF PRODUCTS WITH APPROVED PROCESS AND PROVIDE INSPECTIONS TO ENSURE A PROPER, COMPLETE INSTALLATION.	X	—		COMPLY WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR APPLICATION OF COATING
STRUCTURAL STEEL	SPECIAL INSPECTIONS FOR STRUCTURAL STEEL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 4 OF AISC 360-10.			

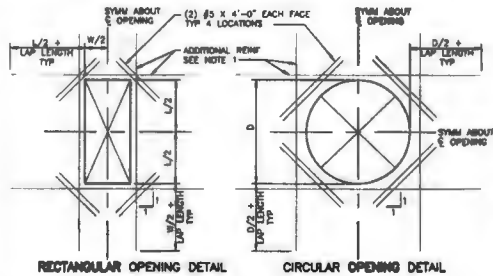
NOT FOR CONSTRUCTION

PIMA COUNTY
WASTEWATER RECLAMATION
DEPARTMENT

SEI AUGMENTATION
WATER MAIN RELOCATIONS
(3SEI13)
GENERAL STRUCTURAL NOTES AND
SPECIAL INSPECTION SCHEDULE

G-2018-014
DATE: MARCH 01, 2018
HORIZ. : N/A
VERT. : N/A
SHEET NO. : 51
36 of 50



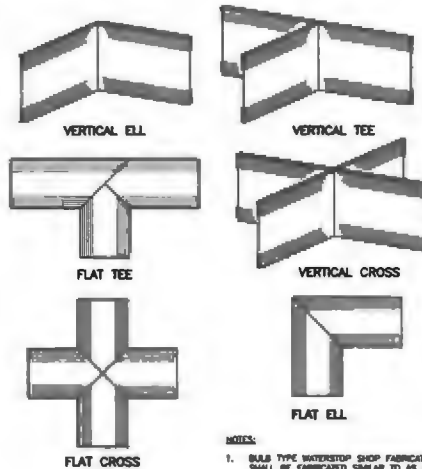


NOTES:

1. PROVIDE ADDITIONAL REINFORCING THE SAME SIZE AS DISCONTINUOUS REINFORCING AT OPENING. QUANTITY OF REINFORCING IN EACH DIRECTION SHALL BE EQUAL TO OR ONE GREATER THAN THE NUMBER OF DISCONTINUOUS BARS. PLACE 1/2 OF ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING. PLACE ADDITIONAL REINFORCING AT 3" OC (TYPICAL BOTH DIRECTIONS AND ALL LAYERS OF REINFORCEMENT). START FIRST BAR 2" CLEAR TO OPENING.
2. EXTEND ADDITIONAL REINFORCING BEYOND EDGE OF OPENING AS SHOWN ABOVE. ADDITIONAL BARS MAY TERMINATE AT THE END OF THE WALL WITH A STANDARD HOOK WHERE THE LENGTH OF THE WALL WILL NOT PERMIT BARS TO EXTEND AS SHOWN ABOVE.
3. TYPICAL WALL OR SLAB REINFORCING NOT SHOWN FOR CLARITY. TERMINATE TYPICAL REINFORCING 2" CLEAR TO OPENING.
4. THIS DETAIL SHALL BE USED WHENEVER THE OPENING IS LARGER THAN THE REINFORCING SPACING.
5. UNLESS SHOWN OTHERWISE ON DRAWINGS, PROVIDE EXTRA REINFORCING AROUND OPENINGS AS SHOWN AND INDICATED ABOVE.
6. PROVIDE ADDITIONAL COWELS PER NOTE 1 ABOVE FOR ALL OPENINGS NEAR THE FLOOR SLAB, BASE SLAB, OR CORNERS.

ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE SLABS OR WALLS

RTB



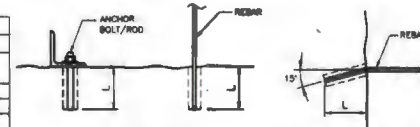
NOTES:

1. BULB TYPE WATERSTOP SHOP FABRICATIONS SHALL BE FABRICATED SIMILAR TO AS SHOWN WITH BULB JOINTS WELDED FOR FULL CONTINUITY OF HOLLOW BULB.
2. ONLY STRAIGHT BUTT JOINT WELDS ARE ALLOWED IN THE FIELD.

SHOP-FABRICATED WATERSTOP

NO SCALE

ADHESIVE ANCHOR SCHEDULE				
REINFORCING BARS		ANCHOR BOLTS/RODS		
BAR SIZE	EMBED LENGTH (L)	DA (DB)	EMBED LENGTH (L)	
#3	4"	3/8"	5"	
#4	5"	1/2"	6"	
#5	6"	5/8"	7"	
#6	7"	3/4"	8"	
#7	8"	7/8"	9"	
#8	9"	1"	10"	
#9	10"			
#10	12"			

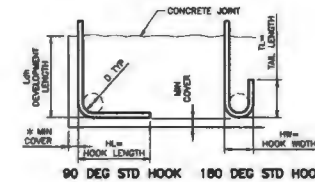


NOTES:

1. ADHESIVE TYPE IS SUBJECT TO APPROVAL OF THE ENGINEER OF RECORD.
2. EMBEDMENT LENGTHS SHOWN ARE MINIMUM. PROVIDE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.
3. FOR ADDITIONAL REQUIREMENTS SEE GENERAL STRUCTURAL NOTES ON SHEET 81.

ADHESIVE ANCHOR DETAILS & SCHEDULE

RTB

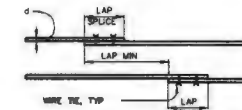


BAR SIZE	HL	HL	TL	D	F _u =4.0 OR 4.5 ksi
GRADE 60					MIN. 9
#3	6"	3"	3"	2 1/4"	6"
#4	8"	4"	4 1/2"	3"	7"
#5	10"	5"	5"	3 3/4"	8"
#6	12"	6"	6"	4 1/2"	10"
#7	14"	7"	7"	5 1/4"	12"
#8	16"	8"	8"	6"	14"
#9	18"	9"	9"	6 3/4"	16"
#10	20"	10"	10"	7 1/4"	18"
#11	24"	12"	12"	8 1/2"	20"

IS COMPLYING WITH MINIMUM COVER REQUIREMENTS OF ACI 318, 12.5.3. OTHERWISE LAP MUST BE RE-CALCULATED.

REINFORCING HOOK SCHEDULE

RTB



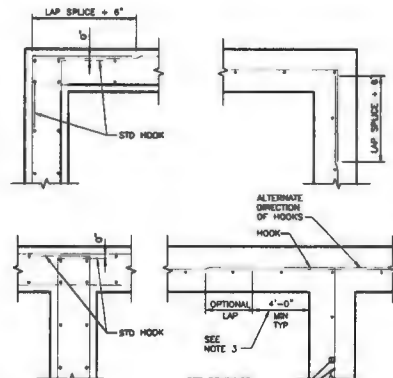
LAP SPlice AND EMBEDMENT LENGTHS		
F _c = 4.0 ksi OR F _c = 4.5 ksi		
BAR	BARS SPACED GREATER THAN 4"	BARS SPACED LESS THAN OR EQUAL TO 4"
#3	14"	20"
#4	18"	32"
#5	20"	48"
#6	30"	62"
#7	36"	87"
#8	48"	107"
#9	72"	118"
#10	97"	140"
#11	120"	148"

NOTES:

1. PROVIDE MINIMUM LAP SPlice LENGTHS AND EMBEDMENTS PER TABLE UNLESS NOTED OTHERWISE. EMBEDMENT LENGTH EQUALS THE LAP SPlice LENGTH UNLESS OTHERWISE NOTED.
2. BAR SPACING AT LAP SPlice IS THE MINIMUM CLEAR DISTANCE BETWEEN LAPPED BARS PLUS ONE BAR DIAMETER.
3. ALL SPlices TO BE CONTACT SPlices AND WELDED TOGETHER UNLESS OTHERWISE APPROVED BY ENGINEER.

REINFORCING LAP DETAILS

RTB

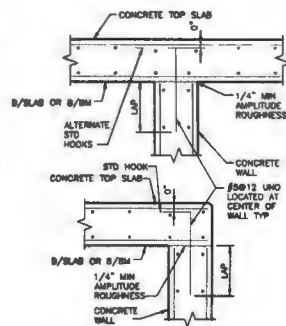


NOTES:

1. ALL HOOKS SHALL BE STD 90 DEGREE HOOKS.
2. SEE DRAWINGS FOR ADDITIONAL HORIZONTAL BARS. STAGGER BETWEEN TYPICAL REBAR SPACING, EXTEND TO 1/3 OF DISTANCE TO NEAREST ADJACENT WALL IN EACH DIRECTION, UNO.
3. OPTIONAL LAP LOCATION, APPLIES TO BOTH DOUBLE AND SINGLE LAYER CONDITIONS, TYP.

TYPICAL WALL REINFORCEMENT AT CORNERS & INTERSECTIONS

RTB

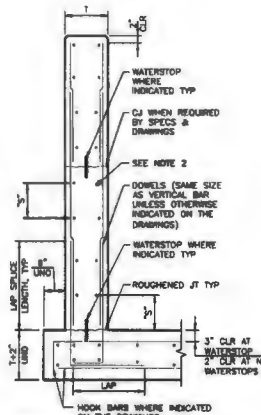


NOTES:

1. ALL HOOKS SHALL BE STD 90 DEGREE HOOKS.

HINGED TOP SLABS

RTB



NOTES:

1. "S" = BAR SPACING INDICATED ON THE DRAWINGS.
2. FOR HORIZONTAL REBAR BAR LOCATION RELATIVE TO VERTICAL REBAR BAR LOCATION (INSIDE OR OUTSIDE) SEE DRAWINGS. RESIDE IS SHOWN HERE.

HORIZONTAL WALL JTS WITH WATERSTOPS

RTB

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DR

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DEPARTMENT
PIMA COUNTY
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SEI AUGMENTATION
WATER MAIN RELOCATIONS
(3SEI13)
STANDARD STRUCTURAL DETAILS 1

0-2018-014

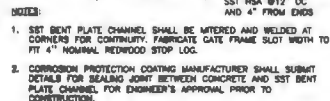
DATE: MARCH 01, 2018

REVISION: N/A

VERT: N/A

SHEET NO. 1 OF 32

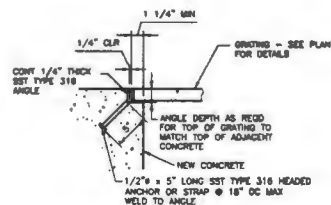
37 OF 50



EMBEDDED CHANNEL
FOR STOP LOGS

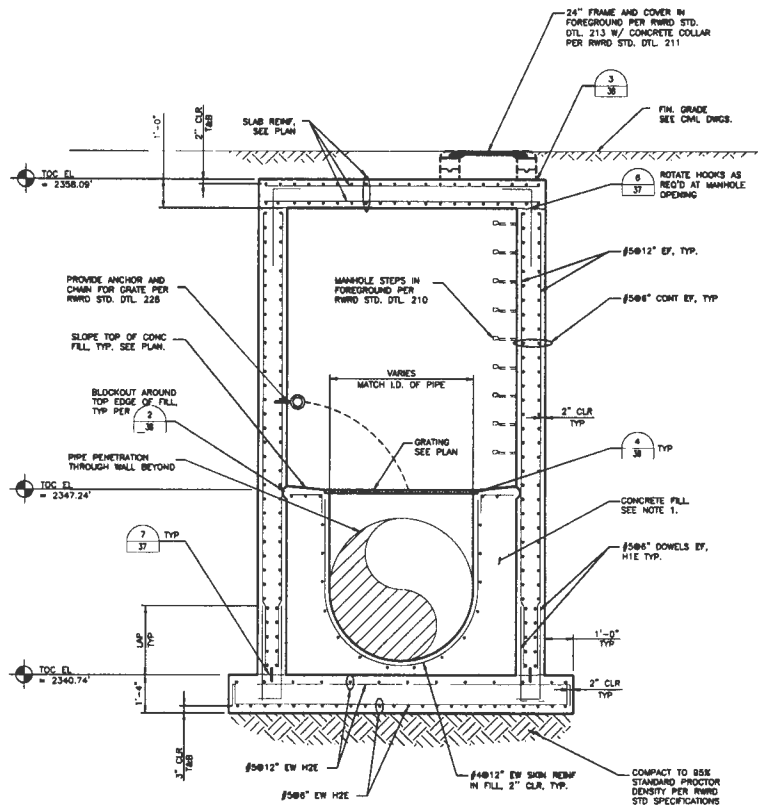


BLOCKOUT FOR CONC FILL



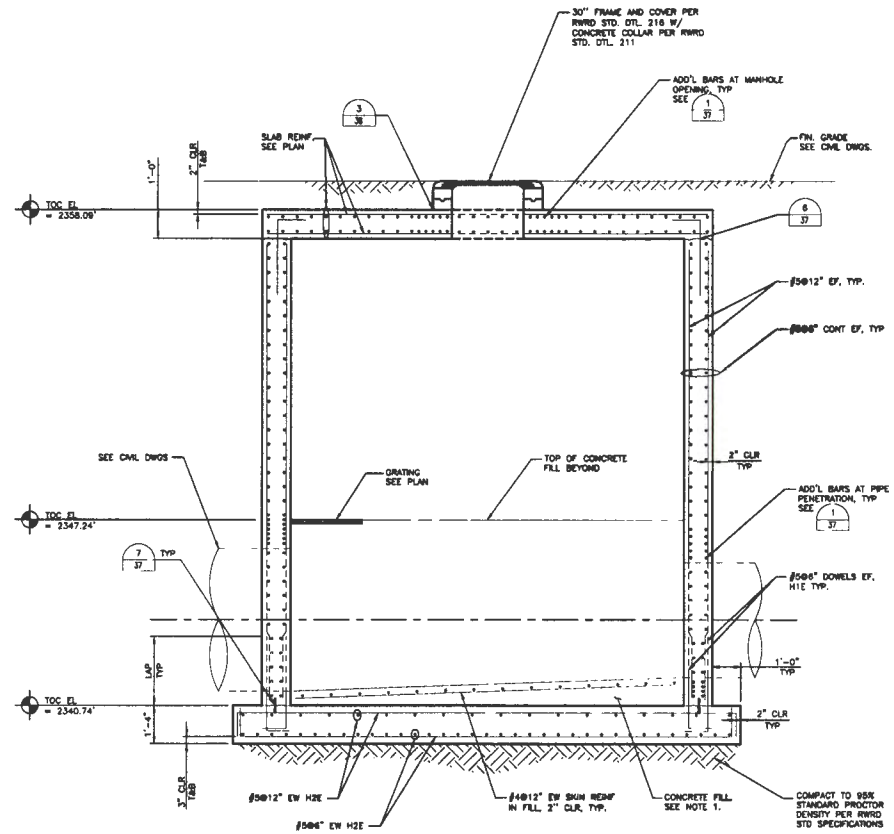
- NOTES:**
1. GRATING SIZE PER CONTRACT DOCUMENTS.
 2. ALL ENDS AND OPENINGS SHALL BE Banded.
 3. ATTACH GRATING TO ALL SUPPORT ANGLES WITH BOLTED CLIPS, SPACED AT 2'-0" MAX. CENTERS, MIN 2 PER PANEL.

GRATING AND SUPPORT DETAIL

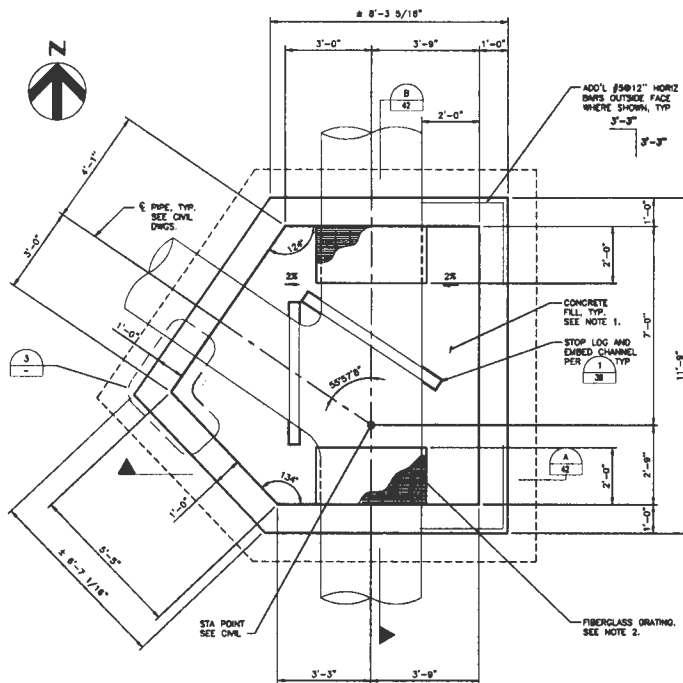


NOTE:

1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.

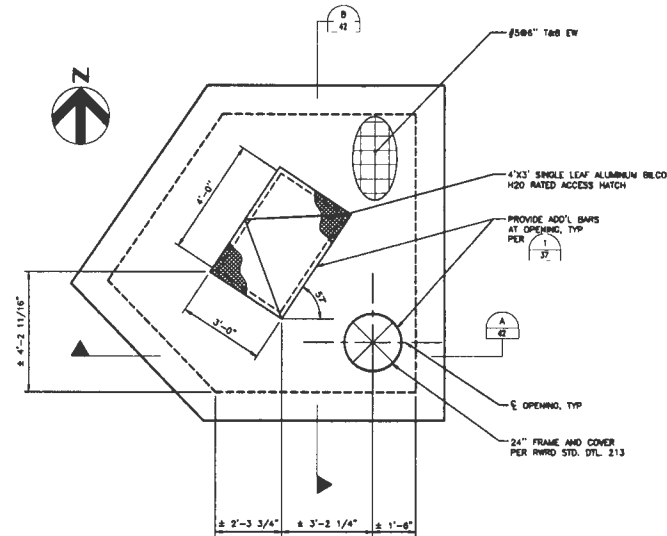


NOTE:
1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.



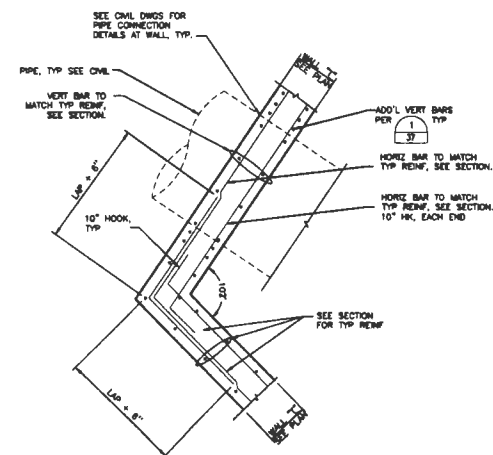
- NOTES:
1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.
 2. 1 1/2\" T2315 FIBERGLASS PULTRUDED GRATING AS MANUFACTURED BY FIBERGLASS COMPOSITE STRUCTURES, INC. OR APPROVED EQUAL.

DIVERSION STRUCTURE #5 - BOTTOM PLAN
1/8\" = 1'-0\"



- NOTES:
1. DIMENSIONS NOTED WITH & ARE APPROXIMATE AND EXACT LOCATIONS ARE TO BE DETERMINED BY CIVIL DRAWINGS.

DIVERSION STRUCTURE #5 - TOP PLAN
1/8\" = 1'-0\"



CORNER DETAIL
3/4\" = 1'-0\"

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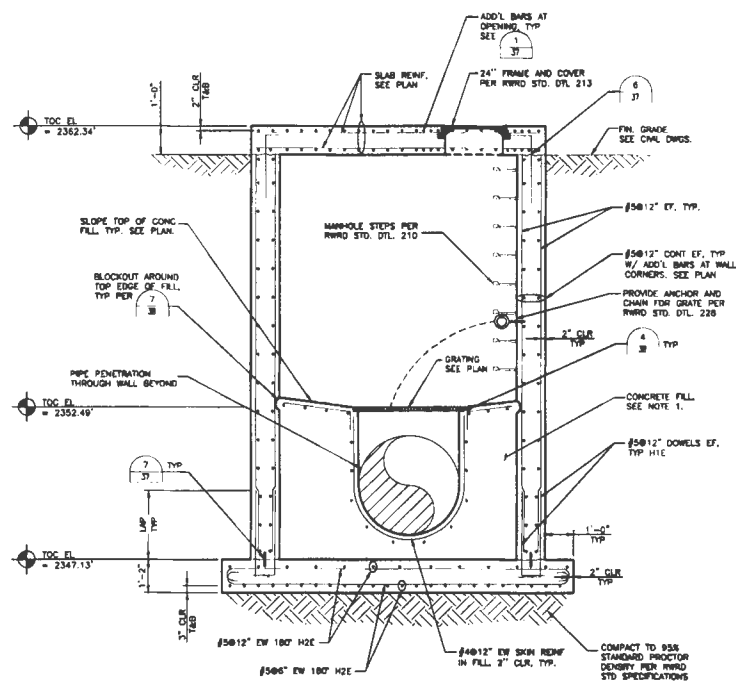
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NO.	DATE	BY	CHKD.	APP'D.	DATE
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

PIMA COUNTY REGIONAL
WASTEWATER RECLAMATION
DEPARTMENT
PIMA COUNTY
201 North Stone Avenue • Tucson, Arizona 85701-1207 • Phone: (520) 740-5300

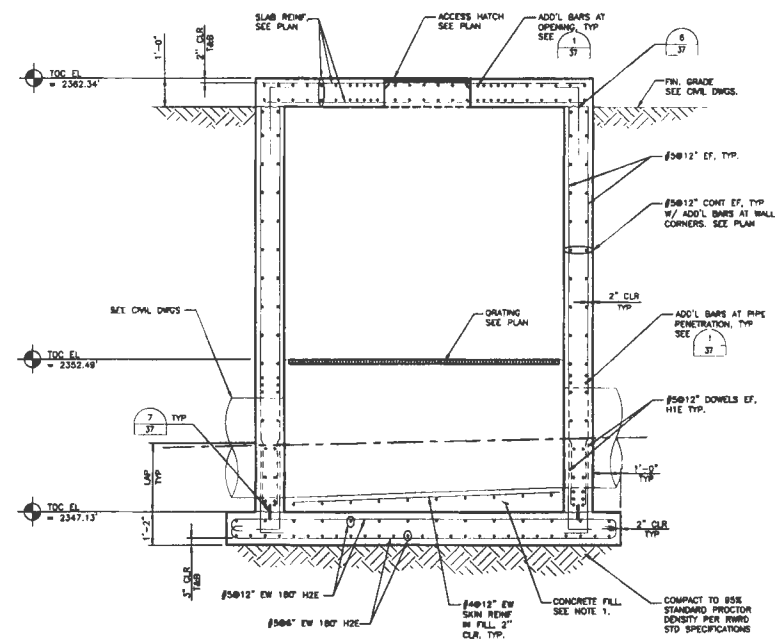
SET AUGMENTATION
WATER MAIN RELOCATIONS
(356113)
DIVERSION STRUCTURE #5
PLAN

G-2018-014
DATE: MARCH 01, 2018
BY: N/A
CHKD.: N/A
APP'D.: N/A
SHEET NO.: 58
41 OF 50



NOTE:

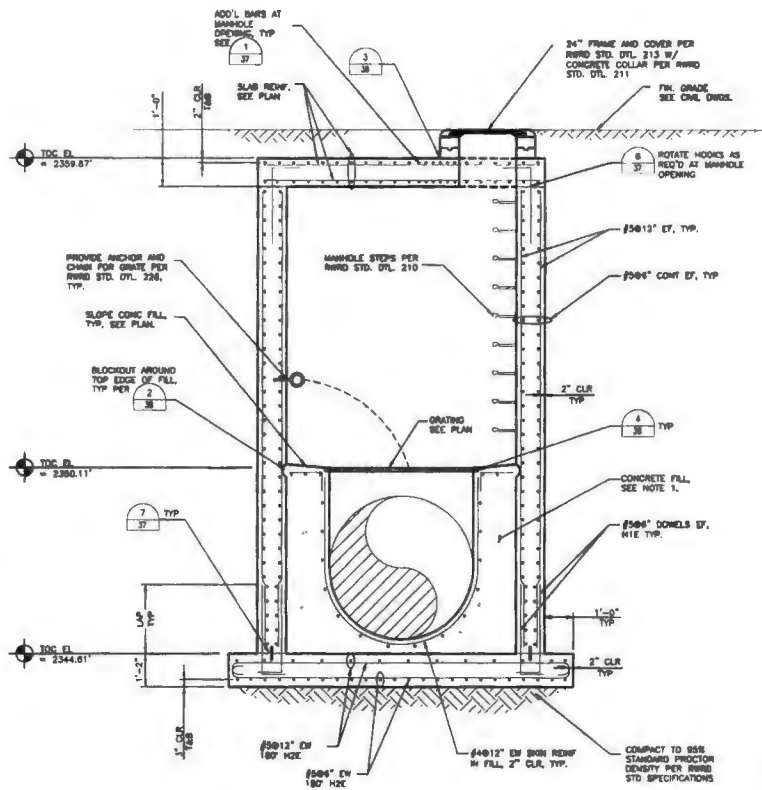
1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.



NOTE:

1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.

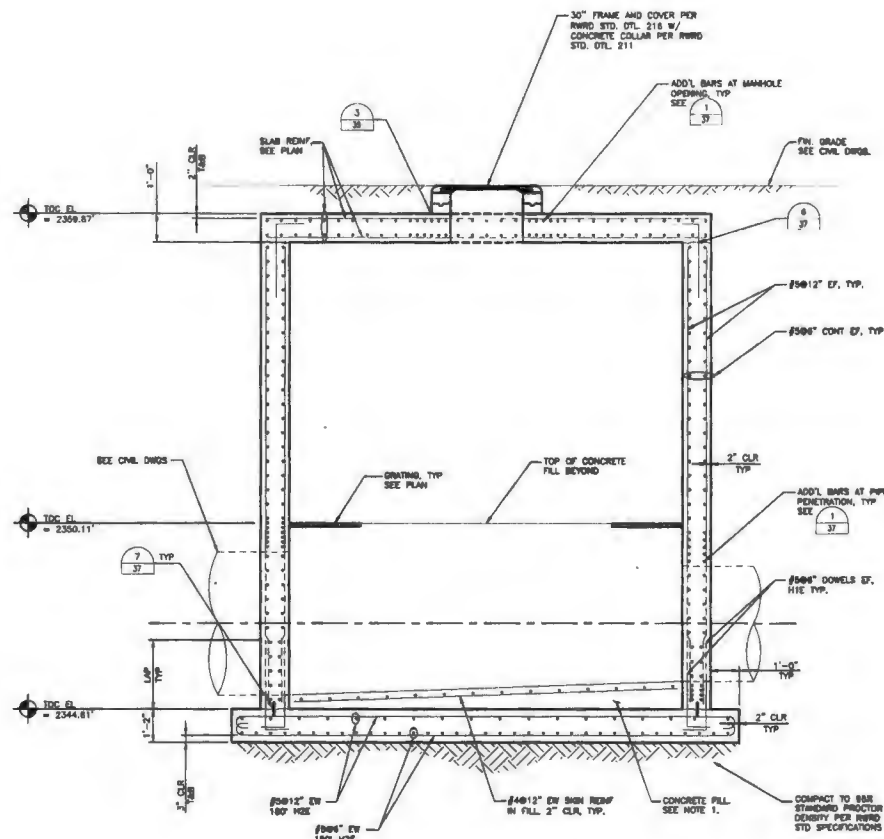
43 of 50



NOTE:

1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.

SECTION
1/2\"/>



NOTE:

1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.

SECTION
1/2\"/>

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10011 E. Poplar Avenue, Suite 100
Lynchburg, Virginia 22403

HR

End of Water from All existing lines
within the project limits
shall be 1.5' or 1.0' from the structure
in the direction of flow.

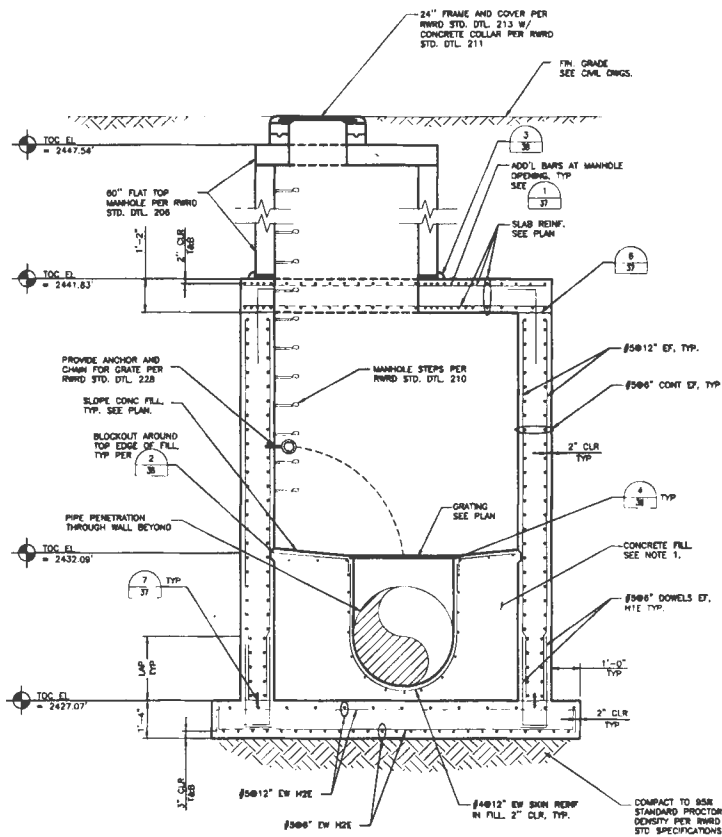
DATE	10/1/2018
APP'D	[Signature]
REV	

PROJECT NO.	18-018
DATE	10/1/2018
APP'D	[Signature]
REV	

**PIMA COUNTY REGIONAL
WASTEWATER RECLAMATION
DEPARTMENT**
PIMA COUNTY
301 North State Avenue • Tucson, Arizona 85701-1807 • Phone: (520) 740-6500

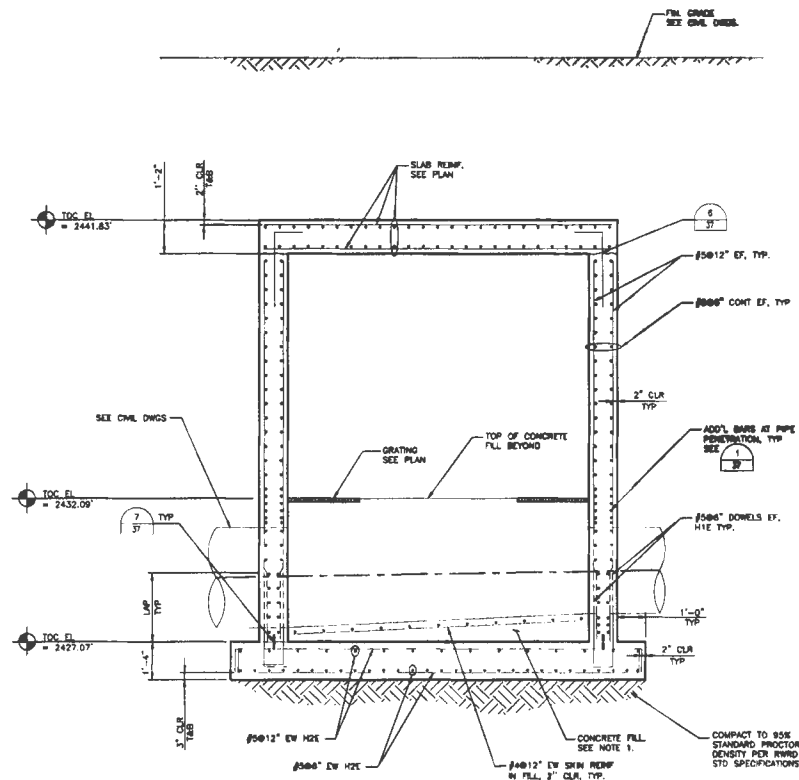
**SEI AUGMENTATION
WATER MAIN RELOCATIONS
(SSE13)
JUNCTION STRUCTURE #4
SECTION**

DATE	MARCH 01, 2018
NO.	44
VERT.	N/A
SHEET NO.	50



NOTE:
1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.

SECTION
1/2" = 1'-0"



NOTE:
1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.

SECTION
1/2" = 1'-0"

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Tucson, Arizona 85712 520-528-4800

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or 520-528-4800

DATE	
APP'D.	
REVISION	
REL.	
PROJECT NO.	
DATE OF ISSUE	
DATE OF FIELD WORK	
FILE NO.	

PIMA COUNTY REGIONAL
WASTEWATER RECLAMATION
DEPARTMENT
DATA C. U. T.Y.
201 North Shore Avenue • Tucson, Arizona 85701-1207 • Phone: (520) 740-6500

SET AUGMENTATION
WATER MAIN RELOCATIONS
(35E113)
JUNCTION STRUCTURE #23
SECTIONS

0-2018-014

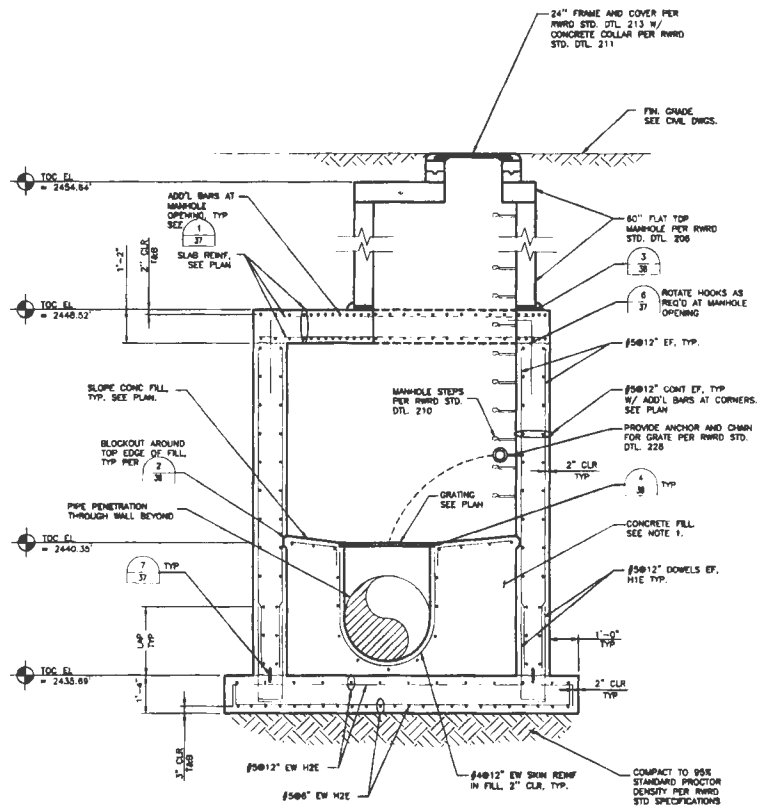
DATE: MARCH 31, 2016

HORIZ.: N/A

VERT.: N/A

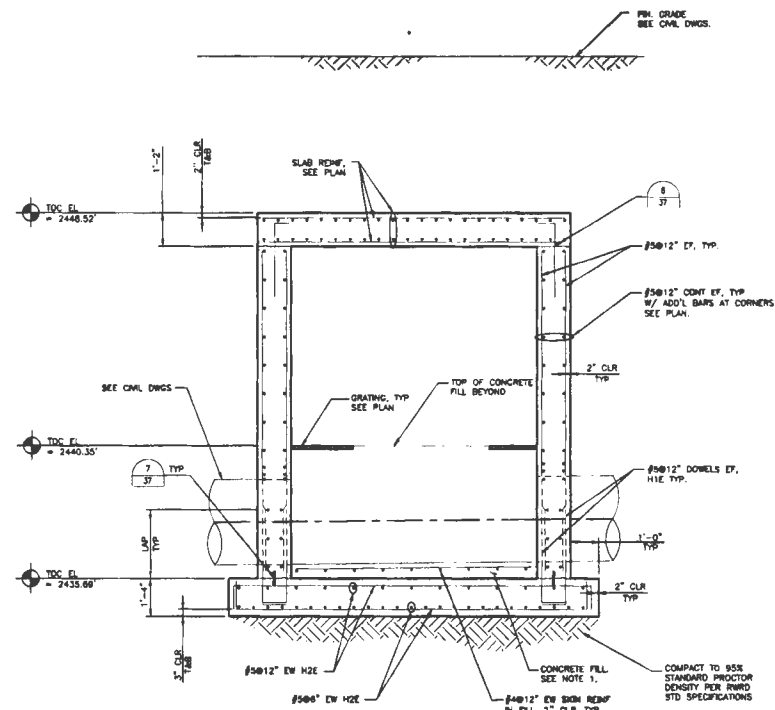
SHEET NO.: 511

46 OF 50



NOTE:

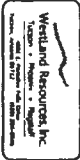
1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.



NOTE:

1. SEE CIVIL DRAWINGS FOR REQUIRED GEOMETRY OF CONCRETE FILL.

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HR



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DATE	6-2016-014
DATE	06/01/2016
SCALE	1"=10'
REVISION	1
DATE	06/01/2016

SET AUGMENTATION
WATER MAIN RELOCATIONS
(3SE11.3)
NEW MANHOLE #25, #37, #38
PLANS


PIMA COUNTY
PIMA COUNTY REGIONAL
WASTEWATER RECLAMATION
DEPARTMENT
201 North Stone Avenue • Tucson, Arizona 85701-1207 • Phone: (520) 740-6500

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
IN CHARGE	DATE

NO.	REVISION	APPROVED	DATE

C:\pwworking\pww\pww7288\pww7288.dwg

Westland Resources, Inc.
Tucson • Phoenix • Flagstaff
Phone: (520) 740-8500
Fax: (520) 740-8501

HJR



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SHEET NO. 50 OF 50	DATE: 1/14/11	BY: [Signature]	G-2018-014	SEI AUGMENTATION WATER MAIN RELOCATIONS (3SEI13) NEW MANHOLE #25, #37, #38 SECTIONS	 PIMA COUNTY	PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT 201 North Stone Avenue • Tucson, Arizona 85701-1207 • Phone: (520) 740-8500	DESIGNED BY: [Signature]		NO.	REVISION	APPROVED: [Signature]	DATE
							CHECKED BY: [Signature]	DATE: 1/14/11				

ARIZONA STATUTORY PERFORMANCE BOND
PURSUANT TO TITLE 34, ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of the Contract amount)

Bond No. 106497679

KNOW ALL MEN BY THESE PRESENTS THAT: KE&G Construction, Inc.
(hereinafter "Principal"), as Principal, and Travelers Casualty and Surety Company of America
(hereinafter "Surety"), a corporation organized and existing under the laws of the State of CT,
with its principal office in the City of Hartford, CT, holding a certificate of authority to
transact surety business in Arizona issued by the Director of Insurance pursuant to Title 20,
Chapter 2, Article 1, as Surety, are held and firmly bound unto Pima County, Arizona,
(hereinafter "Obligee") in the amount of Fifteen Million One Hundred Fifty Thousand Five Hundred*,
for the payment whereof, Principal and Surety bind themselves, and their heirs, administrators,
executors, successors and assigns, jointly and severally, firmly by these presents.

* Seventy-Seven and 13/100 (\$15,150,577.13)

WHEREAS, the Principal has entered into a certain written contract with the Obligee, dated
April 25, 2016 for Construction Manager At Risk Services for Southeast Interceptor Sewer
Augmentation – Project No. 3SEI13, which contract is hereby referred to and made a part hereof as
fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THE OBLIGATION IS SUCH, that if the Principal
faithfully performs and fulfills all of the undertakings, covenants, terms, conditions and
agreements of the contract during the original term of the contract and any extension of the
contract, with or without notice to the Surety, and during the life of any guaranty required under
the contract, and also performs and fulfills all of the undertakings, covenants, terms, conditions
and agreements of all duly authorized modifications of the contract that may hereafter be made,
notice of which modifications to the Surety being hereby waived, the above obligation is void.
Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34,
Chapter 2, Article 2, Arizona Revised Statutes, and all liabilities on this bond shall be
determined in accordance with the provisions of Title 34, Chapter 2, Article 2, Arizona Revised
Statutes, to the same extent as if it were copies at length in this agreement.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable
attorney fees that may be fixed by a judge of the court.

Witness our hands this 25th day of April, 2016.

KE&G Construction, Inc.

Principal

Travelers Casualty and Surety Company of America

Surety

By: 

By: 

Joseph C. Dhuey, Attorney-In-Fact

ARIZONA STATUTORY PAYMENT BOND
PURSUANT TO TITLE 34, ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of the Contract amount)

Bond No. 106497679

KNOW ALL MEN BY THESE PRESENTS THAT: KE&G Construction, Inc.
(hereinafter "Principal"), as Principal, and Travelers Casualty and Surety Company of America
(hereinafter "Surety"), a corporation organized and existing under the laws of the State of CT,
with its principal office in the City of Hartford, CT, holding a certificate of authority to
transact surety business in Arizona issued by the Director of Department of Insurance pursuant
to Title 20, Chapter 2, Article 1, as Surety, are held and firmly bound unto Pima County, Arizona,
(hereinafter "Obligee") in the amount of Fifteen Million One Hundred Fifty Thousand Five Hundred*,
for the payment whereof, Principal and Surety bind themselves, and their heirs, administrators,
executors, successors and assigns, jointly and severally, firmly by these presents.

* Seventy-Seven and 13/100 (\$15,150,577.13)

WHEREAS, the Principal has entered into a certain written contract with the Obligee, dated
April 25, 2016 for Construction Manager At Risk Services for Southeast Interceptor Sewer
Augmentation – Project No. 3SEI13, which contract is hereby referred to and made a part hereof as
fully and to the same extent as if copied at length herein.

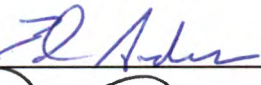
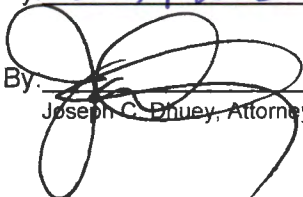
NOW, THEREFORE, THE CONDITION OF THE OBLIGATION IS SUCH, that if the Principal
promptly pays all monies due to all persons supplying labor or materials to the Principal or the
Principal's subcontractors in the prosecution of the work provided for in the contract, this
obligation is void. Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34,
Chapter 2, Article 2, Arizona Revised Statutes, and all liabilities on this bond shall be
determined in accordance with the provisions, conditions and limitations of Title 34, Chapter 2,
Article 2, Arizona Revised Statutes, to the same extent as if it were copied at length in this
agreement.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable
attorney fees that may be fixed by a judge in the court.

Witness our hands this 25th day of April, 2016.

KE&G Construction, Inc.
Principal
Travelers Casualty and Surety Company of America
Surety

By: 
By: 
Joseph C. Dhuey, Attorney-In-Fact



POWER OF ATTORNEY

Farmington Casualty Company
 Fidelity and Guaranty Insurance Company
 Fidelity and Guaranty Insurance Underwriters, Inc.
 St. Paul Fire and Marine Insurance Company
 St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
 Travelers Casualty and Surety Company
 Travelers Casualty and Surety Company of America
 United States Fidelity and Guaranty Company

Attorney-In Fact No. 230030

Certificate No. 006619208

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Joseph C. Dhuey, Tina K. Nierenberg, Tina Marie Berger, and Patrick Howey

of the City of Tucson, State of Arizona, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 2nd day of February, 2016.

Farmington Casualty Company
 Fidelity and Guaranty Insurance Company
 Fidelity and Guaranty Insurance Underwriters, Inc.
 St. Paul Fire and Marine Insurance Company
 St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
 Travelers Casualty and Surety Company
 Travelers Casualty and Surety Company of America
 United States Fidelity and Guaranty Company



State of Connecticut
 City of Hartford ss.

By: 

Robert L. Raney, Senior Vice President

On this the 2nd day of February, 2016, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
 My Commission expires the 30th day of June, 2016.




 Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 25th day of April, 20 16.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

Kevin E. Hughes
Kevin E. Hughes, Assistant Secretary



To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

4/20/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lovitt & Touché - Tucson 7202 E. Rosewood Dr. #200 Tucson AZ 85710	CONTACT NAME: Cherie Pijanowski, Account Manager PHONE (A/C, No, Ext): 520-722-3000 FAX (A/C, No): 520-722-7245 E-MAIL ADDRESS: cpijanowski@lovitt-touche.com
INSURED KE&G Construction, Inc. 5100 S Alvernon Tucson AZ 85706-1976	INSURER(S) AFFORDING COVERAGE INSURER A: Indian Harbor Insurance Company INSURER B: Zurich American Ins Co INSURER C: National Union Fire Ins Co of Pitts INSURER D: INSURER E: INSURER F:
KE&GCON-C2	NAIC # 16535 19445

COVERAGES**CERTIFICATE NUMBER:** 1084692607**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:	Y	Y	GLA008422701	1/1/2016	1/1/2017	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$500,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 \$
B	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS SCHEDULED AUTOS NON-OWNED AUTOS	Y	Y	GLA008422701	1/1/2016	1/1/2017	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
C	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$0	Y	Y	BE010338358	1/1/2016	1/1/2017	EACH OCCURRENCE \$10,000,000 AGGREGATE \$10,000,000 \$
B	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y	N/A	WC008422801	1/1/2016	1/1/2017	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$500,000 E.L. DISEASE - EA EMPLOYEE \$500,000 E.L. DISEASE - POLICY LIMIT \$500,000
A	<input type="checkbox"/> Pollution Liability			PEC002923906	1/1/2016	1/1/2017	Each Pollution Cond't \$2,000,000 Pollution Aggregate \$2,000,000 Selfinsured Retention \$25,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

COVERAGE IS SUBJECT TO ALL POLICY TERMS, CONDITIONS, DEFINITIONS, EXCLUSIONS, FORMS & ENDORSEMENTS. APPLICABLE ENDORSEMENTS ARE ATTACHED WITH REGARD TO THE FOLLOWING (If required by written contract):

NOTE: Excess Liability Coverage shown above is excess limits over the general liability, auto liability and employers liability coverage limits.

Forms Listing & Project Information (If Applicable) follows on page #2 (Acord 101):
See Attached...

CERTIFICATE HOLDER**CANCELLATION**

Pima County Regional Wastewater Reclamation Department 201 N Stone Ave Tucson AZ 85701	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE <i>R.J. Pijanowski</i>
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**ADDITIONAL REMARKS SCHEDULE**Page 1 of 1

AGENCY Lovitt & Touché - Tucson		NAMED INSURED KE&G Construction, Inc. 5100 S Alvernon Tucson AZ 85706-1976	
POLICY NUMBER		EFFECTIVE DATE:	
CARRIER	NAIC CODE		

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: 25 FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

GENERAL LIABILITY:

1. Automatic Additional Insured-Ongoing and Completed Operations including Primary/NonContributory coverage per form UGL1175FCW 04/13 attached.
2. Blanket Waiver of Subrogation if required by written contract per form CG2404 05/09 attached.
3. Per Project Aggregate is included in the general liability coverage form.

AUTOMOBILE

1. Automatic Additional Insured including Primary/NonContributory coverage if required by written contract per form CA2048 10/13 attached.
2. Blanket Waiver of Subrogation if required by written contract per form CA0444 10/13 attached.

WORKERS' COMPENSATION

1. Blanket Waiver of Subrogation if required by written contract per form WC000313 04/84 attached.

PROJECT: RWRD Project 3SEI13-SEI Sewer Augmentation, Contract number is CT-WW-15000000000000000532.

**ZURICH**

Additional Insured – Automatic – Owners, Lessees Or Contractors

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem.	Return Prem.
GLA-0084227-01	01-01-16	01-01-17	01-01-16			

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Named Insured: KE&G Construction Inc

Address (including ZIP Code):

This endorsement modifies insurance provided under the:

Commercial General Liability Coverage Part

A. Section II – Who Is An Insured is amended to include as an additional insured any person or organization whom you are required to add as an additional insured on this policy under a written contract or written agreement. Such person or organization is an additional insured only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf,

in the performance of your ongoing operations or "your work" as included in the "products-completed operations hazard", which is the subject of the written contract or written agreement.

However, the insurance afforded to such additional insured:

1. Only applies to the extent permitted by law; and
2. Will not be broader than that which you are required by the written contract or written agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusion applies:

This insurance does not apply to:

"Bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or failure to render, any professional architectural, engineering or surveying services including:

- a. The preparing, approving or failing to prepare or approve maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or
- b. Supervisory, inspection, architectural or engineering activities.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage", or the offense which caused the "personal and advertising injury", involved the rendering of or the failure to render any professional architectural, engineering or surveying services.

C. The following is added to Paragraph 2. Duties In The Event Of Occurrence, Offense, Claim Or Suit of Section IV – Commercial General Liability Conditions:

The additional insured must see to it that:

1. We are notified as soon as practicable of an "occurrence" or offense that may result in a claim;
2. We receive written notice of a claim or "suit" as soon as practicable; and
3. A request for defense and indemnity of the claim or "suit" will promptly be brought against any policy issued by another insurer under which the additional insured may be an insured in any capacity. This provision does not apply to insurance on which the additional insured is a Named Insured if the written contract or written agreement requires that this coverage be primary and non-contributory.

D. For the purposes of the coverage provided by this endorsement:

1. The following is added to the Other Insurance Condition of Section IV – **Commercial General Liability Conditions:**

Primary and Noncontributory Insurance

This insurance is primary to and will not seek contribution from any other insurance available to an additional insured provided that:

- a. The additional insured is a Named Insured under such other insurance; and
 - b. You are required by written contract or written agreement that this insurance be primary and not seek contribution from any other insurance available to the additional insured.
2. The following paragraph is added to Paragraph 4.b. of the Other Insurance Condition of Section IV – **Commercial General Liability Conditions:**

This insurance is excess over:

Any of the other insurance, whether primary, excess, contingent or on any other basis, available to an additional insured, in which the additional insured on our policy is also covered as an additional insured on another policy providing coverage for the same "occurrence", offense, claim or "suit". This provision does not apply to any policy in which the additional insured is a Named Insured on such other policy and where our policy is required by a written contract or written agreement to provide coverage to the additional insured on a primary and non-contributory basis.

E. This endorsement does not apply to an additional insured which has been added to this policy by an endorsement showing the additional insured in a Schedule of additional insureds, and which endorsement applies specifically to that identified additional insured.

F. With respect to the insurance afforded to the additional insureds under this endorsement, the following is added to Section III – Limits Of Insurance:

The most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the written contract or written agreement referenced in Paragraph A. of this endorsement; or
 2. Available under the applicable Limits of Insurance shown in the Declarations,
- whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

All other terms and conditions of this policy remain unchanged.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name Of Person Or Organization:

Any Person or Organization that requires You to waive your Rights of Recovery, in a written contract or agreement with the Named Insured that is executed prior to the accident or loss.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The following is added to Paragraph 8. **Transfer Of Rights Of Recovery Against Others To Us** of Section IV – Conditions:

We waive any right of recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or damage arising out of your ongoing operations or "your work" done under a contract with that person or organization and included in the "products-completed operations hazard". This waiver applies only to the person or organization shown in the Schedule above.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED FOR COVERED AUTOS LIABILITY COVERAGE

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" for Covered Autos Liability Coverage under the Who Is An Insured provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Named Insured: KE&G Construction Inc

Endorsement Effective Date: 01-01-16

SCHEDULE

Name Of Person(s) Or Organization(s): Any person and / or organization to whom or which you are required to provide additional insured status or additional insured status on a primary, non-contributory basis, in a written contract or written agreement executed prior to loss, except where such contract or agreement is prohibited by law.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Each person or organization shown in the Schedule is an "insured" for Covered Autos Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Paragraph A.1. of Section II – Covered Autos Liability Coverage in the Business Auto and Motor Carrier Coverage Forms and Paragraph D.2. of Section I – Covered Autos Coverages of the Auto Dealers Coverage Form.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**WAIVER OF TRANSFER OF RIGHTS OF RECOVERY
AGAINST OTHERS TO US (WAIVER OF SUBROGATION)**

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Named Insured: KE&G Construction Inc

Endorsement Effective Date: 01-01-16

SCHEDULE

Name(s) Of Person(s) Or Organization(s): ALL PERSONS AND / OR ORGANIZATIONS THAT ARE REQUIRED BY WRITTEN CONTRACT OR AGREEMENT WITH THE INSURED, EXECUTED PRIOR TO THE ACCIDENT OR LOSS, THAT WAIVER OF SUBROGATION BE PROVIDED UNDER THIS POLICY.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The **Transfer Of Rights Of Recovery Against Others To Us** condition does not apply to the person(s) or organization(s) shown in the Schedule, but only to the extent that subrogation is waived prior to the "accident" or the "loss" under a contract with that person or organization.

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

ALL PERSONS AND / OR ORGANIZATIONS THAT ARE REQUIRED BY WRITTEN CONTRACT OR AGREEMENT WITH THE INSURED, EXECUTED PRIOR TO THE ACCIDENT OR LOSS, THAT WAIVER OF SUBROGATION BE PROVIDED UNDER THIS POLICY FOR WORK PERFORMED BY YOU FOR THAT PERSON AND / OR ORGANIZATION.

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement

Effective Policy No. WC-0084228-01

Endorsement No.

Insured KE&G Construction Inc

Premium \$

Insurance Company Zurich American Insurance Company

Countersigned by

