



# *Resolution*

OFFICE OF THE  
MAYOR  
CITY OF SAN LUIS

**No. 2237**

**A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF SAN LUIS, ARIZONA, APPROVING AN INTERGOVERNMENTAL AGREEMENT WITH THE BUREAU OF RECLAMATION FOR SAN LUIS TO CONSTRUCT, INSTALL, OWN, USE, OPERATE AND MAINTAIN A DOWNTOWN PARK AND PARKING LOT IN THE CITY OF SAN LUIS UNDER B.O.R. CONTRACT NO. 18-07-34-L1923.**

**WHEREAS**, the City of San Luis, Arizona ("City") submitted a transportation and utility systems and facilities federal land application to the United States Department of the Interior, Bureau of Reclamation ("B.O.R."); and

**WHEREAS**, the City requires federal land to construct a parking lot facility; and

**WHEREAS**, B.O.R. requires state or local governments to provide authorization to execute the license;

**NOW, THEREFORE, BE IT RESOLVED** by the Mayor and City Council of the City of San Luis, Arizona:

**Section 1:** The Mayor and City Council deem that it is in the best interest of the City of San Luis' residents to enter into an intergovernmental agreement with the United States of America through the Department of the Interior, Bureau of Reclamation to permit the City to construct a downtown park and parking lot.

**Section 2:** A true copy of the intergovernmental agreement (B.O.R Contract No.18-07-34-L1923) is incorporated herein as though set forth again in full.

**Section 3:** The Mayor is authorized and directed to execute said agreement for and on behalf of the City of San Luis.

**Section 4:** City officers and employees are authorized and directed to perform all acts necessary or desirable to give effect to this Resolution.

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**PASSED, ADOPTED, and APPROVED** by the Mayor and City Council of the City of San Luis, Yuma County, Arizona, this \_\_\_\_ day of November 2022.

\_\_\_\_\_  
Gerardo Sanchez, Mayor

**ATTEST:**

**APPROVED AS TO FORM:**

\_\_\_\_\_  
Sonia Cornelio, City Clerk

\_\_\_\_\_  
Kay Marion Macuil, City Attorney

**ORIGINAL**

Contract No. 18-07-34-L1923

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3  
4  
5 UNITED STATES  
6 DEPARTMENT OF THE INTERIOR  
7 BUREAU OF RECLAMATION  
8 INTERIOR REGION 8: LOWER COLORADO BASIN  
9 YUMA AREA OFFICE  
10 YUMA, ARIZONA  
11

12 YUMA PROJECT, VALLEY DIVISION, ARIZONA  
13

14 1. THIS CONTRACT AND LICENSE (License) is made this \_\_\_ day of \_\_\_\_\_, 2022,  
15 pursuant to provisions of the Reclamation Act of June 17, 1902 (32 Stat. 388); the Reclamation  
16 Project Act of August 4, 1939 (53 Stat. 1187), as amended August 18, 1950 (64 Stat. 463); and  
17 acts amendatory thereof or supplementary thereto; and the provisions of 43 CFR § 429, between  
18 the United States of America, acting through the Bureau of Reclamation, hereinafter referred to  
19 as "Reclamation," represented by the officer executing this License, hereinafter referred to as the  
20 "Area Manager," and the City of San Luis, Arizona, hereinafter referred to as the "Licensee,"  
21 with the concurrence of the Yuma County Water Users' Association, hereinafter referred to as  
22 the "Association."  
23

24 WITNESSETH THAT:  
25

26 2. WHEREAS, pursuant to the authority delegated by Secretarial Orders of January 31, 1903,  
27 and April 9, 1904, certain lands were withdrawn for Reclamation's project purposes, hereinafter  
28 referred to as "withdrawn lands"; and  
29

30 3. WHEREAS, Reclamation, under the authority of the Act of August 30, 1890, entitled  
31 Rights-of-Way Reserved to United States for Canals and Ditches (26 Stat. 391), holds a reserved  
32 Federal right-of-way for the Boundary Pumping Plant, Yuma Valley Main Drain, Yuma Valley  
33 Levee, and associated operation and maintenance roadways, hereinafter individually referred to  
34 as "Boundary Pumping Plant," "Drain," and "Levee," and are necessary features of the Yuma  
35 Project, Valley Division; and  
36

37 4. WHEREAS, the Association operates and maintains the Boundary Pumping Plant and Drain  
38 pursuant to its contract with the United States; and  
39

40 5. WHEREAS, Reclamation operates and maintains the Levee; and

- 41  
42 6. WHEREAS, by Application dated October 26, 2017, the Licensee requested a right-of-use  
43 authorization to construct, install, own, use, operate, and maintain a parking lot and associated  
44 appurtenances in San Luis, Arizona, hereinafter referred to as "Parking Lot," within, on,  
45 adjacent, and/or across Reclamation withdrawn lands and rights-of-way; and  
46
- 47 7. WHEREAS, said Parking Lot will provide additional parking of approximately 303 parking  
48 spaces to an existing office/commercial building owned by Licensee, known as San Luis Price  
49 Center; and  
50
- 51 8. WHEREAS, Reclamation initiated consultation with the Arizona State Historic  
52 Preservation Officer (AZSHPO), under Section 106 of the National Historic Preservation Act  
53 and requested concurrence with Reclamation's determination of no adverse effect for the  
54 undertaking, Reclamation Reference No. LC-AZ-20-03; and  
55
- 56 9. WHEREAS, the AZSHPO provided concurrence signature dated April 16, 2021, on  
57 Reclamation's determination of no historic properties affected for the undertaking, AZSHPO  
58 Reference No. SHPO-2021-0350 (158564); and  
59
- 60 10. WHEREAS, Reclamation executed a Categorical Exclusion Checklist (CEC), CEC  
61 No. YAO-CEC-21-006, signed and dated by the Area Manager on July 8, 2021, on file in the  
62 Yuma Area Office; and  
63
- 64 11. WHEREAS, the granting of such authorization and right-of-use by Reclamation and the  
65 exercise of such right-of-use by the Licensee under the terms and conditions herein provided  
66 shall be compatible with the purposes for which the lands are administered by Reclamation on  
67 behalf of the United States.  
68
- 69 12. NOW, THEREFORE, in consideration of the mutual agreements and covenants contained  
70 herein, Reclamation, on behalf of the United States, by this License, hereby grants to the  
71 Licensee, except as otherwise provided herein, the following described authorization for the  
72 construction, installation, ownership, use, operation, and maintenance of said Parking Lot,  
73 purposes, to wit:  
74

75 DESCRIPTION OF PREMISES  
76

77 Gila and Salt River Meridian, Arizona  
78 Township 11 South, Range 25 West  
79 lots 14 and 22, section 11, portions of.

119  
120 16. TERMINATION:  
121

122 (a) This License shall terminate, and all rights granted to the Licensee hereunder shall  
123 cease, and the Licensee shall quietly deliver to Reclamation possession of the Premises in like  
124 condition as when taken, reasonable wear and tear excepted:  
125

126 (1) At the expiration of the term as provided in Article 15.  
127

128 (2) For nonuse of the Premises by the Licensee for a period of two (2) years  
129 following the execution of this License, at the option of Reclamation.  
130

131 (3) After failure of the Licensee to observe any of the conditions of this License, to  
132 include payment of any and all sums due to Reclamation as set forth herein, and on the  
133 tenth (10<sup>th</sup>) day following service of written notice on the Licensee of termination because of  
134 failure to observe such conditions. Any notice required by this Article shall be served by  
135 certified mail addressed to the respective post office addresses provided in Article 28, and the  
136 mailing of any such notice properly enclosed, addressed, stamped, and certified, shall be  
137 considered service.  
138

139 (4) Reclamation may, at any time and at no cost or liability to the United States,  
140 terminate this License in the event of a natural disaster, a national emergency, a need arising  
141 from security requirements, or an immediate and overriding threat to public health and safety.  
142

143 (5) Reclamation may, at any time and at no cost or liability to the United States,  
144 terminate any use authorization for activities other than existing authorized private exclusive  
145 recreational or residential use as defined under 43 CFR § 429.2 (2016) if Reclamation  
146 determines that any of the following apply:  
147

148 (i) The use has become incompatible with authorized project purposes,  
149 project operations, safety, and security.  
150

151 (ii) A higher public use is identified through a public process described  
152 at 43 CFR § 429.32(a)(1) (2016); or  
153

154 (iii) Termination is necessary for operational needs of the project.  
155

156 (6) Reclamation may, at any time and at no cost or liability to the United States,  
157 terminate this License if it determines that the Licensee has used this License for any purpose  
158 other than its intended purpose.  
159

160 (7) Reclamation may, at any time and at no cost or liability to the United States,  
161 terminate this License if the Licensee fails to comply with all applicable Federal, State, and local  
162 laws, regulations, ordinances, Executive Orders, and Reclamation Laws, policies, and directives  
163 and standards, existing or hereafter enacted or promulgated, or terms and conditions of any use  
164 authorization, or to obtain any required permits or authorizations.

165  
166 (8) Upon the expiration, termination, or revocation of this License, if all use fees  
167 and damage claims due Reclamation have been paid, the Licensee may be required, at the option  
168 of Reclamation, to remove any or all of the Parking Lot placed upon the Premises and shall  
169 restore the Premises to a condition satisfactory to the Area Manager. Should Licensee fail to  
170 remove the Parking Lot within sixty (60) days of expiration, termination, or revocation of this  
171 License, the Area Manager may, on behalf of Reclamation, deny and prohibit any or all access to  
172 the Parking Lot and Premises. At the option of Reclamation, any remaining Parking Lot may  
173 become property of the United States or be removed at the expense of the Licensee. The  
174 Licensee shall promptly pay all expenses incurred by Reclamation for removal and restoration  
175 upon its receipt of an invoice for the same.

176  
177 (9) Should this License be terminated, Reclamation, reserves the right to bar the  
178 Licensee from the authorization to use Reclamation withdrawn lands and rights-of-way for a  
179 period of time, as determined by the Area Manager.

180  
181 **17. TERMINATION OF LICENSE BY THE LICENSEE:** This License may be terminated at  
182 any time by the Licensee upon sixty (60) days written notice to Reclamation. Should the  
183 Licensee exercise its option to terminate this License, all rights granted the Licensee hereunder  
184 shall cease, and the Licensee shall quietly deliver to Reclamation possession of the Premises in  
185 like condition as when taken, reasonable wear and tear excepted.

186  
187 **18. CONSIDERATION:** In accordance with 43 CFR § 429.26 (2016), consideration for this  
188 License shall be payment to Reclamation by the Licensee of the following:

189  
190 (a) The sum of One Hundred Dollars (\$100), as the initial non-refundable deposit fee  
191 required by 43 CFR § 429.16, for submission and preliminary review of the application, the  
192 receipt of which is hereby acknowledged; and

193  
194 (b) Additional administrative costs in excess of the initial deposit for administrative costs  
195 incurred by Reclamation in processing this License, which is hereby waived pursuant to  
196 43 CFR § 429.26 (a) (3).

197  
198 (c) All estimated administrative costs, in advance, or within thirty (30) days after receipt  
199 of an invoice rendered therefore; advance administrative costs in excess of actual costs shall be  
200 refunded.

202 19. EXCEPTIONS AND RESERVATIONS:

203

204 (a) Reclamation and the Association reserve the right of their officers, employees, and  
205 agents to at all times have unrestricted access and ingress to, passage over, and egress from all of  
206 the Premises to make investigations of all kinds, dig test pits and drill test holes, to survey for,  
207 operate, and maintain existing Reclamation works and facilities, and to construct reclamation and  
208 irrigation works and other structures incident to Reclamation project needs and purposes.

209 Reclamation and the Association shall have no obligation to restore the Licensee's Parking Lot if  
210 Reclamation and the Association exercise their rights reserved herein. All costs, expenses,  
211 obligations, and duties, to restore any part of the Licensee's Parking Lot shall be incurred by the  
212 Licensee.

213

214 (b) The rights granted hereunder shall not be exclusive in character and Reclamation and  
215 the Association reserve to themselves, their successors and assigns, the right against the Licensee  
216 to use any or all of the Premises, which is or may be crossed, or upon which irrigation and  
217 drainage facilities and works of Reclamation and the Association have been constructed, and to  
218 construct, reconstruct, operate, and maintain therein and thereon works including, but not limited  
219 to, dams, dikes, canals, waste ways, laterals, ditches, telephone and telegraph lines, electric  
220 transmission lines, roadways, and appurtenant irrigation and drainage structures which may be  
221 needed or useful in connection with or as a part of canals, laterals, and other irrigation and  
222 drainage facilities without any payment by Reclamation or the Association, their successors or  
223 assigns, for the exercise of such right. The Licensee agrees that if the construction,  
224 reconstruction, installation, operation, or maintenance of any or all of such works of  
225 Reclamation, on or across the Premises, should be made more expensive by reason of the  
226 existence of the Licensee's Parking Lot, such additional expense may be estimated by  
227 Reclamation or the Association whose estimate shall be final and binding upon the parties  
228 hereto, and within thirty (30) days after demand is made upon the Licensee for payment of any  
229 such sums, the Licensee shall make payment thereof to Reclamation and the Association, their  
230 successors and assigns, for constructing, operating, or maintaining such works across, over, or  
231 upon the Premises.

232

233 (c) Reclamation and the Association reserve the right to inspect the Licensee's Parking  
234 Lot under the terms of this License both during the progress of construction and upon completion  
235 thereof and anytime thereafter.

236

237 (d) Jurisdiction of and supervision by Reclamation over the Premises is not surrendered  
238 or subordinated by issuance of this License and Reclamation reserves the right to issue additional  
239 use authorizations and other agreements for compatible use of the Premises.

240

241 20. **TERMS AND CONDITIONS:** In the use of the Premises, the Licensee shall faithfully  
242 observe each of the following conditions:

243

244 (a) The Licensee, at its sole expense, shall construct, install, own, use, operate, and  
245 maintain Licensee's Parking Lot in conformity with all applicable Federal, State, and local laws,  
246 regulations, ordinances, Executive Orders, and Reclamation Laws, policies, and directives and  
247 standards, existing or hereafter enacted or promulgated, including but not limited to, those  
248 relating to pollution and environmental control.

249

250 (b) The Licensee shall be solely responsible for, and ensure that, said Parking Lot is  
251 constructed in accordance with Exhibit B. Licensee must obtain written authorization from the  
252 Area Manager and the Association prior to making any changes to the approved plan details of  
253 the Parking Lot, as described on Exhibit A.

254

255 (c) All construction, installation, ownership, use, operation, and maintenance activities  
256 undertaken pursuant to this License shall be in conformity with the specifications approved in  
257 advance by the Area Manager and the Association and shall be conducted by the Licensee at all  
258 times in a manner satisfactory to the Area Manager and the Association. It shall be incumbent  
259 upon the Licensee to obtain the Association's approval prior to undertaking such installation  
260 activities.

261

262 (d) The Licensee shall at all times, and at its sole expense, operate and maintain and  
263 make necessary repairs and replacements on said Licensee Parking Lot in a good and  
264 workmanlike manner so as not to interfere with the proper use and operation of, or cause injury  
265 or damage to any property, irrigation, and drainage facilities, or works of Reclamation. All  
266 equipment installed, operated, and maintained pursuant to this License will be maintained in a  
267 safe condition satisfactory to the Area Manager and the Association. The Licensee will  
268 reimburse Reclamation for all injury or damage to property, irrigation and drainage facilities, or  
269 works of Reclamation arising out of the utilization of the rights granted pursuant to this License  
270 which is caused by the Licensee, its officers, agents, or employees, and the Licensee will  
271 promptly pay any bills rendered therefore by Reclamation.

272

273 (e) During construction and use of the Premises, the Licensee shall carry out proper and  
274 efficient measures wherever and as often as necessary to reduce nuisance by dust, and to prevent  
275 dust which has originated from its operations from damaging any other properties or causing a  
276 nuisance to persons.

277

278 (f) The Licensee shall reimburse Reclamation and the Association for any and all costs  
279 and expenses incurred in the defense of any action which challenges the Licensee's use of the  
280 Premises.

281

282 (g) The rights granted by this License are subject to any and all applicable Federal, State,  
283 and local laws, regulations, ordinances, Executive Orders, and Reclamation Laws, policies, and  
284 directives and standards, existing or hereafter enacted or promulgated, and rights of Reclamation,  
285 the United States, and to existing rights in favor of the public or third parties. The Licensee  
286 agrees that it is its sole responsibility to make whatever arrangements as are necessary to obtain  
287 such rights as may be required of the Licensee from any other party or parties holding any other  
288 interests.

289  
290 (h) The Licensee shall notify the Area Manager and Association within ninety (90) days  
291 of substantial completion of use, and within said ninety (90) days shall undertake customary and  
292 prudent measures to smooth, recontour, clean, remove debris, grade, scarify, repair, restore, or  
293 otherwise rehabilitate the lands, water, structures, and facilities of Reclamation that were  
294 disturbed to a condition of appearance and stability comparable to the surrounding undisturbed  
295 lands, to the satisfaction of the Area Manager and Association.

296  
297 (i) The Licensee shall not issue or grant easements, rights-of-way, land rights, leases,  
298 licenses, permits, crossing agreements, recreational or special use agreements, and shall not  
299 allow commercial ventures on the Premises. All such use instruments shall be issued by  
300 Reclamation only.

301  
302 (j) The Licensee shall ensure the Premises and surrounding area are maintained in a  
303 sanitary condition at all times. All trash and debris shall be removed upon leaving the Premises.  
304

305 (k) The Licensee shall not make any alteration of said Boundary Pumping Plant, Drain,  
306 and Levee within the Reclamation withdrawn lands and rights-of-way without prior written  
307 concurrence of Reclamation and the Association.  
308

309 (l) The Licensee shall ensure that no unauthorized encroachment occurs, and no waste is  
310 committed, on Reclamation withdrawn lands and rights-of-way under this License.  
311

312 (m) The Licensee shall have the right to allow its agents, contractors, and subcontractors  
313 to use Reclamation withdrawn lands and rights-of-way under this License for the purposes stated  
314 herein.  
315

316 (n) The Licensee shall promptly reimburse Reclamation and/or the Association for all  
317 damages to Reclamation withdrawn lands and rights-of-way, waters, facilities, and/or project  
318 works, arising out of the construction, installation, operation, maintenance, use, termination, or  
319 removal by the Licensee of the Licensee's Parking Lot located on Reclamation withdrawn lands  
320 and rights-of-way under this License, provided, however, that if Reclamation and/or the  
321 Association does not use the payment to repair such damages, Reclamation and/or the  
322 Association shall not recover additional payment for such damages at the time of termination of  
323 this License.

324  
325 (o) The Licensee shall not use the Premises or permit the use thereof for any purposes  
326 except as set forth herein.

327  
328 21. SPECIAL CONDITIONS: In use of the Premises, the Licensee shall faithfully observe  
329 each of the following conditions:

330  
331 (a) Any construction and Parking Lot activity beyond the Premises is not authorized by  
332 the United States, Reclamation, or this License.

333  
334 (b) In the event the Licensee is not the underlying fee owner of the land encumbered by  
335 Reclamation’s rights-of-way, it shall be incumbent on the Licensee to secure permission of the  
336 fee owner(s) for approval to enter upon, cross, or use the land, including the Reclamation  
337 rights-of-way.

338  
339 (c) The Licensee must follow Reclamation’s requirements for crossing of Reclamation  
340 projects and facilities which are found in Reclamation’s “Engineering and O&M Guidelines for  
341 Crossings – Bureau of Reclamation Water Conveyance Facilities (Canals, Pipelines, and Similar  
342 Facilities)” as described and depicted on Exhibit D, attached hereto and by this reference made a  
343 part hereof.

344  
345 (d) The Licensee shall be solely responsible for, and ensure that, full access to all  
346 Reclamation withdrawn lands, rights-of-way, and infrastructure is maintained at all times.

347  
348 (e) The Licensee shall be solely responsible for, and ensure that, all distances from all  
349 Reclamation infrastructures are maintained per Reclamation’s guidelines as depicted in  
350 Exhibit D.

351  
352 (f) The Licensee shall be solely responsible for, and ensure that, the Parking Lot is not  
353 constructed within fifty (50) feet of the toe of the Levee.

354  
355 (g) The Licensee has agreed to install an observation well for Reclamation’s  
356 Groundwater Monitoring Program during construction of Licensee’s Project. The Licensee  
357 shall:

358  
359 (i) Be solely responsible for, and ensure that, Licensee installs an observation well  
360 in accordance with Reclamation’s Typical Observation Well Diagram as described and depicted  
361 on Page No. 1 of Exhibit E, attached hereto and by this reference made a part hereof.

362  
363 (ii) Be solely responsible for, and ensure that, Licensee installs an observation well  
364 near the Southeast corner of said Parking Lot as depicted by arrow and red dot and highlighted  
365 on Page No. 2 of Exhibit E.

366  
367 (iii) Coordinate with Reclamation on the groundwater well paperwork for  
368 submission to the Arizona Department of Water Resources.

369  
370 (iv) Submit the Notice of Construction to Reclamation, so that Reclamation can  
371 schedule a Reclamation Inspector to be on-site during construction and installation activities of  
372 the observation well.

373  
374 (v) Acknowledges and agrees that said observation well will be solely owned, used,  
375 operated, and maintained by Reclamation.

376  
377 (h) The Licensee shall be solely responsible for, and ensure that, Licensee abides by the  
378 Archeological Survey Report, prepared by Licensee's archeologist consultant  
379 Jon M. Shumaker, MA, RPA, Principal Investigator, dated March 5, 2021, for the ground  
380 disturbing activities, excavation for water, power, and retention basin, as described and depicted  
381 on Exhibit F, attached hereto and by this reference made a part hereof.

382  
383 (i) The Licensee shall be solely responsible for, and ensure that, a qualified archeologist  
384 hired by the Licensee, is present during ground disturbing activities related to trenching for  
385 utilities and excavation for retention basins.

386  
387 (j) The Licensee shall be solely responsible for, and ensure that, Licensee submits a  
388 Storm Water Pollution Prevention Plan, including detailed drainage plans on the discharge flows  
389 into the retention basin and the terminus of any overflow or outfall, to Reclamation for review  
390 and approval sixty (60) days prior to the start of any construction activity.

391  
392 (k) The Licensee shall be solely responsible for, and ensure that, Licensee coordinates  
393 with Arizona Department of Environmental Quality, also known as ADEQ, on said Parking Lot  
394 prior to the start of any construction activity. Licensee shall submit a copy of all correspondence  
395 between Licensee and ADEQ, for the Parking Lot, to Reclamation for review and record.

396  
397 (l) The Licensee shall be solely responsible for, and ensure that, Reclamation and  
398 Association projects works and facilities, and Reclamation withdrawn lands and rights-of-way,  
399 and waters including the Boundary Pumping Plant, Drain, and Levee, are protected during the  
400 construction, installation, use, operation, maintenance, and termination activities authorized  
401 herein.

402  
403 (m) The Licensee shall be solely responsible for, and ensure that, construction and  
404 installation activities of said Parking Lot do not interfere with Reclamation and/or the  
405 Association's operation and maintenance activities of the Boundary Pumping Plant, Drain, or  
406 Levee.

407

408 (n) The Licensee shall be solely responsible for, and ensure that, construction and  
409 installation activities of said Parking Lot do not adversely affect or impact the Boundary  
410 Pumping Plant, Drain, and Levee.

411  
412 (o) The Licensee shall be liable for any costs associated with repairs of Reclamation  
413 and/or Association facilities, structures, or project works of Reclamation if damaged during the  
414 construction, installation, use, operation, maintenance, and termination activities authorized  
415 herein.

416  
417 (p) The Licensee shall ensure that any disturbed banks on the Drain and Levee are  
418 stabilized in a manner approved by Reclamation and the Association prior to any construction.

419  
420 (q) The Licensee shall protect all properties owned and/or previously permitted by  
421 Reclamation within its withdrawn lands and rights-of-way for the Boundary Pumping Plant,  
422 Drain, and Levee.

423  
424 (r) The Licensee shall be solely responsible for, and ensure that, no material of any kind  
425 is discharged into Reclamation and/or Association facilities.

426  
427 (s) The Licensee shall be solely responsible for, and ensure that, Reclamation and the  
428 Association have access to the Premises at all times during construction, installation, use,  
429 operation, maintenance and termination activities of the Parking Lot and/or Reclamation  
430 facilities. Nothing shall prevent Reclamation and/or the Association from construction,  
431 operation, maintenance, removal, expansion, improving, relocation and/or replacement of the  
432 Boundary Pumping Plant, Drain, Levee and/or Reclamation facilities, or the delivery of water  
433 through these facilities.

434  
435 (t) Any provider intending to install or construct any utilities and/or other improvements  
436 on the Premises not specifically authorized by this License shall make separate application to  
437 Reclamation and/or the Association for authorization and right-of-use prior to any construction  
438 or installation.

439  
440 (u) Prior to commencing any construction activities, the Licensee shall obtain the  
441 Association's written approval and stipulations as indicated by the Association's issuance of an  
442 Encroachment License to the Licensee and/or its contractor for the installation of Licensee's  
443 Parking Lot. Licensee shall ensure coordination with Association prior to commencing any  
444 construction or installation activity, and during all construction, installation, operation,  
445 maintenance, replacement, repair and termination activities of the Licensee's Parking Lot within  
446 Reclamation's withdrawn lands and/or Boundary Pumping Plant, Drain, and Levee  
447 rights-of-way, including inspection as required by Reclamation and/or the Association during  
448 and after construction, and shall be conducted in strict compliance with all stipulations as set  
449 forth in said Encroachment License.

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(v) The Licensee shall provide a construction schedule and seventy-two (72) hour notice to Reclamation prior to the start of any construction activity. Said seventy-two (72) hour notice shall be provided to Reclamation's Technical Support Office, Construction Services Group Manager, Mr. Alex Belous, at telephone No. (928) 343-8314 and/or by electronic mail at [abelous@usbr.gov](mailto:abelous@usbr.gov), so that a Reclamation Inspector can attend any pre-construction meetings and be on-site during construction and installation activities.

(w) The Licensee shall provide a construction schedule and seventy-two (72) hour notice to the Association prior to the start of any construction activity. Said seventy-two (72) hour notice shall be provided to the Association's Senior Engineering Technician, Mr. Omar Peñuñuri, at telephone No. (928) 627-8824 so that an Association representative can attend any pre-construction meetings and be on-site during construction and installation activities.

(x) Within ninety (90) calendar days of the completion of construction and installation of the Licensee's Parking Lot, the Licensee shall furnish Reclamation and the Association each with as-built drawings depicting the location, elevation, depth, and coordinate system of said Parking Lot, as installed. Said drawings shall be provided to Reclamation and the Association to include one (1) 11x17 sized set of drawings, one copy in PDF electronic format, and one electronic copy of the drawings in AutoCAD format or compatible. Electronic drawings shall be provided to Reclamation by electronic mail to Ms. Anna Sander, Realty Technician at: [asander@usbr.gov](mailto:asander@usbr.gov).

(y) In case of an emergency involving the Boundary Pumping Plant, Drain, and Levee rights-of-way, Reclamation's withdrawn lands and/or facilities, the Licensee shall immediately notify Reclamation at telephone No. (928) 343-8100 and the Association at telephone No. (928) 627-8824.

(z) The Licensee shall restore and repair, if necessary, the Premises and surrounding area to its original condition or improved and in a manner satisfactory to Reclamation and the Association.

(aa) The Licensee acknowledges and agrees that Reclamation and/or the Association may require the Licensee to close the Parking Lot for maintenance activities with reasonable advance notice to the Licensee, as determined by Reclamation and/or the Association.

(bb) The Licensee acknowledges and agrees that Reclamation and/or the Association may require the Licensee to cease all use, operation and maintenance activities related to the Parking Lot, for project purposes related to the withdrawn lands and rights-of-way, with reasonable advance notice to the Licensee, as determined by Reclamation and/or the Association.

492 (cc) Reclamation and the Association retain all rights previously reserved and the  
493 authority to enter upon the Premises.

494  
495 (dd) Reclamation and the Association maintain the right to require that Licensee remove  
496 the Parking Lot if deemed necessary for construction, maintenance or related activities  
497 performed within the withdrawn lands, Boundary Pumping Plant, Drain, and Levee  
498 rights-of-way, and/or other facilities.

499  
500 (ee) Any damage to the Licensee's Parking Lot or its related features caused by operation  
501 and maintenance activities of Reclamation and/or the Association on project works and/or  
502 facilities shall be the sole responsibility of the Licensee to repair and/or replace, and the United  
503 States, Reclamation, and/or the Association shall have no financial responsibility for any such  
504 repairs and/or replacements.

505  
506 (ff) The Licensee shall reimburse Reclamation and/or the Association for any additional  
507 costs incurred in the operation and maintenance of Reclamation and/or Association facilities  
508 which are attributable to the Licensee's Parking Lot and its related features.

509  
510 (gg) The Licensee hereby agrees to incur all costs, expenses, obligations, and duties to  
511 restore the Licensee's Parking Lot in the event Reclamation and/or the Association exercise their  
512 rights reserved herein.

513  
514 (hh) Reclamation will accept no responsibility for the structural adequacy of the Parking  
515 Lot. Approval is based on the construction and installation of the Parking Lot only.

516  
517 (ii) This authorization to use Reclamation's withdrawn lands and rights-of-way shall not  
518 be construed as a grant of any permanent ownership and/or interest or as abandonment by the  
519 United States or Reclamation of any rights, including but not limited to, use and occupancy of  
520 the Premises, and/or Reclamation's withdrawn lands and rights-of-way.

521  
522 (jj) All on-site personnel shall be personally instructed by Licensee regarding the  
523 above-listed conditions.

524  
525 GENERAL PROVISIONS

526  
527 22. HOLD HARMLESS:

528  
529 (a) Reclamation: The Licensee hereby agrees to indemnify and hold harmless  
530 Reclamation, its officers, employees, agents, and assigns, from any loss or damage and from any  
531 liability on account of personal injury, property damage, or claims for personal injury or death  
532 arising out of the Licensee's activities under this License. Additionally, except for acts of  
533 negligence, the Licensee releases Reclamation, its officers, employees, agents, and assigns, from

534 any and all liability for damage arising from injury to persons or damage to structures,  
 535 equipment, improvements, or works of the Licensee resulting from the construction,  
 536 reconstruction, operation, or maintenance of any of the works of Reclamation. Provided,  
 537 however, that nothing contained in this clause shall be deemed to modify or limit any liability  
 538 which may be imposed by the Federal Tort Claims Act, 28 U.S.C. § 2671-2680.  
 539

540 (b) Association: The Licensee shall indemnify, defend, and hold harmless the  
 541 Association, its officers, directors, employees, agents, representatives, successors, and assigns,  
 542 from and against all claims, costs, losses, damages, demands, liabilities, and expenses (including,  
 543 but not limited to, all fees and charges of attorneys and other professionals, and all court or  
 544 arbitration or other dispute resolution costs) of any kind or character arising out of or relating to:  
 545

546 (1) Any act or omission by the Licensee or its representatives, to include its  
 547 employees, agents, contractors, subcontractors, or any other persons directly or indirectly  
 548 employed by any one of the foregoing, or reasonably under the control of any of the foregoing,  
 549 or for whose acts any of the foregoing may be liable (collectively, "Representatives"), in  
 550 connection with the rights granted to Licensee pursuant to this License;  
 551

552 (2) Any violation or alleged violation by the Licensee or its Representatives of any  
 553 law or regulation now or hereafter enacted;  
 554

555 (3) Any breach by Licensee of its obligations under this License; and  
 556

557 (4) Any enforcement by the Association of any provision of this License; provided,  
 558 however, the foregoing indemnification shall not apply to the extent any claim is ultimately  
 559 established by a court of competent jurisdiction to have been caused by the gross negligence or  
 560 willful misconduct of the Association, its officers, directors, employees, agents, representatives,  
 561 successors, and assigns.  
 562

563 23. DISCOVERY OF CULTURAL RESOURCES: The Licensee shall immediately provide a  
 564 verbal notification to Reclamation's Environmental Planning and Compliance Group Manager at  
 565 telephone No. (928) 343-8100 of the discovery of any and all antiquities or other objects of  
 566 archaeological, cultural, historic, or scientific interest on or within the Premises. The Licensee  
 567 shall follow up with a written report of their finding(s) to Reclamation within forty-eight (48)  
 568 hours. Objects under consideration include but are not limited to historic or prehistoric ruins,  
 569 human remains, funerary objects, and artifacts discovered as a result of activities authorized  
 570 under this License. The Licensee shall immediately cease its activity in the area of the  
 571 discovery, make a reasonable effort to protect such discovery, and wait for written approval from  
 572 Reclamation before resuming activity. Protective and mitigative measures specified by  
 573 Reclamation shall be the responsibility of the Licensee.  
 574

575 24. CLEAN AIR AND WATER: The Licensee agrees as follows:  
576

577 (a) To comply with all Federal, State, and local requirements of the Clean Air Act  
578 of 1955, Pub. L. No. 84-159, 69 Stat. 322, as supplemented and amended (CAA), and the Federal  
579 Water Pollution Control Act of 1948, Pub. L. No. 80-845, 62 Stat. 1155, as supplemented and  
580 amended (CWA); and

581

582 (b) To obtain written permission from Reclamation prior to conducting any activities that  
583 require permits, plans, or certificates under the CAA or the CWA; and

584

585 (c) To provide Reclamation with a copy of any correspondence between the Licensee  
586 and any regulatory agency concerning CAA or CWA compliance, including but not limited to  
587 copies of permit applications, permits, reports, notices of violation, or enforcement actions; and

588

589 (d) To take immediate and effective action to correct any violation related to the CAA or  
590 the CWA. The Licensee shall provide Reclamation with a narrative description of the violation,  
591 the actions taken by the Licensee, the date the violation began, the date that the Licensee became  
592 aware of the violation, and the date that the Licensee returned to compliance; and

593

594 (e) To take action to comply with any changes to the CAA and the CWA within the  
595 schedule required by the regulation, rule, or guidance.

596

597 25. HAZARDOUS MATERIALS: During the performance of any activity on the Premises, the  
598 Licensee agrees as follows:

599

600 (a) The Licensee shall not allow contamination or pollution of withdrawn lands and  
601 rights-of-way, waters, facilities, and/or project works of Reclamation for which the Licensee has  
602 the responsibility for care, operation, and maintenance by its Representatives and shall take  
603 reasonable precautions to prevent such contamination or pollution by third parties. Substances  
604 causing contamination or pollution shall include but are not limited to hazardous materials,  
605 thermal pollution, refuse, garbage, sewage effluent, industrial waste, petroleum products, mine  
606 tailings, mineral salts, misused pesticides, pesticide containers, or any other pollutants.

607

608 (b) The Licensee shall comply with all applicable Federal, State, and local laws,  
609 regulations, ordinances, Executive Orders, and Reclamation Laws, policies, and directives and  
610 standards, existing or hereafter enacted or promulgated, concerning any hazardous material that  
611 will be used, produced, transported, stored, or disposed of on or in Reclamation withdrawn lands  
612 and rights-of-way, waters, facilities, and/or project works.

613

614 (c) "Hazardous material" shall mean any substance, pollutant, or contaminant listed as  
615 hazardous under the Comprehensive Environmental Response, Compensation, and Liability  
616 Act of 1980, as amended, 42 U.S.C. §§ 9601-9675 (2012), and the regulations promulgated  
617 pursuant to that Act.

618  
619 (d) Upon discovery of any event which may or does result in contamination or pollution  
620 of Reclamation withdrawn lands and rights-of-way, waters, facilities, and/or project works, the  
621 Licensee shall initiate emergency measures to protect health and safety and the environment if  
622 necessary and shall provide notice of such discovery with full details of the actions to  
623 Reclamation's Environmental Planning and Compliance Group Manager at telephone  
624 No. (928) 343-8100. Additionally, all spills regardless of size shall be reported to Reclamation's  
625 Environmental Planning and Compliance Group Manager. Such notice shall be within a  
626 reasonable time period but not to exceed twenty-four (24) hours from the time of discovery if it  
627 is an emergency, and the first (1st) working day if it is a non-emergency. An emergency is any  
628 situation that requires immediate action to reduce or avoid endangering public health and safety  
629 or the environment.

630  
631 (e) Violation of any of the provisions of this Article, upon which the Licensee does not  
632 take immediate corrective action, shall constitute grounds for termination of this License and  
633 shall make the Licensee liable for the cost of the full and complete remediation and/or restoration  
634 of any resources, lands, waters, projects and/or facilities of Reclamation that are adversely  
635 affected as a result of the violation.

636  
637 (f) The Licensee agrees to include the provisions contained in paragraphs (a) through (e)  
638 of this Article in any entered subcontract or third-party contract authorized by this License.

639  
640 (g) Reclamation agrees to provide information necessary to the Licensee for using  
641 reasonable diligence to comply with the provisions of this Article.

642  
643 26. **PESTICIDES:** In use of the Premises:

644  
645 (a) The Licensee shall not permit the use of any pesticides on withdrawn lands and  
646 rights-of-way, waters, facilities, or project works of Reclamation without prior written  
647 authorization from Reclamation. The Licensee shall submit to Reclamation for approval an  
648 Integrated Pest Management Plan (IPMP) thirty (30) days prior to pesticide application.

649  
650 (b) All pesticides used shall be in accordance with the current registration, label  
651 direction, or other directives regulating their use (State Department of Agriculture, Department  
652 of Ecology, OSHA, etc.) and with applicable Reclamation policy and directives and standards.  
653 Applicators will meet applicable State training or licensing requirements. Records maintenance  
654 shall be in accordance with State requirements and furnished to Reclamation no later than  
655 five (5) working days after application of a pesticide.

656  
657 (c) Any equipment, tools, and machines used for pesticide application shall be in good  
658 repair and suitable for such use. Equipment shall be calibrated prior to the spraying season and  
659 as deemed necessary by Reclamation.

660  
661 (d) Mixing, disposal, and cleaning shall be done where pesticide residues cannot enter  
662 storm drains, sewers, or other non-target areas.

663  
664 (e) The Licensee shall initiate any necessary measures for containment and clean up of  
665 pesticide spills. Spills shall be reported to Reclamation with full details of the actions taken.  
666 Reporting must be made within a reasonable time period. A reasonable time period means  
667 within twenty-four (24) hours of the spill if it is an emergency or by the first (1st) working day if  
668 it is a non-emergency. An emergency is any situation that requires immediate action to reduce or  
669 avoid endangering public health and safety or the environment.

670  
671 (f) Aerial application of pesticides is prohibited without prior written authorization from  
672 Reclamation.

673  
674 (g) The Licensee agrees to include the provisions contained in paragraphs (a) through (f)  
675 of this Article in any entered subcontract or third-party contract authorized by this License.

676  
677 27. NONDISCRIMINATION: The Licensee hereby agrees as follows:

678  
679 (a) To comply with Title VI of the Civil Rights Act of 1964, § 601, Pub. L. No. 88-352,  
680 78 Stat. 241, as supplemented and amended, which provides that “no person in the United States  
681 shall, on the ground of race, color, or national origin, be excluded from participation in, be  
682 denied the benefits of, or be otherwise subjected to discrimination under any program or activity  
683 receiving Federal financial assistance,” and to be bound by the regulations of the Department of  
684 the Interior for the effectuation thereof, as set forth in 43 CFR § 17 (2016). For purposes of this  
685 subpart, “Federal financial assistance” shall have the meaning prescribed to it by  
686 43 CFR § 17.202(h) (2016).

687  
688 (b) To comply with the Rehabilitation Act of 1973, § 504, Pub. L. No. 93-112,  
689 87 Stat. 355, as supplemented and amended, which is designed to eliminate discrimination on the  
690 basis of disability in any program or activity receiving Federal financial assistance. For purposes  
691 of this subpart, “Federal financial assistance” shall have the meaning prescribed to it by  
692 43 CFR § 17.12(e) (2016).

693  
694 (c) To comply with the Age Discrimination Act of 1975, as supplemented and amended,  
695 42 U.S.C. §§ 6101-6107, and the general age discrimination regulations at 45 CFR § 90 (2016)  
696 which are designed to prohibit discrimination on the basis of age in programs and activities

697 receiving Federal financial assistance, as set forth in 43 CFR § 17 (2016). For purposes of this  
698 subpart, "Federal financial assistance" shall have the meaning prescribed to it by  
699 43 CFR § 17.303(h) (2016).

700

701 (d) To obligate its subcontractors, subgrantees, transferees, successors in interest, or any  
702 other participates receiving Federal financial assistance hereunder, to comply with the  
703 requirements of these provisions.

704

705 28. NOTICES: Any notice, demand, authorization, or request required to be made or given  
706 herein shall be served via hand delivery, with signed receipt of acceptance, or by certified mail  
707 addressed to the respective addresses given herein and the hand delivery or mailing of any such  
708 notice properly enclosed, addressed, stamped, and certified, shall be considered service.

709

710 (a) Any notice, demand, authorization, or request required by this License to be made or  
711 given to or upon Reclamation, or the United States, except as otherwise provided herein, shall be  
712 deemed properly given or made if hand delivered or mailed postage-prepaid, to the Area  
713 Manager, Yuma Area Office, Bureau of Reclamation, 7301 Calle Agua Salada, Yuma, Arizona  
714 85364.

715

716 (b) Any notice, demand, authorization, or request required by this License to be made or  
717 given to or upon the Association shall be deemed properly given or made if hand delivered or  
718 mailed postage-prepaid, to the Manager, Yuma County Water Users' Association,  
719 P.O. Box 5775, Yuma, Arizona 85366-5775.

720

721 (c) Any notice, demand, authorization, or request required by this License to be made or  
722 given to or upon the Licensee shall be deemed properly given or made if hand delivered or  
723 mailed postage-prepaid, to the Community Development Director, City of San Luis,  
724 1090 East Union Street or P.O. Box 1170, San Luis, Arizona 85349.

725

726 (d) The designation of the person to or upon whom any notice, demand, authorization, or  
727 request is to be given or made, or the address of any such person, may be changed at any time by  
728 notice given in the same manner as provided in this Article for other notices.

729

730 29. OFFICIALS NOT TO BENEFIT: No member of or delegate to Congress or Resident  
731 Commissioner, and no officer, agent, or employee of the Department of the Interior, shall be  
732 admitted to any share or part of this License or to any benefit that may arise herefrom, but this  
733 restriction shall not be construed to extend to this License if made with a corporation or  
734 contractor for its general benefit.

735

736 30. COVENANT AGAINST CONTINGENT FEES: The Licensee warrants that no person or  
737 agency has been employed or retained to solicit or secure this License upon an agreement or  
738 understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide

739 employees or bona fide established agencies maintained by the Licensee for the purpose of  
740 securing business. For breach or violation of this warranty, Reclamation shall have the right to  
741 annul this License without liability or in its discretion to require the Licensee to pay, in addition  
742 to the right-of-use consideration, the full amount of such commission, percentage, brokerage, or  
743 contingent fee.

744

745 31. ILLEGAL USE: Any activity deemed to be illegal on Reclamation withdrawn lands and  
746 rights-of-way, waters, project works, or facilities, shall be cause for immediate termination of  
747 this License.

748

749 32. EFFECT OF LICENSE: This License sets forth the intention of the parties hereto as to the  
750 purposes set forth herein and Reclamation, makes no other claim or warranty, expressed or  
751 implied, as to its extent or validity.

752

753 33. NO WARRANTY: Reclamation makes no warranty, expressed or implied, as to the extent  
754 or validity of the grant contained herein.

755

756 34. FURTHER ASSURANCES: The parties hereto shall execute, acknowledge, and deliver  
757 such other instruments and documents as may be necessary or appropriate to carry out the full  
758 intent and purpose of this License.

759

760 35. ARTICLE HEADINGS: The Article headings referenced in this License are included for  
761 convenience only and the parties intend that they shall be disregarded in interpreting this  
762 License.

763

764 36. EXHIBITS: Except as otherwise provided herein, all exhibits attached to this License are  
765 incorporated into this License by reference herein and made a part hereof.

766

767 37. SUCCESSORS AND ASSIGNS: This License is personal, revocable, and nontransferable  
768 and except as otherwise provided herein, shall not be construed as granting to the Licensee any  
769 permanent right, title, or interest in the Premises, facilities, or project works of Reclamation.  
770 This License shall be binding upon and inure to the benefit of the successors and/or assigns of  
771 the parties hereto; provided, however, that no assignment or transfer of any of the rights of the  
772 Licensee hereunder shall be made without the prior written consent of Reclamation.

773

774 38. SEVERABILITY: Each provision of this use authorization shall be interpreted in such a  
775 manner as to be valid under applicable law, but if any provision of this use authorization shall be  
776 deemed or determined by competent authority to be invalid or prohibited hereunder, such  
777 provision shall be ineffective and void only to the extent of such invalidity or prohibition but  
778 shall not be deemed ineffective or invalid as to the remainder of such provision or any other  
779 remaining provisions, or of the use authorization as a whole.

IN WITNESS WHEREOF, the parties hereto have signed their names to this CONTRACT AND GRANT OF LICENSE which shall become effective the day and year first above written.

THE UNITED STATES OF AMERICA

By: \_\_\_\_\_  
Michael D. Norris  
Area Manager  
Yuma Area Office  
Interior Region 8: Lower Colorado Basin  
Bureau of Reclamation  
Department of the Interior

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

ACCEPTANCE:

CITY OF SAN LUIS, ARIZONA

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

Title: \_\_\_\_\_

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

CONCURRENCE:

YUMA COUNTY WATER USERS'  
ASSOCIATION

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

Title: \_\_\_\_\_

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

NOTARIAL ACKNOWLEDGEMENT

State of Arizona)

County of Yuma)

On this \_\_\_ day of \_\_\_\_\_, 2022, before me, \_\_\_\_\_, a Notary Public in and for said  
County and State personally appeared \_\_\_\_\_, Area Manager, Yuma Area  
Name

Office, Interior Region 8: Lower Colorado Basin, Bureau of Reclamation, United States

Department of the Interior, known to me to be the person described in the foregoing instrument,

and acknowledged to me that \_\_\_\_\_ executed the same on behalf of the United States of America  
in the capacity therein stated and for the purpose therein contained.

(Notary Seal)

\_\_\_\_\_  
Notary Public

<b>Description of document this notarial certificate is being attached to:</b>	
Type/Title	Contract and License No. 18-07-34-L1923
Date of Document	
Number of Pages	23 and Exhibits A, B, C, D, E, and F
Additional Signers (other than those named in the notarial certificate)	City of San Luis, Arizona Yuma County Water Users' Association

Contract No. 18-07-34-L1923

NOTARIAL ACKNOWLEDGEMENT

State of Arizona)

County of Yuma)

On this \_\_\_\_ day of \_\_\_\_\_, 2022, before me, \_\_\_\_\_, a Notary Public in and for said  
County and State personally appeared \_\_\_\_\_, \_\_\_\_\_ of  
Name Title

City of San Luis, Arizona (City), known to me to be the person described in the foregoing  
instrument, and acknowledged to me that \_\_\_\_ executed the same on behalf of City in the  
capacity therein stated and for the purpose therein contained.

(Notary Seal)

\_\_\_\_\_  
Notary Public

<b>Description of document this notarial certificate is being attached to:</b>	
Type/Title	Contract and License No. 18-07-34-L1923
Date of Document	
Number of Pages	23 and Exhibits A, B, C, D, E, and F
Additional Signers (other than those named in the notarial certificate)	Bureau of Reclamation Yuma County Water Users' Association

NOTARIAL ACKNOWLEDGEMENT

State of Arizona)

County of Yuma)

On this \_\_\_\_ day of \_\_\_\_\_, 2022, before me, \_\_\_\_\_, a Notary Public in and for said County and State personally appeared \_\_\_\_\_, \_\_\_\_\_ of  
Name Title

Yuma County Water Users' Association (Association), known to me to be the person described in the foregoing instrument, and acknowledged to me that \_\_\_\_\_ executed the same on behalf of Association in the capacity therein stated and for the purpose therein contained.

(Notary Seal)

\_\_\_\_\_  
 Notary Public

<b>Description of document this notarial certificate is being attached to:</b>	
Type/Title	Contract and License No. 18-07-34-L1923
Date of Document	
Number of Pages	23 and Exhibits A, B, C, D, E, and F
Additional Signers (other than those named in the notarial certificate)	Bureau of Reclamation City of San Luis, Arizona

# CITY OF SAN LUIS PARKING LOT ADDITION PROJECT

## **Mayor**

GERARDO SANCHEZ

## **Vice-Mayor**

MARIA CECILIA RAMOS

## **City Council**

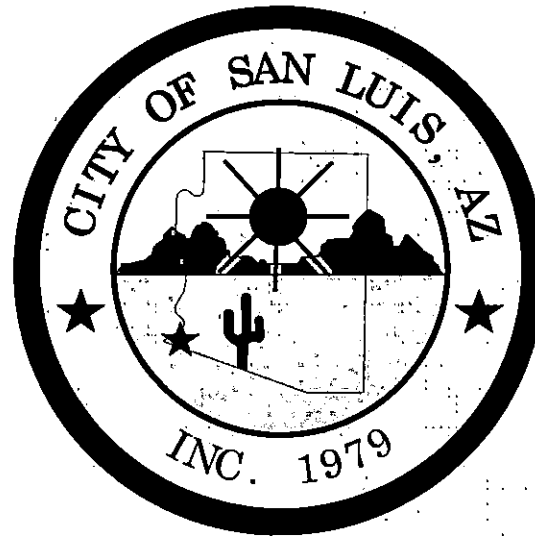
AFRICA LUNA-CARRASCO

GLORIA TORRES

MATIAS ROSALES

MARIO BUCHANAN JR.

RUBEN WALSH



## **City Manager**

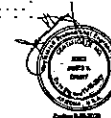
TADEO A. DE LA HOYA

## **Director of Public Works**

EULOGIO VERA, P.E.

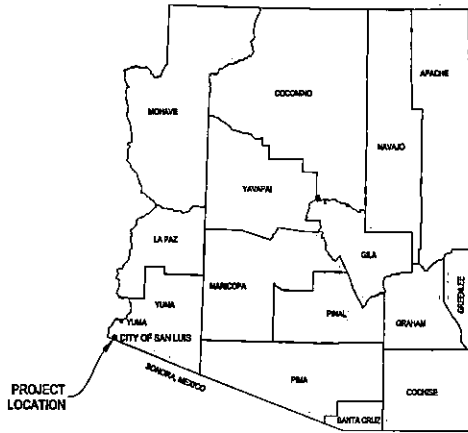
APPROVED: \_\_\_\_\_ Date: \_\_\_\_\_  
City Manager

APPROVED: \_\_\_\_\_ Date: \_\_\_\_\_  
Director of Public Works



**PREPARED BY:**  
JAMES DAVEY AND ASSOCIATES  
1025 W. 24th STREET, SUITE 2  
YUMA, AZ 85364  
(928) 782-7926

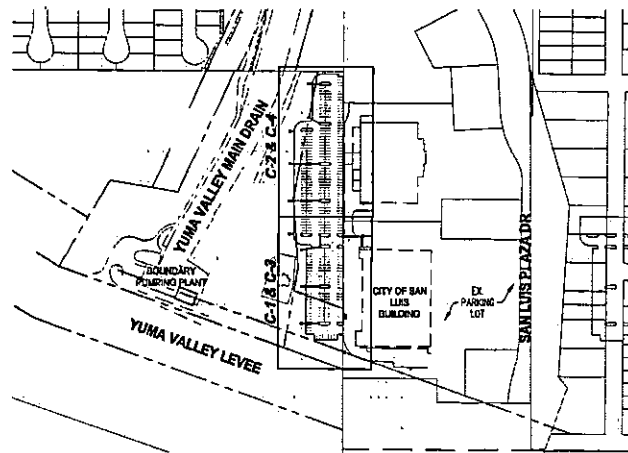
CONTRACT NO. 18-07-34-L1923  
EXHIBIT A



**LOCATION MAP**  
NTS



**SAN LUIS VICINITY MAP**  
NTS



**KEY MAP**  
NTS

**SHEET INDEX**

SHEET NUMBER:	TITLE:
T-1	COVER SHEET
G-1	GENERAL NOTES, & KEY MAP
G-2	LEGEND & ABBREVIATIONS
C-1	DIMENSIONED SITE PLAN - SOUTH HALF
C-2	DIMENSIONED SITE PLAN - NORTH HALF
C-3	GRADING AND PAVING PLAN - SOUTH HALF
C-4	GRADING AND PAVING PLAN - NORTH HALF
C-5	WATER AND ELECTRICAL PLAN
D-1	TYPICAL CROSS SECTION AND DETAILS

**BENCHMARKS**

FD 1972 BLM 3" BC  
PROPERTY CORNER  
NORTHING = 543315.13  
EASTING = 380201.89  
ELEVATION = 86.06

**TEMPORARY BENCHMARKS**

TBM #1  
WATER VALVE ON THE SOUTH-WEST OF PRICE CENTER BUILDING  
NORTHING = 542798.077  
EASTING = 380400.027  
ELEVATION = 87.332

TBM #2  
FD 127 REBAR  
NORTHWEST PROPERTY CORNER  
NORTHING = 543157.667  
EASTING = 380378.657  
ELEVATION = 86.82

**GENERAL NOTES**

- UTILITY LOCATIONS ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY EXISTENCE, LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES PRIOR TO TRENCHING. CONTRACTOR SHALL PROTECT ALL UTILITIES IN PLACE UNLESS OTHERWISE SPECIFIED IN THE PLANS. CALL ARIZONA BLUESTAKE: 1-800-STAKE-IT AT LEAST 48 HRS PRIOR TO EXCAVATION.
- NOT ALL STANDARD DRAWINGS ARE INCLUDED HEREIN. STANDARD DRAWINGS LISTED BUT NOT SHOWN ARE INCLUDED BY REFERENCE.

**JAMES DAVEY AND ASSOCIATES**  
CONSULTING CIVIL ENGINEERS  
1025 W. 24th Street, Suite 21 • YUMA, AZ 85304 • (928) 782-7828

**CITY OF SAN LUIS**  
**PARKING LOT ADDITION PROJECT**  
**PROJECT LOCATION, VICINITY MAP**  
**GENERAL NOTES, & KEY MAP**



PREPARED FOR:  
CITY OF SAN LUIS  
COMMUNITY DEVELOPMENT  
SAN LUIS, AZ 85348  
(928) 341-8541  
DESIGNED BY: A.V.D.  
DRAWN BY: D.J.Z.  
APPROVED BY: J.V.D.  
SHEET G-1  
NOVEMBER 16, 2017

CSL-15

**ABBREVIATIONS**

AC	AD	ASB	ASDN	ASDUMT	AC	ACI	ACD	ADDL	ADD	ADOT	AF	AG	AGOR	AGS	ALUM	ANG	APPROX.	APB	ASTM	ASST	AUTO	ALX	AVE	AVG	AHWA	BC	BD	BE	BF	BGM	BO	BS	BTM	BV	BVC	BY	CA	C.C. CONC	CAP	CATV	CB	CC	CD	CF	CG	CH	CI	CJ	CK	CL	CM	CS	CT	CU	CV	CWB	DW	D	DEL	DEG	DEMO	DO	DA	DAG	DM	DP	DSCH	DSI	DR	DW	DWG	DWS	E	EA	EAS	EC	ECC	ED	EL	ELC	ELB	ELEV																																																																																																									
AT	EDGE OF PAVEMENT	EP	EQUIPMENT	END OF VERTICAL CURVE	EHW	EXHIBIT	EXP	EXPAN. JOINT	FAB	FABRICATION	FC	FLEXIBLE COUPLING	FSA	FLANGED COUPLING ADAPTER	FOUN	FIRE DEPARTMENT CONNECTION	FF	FRESH GRADE	FG	FIRE HYDRANT	FIG	FIGURE	FL	FLOW LINE	FLX	FLEXIBLE	FLG	FLANGE	FLR	FLOOR	FIBER OPTIC	FOW	FACE OF WALL	FT	FOOT, FEET	FTD	FOOTING, FILLING	FORW	FORWARD	G	GAS	GA	GAUGE	GAL	GALLON	GA	GALVANIZED	G.I.	GALVANIZED IRON	G.S.	GALVANIZED STEEL	GB	GRADE BREAK	GC	GROOVED COUPLING	GND	GROUND	GPD	GALLONS PER DAY	GPH	GALLONS PER HOUR	GPM	GALLONS PER MINUTE	GR	GRATING	G.S.P.	GALVANIZED STEEL PIPE	G.S.	GILA & SALT RIVER BASE & MERIDIAN	GUTTER	GATE VALVE, GAS VALVE	GV	HANDICAPPED	HB	NOSE BUSH	HDP	HIGH DENSITY POLYETHYLENE	HDWR	HARDWARE	HW	HEADWALL	HGR	HYDRAULIC GRADE LINE	HGT	HEIGHT	HH	HAND HOUL	HORIZ	HORIZONTAL	HSP	HORIZONTAL	HWS	HIGH WATER SURFACE	HRHWAY	HIGHWAY	I	INSIDE DIAMETER	INVT	INVERT ELEVATION	IP	INSIDE FACE	INCH	INCH	INSTUM	INSTRUMENTATION	INSUL	INSULATE	INT	INTERIOR	INVT	INVERT	IRR	IRRIGATION	JT	JOINT	L	LENGTH	LAT	LATERAL	LB	POUND	LF	LINEAL FEET	LH	LEFT HAND	LN	LANE	LND	LAND	LS	LAND SURVEYOR	LT	LIGHT, LEFT	LV	LINE OF GUTTER	MEAS	MEASURED	M	MAINT	MANT	MAINTENANCE, MAINTAIN	MATL	MATERIAL	MAX	MAXIMUM	MB	MAIL BOX	MCC	MAJOR CONTROL CENTER	MCH	MISCELLANEOUS	MFR	MANUFACTURER	MH	MANHOLE	MIND	MINOR AND INDUSTRIAL	MIN	MINIMUM	MISC	MISCELLANEOUS	MD	MEDICINAL JOINT	MON	MONUMENT	MTO	MOUNTED	MTO	MOUNTING	MTL	METAL	MW	MONITORING WELL	MWS	MAXIMUM WATER SURFACE												
NA	NOT APPLICABLE	N	NORTH	NAD	NORTH AMERICAN DATUM	NAVD	NORTH AMERICAN VERTICAL DATUM	NS	NORTHSOUND	NE	NORTHEAST	NC	NOT IN CONTRACT	NO	NUMBER	NOM	NORMAL	NORM	NORMAL	NPT	NATIONAL PIPE THREAD	NTS	NOT TO SCALE	NW	NORTHWEST	NWS	NORMAL WATER SURFACE	OH	OVERHEAD	OSM	OPERATION & MAINTENANCE	OC	ON CENTER	OO	OUTSIDE	OPK	OPENING	OPP	OPPOSITE	O TO O	OUT TO OUT	OVFL	OVERFLOW	PI&D	PROCESS AND INSTRUMENTATION DIAGRAM	PC	POINT OF CURVATURE	PCP	PORTLAND CEMENT CONC.	PCV	POINT OF CHANGING CURVATURE	PE	POLYETHYLENE	PERM	PERMANENT	PI	POINT OF INTERSECTION	PJF	PREMOLDED JOINT FILLER	PL	PROPERTY LINE	POB	POINT OF BEGINNING	POC	POINT OF CURVATURE	POE	POINT OF ENDING	POI	POINT OF INTERSECT	PP	POWER POLE	PRC	POINT OF REVERSE CURVE	PREFAB	PREFABRICATED	PRESS.	PRESSURE	PR	PRIMARY	PRP	PRIORITY	PS	PUMP STATION, PRESSURE SWITCH	PSF	POUNDS PER SQUARE FOOT	PSI	POUNDS PER SQUARE INCH	PSI	POUNDS PER SQUARE INCH, GAUGE	PT	POINT, POINT OF TANGENCY	PV	PLUG VALVE, PRESSURE VALVE	PVC	POLYVINYL CHLORIDE	PVT	POINT OF VERTICAL TANGENCY	Q	FLOW RATE (CFS)	QUAD	QUADRANT	QTY	QUANTITY	ROW	RIGHT OF WAY	R	RECORD, RIGHT, RANGE	RAD	RADIUS	RS	REAR	R.C.C.	REINFORCED CONCRETE	RC	ROLL CURB AND GUTTER	REC	REINFORCED CONCRETE PIPE	RD	ROAD	RED	REDUCER	REF	REFER, REFERENCE	REHAB	REHABILITATED, REHABILITATION	REINP	REINFORCE, REINFORCED, REINFORCING	REQD	REQUIRED	RESK	RESURF	RGRCP	RUBBER GASKET REINFORCED CONCRETE PIPE	RM	ROOM	RR	RAILROAD	RTN	RETURN	S	SEWER, SOUTH	S	SOIL BOUND, SOUTHBOUND	SCHED	SCHEDULE	SD	STORM DRAIN	SE	SOUTHEAST	SEC	SECTION	SF	SQUARE FEET	SH	SHED	SM	SIMILAR	SL, S	SECTION LINE, SURVEY LINE, STREET LIGHT	ST	STREET	SMH	SEWER MANHOLE	SP	SPACE, SPACES	SPEC	SPECIFICATIONS	SPEC'D	SPECIFIED	SPLY	SUPPLY	SQ	SQUARE	SR	STATE ROUTE	SB	SANITARY SEWER	ST, SS	STAINLESS STEEL	ST	STATION	STD	STANDARD	STL	STEEL	STR	STRUCTURAL

**LEGEND**

	NEW DRIVEWAY ENTRANCE WITH DEPRESSED CURB (D.C.)		EXIST. POWER POLE
	NEW DRIVEWAY ENTRANCE/HANDICAP RAMP		NEW POWER POLE
	EXIST. NEW STRUCTURE		EXIST. TELEPHONE POLE
	EXIST. ASPHALT PAVEMENT		EXIST. TELEPHONE POLE (T.S.)
	NEW ASPHALT PAVEMENT		EXIST. TRAFFIC SIGNAL (T.S.)
	EXIST. TEMPORARY CONSTRUCTION EASEMENT		EXIST. LIGHT POLE (L.P.)
	EXIST. TEMPORARY DYNAMIC HEAD		NEW LIGHT POLE
	EXIST. TELEPHONE		EXIST. WATER LINE
	EXIST. TEMPORARY		NEW WATER LINE
	EXIST. TOP FAC		EXIST. END CAP W/ BLOW-OFF
	EXIST. THREAD		EXIST. NEW END CAP W/ BLOW-OFF
	EXIST. THICK		EXIST. FIRE HYDRANT (F.H.)
	EXIST. THRU		EXIST. NEW FIRE HYDRANT
	EXIST. TELEPHONE MANHOLE		EXIST. FIRE DEPARTMENT CONNECTION (F.D.C.)
	EXIST. TOP OF TURNOUT		EXIST. NEW FIRE DEPARTMENT CONNECTION
	EXIST. TOP OF BANK		EXIST. VALVE
	EXIST. TOP OF LINING		EXIST. VALVE TO BE BROUGHT TO GRADE
	EXIST. TOP OF PIPE		EXIST. VALVE & VALVE BOX
	EXIST. TOP OF RAISED LINK		EXIST. THRUST BLOCK
	EXIST. TELEPHONE POLE, TEST PIT, TURNING POINT		EXIST. NEW THRUST BLOCK
	EXIST. TURNOUT POINT OF INTERSECTION		EXIST. FLUSH CATCH BASIN
	EXIST. TRAFFIC SIGNAL		EXIST. NEW FLUSH CATCH BASIN
	EXIST. TOP OF SLOPE		EXIST. WATER METER BOX (W.M.)
	EXIST. TYPICAL		EXIST. W.M. BOX TO BE RELOCATED
	EXIST. UNDERGROUND		EXIST. TRAFFIC SIGN
	EXIST. UNIFORM BUILDING CODE UNKNOWN		EXIST. NEW TRAFFIC SIGN
	EXIST. UNLESS NOTED OTHERWISE		EXIST. STREET SIGN
	EXIST. UNITED STATES BUREAU OF RECLAMATION		EXIST. STREET LIGHT
	EXIST. VERTICAL CURVE		EXIST. NEW STREET LIGHT
	EXIST. V.C. & GUTTER		EXIST. NEW BARBED WIRE
	EXIST. VALLEY GUTTER		EXIST. NEW STAND PIPE
	EXIST. VERTICAL		EXIST. NEW STAND PIPE
<td>EXIST. VOLUME</td> <td></td> <td>EXIST. ROCK RETRAP (AS NOTED)</td>	EXIST. VOLUME		EXIST. ROCK RETRAP (AS NOTED)
	EXIST. VERTICAL POINT OF INTERSECTION		EXIST. TREE, PALM OR SHRUB
	EXIST. VENT THROUGH ROOF		EXIST. TREE, PALM OR SHRUB TO BE REMOVED
<td>EXIST. WITH</td> <td></td> <td>EXIST. HEDGE (AS NOTED)</td>	EXIST. WITH		EXIST. HEDGE (AS NOTED)
<td>EXIST. WATER, WEST</td> <td></td> <td>EXIST. STORM DRAIN PIPE</td>	EXIST. WATER, WEST		EXIST. STORM DRAIN PIPE
<td>EXIST. WEST/BOUND</td> <td></td> <td>EXIST. NEW STORM DRAIN PIPE</td>	EXIST. WEST/BOUND		EXIST. NEW STORM DRAIN PIPE
<td>EXIST. WELDED IRON</td> <td></td> <td>EXIST. SANITARY CLEAN OUT</td>	EXIST. WELDED IRON		EXIST. SANITARY CLEAN OUT
<td>EXIST. WATER METER</td> <td></td> <td>EXIST. SANITARY CLEAN OUT</td>	EXIST. WATER METER		EXIST. SANITARY CLEAN OUT
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. MANHOLE AS NOTED</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. MANHOLE AS NOTED
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. MANHOLE TO BE BROUGHT TO GRADE</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. MANHOLE TO BE BROUGHT TO GRADE
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. NEW MANHOLE</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. NEW MANHOLE
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. DRAINAGE DRIVE</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. DRAINAGE DRIVE
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. SLOPES</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. SLOPES
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. NEW SLOPES</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. NEW SLOPES
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. ELEVATION</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. ELEVATION
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. NEW ELEVATION</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. NEW ELEVATION
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. GAS LINE</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. GAS LINE
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. NEW GAS LINE</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. NEW GAS LINE
<td>EXIST. WEST/BOUND IRRIGATION AND DRAINAGE</td> <td></td> <td>EXIST. NEW DOWN GUTTER</td>	EXIST. WEST/BOUND IRRIGATION AND DRAINAGE		EXIST. NEW DOWN GUTTER

**NOTES:**  
1) THIS IS A STANDARD ABBREVIATION AND LEGEND SHEET. THEREFORE, SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE DRAWINGS.  
2) CONTACT THE ENGINEER FOR ABBREVIATIONS NOT LISTED OR REFER TO ABBREVIATIONS FOR USE ON DRAWINGS AND TEXT PUBLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).

**SECTION AND DETAIL STANDARDS:**

DETAIL (NUMERAL) DESIGNATION ON DRAWING WHERE DETAIL IS TAKEN  
SECTION (LETTER) DESIGNATION ON DRAWING WHERE SECTION IS TAKEN. ARROW INDICATES DIRECTION OF SECTION.  
**SCREENING:**  
SCREENED ELEMENTS ON AREA MAPS REPRESENT EXISTING FACILITIES OR ELEVATIONS.  
SCREENED BACKGROUNDS ON OTHER DRAWINGS CAN REPRESENT EXISTING FACILITIES OR FACILITIES TO BE CONSTRUCTED UNDER THIS CONTRACT, WHICH, IF DRAWN IN SOLID LINES, WOULD OBSCURE THE PARTICULAR DETAILS BEING SHOWN. CONSULT THE ENGINEER IF SCREENING OF ANY ELEMENTS IS NOT SELF-EXPLANATORY.  
**STANDARD DETAILS:**  
STANDARD DETAIL CALLOUTS ARE SHOWN TO INDICATE DETAIL REQUIRED AT SPECIFIC LOCATIONS. AT ALL LOCATIONS WHERE A STANDARD DETAIL CALLOUT IS NOT SHOWN, THE CONTRACTOR SHALL USE THE STANDARD DETAIL MOST APPLICABLE AND CONSISTENT WITH OTHER WORK UNDER THIS CONTRACT.



**JAMES DAVEY AND ASSOCIATES  
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1022 W. 24th Street, Suite 2 - YUMA, AZ 85364 - (927) 752-9228

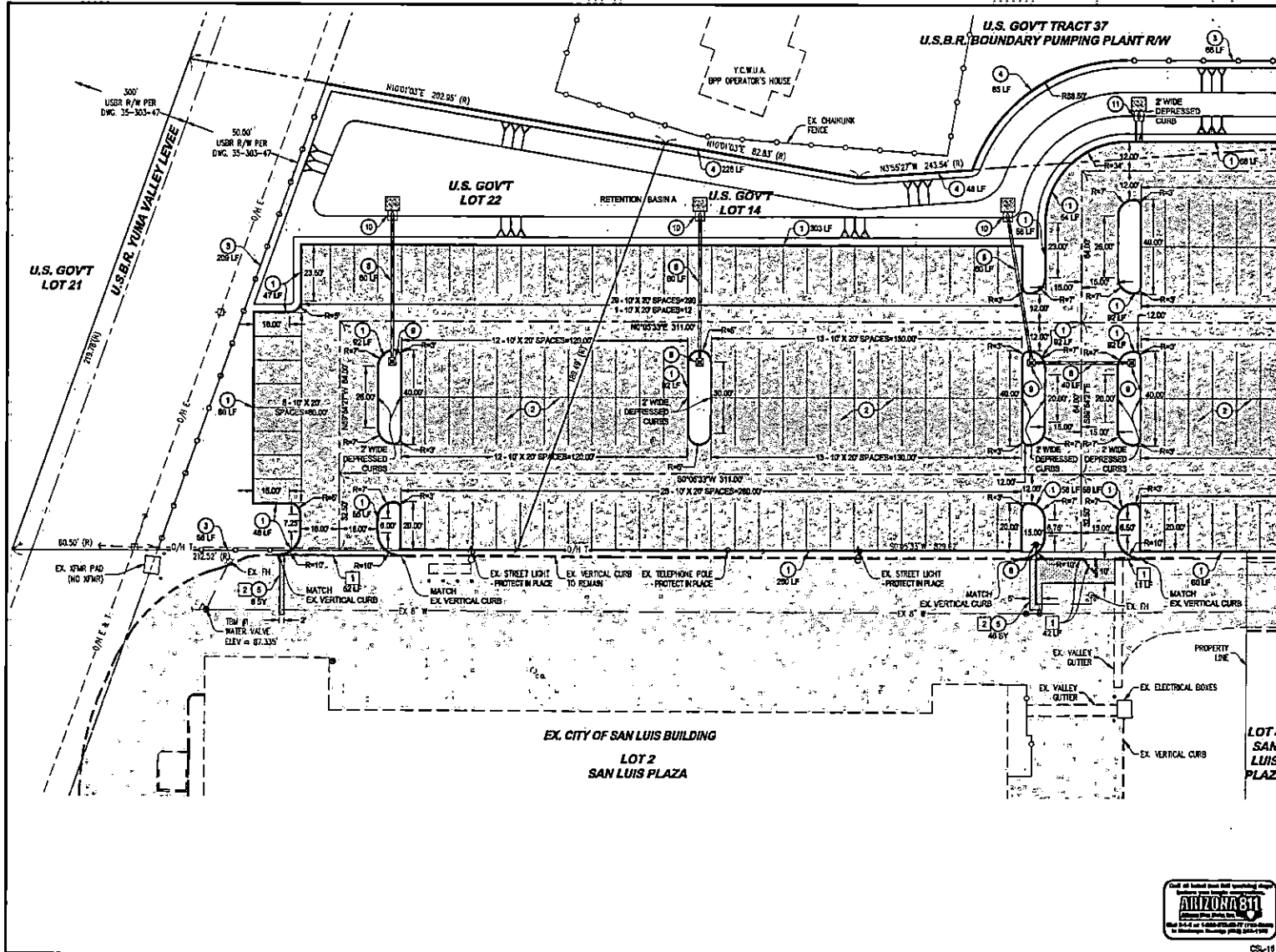
**CITY OF SAN LUIS  
PARKING LOT ADDITION PROJECT.**

**LEGEND & ABBREVIATIONS**

	PREPARED FOR: CITY OF SAN LUIS COMMUNITY DEVELOPMENT SAN LUIS, AZ 85349 (927) 341-8584
<td>DESIGNED BY: J.V.D.</td>	DESIGNED BY: J.V.D.
<td>DRAWN BY: O.J.Z.</td>	DRAWN BY: O.J.Z.
<td>APPROVED BY: J.V.D.</td>	APPROVED BY: J.V.D.
	SHEET 0-2
	NOVEMBER 18, 2017



CONTRACT NO. 18-07-34-L1923  
EXHIBIT A



REMOVAL NOTES	UM	QTY
1 REMOVE EX. VERTICAL CURB	LF	106
2 REMOVE EX. WALK PAVEMENT (ANY DECKNESS)	SY	32

CONSTRUCTION NOTES	UM	QTY
1 6" VERTICAL CURB (CITY OF YUMA STD. No. 5-100)	LF	1988
2 6" ABC PAVING	SY	6243
3 6" H CHAINLINK FENCING	LF	634
4 6" H CMU WALL	LF	381
5 3-1/2" AC 6" ABC PAVING	SY	62
6 RELOCATE EX. P/A	EA	3
7 3-1/2" AC 6" ABC PAVING	SY	6243
8 12" SDR 35 PVC PIPE	LF	230
9 GRATED INLET	EA	4
10 OUTLET HEADWALL WITH R/R-RAP	EA	3
11 SPILLWAY R/R-RAP	EA	1

**RETENTION BASIN A**  
 CONSTRUCTION AREA 72,000 S.F.  
 (INCLUDE N 1/2 YUMA VALLEY LEVEE)  
 REQUIRED RETENTION = 72,000 S.F. X 2.53" / 12" = 15,811 C.F.  
 RETENTION PROVIDED = (18,254 S.F. (TOP AREA) +  
 6,440 (BOTTOM AREA) / 2 X 2' DEEP = 18,694 C.F., 18,694  
 C.F. RETENTION PROVIDED = 15,811 C.F. RETENTION  
 REQUIRED = 0.8 X (1.36 FACTOR OF SAFETY)

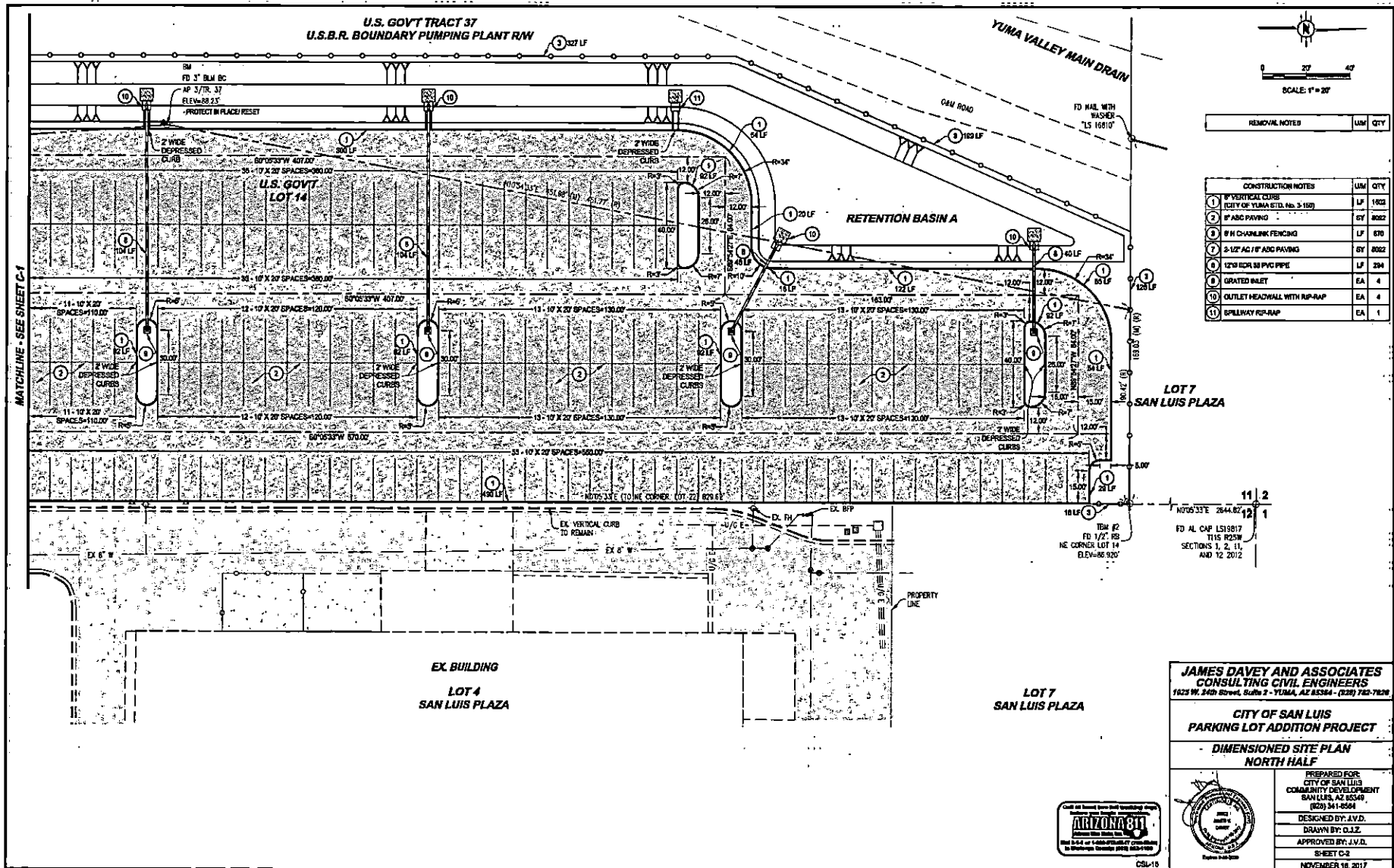
REV. 1 - REVISED LENGTH OF WALL - 11-18-2017  
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**CITY OF SAN LUIS**  
**PARKING LOT ADDITION PROJECT**  
**DIMENSIONED SITE PLAN**  
**SOUTH HALF**



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 APPROVED BY: J.V.D.  
 SHEET C-1  
 NOVEMBER 18, 2017

MATCHLINE - SEE SHEET C-3

**CONTRACT NO. 18-07-34-L1923**  
**EXHIBIT A**

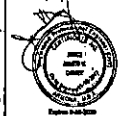


REMOVAL NOTES	UNIT	QTY
---------------	------	-----

CONSTRUCTION NOTES	UNIT	QTY
1 8" VERTICAL CURB	LF	1923
2 8" ABC PAVING	SY	8022
3 8" W CHAINLINK FENCING	LF	670
4 2-1/2" AG 1" ADD PAVING	SY	8022
5 12" SCH 80 PVC PIPE	LF	234
6 GRATED WALET	EA	4
7 OUTLET HEADWALL WITH RIP-RAP	EA	4
8 SPILLWAY RIP-RAP	EA	1

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CITY OF SAN LUIS  
 PARKING LOT ADDITION PROJECT  
 DIMENSIONED SITE PLAN  
 NORTH HALF

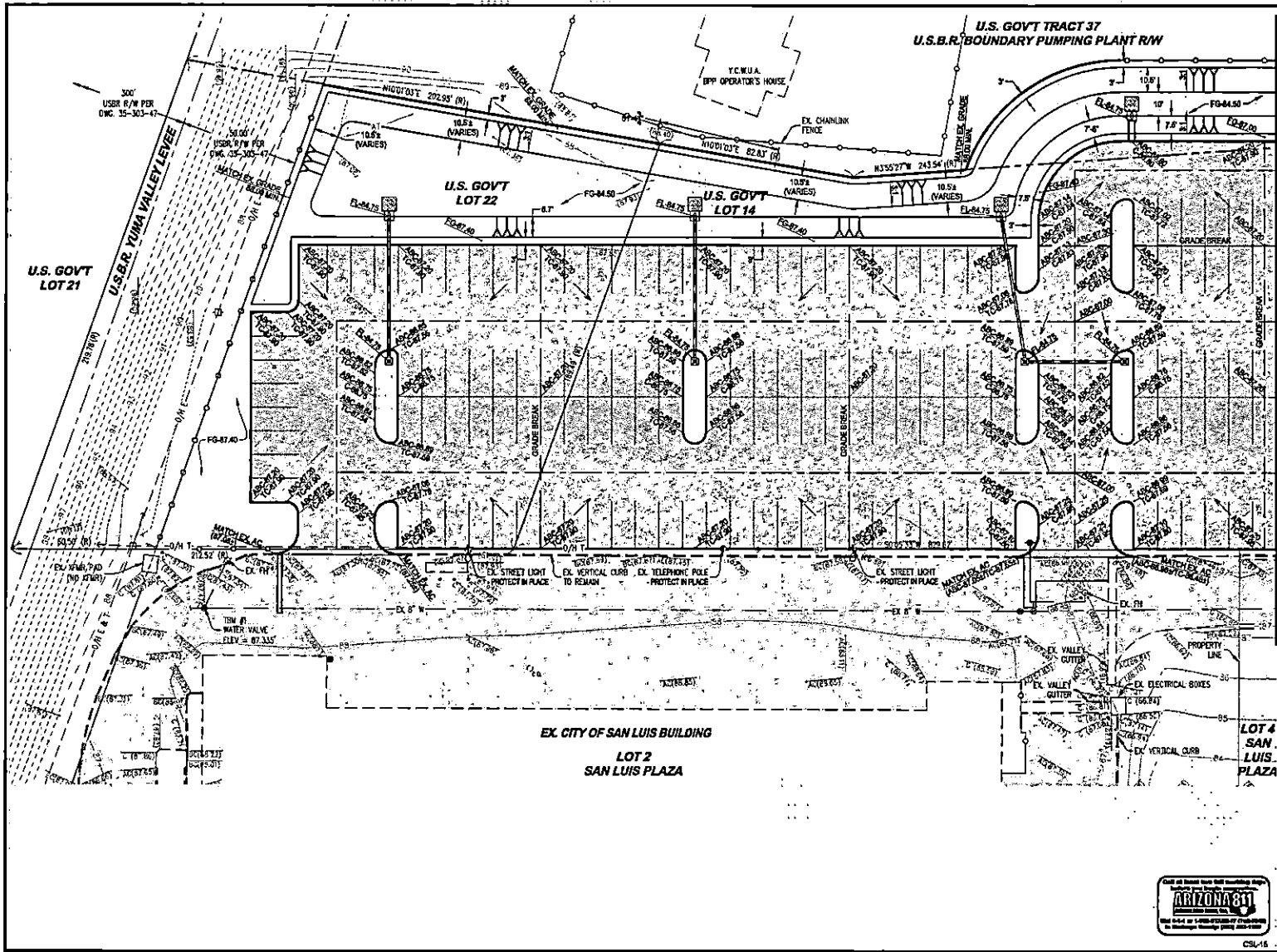


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 APPROVED BY: J.V.D.  
 SHEET C-2  
 NOVEMBER 16, 2017



CSL-15

**CONTRACT NO. 18-07-34-L1923**  
**EXHIBIT A**



MATCHLINE - SEE SHEET C4

REV. 1 - REVISED LENGTH OF WALL - 11-18-2017  
**JAMES DAVEY AND ASSOCIATES**  
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**CITY OF SAN LUIS**  
**PARKING LOT ADDITION PROJECT**  
**GRADING AND PAVING PLAN**  
**SOUTH HALF**



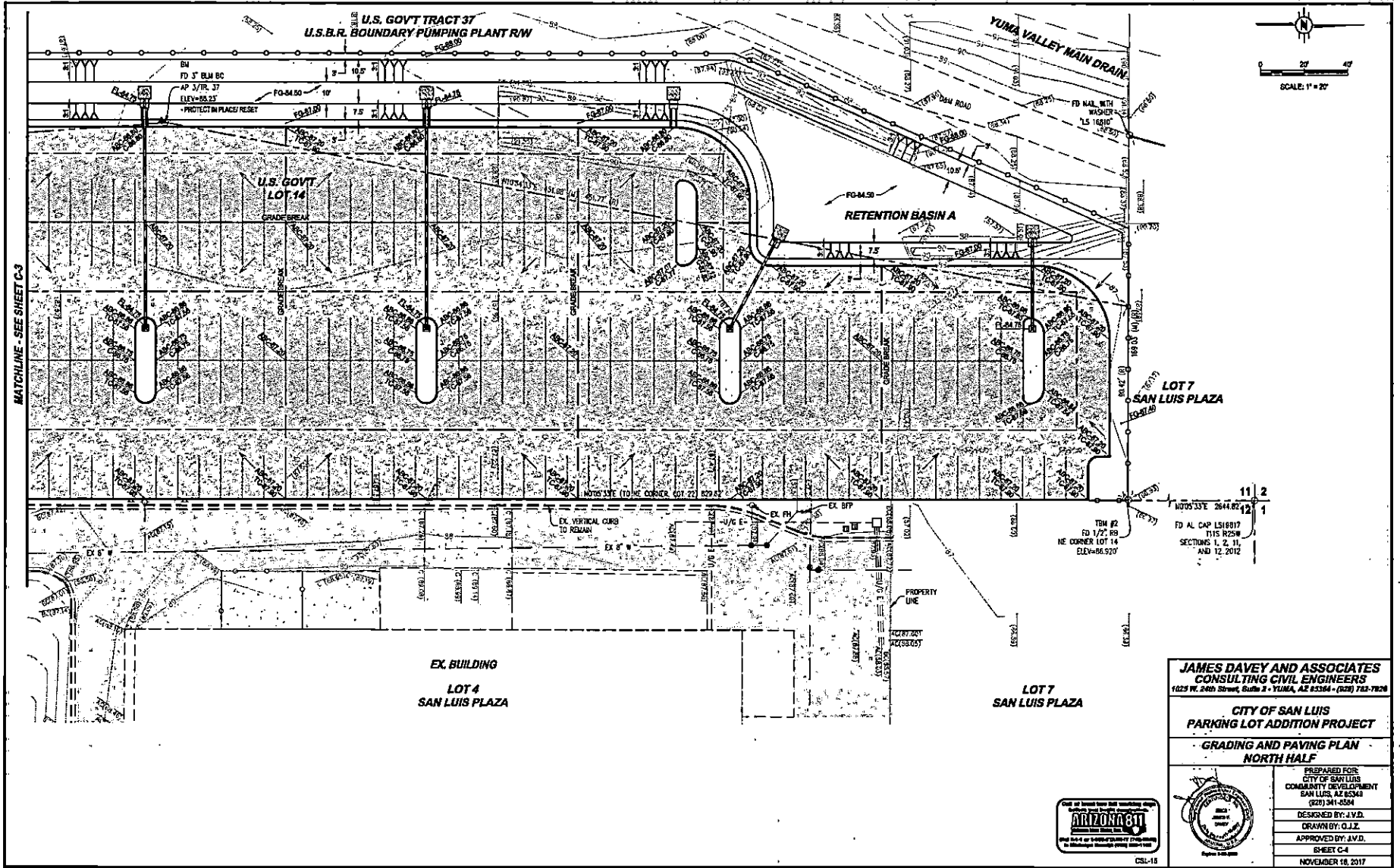
PREPARED FOR:  
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 (928) 341-8594  
 DESIGNED BY: J.V.D.  
 DRAWN BY: O.J.Z.  
 APPROVED BY: J.V.D.  
 SHEET C-3  
 NOVEMBER 15, 2017



CSL-15

CONTRACT NO. 18-07-34-L1923

EXHIBIT A

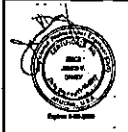


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**CITY OF SAN LUIS**  
**PARKING LOT ADDITION PROJECT**  
**GRADING AND PAVING PLAN**  
**NORTH HALF**

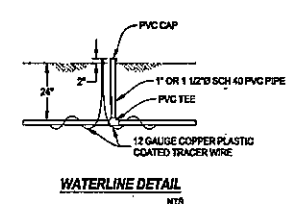
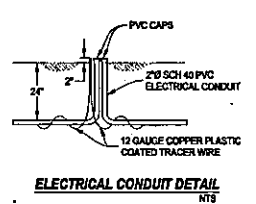
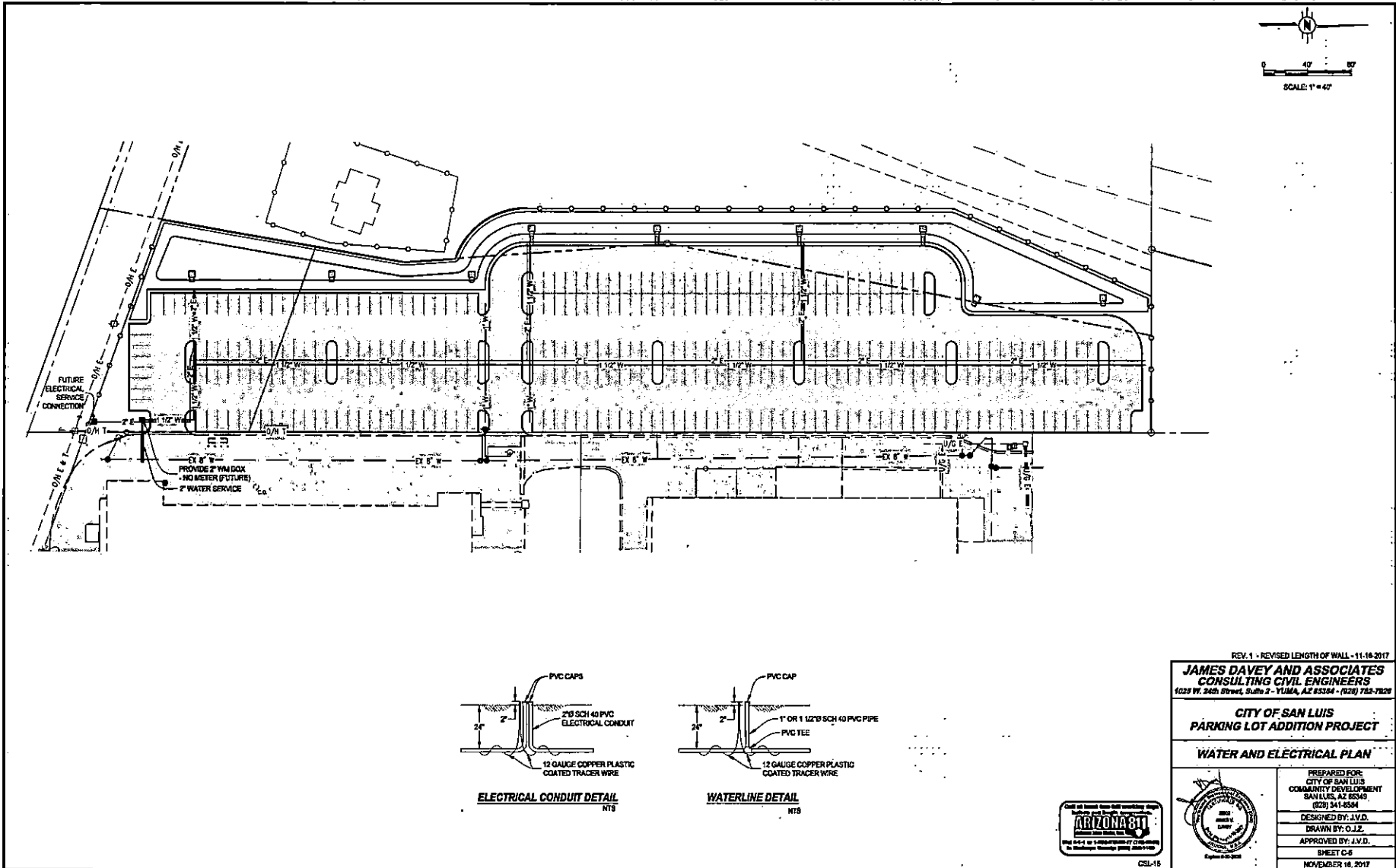
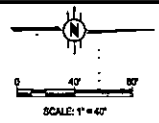
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(928) 941-0384

DESIGNED BY: J.V.D.  
DRAWN BY: O.L.Z.  
APPROVED BY: J.V.D.  
SHEET C-4  
NOVEMBER 16, 2017



CSL-18

**CONTRACT NO. 18-07-34-L1923**  
**EXHIBIT A**



REV. 1 - REVISED LENGTH OF WALL - 11-16-2017

**JAMES DAVEY AND ASSOCIATES**  
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**CITY OF SAN LUIS**  
**PARKING LOT ADDITION PROJECT**

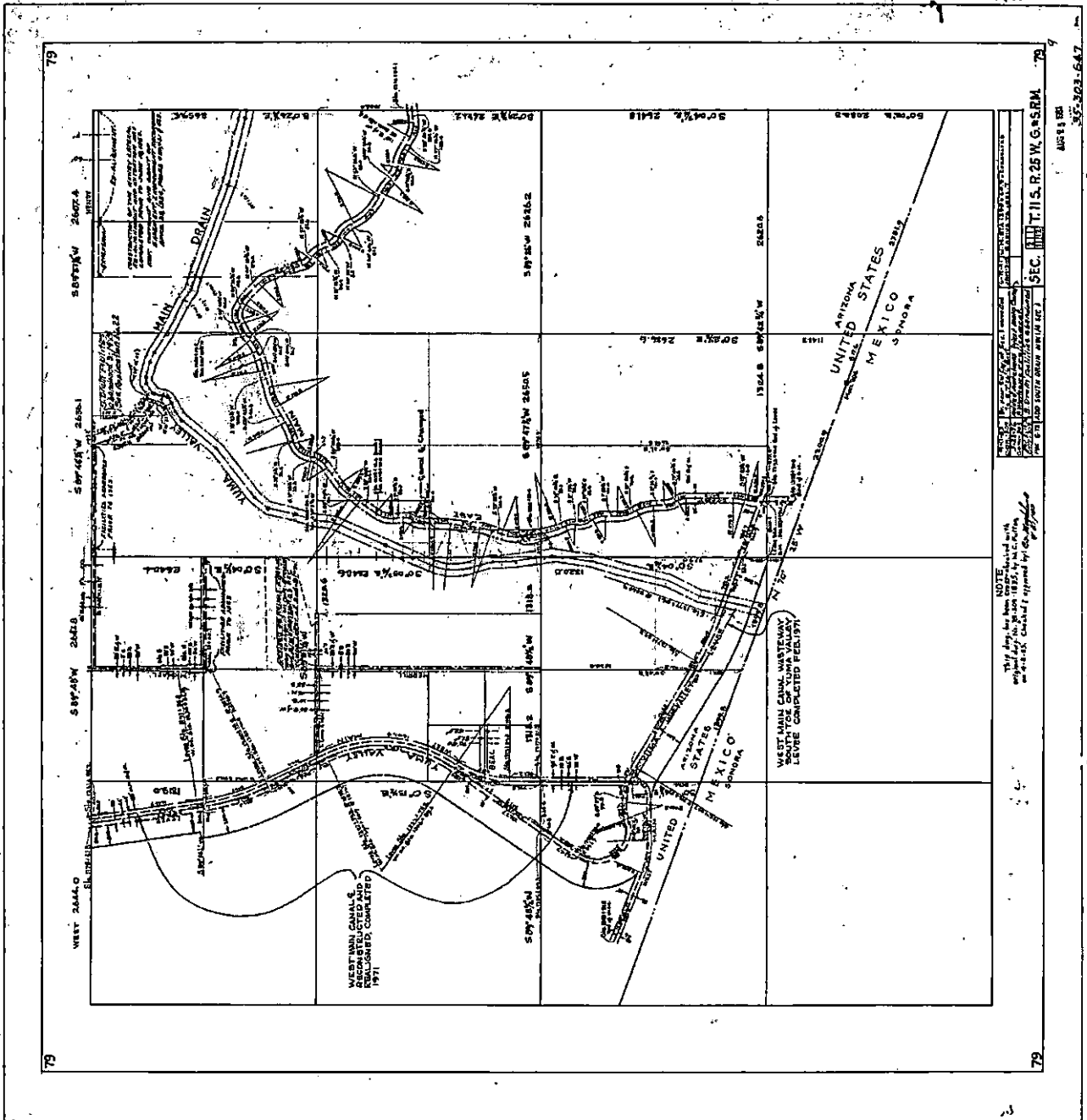
**WATER AND ELECTRICAL PLAN**



PREPARED FOR:  
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DESIGNED BY: J.V.D.  
 DRAWN BY: O.J.Z.  
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 SHEET C-6  
 NOVEMBER 18, 2017

CSL-15



**EXHIBIT B**  
**CONTRACT NO. 18-07-34-L1923**



**Parking Lot Location**

Archibald St

San Luis Plaza Dr



500 ft

**EXHIBIT C**  
**CONTRACT NO. 18/07-34-L1923**

Google Earth

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# RECLAMATION

*Managing Water in the West*

## Engineering and O&M Guidelines for Crossings

Bureau of Reclamation Water Conveyance Facilities  
(Canals, Pipelines, and Similar Facilities)



U.S. Department of the Interior  
Bureau of Reclamation  
Technical Service Center  
Denver, Colorado

April 2008  
**EXHIBIT D**  
**CONTRACT NO. 18-07-34-L1923**

## **Mission Statements**

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

# **Engineering and O&M Guidelines for Crossings**

**Bureau of Reclamation Water Conveyance Facilities  
(Canals, Pipelines, and Similar Facilities)**

## Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Official
AOE	authorized operating entity
AWWA	American Water Works Association
CFR	Code of Federal Regulations
CPS	cathodic protection system
DOT	Department of Transportation
HDD	horizontal directional drilling
kV	kilovolt(s)
MERL	Materials Engineering and Research Laboratory
O&M	operations and maintenance
Reclamation	Bureau of Reclamation
ROW	right-of-way
WB-67	67-foot wheelbase

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Appendix A     General Requirements for Installing Bored and Jacked Pipe Undercrossings

Appendix B     Guidelines – Removal of Trees and Other Vegetative Growth from Earth Dams, Dikes, and Conveyance Features (Appendix B of *Review and Operation and Maintenance Program Field Examination Guidelines*)



## **1.0 PURPOSE**

These are general guidelines for Bureau of Reclamation (Reclamation) offices to follow when reviewing the engineering and operations and maintenance (O&M) factors in outside entity requests for authorization to cross (encroach upon) Reclamation lands that contain project features such as levees, canals, pipelines, or other water conveyance facilities owned or administered by Reclamation. These guidelines include a general overview of the permitting process administered by Reclamation Lands Groups for allowing a particular use on lands where Reclamation holds a fee or an easement right-of-way interest. These engineering and construction recommendations are minimum guidelines for engineers to use in reviewing and evaluating these portions of the applications.

## **2.0 GENERAL PERMIT INFORMATION**

Applicants requesting to cross any Reclamation land, facility, or water body must obtain a written land use authorization from Reclamation. Requirements for obtaining a use authorization to cross Reclamation project land and water surfaces are in the Code of Federal Regulations (CFR) at 43 CFR 429 and Reclamation Manual LND 08-01. The applicant must complete the *Standard Form (SF) 299*, “**Application for Transportation and Utility Systems and Facilities on Federal Lands**,” or similar forms in use at the local Reclamation office. The form can be obtained by contacting the involved Reclamation office, or it can be accessed electronically at Reclamation’s Web site at: <<http://www.usbr.gov/pmts/lands>>.

Applicants can contact their local Reclamation office to discuss their proposed use before filing an application for a use authorization.

## **3.0 ENGINEERING AND O&M REVIEW CONSIDERATIONS**

### **3.1 Introduction**

Technical review of the crossing evaluates impacts on any existing Reclamation facility and **does not determine the adequacy of the crossing design for the applicant’s intended purpose.**

The use authorization or consent document specifies criteria which, if followed, would not be deemed unreasonable interference. These review guidelines are strictly limited to those criteria which:

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- Protect Reclamation's facility and/or appurtenant facility from damage
- Ensure unrestricted flow and quality of water in Reclamation's facility
- Do not diminish the ability to perform O&M of Reclamation's facility, including access
- Prevent any burden of liability

These guidelines are provided as recommendations that apply to most Reclamation facilities. Each Reclamation office and/or authorized operating entity (AOE) should apply these guidelines using **sound engineering judgment** that best applies to their facilities and existing conditions. Additional Reclamation guidelines for specific locations (e.g., Central Arizona Project Reach 11 Basin Guidelines) may also apply and may be provided to applicants when necessary. These guidelines are minimums, and local conditions may be more stringent depending on the direct impacts to facilities and lands. AOE's may have additional requirements.

Uses that may be deemed reasonable within Reclamation pipeline easements include greenbelts, asphalt roadways, flexible pavement parking lots, transverse curbs and gutters, and sidewalks. Canals and pipelines may have overhead power and telephone lines (but not their supporting poles), transverse fences with gated openings (no walls), and similar surface and overhead structures.

### 3.2 General

The following individual items should be addressed by the applicant and evaluated by Reclamation and/or AOE as they may affect the Reclamation facility's engineering and O&M aspects. If unusual conditions are proposed for the encroaching structure or unusual field conditions within a Reclamation facility right-of-way (ROW) are encountered, Reclamation reserves the right to impose more stringent criteria than prescribed in these guidelines.

1. Structures that should not be constructed on Reclamation pipeline or canal ROW (whether fee owned or easement) include foundations, buildings, garages, carports, trailers, street light standards, supports for large signs, walls, longitudinal fences (except security/safety fences), power or telephone poles, and similar surface structures.
2. Prior to construction, a joint inspection should be conducted and the condition of existing facilities documented. Reclamation's ROW should be restored to pre-existing conditions following completion of work.

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3. When applications are requesting public use of trails and maintenance roads adjacent to or crossing Reclamation canals, these facilities should be fenced for safety to separate them from open canal water, except when Reclamation's ROW is used as a greenbelt and the applicant accepts legal hazard responsibility. Trails and maintenance roads should be fenced on an as-needed basis whenever such fencing is warranted for public safety, restricted access, security, etc. If a fence is allowed within Reclamation's ROW, Reclamation should approve the fence materials. Any gates allowed within Reclamation's ROW should be at least 16 feet wide. Reclamation will be provided with full access through any fences or gates.
4. Prior to construction of any structure that encroaches within a Reclamation pipeline or canal ROW, a "pothole excavation" should be made to determine the locations of any existing Reclamation and non-Reclamation facilities and their appurtenant features that may be affected. Potholing is the practice of digging test holes to expose underground utilities to determine the horizontal and vertical location of the utility.

All work within 18 inches of the facility should be done using hand-held tools only. The excavation should be made by or in the presence of Reclamation and/or AOE personnel. The presence of a Reclamation and/or AOE inspector may be required throughout the excavation process, but this presence in no way relieves the applicant or their contractor of responsibility.

The resultant elevation information should be delineated on the profile view and labeled as:

**POTHOLED ELEVATION XX.X**  
Surface Elevation XX.X

The pothole excavation should be filled in, or a safety fence installed, prior to departing the site each day.

5. If Reclamation facilities need to be modified to avoid adverse impacts from the applicant's crossing facility, the applicant should be responsible for the cost of such modifications.

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6. A temporary permit may be required for visual inspections, ground and aerial surveys,<sup>1</sup> or potholing that requires physical entrance onto a Reclamation facility. **A use authorization or consent document issued by Reclamation and/or AOE should be obtained prior to entering or crossing Reclamation's ROW for any activity.**
7. Applications should include a project description, calculations, specifications, and detailed construction plans showing plan views, profiles and sections, and grading plans of proposed work within or adjacent to Reclamation's ROW. Plans should show an easily recognizable boundary (tied to a known corner) and Reclamation's ROW and Reclamation stationing or mile post designation.

All Reclamation facilities should be shown and labeled (e.g., "Centerline of xx-inch Reclamation Pipeline," "Reclamation Communication and Control Cable," etc.) The type and weight of the construction equipment crossing Reclamation pipelines, roads, and bridges as well as the crossing locations should be included. Additional information, as identified in following individual specific feature sections of these guidelines, should also be included with the application for review.

Any engineering or land survey drawing should contain the appropriate registered engineer's or land surveyor's stamp and signature. A construction schedule outlining the anticipated duration of the construction should be submitted. A minimum of two<sup>2</sup> copies of the application (including calculations, specifications, and plans) should be submitted to Reclamation and/or AOE for review and approval.

8. For crossings of all Reclamation facilities, Reclamation and/or AOE personnel familiar with the facilities (including cathodic protection systems) will obtain and provide copies of existing files showing information about existing buried facilities (center of pipeline, depth of cover, size of pipe, class of pipe, etc.) to the applicant.
9. Existing Reclamation facilities (e.g., canal lining, canal check structure, turnout structure, etc.) and appurtenances (e.g., existing blow-offs, air valves, vents, manholes, and/or cathodic protection test stations) and existing non-Reclamation facilities on Reclamation's ROW (e.g., petroleum pipelines, natural gas pipelines, communications lines, powerlines, water lines, sewer lines, storm drain lines, etc.) **should be protected** in place prior to and during construction.

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<sup>1</sup> Aerial surveys require placing on-the-ground survey control markers.

<sup>2</sup> Revise per local Reclamation office and/or AOE practice.

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The applicant and/or their contractor may be liable for all damages to Reclamation facilities and appurtenances as a result of construction and for any other damages or losses suffered by Reclamation or its water contractors, including power, irrigation, municipal and industrial water supply, and communication losses.

10. Trench excavation should comply with the most current Occupational Safety and Health Administration standards or Reclamation Health and Safety Standards, whichever are more stringent. Trench backfill should be placed in 4- to 6-inch lifts if hand compacted or no more than 8-inch lifts if power compacted. Trench backfill within Reclamation's ROW should be compacted to 95 percent relative compaction (ASTM D 698, Standard Proctor) (or 90 percent of ASTM D 1557). Mechanical compaction using heavy equipment (greater than 2,000 pounds) should not be used within 18 inches of the Reclamation pipeline. Flowable fill (or controlled low strength material) should be substituted for compacted pipe embedment under canals and may be used when crossing pipelines.
11. Erosion control measures, including re-vegetation, should be implemented after completing construction.
12. If existing drainage features are to be modified during construction, detailed drawings showing the proposed drainage replacement/restoration should be submitted with the application for review and approval. The applicant is responsible for the care and handling of storm water runoff both during and after construction.
13. The applicant should not divert surface runoff<sup>3</sup> toward Reclamation canal or canal embankments. The 100-year storm<sup>4</sup> surface runoff should use detention basins outside of Reclamation's ROW. Lined drainage channels should be designed to transfer flow from the detention basins to the existing cross drainage facilities that drained the original area. Also refer to "4.4 Storm Water Cross Drainage."
14. Proposed temporary or permanent modifications to the existing cover over Reclamation pipelines should be subject to review and approval by Reclamation and/or AOE. Design parameters for roadway, parking lot, and driveway crossings over the pipe should also be subject to review and approval by Reclamation and/or AOE.

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<sup>3</sup> Subdivision or commercial development on the uphill side of canals that pave large areas and have large roof areas will greatly increase peak storm runoff—most city development requires retention basins. Applicants should provide the same retention basins that are required for similar development projects.

<sup>4</sup> Revise per Reclamation field office for specific canal if a higher storm frequency is required.

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15. When a Reclamation pipeline system being crossed has pipe with an "A" cover pipe designation (less than 5 feet of earth), the applicant is to analyze the crossing to show "A" pipe load carrying capability exists to meet their carrying requirements or replace the "A" pipe with pipe of sufficient load carrying capability.
16. Reclamation's ongoing O&M activities should not be disrupted during construction. The primary or secondary operating road should be kept available for Reclamation and/or AOE use at all times.
17. Detectable warning tape may be required over below-ground utilities. Refer to "3.3 Detectable Warning Tape."
18. The points where the proposed utilities enter and exit Reclamation's ROW should be plainly and permanently marked by sign posts extending 5 feet above grade. Applicants should provide sign posts directly above their utilities and at all angle points within Reclamation's ROW. The distance between adjacent sign posts should not exceed 500 feet. Sign posts should contain the name of owner/operator, contents of the pipeline, utility identification, and emergency contact telephone number. Sign posts for angle points that lie within roads or canals should be offset and have a reference noted. The locations of the sign posts should be shown on the plans.
19. Following completion of work, applicants should provide as-built drawings of their facilities on Reclamation's ROW. Reclamation as-built drawings are to be updated by the appropriate Reclamation office and/or AOE to reflect the crossing. As-built drawings may be maintained by the AOE, but should remain accessible to Reclamation upon request.

### 3.3 Detectable Warning Tape

Detectable warning tape may be required over below-ground utilities situated within Reclamation's ROW and should be a minimum of 18 inches above the utility and between 18 and 30 inches below the ground surface. Warning tapes should conform to the following specifications:

- a. For potable water lines, the warning tape should be a 3-inch-wide blue detectable tape imprinted with **"CAUTION BURIED POTABLE WATER LINE."**
- b. For nonpotable water lines, the warning tape should be a 3-inch-wide purple detectable tape imprinted with **"CAUTION BURIED NONPOTABLE WATER LINE."**

- c. For sewer and storm drain lines, the warning tape should be a 3-inch-wide green detectable tape imprinted with “**CAUTION BURIED (type) LINE.**”
- d. For gas, oil, and steam chemical lines, the warning tape should be a 3-inch-wide yellow detectable tape imprinted with “**CAUTION BURIED (type) LINE.**”
- e. For telecommunications, telephone, and television conduit(s), the warning tape should be a 3-inch-wide orange detectable tape imprinted with “**CAUTION BURIED (type) CONDUIT.**”
- f. For electrical, street lighting, and traffic signal conduit(s), the warning tape should be a 3-inch-wide red detectable tape imprinted with “**CAUTION BURIED (type) CONDUIT.**”

## **4.0 SPECIFIC FEATURE REVIEW GUIDELINES**

### **4.1 Bridges**

- 1. New bridge crossings (vehicular, pedestrian, and utility) should be perpendicular (between 70 and 90 degrees) to the centerline of the water conveyance facility and at locations approved by Reclamation and/or the AOE. Exceptions to the policy may be considered on an individual basis.
- 2. Public use bridges in urban areas should be spaced no closer together than 1/3 mile (about 4 blocks or 1,700 feet) apart. This is to ensure O&M operations are not overly restricted.
- 3. Bridge crossings should be of free span design. Consideration of any anticipated (known or ongoing) canal subsidence issues, anticipated raising of the canal lining, or anticipated increases in the canal’s high water level should be made. The minimum vertical clearance between the bottom of the superstructure and the top of the canal lining should be 3 feet. For unlined canals, the vertical clearance may be measured to the high water level. If this minimum clearance is reduced by subsidence or by future Reclamation modifications to the canal lining, the minimum clearance should be re-established at the applicant’s expense. The minimum horizontal clearance from the face of the abutment to the top of the canal lining should be 5 feet. For unlined canals, the horizontal clearance may be measured to the high water level.

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These clearances are suggested to minimize impact on the canal section during construction and future inspections and O&M. Applicants may request to re-construct a canal section if Reclamation's operations are impacted by close construction during periods when the canal is normally unwatered. If so, vertical clearances may be reduced to 1 foot and horizontal clearance to 3 feet.

4. Canal O&M roads should intersect public roads at bridges at right angles for proper visibility. This may require the applicant to acquire additional ROW for use if the existing canal ROW is not sufficient. American Association of State Highway and Transportation Official (AASHTO) criteria for sight distances at the intersection of O&M roads and roadways at new bridges should be met to allow O&M vehicles to cross them safely.
5. Driving piles at concrete-lined canals should not be permitted. Any abutment foundation support piles, at concrete-lined canals, should be drilled and cast-in-place.

At a minimum, the applicant's drilling and piling plan should include:

- Drilling methods and equipment
- Methods for preserving existing foundation material
- Methods and equipment to determine the presence of quick soil conditions or scouring and caving
- The proposed method for casing installation and removal if casings are used
- Methods and equipment for accurately determining the depth of concrete and actual or theoretical volume placed

At a minimum, the applicant's contingency plan should include:

- Means to repair in a certain time
- Minimum flows after event
- Review of geotechnical conditions surrounding the pile locations
- Assessment of how the proposed mitigations will address geotechnical conditions
- Methods for restoring foundation material

## Engineering and O&M Guidelines for Crossings

- A list of material, equipment, and personnel with qualifications to be used during mitigation work
  - A seal from a Professional Engineer on all relevant plans and drawings
6. The submitted plan drawings for the bridge should contain the following information:
    - a. Superstructure, abutments, railings, embankments, and drainage, including details and sections
    - b. Type of materials (concrete, steel, timber, etc.) used for different members
    - c. Details of cast-in-place foundation piles, if any, on both sides of the canal
    - d. The elevation of the bottom of the superstructure and the clearance between the top of the canal lining (or high water level if unlined canal) to the superstructure or bottom of deck slab, whichever is lowest
    - e. Design loadings
    - f. Design standards on which the bridge is based (AASHTO, etc.)
  7. The calculations and specifications for the bridge should be submitted to Reclamation and/or AOE for review.
  8. The right lane turn radius from the new road onto a Reclamation operating road should comply with the provisions of a 67-foot wheelbase<sup>5</sup> (WB-67) truck turning template in the AASHTO manual on Geometric Design of Highway and Streets.
  9. Details of any proposed utilities to be attached to an existing bridge include:
    - a. Anchor bolt locations should not intercept the critical reinforcing steel of the bridge.

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<sup>5</sup> The field office should adjust these provisions according to anticipated needs.

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- b. Utilities should be placed and anchored under bridge decks and through utility openings, if they are present. The utility should be placed off center in the utility opening, if possible, to allow for future utility additions.
  - c. If an expansion joint is used in the pipeline, the joint should be placed near the bridge deck expansion joint.
  - d. Holes through bridge concrete or abutment and retaining walls for passage of utilities should be allowed by core drilling. The annular space between the utility and core hole surface should be completely filled with an elastomeric sealant to prevent loss of material or water piping from behind the wingwalls and abutments.
  - e. Submit calculations showing the effects of the weights of the proposed utilities on the load carrying capacity of the bridge for Reclamation review.
  - f. Intermediate supports for the utility should withstand the same seismic load considerations as the bridge.
  - g. Load limit signs should be placed adjacent to the bridge, as required under AASHTO criteria.
  - h. Beam guardrails should be installed at bridges and bridge approaches, as required under AASHTO criteria.
10. The applicant will be responsible for changes to Reclamation existing ROW; bridge O&M approach roads; existing fencing, gates, and signs; and the addition of new fencing, O&M gates, cattle guards, signs, etc.

## 4.2 Landscaping

- 1. No landscaping or other changes in ground surfaces within Reclamation pipeline and canal/lateral ROW should be made without advance written permission of Reclamation through the application process. Landscaping changes may (1) limit, prevent, or hamper O&M access; (2) increase the costs of operations and maintenance of the facility; (3) impact facility reliability; or (4) create a public nuisance or liability issue.
- 2. Open space with natural hiking trails and walkways may be permitted if vehicle access to Reclamation pipeline and appurtenant facilities for patrol and maintenance is provided.

3. The following may apply within Reclamation's ROW:
  - a. The easement may be used as a greenbelt upon Reclamation approval.
  - b. Ground cover and shrubs are permitted upon Reclamation approval.
  - c. Trees and vines should not be allowed. See Appendix B of *Review of Operation and Maintenance Program Field Examination Guidelines* (reproduced as appendix B at the end of these guidelines).
4. All temporary or permanent changes in ground surfaces within Reclamation pipeline and canal ROW are considered encroaching structures and are handled as such. Earthfills and cuts on adjacent property should not encroach onto Reclamation pipeline and canal ROW. Excavations of adjacent property (even property not within Reclamation's purview) within the projection of the Reclamation embankment line may impact embankment stability and should be evaluated.
5. Permanent landscaping structures should not be allowed within the exterior limits of a Reclamation linear facility ROW (fee owned or easement).
6. Pressurized lawn and park sprinkler irrigation lines (3-inch maximum size) and isolation valves within Reclamation easements that run parallel to a Reclamation pipeline should be installed at least 15 feet from the edge of the Reclamation pipeline.

Irrigating lawns and flower beds along canal embankments should not overwater the area or threaten the embankment stability.

### 4.3 Roadway Crossing

**Note:** This type of encroachment also includes parking areas and recreational trails.

1. The applicant should submit a grading plan as part of the application.
2. If the roadway crosses a Reclamation pipeline system that has a cover pipe designation of "A," refer to "3.2 General."

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3. If the applicant intends to modify existing drainage features during construction, detailed drawings showing the proposed drainage replacement/restoration should be submitted with the application for review and approval. (Refer to "3.2 General.")
4. If the proposed roadway includes a bridge crossing over a Reclamation canal or pipeline, Reclamation and/or AOE should review and approve the vertical clearance and location of the abutments. (Refer to "4.1 Bridges.")
5. Streets, roads, or parking areas crossing Reclamation pipeline easements are permissible. All streets, roads, and parking surfaces are to be asphalt or other flexible pavement. Depressed curbs or driveways should be provided for Reclamation vehicular access when new roads cross Reclamation pipelines or canals.
6. Roadway ditch drainage should not be allowed to flow into the canal. Drainage should be retained and released in a controlled way to maintain peak discharges that are less than any peak historical runoff rate before these modifications. Applicants should direct drainage to an original sub-basin cross drainage culvert or overchute. (Refer to "3.2 General" and "4.4 Storm Water Cross Drainage.")
7. If existing roadway embankments are to be widened, the work should be conducted in accordance with the provisions of construction in the applicable State Department of Transportation (DOT) Standard Specifications.

### 4.4 Storm Water Cross Drainage

1. Upslope development impacts historic natural drainage volumes and peak flow rates. Development re-grades and revises drainage sub-basins. Revised ground cover from constructing roads, parking areas, and buildings may result in the need to change the cross drainage features (culverts and/or overchutes) along Reclamation canals.
2. A hydrologic study should accompany all plans that modify the existing drainage across and/or along Reclamation facilities. The study or report should show the proposed flows of the canal and the associated crossings. The drainage study or report should show that the downstream system can accept the flows without creating any flooding to properties adjacent to or downstream of the canal.
3. All drainage crossings, whether existing or proposed, should carry the peak runoff of a 100-year event while preventing any storm water from entering the canal and/or ponding against the canal embankment.

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4. Urban runoff should not be allowed to enter into, or drain onto, Reclamation's land. All flows generated outside Reclamation's ROW should enter the storm drain system prior to entering Reclamation's ROW. Piped connections are preferred, but concrete-lined channels may be acceptable upon Reclamation's review.
5. The new crossing under a canal should be designed with 3 feet vertical clearance from the top of the cross drainage structure to the bottom of the canal (or liner). The structure should extend completely across Reclamation's ROW.
6. New overcrossings of the canal should have 2 feet of vertical clearance from the top of the liner and 2 feet of horizontal clearance from the support abutments to the outside edge of the canal lining. The O&M road crossing of the cross drainage structure should be structurally capable of withstanding highway-legal vehicle loadings and provide at least 1 foot of cover in the roadway.
7. Pipe crossing barriers should be installed on all pipe overcrossings.
8. All drainage flow should be discharged to a downstream storm drainage system owned, operated, and maintained by a public agency (such as a city or county) or into areas such as channels, roadways, parks, wetland basins, or other non-private lands that can accept the concentrated flows from the drainage crossing.
9. All drainage from upland property should be collected by the applicant's installed system of curbs and inlets within their property and discharged into a non-Reclamation public agency's drainage system.
10. New drainage system designs will not use ponding against the existing canal embankment for temporary detention of storm runoff that will not immediately pass through existing or new crossings.

Proposed permanent detention facilities adjacent to Reclamation's property should include engineered fill beyond the canal ROW to provide, at a minimum, a fill-width maintenance access roadway between the canal property and the basin. The applicant shall submit a geotechnical report verifying that the canal embankments can perform as detention basin embankments. The design should provide for sufficient freeboard to contain the 100-year event within the proposed basin adjacent to Reclamation's property and shall have adequate protection from seepage and erosion.

The ownership and related O&M of the embankments shall be the responsibility of the applicant requesting the crossing.

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11. When grading operations upstream of existing canal drainage crossings are scheduled to take longer than a normal construction season to complete, temporary basins shall be installed. These temporary basins should be designed to detain the 100-year event, capture silt from the disturbed area, and meter the flows across the existing drain crossings without spilling flows into the canal.
12. Unless Reclamation specifies otherwise, the applicant should remove or plug and abandon existing drainage crossings that are not used by the development unless they are shown to provide an additional measure of safety for the canal by reducing the likelihood of spill into the canal caused by extreme runoff flows. Otherwise, these crossings should remain in place for Reclamation's benefit and will not require ownership transfer to a public agency.

These crossings must discharge into the non-Reclamation public agency's storm drainage systems or into areas such as channels, roadways, parks, wetland basins, or other nonprivate lands that can accept the concentrated flows from the drainage crossing in the case of an extreme runoff event.

Grading in Reclamation property should be preserved or revised to direct extreme runoff flows into these unused drainage crossings without allowing said flows to enter into the canal until the crossings reach their capacity.

### 4.5 Subdivision

Urban developments are reaching Reclamation's lands and ROWs. These are general guidelines for accommodating development in subdivisions (refer to "3.2 General" and "4.4 Storm Water Cross Drainage").

1. Permanent structures should not be permitted within Reclamation fee-owned linear ROWs.
2. Open space with natural hiking trails and vegetation may be allowable.
3. Where subdivision development is adjacent to a canal, fencing should include these characteristics:
  - a. Temporary chain link fences must be installed prior to removing any portion of existing fences.

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- b. Upon completion of grading for drainage and other work, fencing should be installed along the subdivision's boundary length of the adjacent ROW plus 150 feet beyond the development's property boundary. The fence should be per project standards and at the applicant's expense.
  - c. The new fence should be located 1 foot outside of Reclamation's ROW. The fence location should be shown on the improvement plans.
4. Use of Reclamation pipeline easements as part of residential subdivision lots should not be allowed. Pipeline easements may be included within the subdivision greenbelt or similar use areas.
5. Drawings should include all proposed improvements (i.e., streets, utilities, landscaping, etc.) within, and adjacent to, Reclamation's ROW.
6. Trees or vines should not be allowed within a Reclamation pipeline or canal ROW. See Appendix B of *Review and Operation and Maintenance Program Field Examination Guidelines* (reproduced as appendix B at the end of these guidelines).
7. Streets, roads, or parking areas using Reclamation easements may be permissible. All streets, roads, and parking surfaces should be asphalt or other flexible pavement. Depressed curbs or driveways should be provided for Reclamation vehicular access when new roads cross Reclamation pipelines or canals.
8. Where fencing is proposed within Reclamation easements, a minimum 16-foot-wide gate should be provided for Reclamation access.
9. Pipelines containing sewage, oil, gasoline, natural gas, or hazardous materials should only cross perpendicular (between 70 and 90 degrees) to the Reclamation pipeline or canal and be installed with the necessary safety measures and separation clearance as required in "4.6 Utility Crossing."
10. Electroliers, posts, etc., should be installed at the maximum distance possible from the edge of the pipeline or canal.
11. If crossing a Reclamation pipeline system that has "A" cover pipe designation, refer to recommendations in "3.2 General."

## 4.6 Utility Crossing

*Note:* All pipelines, electrical, and communication lines and conduits are referred to as “utilities” in these guidelines.

### 4.6.1 Casings

The Reclamation Materials Engineering and Research Laboratory’s (MERL) position is to avoid using casing pipes around metallic carrier pipelines (steel, ductile iron, cast iron, reinforced concrete, pretensioned concrete cylinder, etc.) whenever possible. The experience of the corrosion community in general is that these casings often cause corrosion-control problems. Furthermore, dielectric (plastic, fiberglass, etc.) casings, or even dielectrically coated casings, should not be used. They can shield the carrier pipe from receiving cathodic protection current.

Cathodic protection to a buried metallic pipeline is more trouble free and more certain without a casing pipe. MERL recommends relying on effective corrosion control measures on the carrier pipeline rather than relying on a casing pipe (which may shield cathodic protection current) to direct a leak away from Reclamation property.

### 4.6.2 Overhead Line Crossing

1. Overhead wires across Reclamation pipeline and canal ROWs should be at least 32 feet above all ground levels in the Reclamation ROW. For electrical powerlines of 69 kilovolts (kV) or higher voltage, the minimum clearance should be 40 feet plus 0.25 inch per kV of line-to-line voltage above 450 kV. In any case, the minimum clearance is to be that determined to be needed with an ambient temperature of 120 degrees Fahrenheit.
2. Reclamation has the following requirements for overhead crossings:
  - a. Poles or towers should not be allowed within Reclamation’s ROW.
  - b. Overhead electrical and communication lines should cross perpendicular (between 70 and 90 degrees) to the centerline of the Reclamation facility.
  - c. If necessary, fence grounding is to be provided for existing fence lines, especially under power transmission lines.

3. A marker warning sign should be provided that shows the clearance and electrical line voltage. The warning sign should face oncoming traffic and state, **“DANGER, HIGH VOLTAGE OVERHEAD.”**

#### **4.6.3 Utility Crossing Reclamation’s Canal**

Utility crossings include open ditch laterals, subsurface and surface drains, levees, and similar facilities.

##### **General Requirements:**

1. Utilities crossing Reclamation canals should be designed to cross perpendicular (between 70 and 90 degrees).
2. Pier construction in the canal for new utility crossing(s) should not be allowed. New utility crossings should be free span design.
3. Open cut crossings of Reclamation canals and ditches, when allowed, should require replacing linings to re-establish the original construction style and materials (i.e., disturbed concrete lining panels should be removed in their entirety and replaced, membrane lining and earth or concrete protective cover should be re-constructed, gravel and canal under-drainage systems should be re-established to full working order, etc.) Proposals should be submitted for approval with the crossing permit application.
4. For trench excavation and backfill requirements, refer to “3.2 General.”
5. Boring and jacking of a utility through canal embankments or protective levees should not be permitted. Boring and jacking of a utility should be constructed through the embankment foundation materials. Applicants should make special design and construction considerations with bored crossings under canals containing water during construction. Among these should be using proper bentonite slurry to seal the annulus space between the utility conduit and the boring cavity from canal seepage. Refer to appendix A for more details to be considered.

The applicant’s drilling plan should cover:

- a. Drilling methods and equipment
- b. Methods for preserving existing foundation material
- c. Methods and equipment to determine the presence of quick soil conditions or scouring and caving

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- d. Proposed method for casing installation and removal if casings are used
- e. Methods and equipment for accurately determining the depth of concrete and actual or theoretical volume placed

The applicant's contingency plan should cover:

- a. Means to repair in a certain time
  - b. Minimum flows after event
  - c. Review of geotechnical conditions surrounding the pile locations
  - d. Assessment of how the proposed mitigations will address geotechnical conditions
  - e. Methods for restoring foundation material
  - f. List of material, equipment, and personnel with qualifications to be used during mitigation work
  - g. A seal from a Professional Engineer on all relevant plans and drawings
6. When horizontal directional drilling (HDD) or other trenchless methods are used, canal seepage conditions may be aggravated by the collapse of the canal foundation material into the annular void between the bore and pipe. Penetration through the top stratum of fine-grained materials may concentrate seepage at those locations. Pipe installed with trenchless methods should proceed only after completion of a comprehensive evaluation of the following:
- (a) Comprehensive understanding of the subsurface soil and groundwater conditions to a minimum depth of 20 feet below the lowest pipe elevation
  - (b) Locations of the HDD pipe penetration entry and exit
  - (c) Construction procedure
  - (d) Allowable uplift pressures
  - (e) Onsite quality control and quality assurance monitoring during construction operation

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- (f) Grouting of the pipe annulus
- (g) Backfilling of any excavated areas
- (h) Repair and reinstatement of the construction staging areas

A geotechnical report should be submitted with the application for review prior to approval of the proposed utility crossing.

Directional drilling under a canal may be considered if a minimum clearance of 25 feet to the bottom of the canal lining is maintained for utilities with less than a 24-inch outside diameter. Larger utility crossings should be considered on an individual basis and may require additional clearance from the bottom of the canal lining.

7. Cut and cover constructed utilities under Reclamation canals should have a minimum cover of 36 inches when within Reclamation's ROWs. Bored construction utilities should have a minimum of 3 diameters cover.
8. Reclamation's ongoing O&M activities should not be disrupted during crossing construction. The primary or secondary operating road should be kept available for Reclamation use at all times.
9. Canal embankments should be re-built or repaired with materials and standards equal to or better than the existing embankments.
10. Drawings should be stamped and signed by a Professional Engineer and contain the following information:
  - a. Canal milepost or station at each proposed crossing, utility size and location, and type of utility or material transported
  - b. Maximum utility operating pressure, type of pipe, joints, wall thickness, maximum test pressure, and description of test procedures
  - c. Type of sleeve/casing (when allowed) including diameter, joints, and wall thickness
  - d. For utilities attached to a bridge or an overchute, details showing the structure name, superstructure, abutments, embankments, protective dikes, method of attachment, spacing of utility supports on the structure, location of other attached utilities, and structural calculations

## Engineering and O&M Guidelines for Crossings

- e. Protective coatings and corrosion control measures
- f. Method of handling pipeline expansion and contraction
- g. Location of nearest shutoff valve on each side of the crossing
- h. Location and details of thrust restraint
- i. Design code(s) used for the utility crossing
- j. Location, including depth, of the buried pipeline communication and control cables
- k. Other existing utility easements in the immediate vicinity

### Hazardous Material Carrier Requirements:

1. Pipelines carrying hazardous material or pollutants (e.g., oils, gasoline, sewage, contaminated waters, and nonpotable waters) should be designed for a reduced risk of failure in the portion within Reclamation's ROW. The design should require either:
  - a. Designing the crossing pipeline with an additional 50 percent working pressure factor
  - or*
  - b. Using secondary containment (casing pipe) for all hazardous material pipelines
2. To minimize the amount of any hazardous material entering the canal, Reclamation may require the installation of a block (gate) valve and or a check valve on each side of the canal between the ROW boundary and the embankment. When selecting the type of the valves, take into the account the flow direction and the terrain.
3. A final hazardous material spill contingency plan and an emergency response plan should be approved by Reclamation prior to start of construction.
4. A monitoring program and/or Supervisory Control and Data Acquisition System alarm may be required depending on the hazardous material transported. This applies to all "overcrossings" and "undercrossings" when the hydraulic grade line is within 60 inches of the canal liner or when local geology would promote this requirement.

**Attaching Utilities to Bridges and Overchutes:**

*Note:* Reclamation does not guarantee the long-term availability of bridges or overchutes as support devices for utility crossings because they may require structural modifications or alterations to accommodate widening, repairs, subsidence offsets, etc., to such an extent that service may be interrupted or stopped. Reclamation may determine the bridge is no longer required and may remove it. In that event, the owner/operator of each utility attached to a bridge or an overchute may be required to re-locate or permanently remove their utility at their own expense.

Specific details for attaching utilities to bridges are:

- a. Utilities should not be placed on the bridge deck.
- b. Anchor bolt locations should not intercept the critical reinforcing steel of the bridge.
- c. Utilities should be placed and anchored under bridge decks between girders and through utility openings, if they are present. The utility should be placed off center in the utility opening, if possible, to allow for future utility additions.
- d. If an expansion joint is used in the pipeline, it should be placed near the bridge deck expansion joint.
- e. Holes through bridge concrete or abutment and retaining walls for passage of utilities may be allowed and should be core drilled. The annular space between the utility and core hole surface should be completely filled with an elastomeric sealant to prevent loss of material or water piping from behind the wingwalls and abutments.
- f. Calculations showing the effects of the weights of the proposed utilities on the load carrying capacity of the bridge should be submitted for Reclamation review.
- g. Intermediate supports for the utility should withstand the seismic conditions of the bridge.

**4.6.4 Utility Crossing Reclamation's Underground Pipelines**

1. The applicant should submit the procedures, excavation plans, schedules, as well as type and weight of the construction equipment to be used for crossing the Reclamation pipeline.

## Engineering and O&M Guidelines for Crossings

2. High voltage, direct current powerlines should not be permitted to encroach on the Reclamation pipeline ROW, except in unusual circumstances and with proper cathodic protection considerations.
3. For proposed metallic pipelines, refer to "5.0 Cathodic Protection Requirements."
4. For utilities crossing above or under the Reclamation pipeline, the vertical clearance between the utility and Reclamation pipeline should be a minimum of 12 inches.
5. The location of the Reclamation pipeline and the communication and control cables throughout the area of the proposed construction should be shown on the plans. Prior to Reclamation and/or AOE issuing a use authorization or consent document, the pipeline and the cable(s) should be located and exposed by potholing. The pothole locations should be shown on the drawings. The pothole elevations should be referenced to Reclamation stationing or milepost. (Refer to "3.2 General.")
6. Drawings should contain the following information:
  - a. Reclamation milepost or station at each proposed crossing, pipeline size and location, and type of utility or material transported.
  - b. Maximum utility operating pressure, type of pipe and joints, maximum test pressure and description of test procedures, wall thickness, and utility pipe classification.
  - c. Type of sleeve/casing pipe (when allowed) including diameter, joints, and wall thickness.
  - d. Protective coatings and corrosion control measures.
  - e. Location of nearest shutoff valve on each side of the crossing.
  - f. Location and details of thrust restraint.
  - g. Design code(s) used for utility crossing.
  - h. Location, including depth of the Reclamation pipeline and the communication and control cables.
  - i. Other existing utility easements in the immediate vicinity.

7. Detectable warning tape may be required over trenched utilities. (Refer to "3.3 Detectable Warning Tape.")
8. For trench excavation and backfill requirements, refer to "3.2 General."
9. Embankments should not be permitted within Reclamation's ROW where underground pipeline exists.

#### **4.6.5 Utility Crossing Under Reclamation's Roadways**

1. The applicant should supply typical cross sections that show existing ground surface elevations, utility trench invert elevations, and utility details.
2. For trench excavation and backfill requirements, refer to "3.2 General."
3. Conduits with diameters up to 24 inches should be bored and jacked underneath pavements. Larger conduits may be considered on an individual basis. Pavement or road surfaces should not be cut unless an acceptable detour, if required, is approved. The cover over the conduit(s) when within Reclamation's ROWs should be a minimum of 36 inches. (Refer to "3.2 General.")
4. Unless otherwise approved, the applicant should replace existing Reclamation roads and parking surfaces that are removed or damaged by the applicant's construction activities in accordance with provisions in the latest edition of the applicable State DOT Standard Specifications.
5. If existing road embankments are to be widened, the work should be conducted in accordance with the provisions of embankment construction in the applicable State DOT Standard Specifications.
6. Detectable warning tape may be required over buried utilities. (Refer to "3.3 Detectable Warning Tape.")

## **5.0 CATHODIC PROTECTION REQUIREMENTS**

### **5.1 Cathodically Protected Metallic Pipelines**

Unless approved in writing by Reclamation, metallic pipelines or those containing metallic reinforcement (e.g., reinforced concrete) installed within Reclamation's ROW should have a suitable bonded dielectric coating (see "5.2 Protective Coatings for Corrosion Control") and be cathodically protected. Impressed current cathodic protection rectifiers and deep-well anode systems should not be

## Engineering and O&M Guidelines for Crossings

permitted within Reclamation facilities without prior approval from MERL's Corrosion Technology Group. All submittals should include details of the cathodic protection system (CPS) and its appurtenances.

1. All existing Reclamation cathodic protection test stations, cables running to these stations, rectifiers, anode beds, and any other appurtenances should be located prior to any grading or excavation. The test stations should be staked and flagged. The test stations, cables running to these stations, any anode beds, etc., should be suitably enclosed or protected during construction to prevent damage. No re-location or modification of the test stations, cables, anode beds, etc., is allowed without prior approval from MERL's Corrosion Technology Group.
2. Generally, the CPS to the proposed pipeline should be the sacrificial anode type unless the proposed installation continues an existing pipeline that uses impressed current type of cathodic protection.
3. A means of monitoring the effectiveness of the CPS on the proposed pipeline should be provided within Reclamation's ROWs. The number of anodes and test stations will differ with each project. Test stations should be located at every anode bed connection and should not be more than 1,000 feet apart. A test station should also be located where any metallic pipeline crosses over or under a metallic Reclamation pipeline, metallic fence, other metallic structure embedded in the ground, or comes within 20 feet of a Reclamation structure on or embedded in the ground. Both the proposed cathodically protected pipeline and the Reclamation pipeline should be monitored regularly using these test stations. Monitoring results should be reported to MERL's Corrosion Technology Group. In addition, the owner of the proposed crossing pipeline should investigate and mitigate any adverse potential shift caused by the proposed pipeline on the Reclamation pipeline. Owners of proposed crossing pipelines should return Reclamation pipelines to their original electrochemical potentials or to more benign potentials. Mitigation measures should be approved by MERL's Corrosion Technology Group. The effectiveness of mitigation measures should be confirmed in the presence of a Reclamation representative following installation.

For those pipelines under DOT regulation, the application and monitoring of the CPS should conform to Title 49 CFR, Part 195, any special provisions of this guideline, and the provisions of NACE International RP 0169, in that order. For other pipelines, any special provisions of this guideline should take precedence, followed by the provisions of NACE RP 0169.

## 5.2 Protective Coatings for Corrosion Control

### 1. *Atmospheric Exposed Pipe*

The coating should be a high build modified aluminum epoxy mastic primer and top coated with a high build aliphatic urethane. The type of coating should be listed in the submitted plans and specifications. Information should include the surface preparation and the thickness of the coating to be applied.

### 2. *Buried Pipe*

The type of coating may vary from project to project due to geology and soil corrosivity and should be considered on an individual basis. The type of coating should be listed in the submitted plans and specifications. Information should include the surface preparation and the thickness of the coating to be applied.

## REFERENCES

- Application for Transportation and Utility Systems and Facilities on Federal Lands, <[http://www.ntia.doc.gov/FROWsite/SF-299\\_2006.pdf](http://www.ntia.doc.gov/FROWsite/SF-299_2006.pdf)>.
- Application for Use of Reclamation Project Land and Water Surfaces, <<http://www.usbr.gov/pmts/lands/>>.
- Bureau of Reclamation Right-of-Use Application, <<http://www.usbr.gov/pmts/lands/FINAL7-2540-5-06ExpDate03312009.pdf>>.
- California Department of Water Resources - Encroachment Permit Guidelines.
- Central Arizona Project, Reach 11 Guidelines.
- GP Region Billings MT – Standard Crossing & Clearance Requirements, Utility Lines and Cables, drawing 40-600-51. The office also uses a Preliminary Project Description Form and a Special Use Permit.
- NACE, International RP 0169, “Standard Recommended Practice – Control of External Corrosion on Underground or Submerged Metallic Piping Systems.”
- PN Region Burley ID – Overhead and underground crossing clearances.
- Policy on Geometric Design of Highway and Streets, American Association of State Highway and Transportation Officials (AASHTO), Fifth Edition, 2004.
- Reclamation, 2005. Preliminary drawing 103-D-1700 that provides general requirements for installation of crossings, June 2005.
- Reclamation Manual, Directive and Standards LND 08-01, Land Use Authorizations, <<http://www.usbr.gov/recman/lnd/lnd08-01.pdf>>.
- Title 29 CFR, Part 195.
- U.S. Army Corps of Engineers – Engineering and Design, Design and Construction of Levees EM 1110-2-1913, 30 Apr 2000, CECW-EG Washington, DC 20314-1000.



## GLOSSARY

***Bored and jacked*** – This terminology is a general way of referring to a family of trenchless methods.

***Bridge, class A*** – Vehicular bridge used by the public. May or may not be owned by the Bureau of Reclamation.

***Consent Document Permit*** – Permit required across fee-owned lands.

***Detention basin*** – An artificial flow control structure used to contain flood water for a limited period of a time, thereby providing protection for areas downstream. Detention basins provide a way to reduce storm peak flows, while retention basins hold water for an extended period of time. These basins are generally a part of a larger engineered flood water management system.

***Electroliers*** – A branching frame, often of ornamental design, used to support electric illuminating lamps.

***Pothole excavation*** – See potholing.

***Potholing*** – The practice of digging test holes to expose underground utilities (e.g., cables) to determine the horizontal and vertical location of these utilities.

***Trenchless methods*** – Procedures for installing pipe without using traditional trench cut and cover methods. These trenchless methods may be referred to as bore and jack, tunneling, horizontal directional drilling, and microtunneling, among others.

***Water conveyance facility*** – Canal, ditch, pipeline, drain, levee, open or closed laterals, and similar facilities and their associated appurtenant features.



Appendix A

## **General Requirements for Installing Bored and Jacked Pipe Undercrossings**



*Bored and Jacked Under the Canal* – This terminology is a general way of referring to a family of trenchless technologies. Similar guidance to the requirements listed below should be followed no matter what method is used for installation.

1. Installing a lone carrier pipe (without casing) is encouraged. Refer to “4.6 Utility Crossing,” and “4.6.1 Casings” for information on cautions of using casings around metallic carrier pipe.
2. Plans must show carrier/casing pipe type, diameter, and thickness. Casing pipes should be steel pipe (American Water Works Association [AWWA] C-200) and have 1/4-inch minimum wall thickness. Applicants should provide the type of carrier pipe and appropriate bell dimensions for said carrier pipe to verify annular clearances.
3. When installing pipe while the canal is unwatered, a minimum of 3 pipe diameters or 60 inches of clearance (whichever is greater) between the top of the pipe and the bottom of the canal must be maintained. However, 72 inches or more clearance is recommended.
4. Provide a minimum of 3 inches of clearance between the carrier and casing pipes at all points (including bells).
5. A bulkhead or effective sealing device should be provided at both ends of each casing pipe to seal the annular space between the two pipes. Vent pipe should be included to allow ventilation and reduce the risk of condensation buildup and flooding.
6. As a result of the installation process, an annular void is usually created around the outside of the casing pipe. Provisions should be made to pressure grout or effectively seal (e.g., bentonite slurry) this void space.
7. Requirements below are provided to establish minimums for determination of the length of pipe to be installed. It is strongly recommended that pipes be installed perpendicular (between 70 and 90 degrees) to the canal alignment. Regardless, the pipe must extend completely through the Bureau of Reclamation’s (Reclamation) right-of-way (ROW). These minimums do not relieve the applicant’s engineer from performing an onsite investigation or other work to determine local conditions that may require additional pipe length.

Jacking pit configuration, location, and length of pipe to be installed should be based on the following parameters:

- a. One operating road shall remain open to vehicular traffic at all times.

- b. The minimum operating road embankment top width to be maintained during construction should be either 14 feet wide, the width of the existing embankment, or as required by Reclamation.
  - c. As a minimum, jacking pit excavations should not be within:
    - (1) A line drawn from the outside edge of the operating road embankment extended downward and away from the canal at a slope of 3/4 horizontal to 1 vertical.
    - (2) A line drawn from the outside edge of the top of the concrete lining extended downward and away from the canal at a slope of 1 horizontal to 1 vertical.
  - d. To contain the slurry during installation, jacking pits should be constructed so that natural ground or a compacted dike is entirely around the pit to an elevation at least 1 foot above the top of the canal lining.
  - e. All excavations should be in compliance with Occupation Safety and Health Administration regulations and Reclamation's Health and Safety Standards.
  - f. If the contractor elects to install shoring in the jacking pits, all shoring designs should be prepared by a Professional Engineer knowledgeable in said type of work. A copy of the shoring designs should be submitted to Reclamation.
- 8. Jacking pits should be backfilled with native material and mechanically compacted to 95 percent of the maximum dry density per ASTM D-698.
  - 9. The contractors should be responsible for any damage to the canal section during the construction of a crossing, and the contractor shall repair the damage at their own expense.
  - 10. If an emergency situation develops during construction, the contractor should immediately notify appropriate contacts with Reclamation. Reclamation must approve further work at that point.
  - 11. The minimum distance between two jacked pipes should be 10 feet.
  - 12. Any pressure lines installed within Reclamation's ROW must have adequate thrust restraint at bends and valves. Specified design pressures and thrust restraint calculations shall be provided to Reclamation to confirm the design configuration.

Appendix B

**Guidelines – Removal of Trees and Other  
Vegetative Growth from Earth Dams,  
Dikes, and Conveyance Features**

**Excerpted from: Review of Operation and Maintenance  
Program Field Examination Guidelines**

When, in the opinion of an Review of Operation and Maintenance examination team, such established growth requires removal, specific followup procedures should be addressed as part of the examination. Such procedures may include the need for right-of-way easement determination; the need for an assessment for potential environmental impacts (any impact assessments should be coordinated with designated regional or project office environmental staff); whether removal of the root system is necessary and to what extent; the method of removal and recompaction of material within the void created; and the need for any erosion stabilization measures.

National Environmental Policy Act compliance is required relative to such tree and vegetation removal. Additionally, the application of herbicides should comply with applicable provisions of the Endangered Species Act. The determination of appropriate procedures to be followed in assessing potential environmental impacts and mitigation (including those to wildlife and its habitat) will be the responsibility of each regional and/or project office. This will include the preparation of an appropriate National Environmental Policy Act document and an assessment of the need for mitigation prior to the onset of removal activities. Appropriate National Environmental Policy Act compliance may include a Categorical Exclusion Checklist, an environmental assessment followed by a Finding of No Significant Impact, or an Environmental Impact Statement.

The following guidelines and associated clearance zones should be used for all Reclamation earth dams, dikes, and conveyance features. They are not considered "policy;" rather, they are guides which should be used with reasonable judgment and practicality.

1. Trees and detrimental vegetative growth should be prevented from becoming established on the surface of all earth dam, dike, and conveyance feature embankments. A small amount of shallow-rooted vegetation may be acceptable to aid in erosion protection and slope stabilization. Mowing of grass and other small vegetation is desirable and may be necessary to allow proper surveillance of the surfaces and observation of animal/rodent activity.
2. A clearance zone of 25 feet beyond each contact (groins and toe) of earth dam embankments and dikes should be maintained of all trees and detrimental vegetation. Similarly, a clearance zone of 15 feet should be maintained beyond the outside toe of all fill sections/embankments for open canals and laterals. These clearance zones may need to be extended for seepage areas or other conditions where proper surveillance or access may be warranted.
3. Earth dam, dike, and conveyance feature (open canal and lateral) embankments have large tree growth or stumps from previously cut trees on or near them should be evaluated, usually in conjunction with an Review of Operation and Maintenance examination, for any necessary future action, (i.e., monitor, excavation and backfill, rebuild, etc.). Generally, sizable old root systems of large trees should be grubbed out and the embankment replaced and compacted to prevent the development of piping action or erosion. Likewise, any sizable voids resulting from animal/rodent burrowing activity should be filled and compacted. Seeding may be necessary for protection from surface erosion.
4. Spillway inlet and outlet channels, outlet works discharge channels, and other open conveyance channels (open canals, laterals, and drains) should be free of vegetative growth that could significantly impede water flow or reduce design capacity.
5. A clearance zone of 25 feet adjacent to all concrete structures associated with such facilities should be maintained of all trees and detrimental vegetative growth to prevent damage from root growth, to allow proper surveillance, and to allow adequate O&M access.

6. Associated cut slopes adjacent to open canals and laterals should be kept clear of vegetation which, if toppled and/or uprooted, could affect operations or O&M access.

7. For pipe conveyance systems (such as siphons, aqueducts, discharge lines, perforated or open-jointed drains, etc.), to provide O&M access and to prevent root encroachment, a clearance zone should be maintained 15 feet from each side of the pipeline. However, in some cases, farming of annual crops over pipelines may be permissible.

\* \* \* \* \*

## SURVEY REPORT SUMMARY FORM

### 1. REPORT TITLE

**1.a. Report Title:** A CULTURAL RESOURCES SURVEY ON BUREAU OF RECLAMATION LAND FOR A PROPOSED PARKING LOT ADDITION, SAN LUIS, YUMA COUNTY, ARIZONA

**1.b. Report Author:** Jon M. Shumaker

**1.c. Date:** 3/5/21

**1.d. Report Number:** JSAC 2021-1

### 2. PROJECT REGISTRATION/PERMITS

**2.a. ASM Accession Number:** (Applied for.)

**2.b. AAA Permit Number:** N/A

**2.c. ASLD ROW Application Numbers:** N/A

**2.d. Other Permit Number:** Reclamation ARPA Permit No. LC-AZ 20-03

### 3. ORGANIZATION/CONSULTING FIRM

**3.a. Name:** Jon Shumaker Archaeological Consulting

**3.b. Internal Project Number:** JSAC 2021-1

**3.c. Internal Project Name:** San Luis Parking Lot Addition Survey

**3.d. Contact Name:** Jon M. Shumaker, MA, RPA

**3.e. Contact Address:** 8617 N. Dove Circle; Phoenix AZ 85028

**3.f. Contact Phone:** 623-285-8821

**3.g. Contact Email:** [himdak@hotmail.com](mailto:himdak@hotmail.com)

### 4. SPONSOR/LEAD AGENCY

**4.a. Sponsor:** City of San Luis, AZ

**4.b. Lead Agency:** U.S. Bureau of Reclamation

**4.c. Agency Project Numbers:** N/A

**4.d. Agency Project Name:** Class III Cultural Resources Survey on Bureau of Reclamation Land for San Luis Parking Lot Project

**4.e. Funding Source:** Municipal

**4.f. Other Agencies Involved:** Arizona State Museum

**4.g. Applicable Regulations:** Archaeological Resources Protection Act of 1979 [Pub. L. 96-95, Oct. 31, 1979, 93 Stat. 721 (16 U.S.C. 470aa et seq.)]; National Historic Preservation Act [Pub. L. 89-665, Oct. 15, 1966, 80 Stat. 915]; Antiquities Act of 1906 [Also known as the National Monument Act (Preservation of Antiquities)] June 8, 1906, ch. 3060, 34 Stat. 225 (16 U.S.C. 431 et seq.); Reclamation Act [also known as the National Irrigation Act of 1902] June 17, 1902, ch. 1093, 32 Stat. 388; and the Reclamation Manual.

**5. DESCRIPTION OF PROJECT OR UNDERTAKING:** The U.S. Bureau of Reclamation (Reclamation) is proposing to permit the City of San Luis, Arizona to construct a new parking lot addition on Reclamation land. Because the project will occur on Federal land and requires an agency permit and approval, it meets the definition of a Federal undertaking. Therefore, Reclamation is responsible for compliance under the National Historic Preservation Act as implemented through the Code of Federal Regulations Part 800 (36 CFR 800).

The proposed project consists of grading and levelling of the site, excavation of trenches for buried utilities, and excavation of a water retention basin. Standard excavation and road construction equipment will be used to grade, compact, and pave the parking area and to excavate the trenches and basin. Excavation depth for the parking area is estimated to be two to three feet. Utility trenches will be three to four feet in depth, and the retention basin will be excavated to an estimated depth of five feet or less.

**6. PROJECT AREA/AREA OF POTENTIAL EFFECTS (APE):** The proposed project area/Area of Potential Effect consists of the entire 4.09-acre project area, including utility tie-ins.

The project area is roughly bounded on the south by the U.S. Bureau of Reclamation Yuma Valley Levee; to the west by the U.S. Bureau of Reclamation Pumping Plant Right-of-Way (and the Boundary Pumping Plant to the southwest), the Yuma County Water Association operator's house property and the Yuma Valley Main Drain; on the east by the San Luis Plaza and its paved access, and on the north by a parcel of private land. The proposed project would not have any direct or indirect effects on any of these facilities or properties.

The project area fits within a roughly rectangular polygon which at its longest varies from approximately 915-1000' north-south, and varies from roughly 170-210' east-west. The retention basin would run north-south just inside the western edge of the project area.

Access is from existing paved roads. Staging and laydown areas would be restricted to existing paved areas.

## **7. PROJECT LOCATION**

**7.a. Address:** The project area is southwest of where Juan Sanchez Blvd. (AKA Cesar Chavez Blvd.) crosses US 95. It is reached by taking San Luis Plaza Drive south from Juan Sanchez Blvd. to just before it reaches the Yuma Valley Levee, then turning west to the western side of the San Luis Plaza. It is roughly 400' north of the US-Mexico international border.

**7.b. Route:** N/A

**7.c. Milepost Limits:** N/A

**7.d. Nearest City/Town:** Within city limits of San Luis, AZ

**7.e. County:** Yuma

**7.f. Project Locator UTM:** E707943 N3596810

**7.g. NAD:** 83

**7.h.: Zone:** 11

**7.i. Baseline and Meridian:** G&SRB&M

**7.j. USGS Quadrangle:** Gadsden OE S

**7.k. Legal Description:** T11S, R25W, a small portion of the W1/2 of S11

## **8. SURVEY AREA**

**8.a. Total Acres:** ~4.09 acres

**8.b.1. Land Jurisdiction:** U.S. Bureau of Reclamation

**8.b.2. Total Acres Surveyed:** ~4.09 acres of Reclamation land

**8.c.3. Total Acres Not Surveyed:** N/A

**8.c.4. Justification for Areas Not Surveyed:** N/A

## **9. ENVIRONMENTAL CONTEXTS**

**9.a. Landform:** Yuma Basin

**9.b. Elevation:** ~130 ft.

**9.c. Surrounding Topographic Features:** Flat river valley basin, heavily disturbed and developed.

**9.d. Nearest Drainage:** Colorado River, approximately a mile and a half to the west.

**9.e. Local Geology:** Quaternary (Holocene to middle Pleistocene) surficial alluvium and aeolian deposits (Reynolds 1988). Basin and Range Province-Desert Region (Wilson 1962). Flat, developed portion of the Yuma Basin.

**9.f. Vegetation:** Lower Colorado River Subdivision of Sonoran Desertscrub (Brown 1994), (Brown and Lowe 1994). No vegetation was observed in the project area except for dried stalks of Russian thistle (*Salsola tragus*), a disturbed soil plant.

**9.g. Soils/Deposition:** Rositas-Superstition soils, characterized by deep, nearly level and undulating, somewhat excessively drained soils on old terraces, alluvial fans, and sand dunes (USDA Soil Conservation Service 1980). In the project area, soils consist of highly disturbed and leveled light tan clayey silt containing asphalt chunks, gravels, and modern trash. No significant evidence of erosion/deposition noted.

**9.h. Buried Deposits:** Not likely.

**9.i. Justification:** Project area is flat and extremely disturbed. Area is reported to have been previously farmed. No visible evidence of recent alluvial deposition or erosion. No historic/prehistoric artifacts or features observed on ground surface, in push piles, or in burrows.

## **10. BUILT ENVIRONMENT**

**10. Built Environment:** In-use, maintained modern and historic irrigation features, paved roadways, border security infrastructure, curbing, commercial buildings, (bulldozer?) push piles, and a fenced residence. The project area is reported to have been previously farmed. The nearby Yuma Main Drain is historic, but will not be affected by the proposed project, either directly or indirectly.

## **11. INVENTORY CLASS COMPLETED**

**11.a. Class I Inventory:** N/A

**11.b. Researcher(s):** N/A

**11.c. Class II Survey:** N/A

**11.d. Sampling Strategy:** N/A

**11.e. Class III Inventory:** X

## **12. BACKGROUND RESEARCH SOURCES**

**12.a. AZSite:** X

**12b. ASM Archaeological Records Office:** X

**12.c. SHPO Inventories/SHPO Library:** N/A

**12.d. NRHP Database:** X

**12.e. ADOT Portal:** N/A

**12.f. GLO Maps:** X

**12.g. Land Managing Agency Files:** N/A

**12.i. Local Government Websites:** X (San Luis, AZ is not a Certified Local Government. Neither is Yuma County. The city's website contains no information regarding cultural resources/historic properties.)

**12.j. Other:** N/A

### 13. BACKGROUND RESEARCH RESULTS

#### 13.a.(1.-4.) Project Reference Number; Project Name; Author(s); Year\*

PROJECT REF. #	PROJ. NAME	AUTHOR(S)	YEAR
BLM-050-95-6**	ATC Associates/AT&T Upgrade to Existing Telecommunications Facility Site Number YU26	No report or author noted	~1995
BLM-050-85-23-N	Cultural Resource Clearance for Border Patrol Surveillance Cameras	No report or author noted	~1985
2004-128.ASM	Yuma Border Lights Survey	Hart	2005

\* Table reflects projects intersecting or touching project area, per "SHPO-ASM Interim Guidance Regarding Survey Report Standards," June 12, 2019

\*\*BLM contacted for more information. The Yuma office archaeologist claims there is no record of this work being done and there is no report on file.

#### 13.b. Previously Recorded Cultural Resources Within Study Area:

##### 13.b.(1.-5.) Site Number/Name; Cultural/Temporal Affiliation; Site Type; Eligibility Status; References\*

Site #/Name	Cult//Temporal Affiliation	Site Type	Eligibility	Ref.
AZ X:6:39(ASM) AKA AZ X:6:39(ASM)/ Main Drain	Historic Anglo-American	Water control device (earthen canal)	Determined. Eligible A&C	Burghardt and Hall (2016a) Burghardt and Hall (2016b) Tucker (2006)

\* Table reflects a site that while not intersecting or touching project area, (see "SHPO-ASM Interim Guidance Regarding Survey Report Standards," June 12, 2019), it is nearby. Site (earthen canal) will not be affected directly or indirectly by the current project.

#### 13.c. Historic Buildings/Districts/Neighborhoods: N/A

##### 13.c.1 Property Name or Address: N/A

##### 13.c.2. Year: N/A

##### 13.c.4. Eligibility Status: N/A

### 14. CULTURAL CONTEXTS

**14.a. Prehistoric Culture:** Paleo-Indian, Archaic, Patayan (Reid and Whittlesey 1997), (Cordell and McBrinn 2012), (McGuire and Schiffer, eds. 1982).

**14.b. Protohistoric Culture:** Yuman/Pai (Reid and Whittlesey 1997), (Cordell and McBrinn 2012).

**14.c. Indigenous Historic Culture:** Quechan, Cocopah, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Maricopa, Tohono O'odham Nation, Pueblo of Zuni, Hopi Tribe.

**14.d. Euro-American Culture:** Hispano-American, Anglo-American (Sheridan 2012).

**15. FIELD SURVEY PERSONNEL**

**15.a. Primary Investigator:** Jon M. Shumaker, MA, RPA

**15.b. Field Supervisor:** Jon M. Shumaker, MA, RPA

**15.c. Crew:** Jon M. Shumaker, MA, RPA

**15.d. Fieldwork Date(s):** 10/24/20

**16. SURVEY METHODS**

**16.a. Transect Intervals:** 15 M

**16.b. Survey Coverage:** 100%

**16.c. Site Recording Criteria:** ASM

**16.d. Ground Surface Visibility:** 100%.

**16.e. Observed Disturbances:** Significant. Disturbance includes grading, asphalt chunks, modern trash.

**17. FIELD SURVEY RESULTS**

**17.a. No Cultural Resources Identified:** X

**17.b. Isolated Occurrences (IOs) Only:** N/A

**17.c. Number of IOS Recorded:** N/A

**17.d.1.-2. Table of IOs:** N/A

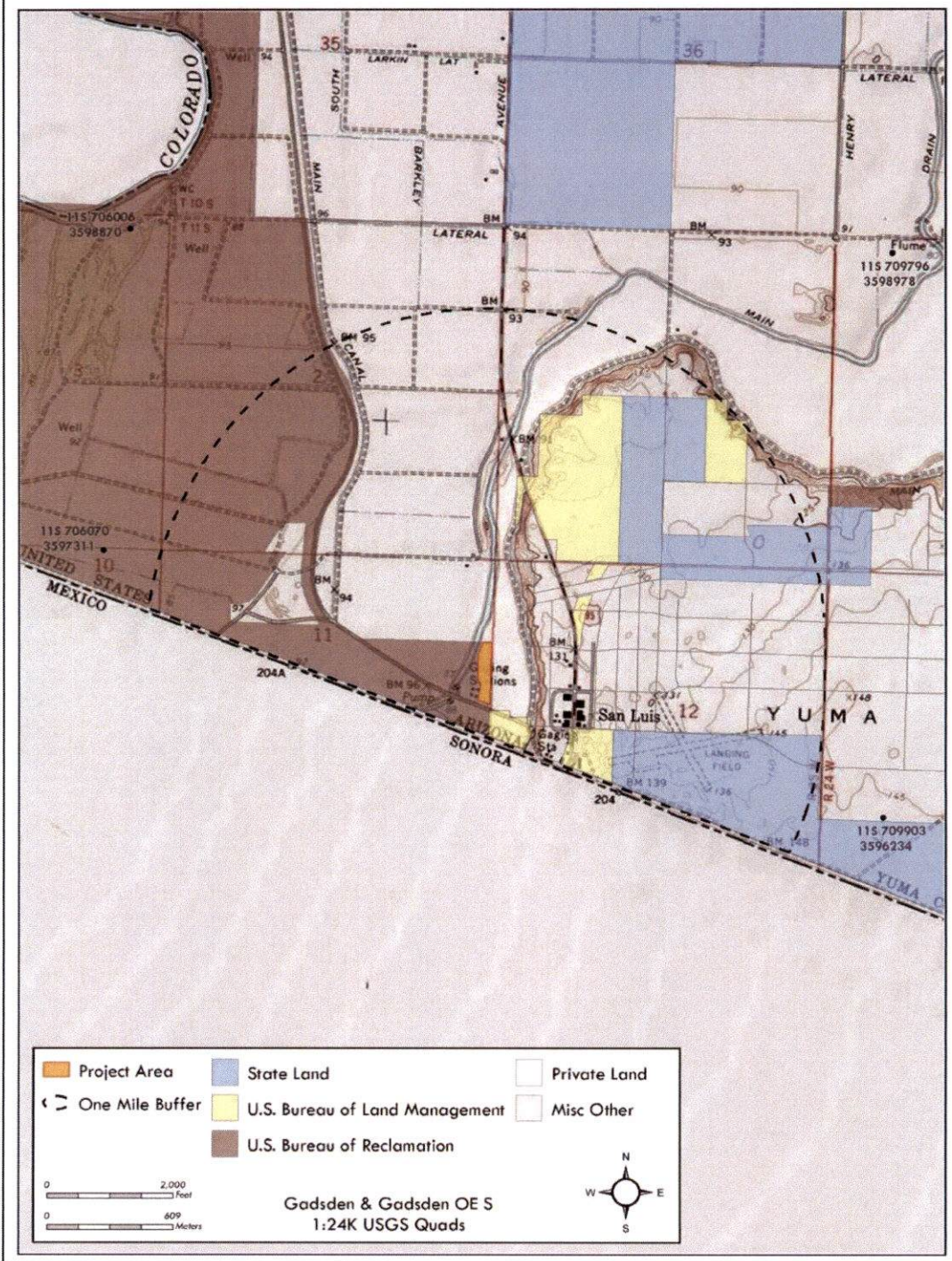
**17.d.3. Date Range:** N/A

**17.d.4. UTM's (Easting, Northing):** N/A

**18. COMMENTS:** N/A

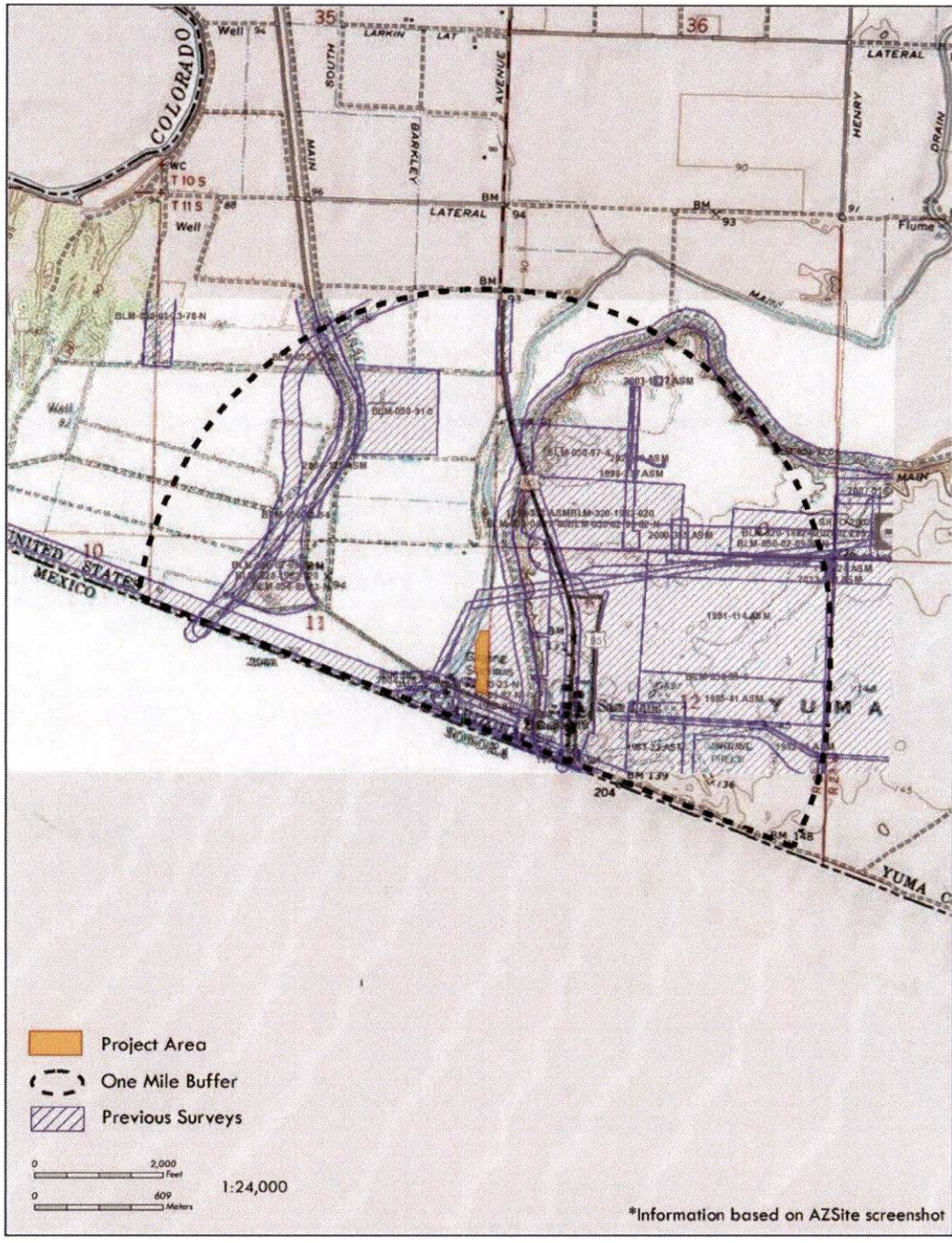
**SECTION 19. ATTACHMENTS**

19.a. Project Location Map and 19.b. Land Jurisdiction Map



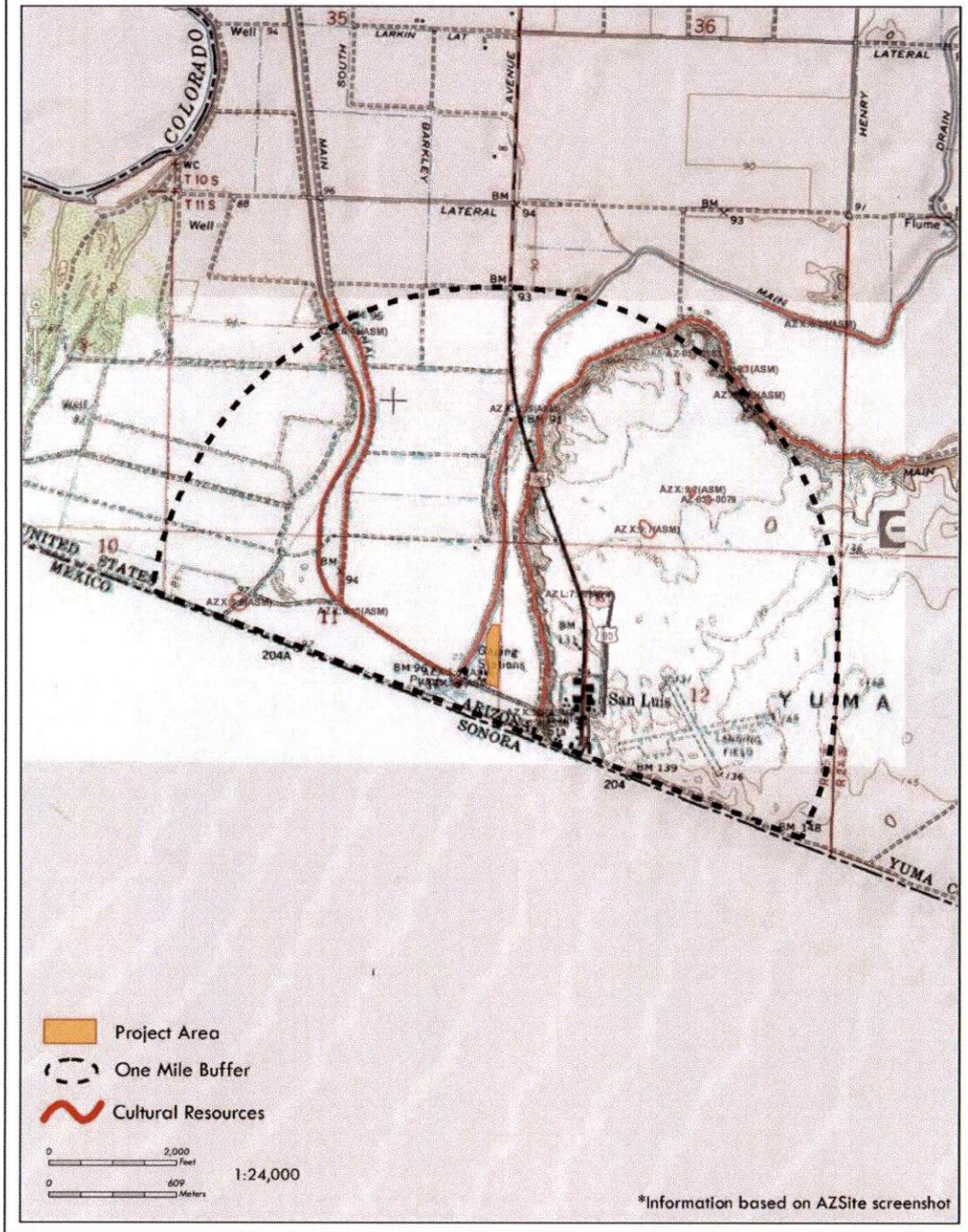
### 19.c. Background Research Map - Previous Projects

[Per SHPO-ASM Interim Guidance Regarding Survey Report Standards (June 12, 2019) Point #3]\*



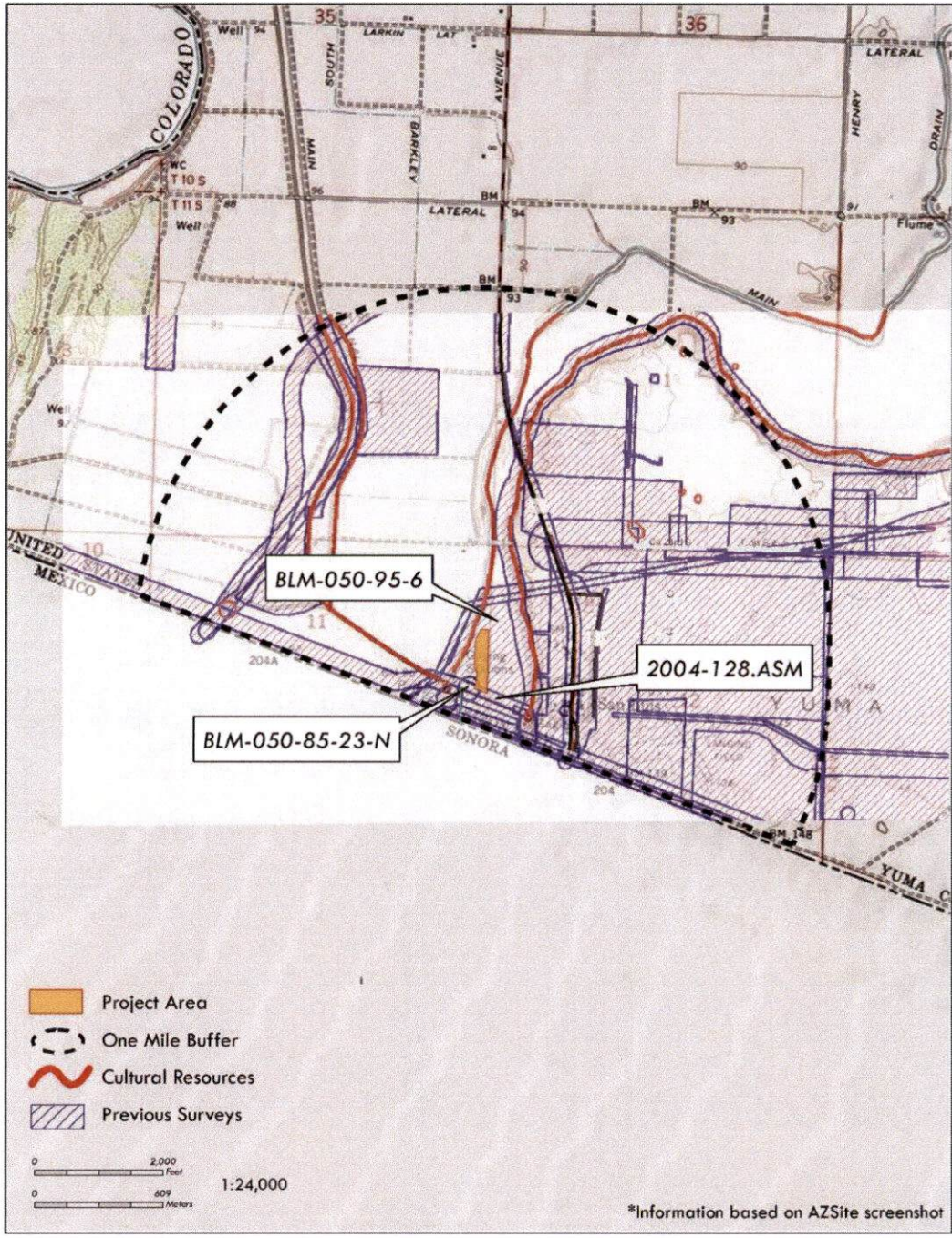
**19.c. Background Research Map - Previous Identified Cultural Resources**

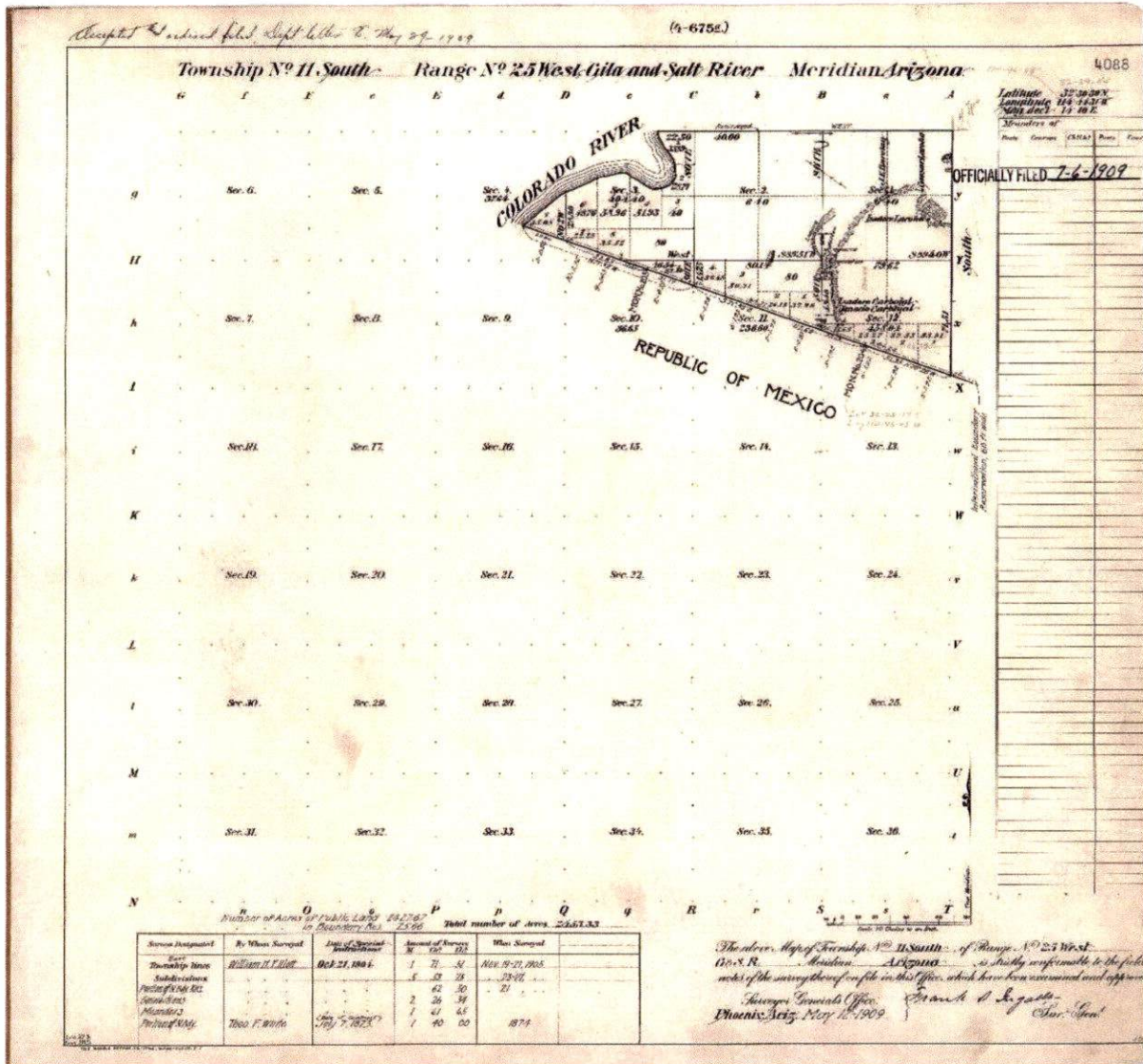
[Per SHPO-ASM Interim Guidance Regarding Survey Report Standards (June 12, 2019) Point #3 ]\*



### 19.c. Map of Previous Projects That Intersect or Touch Current Survey Area

[Per SHPO-ASM Interim Guidance Regarding Survey Report Standards (June 12, 2019) Point #3]\*





19.d. GLO Map

## 19.e. References

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1994 *Biotic Communities: Southwestern United States and Northwestern Mexico*. (Originally Published as "Biotic Communities of the American Southwest—United States and Mexico, in *Desert Plants* 4: 1-4 (1982) by the Boyce Thompson Southwestern Arboretum.) University of Utah Press, Salt Lake City.

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2012 *Arizona: A History* (2<sup>nd</sup> Edit.). University of Arizona Press, Tucson.

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1962 *A Resume of the Geology of Arizona*. Arizona Bureau of Mines, University of Arizona, Tucson.

Website for AZ SHPO Tribal Consultation Toolkit:

[https://www.google.com/maps/d/viewer?mid=1LCIH6Xc6bBDSdn\\_xQRguTE54JY&ouid=0&ll=35.16043496765561%2C-112.63183624999994&z=6](https://www.google.com/maps/d/viewer?mid=1LCIH6Xc6bBDSdn_xQRguTE54JY&ouid=0&ll=35.16043496765561%2C-112.63183624999994&z=6)

Accessed 12/9//20.

Website for AZSite. <https://azsite3.asurite.ad.asu.edu/azsite/search.html> Accessed 12/9/20.

Website for City of San Luis: <https://www.sanluisaz.gov/> Accessed 12/9/20.

Website for National Register of Historic Places Database:

<https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466>

Accessed 12/9/20.

**20. Consultant Certification:**

Jon M. Shumaker MA, RPA

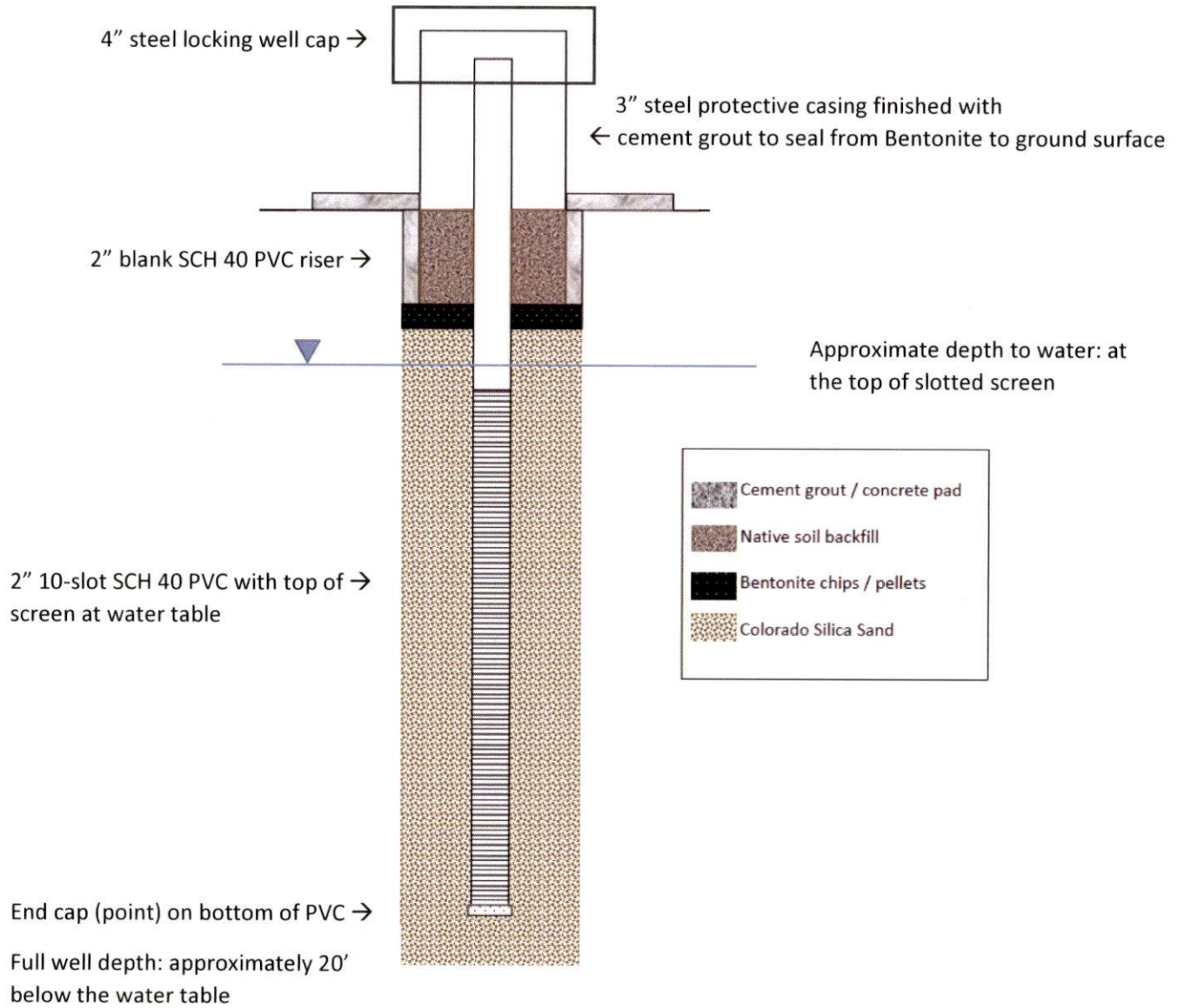


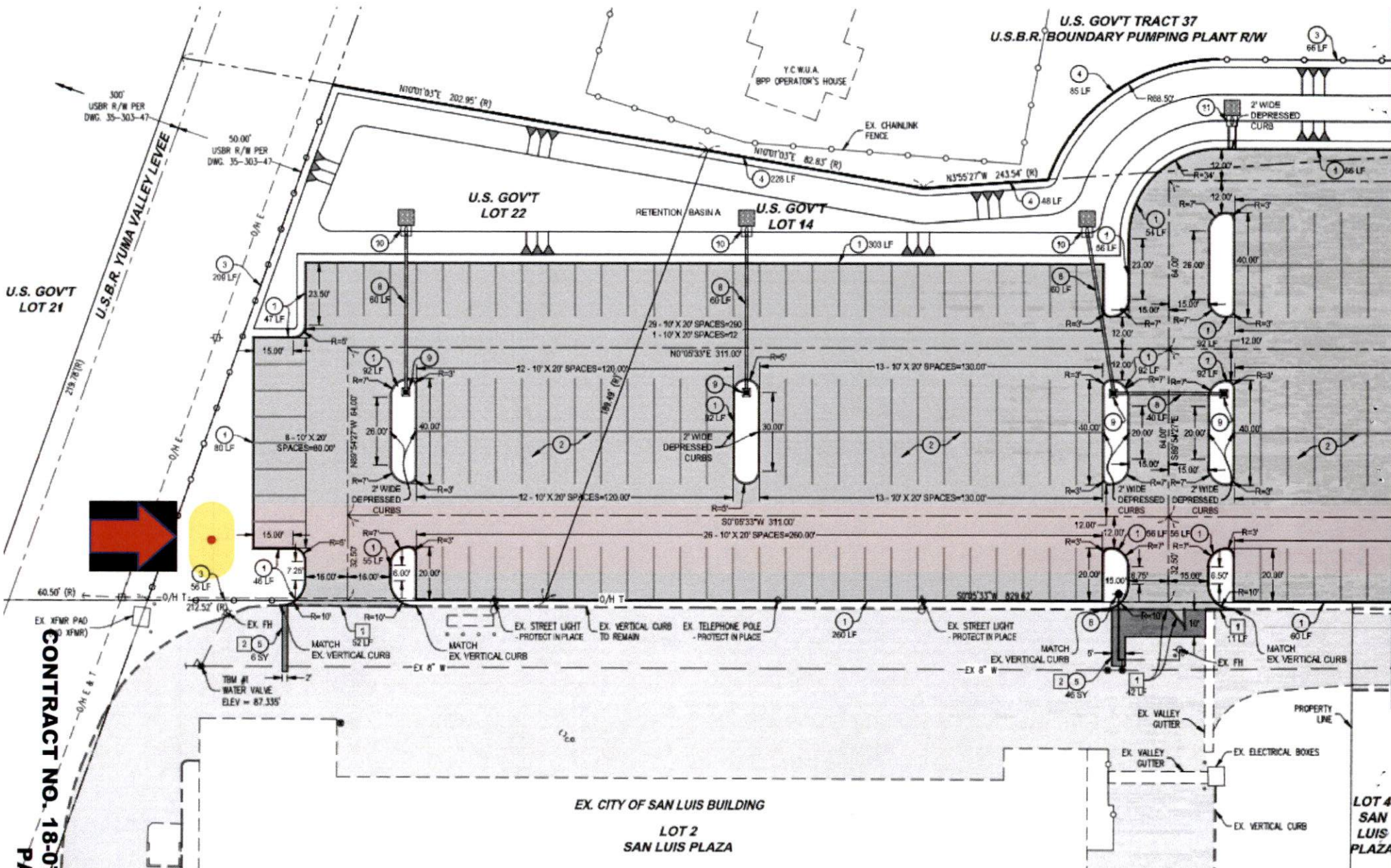
Principle Investigator

**21. Discovery Clause**

If any previously unidentified cultural resources and/or human remains are discovered during any aspect of this project, all work at that specific location must cease immediately, and steps shall be taken to protect that resource, especially human remains. The contractor and/or the City of San Luis shall immediately contact Reclamation's Archaeologist Ms. Andrea Kayser at (928) 343-8461 in order to determine the proper treatment of the discovery. Work may not resume at that location without specific written authorization from Ms. Kayser. Special attention shall be paid to discoveries of human remains. They shall be treated with care, dignity, and respect at all times. They are not to be touched, handled, or photographed, and may require that special protective measures, such as 24-hour security, be taken until the Reclamation's Archaeologist has been notified and the contractor has received specific written direction from that representative regarding how to proceed.

Typical Observation Well Diagram:





U.S. GOVT LOT 21

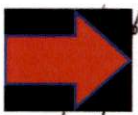
U.S. GOVT LOT 22

U.S. GOVT LOT 14

EX. CITY OF SAN LUIS BUILDING  
LOT 2  
SAN LUIS PLAZA

LOT 4  
SAN LUIS PLAZA

CONTRACT NO. 18-07-34-L1923  
PAGE 2 OF 2  
EXHIBIT E



300' USBR R/W PER DWG. 35-303-47  
50.00' USBR R/W PER DWG. 35-303-47  
U.S.B.R. YUMA VALLEY LEVEE

U.S. GOVT TRACT 37  
U.S.B.R. BOUNDARY PUMPING PLANT R/W

Y.C.W.U.A. BPP OPERATOR'S HOUSE

U.S. GOVT TRACT 37  
U.S.B.R. BOUNDARY PUMPING PLANT R/W