

Public Works Department Engineering Division 401 California Avenue Boulder City, NV 89005-2600

Off-Site **Improvement Agreement**

Main Line: (702) 293-9200 Inspection Scheduling: http://www.bcnv.org/299/Off-Site-Inspection-Request/

Inspection Email: pwengineering@bcnv.org Website: www.bcnv.org/221

		Boulder City	NV	89005			
Project Address		City	State	Zip		Parc	el Number(s)
Scope of Work:							
WOIK.							
See Exhibit "A"							
Developer							
Developer Address		City			State		Zip
Contact Person	Email Address				(<u>)</u> Phone	Num	- her
Contact i cison	zman naaress				1110116	144111	
Property Owner Name if differe	ent than above						
Property Owner Address		City			State		Zip
					()		-
Contact Person Email Address					Phone	Num	ber
Subdivision/Development Number					Fo	orm # 0	01-001

This agreement is being entered into in compliance with Chapter 39, Section 11-39-5 of the Boulder City Code.

The DEVELOPER has submitted improvement plans (Exhibit "A") to Boulder City Public Works for the project listed on the first page of this document and a bonding estimate sheet covering all work that will be performed in the Public Right-of-Way or Easement, and will pay for all fees and procure bonding associated with this project. The DEVELOPER will abide by the following:

1. OFF-SITE IMPROVEMENTS:

The DEVELOPER, at his own cost, shall perform and complete all off-site work and improvements associated with this development, in accordance with currently adopted ordinances, regulations, standards and specifications, Boulder City electrical standards, or other requirements of Boulder City, Nevada. All improvements shall be completed in compliance with Exhibit A as attached to this agreement. The Engineer of Record shall be responsible for complying with all Federal, State, and Local laws and standards, regardless of City approval.

Applic	cable	
Yes	No	
		2. Clearing and Grading of Lands
		3. Public Streets
		4. Private Streets
		5. Signage and Striping
		6. Water Main Extensions and Connections
		7. Sewer Main Extensions and Connections
		8. Electric Main Extensions and Connections
		9. Street Lights
		10. Manual on Uniform Traffic Control Devices and City Standards
		11. Landscaping Installation
		12. Landscaping Maintenance
		13. Survey Monuments and Reference Lines or Points
		14. Improvement Plan Submittal Requirements

2. <u>CLEARING AND GRADING OF LANDS:</u>

Lands shall not be cleared of vegetation, graded, or the natural ground surface thereof otherwise disturbed, prior to obtaining an <u>Approved</u> grading plan, and a permit issued by the Public Works Department. Developer shall perform grading as shown on the <u>Approved</u> grading plans.

3. PUBLIC STREETS:

The developer shall construct all streets in accordance with Clark County Regional Transportation Commission of Southern Nevada's Uniform Design Standards (RTC Standards) unless otherwise specified and approved by the City Engineer.

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ADA Compliance

- 3.1.1. All streets, curb and gutter, and sidewalks must meet the ADA requirements as set forth in CFR Title 28 Part 36.
- 3.2. Street Rights-of-Way widths
 - 3.2.1. New street construction must meet RTC standards, unless otherwise approved by the City Engineer.
- 3.3. Curb and gutter
 - 3.3.1. A typical curb section is an "L" type curb and gutter following RTC standard drawing 216.
 - 3.3.2. A roll curb is not allowed.

4. PRIVATE STREETS:

The developer shall construct all streets in accordance with RTC Standards unless otherwise specified or approved by the City Engineer

5. SIGNAGE AND STRIPING:

The developer shall install all signage and striping in accordance with RTC Standards unless otherwise specified or approved by the City Engineer.

6. WATER MAIN EXTENSIONS AND CONNECTIONS:

The developer shall install new water facilities per the Las Vegas Valley Water District's Uniform Design and Construction Standards (UDACS) currently adopted standards. This may also include full frontage extensions as mentioned in UDACS Section 2.05. A water network analysis may also be required. The developer will be responsible for all costs associated with the installation of the standard water meters utilized by Public Works.

6.1. All meters and materials must comply with the Las Vegas Valley Water Districts approved products list. https://www.lvvwd.com/apps/approved_products/index.cfml

7. SEWER MAIN EXTENSIONS AND CONNECTIONS:

The developer shall install necessary sewer improvements needed to service the development. Full frontage lines and upsizing of existing lines may also be required. All improvements are to be in accordance with the currently adopted Clark County Water Reclamation District's "Design and Construction Standards for Wastewater Collection Systems".

8. <u>ELECTRIC MAIN EXTENSIONS AND CONNECTIONS</u>:

8.1. Scope

Facilities are classified as:

 primary – associated with the City 12,470 V multi-grounded wye distribution system (7,200 volt line-neutral), including transformers connected at primary

- voltage for service to customer facilities (hereinafter referred to as "transformers")
- secondary all 240/120 volt facilities except transformer terminals
- energized insulated power cables (including neutrals), and associated fittings such as connectors, terminations, and racks
- non-energized trenches, conduits, pull boxes, transformer and service (meter)
 pedestal pads, grounding electrodes (wire and rod), grounding electrode
 conductors and associated fittings such as sweeps, couplings, clamps, bolts, pull
 lines, and caution tape

In addition to the specific requirements contained herein, the project is subject to City Department of Public Works and Building Division standards including planning, permitting, and inspection.

This document does not cover secondary facilities located on the load-side of the service pedestals (meters).

- 8.2. Developer and City responsibilities
 - 8.2.1. The City is responsible for the procurement and installation of all primary energized facilities, for the procurement and installation of meters and for terminating and connecting all secondary energized wires at the transformers and meter pedestals.
 - 8.2.2. The Developer is responsible for design (including routing and placement), selection, procurement, and installation of:
 - secondary energized facilities (including the pedestal), except as noted above
 - non-energized facilities, primary and secondary
 - 8.2.3. All costs incurred by City in providing and installing facilities shall be borne by the developer. Costs associated with extending the primary system to the transformers serving customer equipment shall include 15% per City Code.
- 8.3. General design requirements
 - 8.3.1. All primary and secondary cables shall be installed underground in conduits. All primary and secondary switching, protection and metering equipment shall be installed in underground vaults or in pad-mounted cabinets.
 - 8.3.2. All primary trench routes shall consist of two conduits, one conduit being a spare for future City use.
 - 8.3.3. Primary line routes:

- All conduit routes shall follow existing or planned Right-of-Way alignments.
 Where practical, electrical conduit and vaults shall be located outside pavement and driveways.
- 8.3.4. Pull-boxes and pads shall be located at least 6' feet away from roads (paved or unpaved), and above ground structures such as retaining walls and fire hydrants. Exceptions require City approval.

8.4. Trenching

8.4.1. Conduit clearances - per Table 1.

Table 1 – Conduit clearances

Minimum Clearances (inches)	Primary	Secondary	
Top to finished grade	48	36	
Side to trench wall	6	4	
Between conduits carrying cables of same voltage		3	
Between primary and secondary conduits		12	
To natural gas, water, sewer, storm drain infrastructure		24	

- 8.4.2. To the extent possible, trench bottoms shall be level. Rock spurs or ridges shall not project into the trench.
- 8.4.3. A grounding wire shall be run in the bottom of primary trenches in accordance with Section 8.6.
- 8.4.4. There shall be a minimum 4" below and 12" above cushion of approved sand around conduits. The width of the cushion shall be the width of the trench.
- 8.4.5. Trenches shall be backfilled from the top of the sand cushion to finished grade with type II aggregate compacted to 95% relative compaction. In areas that are not paved and not subject to vehicle traffic, trenches may be backfilled with native soil at 95% compaction.
- 8.4.6. Controlled Low Strength Material (CLSM) encasement is required along, and for a minimum of 12" on each side, of any conduit section or fitting that:
 - is less than 2' in any direction from a water, sewer, or storm drain pipe/structure
 - is required by City on field inspection (e.g., a sweep on a long conduit run)
- 8.4.7. CLSM encasement, if required, shall consist of a light concrete (three bag slurry) mix of at least 4" on the top, bottom and sides of conduit/fitting. Encasements shall be surrounded on all sides by a 4" minimum sand cushion.

- 8.4.8. Nonmetallic red warning tape is required for trenches located within the Public ROW. Tape shall be 6" wide, marked "Electric Utilities Buried Below" and shall be placed in trenches at least 18" below finished grade and at least 12" above the primary conduit.
- 8.4.9. See Exhibit B for all trench Detail cross section standards.
- 8.5. Conduits and fittings
 - 8.5.1. Conduits shall be Electrical Polyvinyl Chloride Conduit (EPC) meeting the requirements of NEMA TC 2, Schedule 40.
 - 8.5.2. Sweeps, couplings, spacers, and other conduit fittings shall meet the requirements of NEMA TC3 and be approved by the conduit manufacturer.
 - 8.5.3. Required conduit diameter per Table 2 of section 8.5.8.
 - 8.5.4. The customer shall keep conduit free of dirt and debris during installation.
 - 8.5.5. Maximum length of a primary conduit run between terminating structures (pullbox or pad): 600'.
 - 8.5.6. Conduit in a single run shall be constant diameter; reducers are not allowed.
 - 8.5.7. Conduit cuts should be cut straight and burrs removed.
 - 8.5.8. Minimum radius of conduit sweeps per Table 2.

Table 2 – Conduit diameter and sweep radius

Conduit Description	Conduit	Minimum Sweep Radius	
	Diameter	Radius	
Secondary	3"	36"	
Primary terminating on transformer pad	4"	36"	
Primary not terminating on transformer pad	6"	48"	

- 8.5.9. Maximum number sweeps in a single conduit run: 3. Maximum total bend of all sweeps in a conduit run: 270°.
- 8.5.10. Minimum length of straight conduit between sweeps: 15'.
- 8.5.11. Conduits, couplings and sweeps shall be joined using cleaner and cement approved for the conduit material used.

- 8.5.12. Spacers designed to relieve conduits of horizontal and vertical stress shall be installed every 8' in areas of CLSM encasement.
- 8.5.13. After a conduit run has been installed and backfilled, a mandrel with minimum dimensions per Table 3 shall be passed through the conduit in the presence of City designated representative. All conduits will be tested.

Table 3 – Conduit mandrel dimensions

Conduit Size	Mandel Diameter	Mandrel Length
3"	2.5"	3.25"
4"	3.5"	4.25"
6"	5.5"	6.25"

If the mandrel fails to pass through the conduit being tested, the defective conduit must be exposed, corrected, reburied, and re-mandrelled.

- 8.5.14. A flat pull line ("mule tape") capable of withstanding 2500 lbs. of tension, having sequential footage markings, shall be installed in each conduit run with 5 feet of extra line able to extend from each end of the conduit. The pull line shall be secured inside the conduit at ends of the conduit run.
- 8.5.15. Conduits shall be plugged with a poly plug with a pulling eye to prevent the entry of dirt and water.
- 8.6. Primary Grounding Electrode System
 - 8.6.1. Starting from the points of connection to the existing City primary system, a bare #2 copper grounding wire, consisting of 7 strands, shall be run through all primary trenches and pull-boxes to each transformer pad.
 - 8.6.2. The grounding wire shall be laid at the bottom of primary trenches and covered with 3" of soil before the sand cushion is added. The ground wire should not be surrounded by sand due to its poor electrical conductivity. See trench detail.
 - 8.6.3. Grounding wire entry shall be made through a 1" PVC conduit fitted into a hole pre-drilled by the pull-box manufacturer. Minimum grounding wire slack inside the pull-box shall be 6'.
 - 8.6.4. A grounding wire shall be brought up through the window of each transformer pad. Minimum grounding wire slack above the window shall be 2'.

8.6.5. Grounding wires shall be continuous (non-spliced) in trenches. All grounding wire connections shall be inside pull-boxes or transformer cabinets and made by City personnel.

8.7. Pull-Boxes

- 8.7.1. Pull-boxes shall be Jensen Precast type BC 4686 or City approved equal.
- 8.7.2. Pull-boxes shall be set upon a minimum of 12" of type II aggregate compacted to 95% relative compaction.
- 8.7.3. Each pull-box shall be set level, with the top 3" above finished grade in nonpedestrian areas. If the pull-box is located in a sidewalk, then is shall be set flush with existing sidewalk. Each pull-box shall have a 8" concrete collar installed around the lid.
- 8.7.4. Conduit shall only enter a pull-box through a pre-formed duct termination ("knockout") of the proper size. It is not acceptable to glue a conduit bell end in a larger size knockout.
- 8.7.5. Conduit shall enter the pull-box at the bottom most knockouts with additional conduits being added beside, then above the first.
- 8.7.6. A conduit entering a pull-box shall be straight for a minimum distance of 2' outside of the pull-box, and enter the pull-box perpendicular to the wall.
- 8.7.7. Grout or sealer shall be placed around each conduit entering a pull-box, on the outside and inside of the wall, to form a tight seal.

8.8. Transformer Pads

- 8.8.1. Transformer pads shall be Jensen Precast type JRS-13 pad, Rockway Precast type RS-13 or City approved equal.
- 8.8.2. A Jensen Precast type RS 304818 hand-hole shall be centered under the pad window with the 48" side of the hand-hole, 24" side of the window.
- 8.8.3. Pads shall be bedded with 8" 12" type II aggregate compacted to 95% relative compaction, and the surrounding excavation backfilled.
- 8.8.4. Pads shall be set level at finished grade. An area shall be leveled in front (doorside) of the pad, 10' long and width equal to that of the pad. See Exhibit C.

- 8.8.5. Conduit shall enter the hand-hole at a vertical angle, and extend into the handhole 4". Each conduit shall be placed sufficiently away from the wall of the handhole an electrical cable extending from the conduit will not contact the transformer pad when pulled up through the pad window.
- 8.8.6. Primary conduit placement: primary conduits shall enter the hand-hole in the right front quadrant, as viewed from the front of the transformer. If a second primary conduit is needed to run to a down-line transformer, that conduit should be placed to the right of the conduit that runs back towards the electric source. See Exhibit C.
- 8.8.7. Secondary conduit placement: secondary conduits shall enter the hand-hole in the left rear quadrant, as viewed from the front of the transformer. Additional secondary conduits, if needed, shall be placed in front of the first secondary conduit, up to a maximum of three conduits. If four or more secondary conduits are needed, they should be arranged in a "2x2" or "2x3" pattern. See Exhibit C.

8.9. Service Pedestals

- 8.9.1. The service pedestal shall comply with the Uniform Standard Specification of the Regional Transportation Commission of Southern Nevada, Section 623: Traffic Signals and Street Lighting, Section G.02.07: Electric Service Pedestals. City additions, exceptions, and clarifications are listed in section 6.9.2 through 6.9.7.
- 8.9.2. The service pedestal concrete pad shall set on a minimum 4" type II aggregate base, compacted at 95% relative compaction.
- 8.9.3. The service pedestal pad minimum dimensions shall be 2' x 2' x 2', with a minimum depth below finished grade of 18".
- 8.9.4. The concrete mix shall be Type V 4500 psi.
- 8.9.5. The grounding electrode conductor shall be solid copper wire, #6 AWG (or larger), brought down through interior of the pedestal and pad, and run at a minimum depth of 12" to a driven ground rod. If a second ground rod is driven in order to meet the NEC ground resistance requirement, the two ground rods shall be separated by a minimum distance of 6', and connected by #6 AWG (or larger) solid copper wire buried at a minimum depth of 12".
- 8.9.6. The meter socket base shall be UL recognized and provided with a sealing ring.

- 8.9.7. The pedestal shall have manufacturer-installed meter test blocks which allow power to be maintained to the load while the meter is removed for test or inspection.
- 8.9.8. Prior to requesting City installation of the meter, the Developer must sign up for service with the City.

9. STREET LIGHTS:

The developer shall install street lights per the latest Boulder City Standard, unless otherwise approved by the City Engineer.

Acorn Style	LED	See Exhibit D
Cobra Head Style	LED	RTC Standard Drawings

10. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND CITY STANDARDS:

All street signs and traffic markings shall be in compliance with the most recent addition of the MUTCD.

11. LANDSCAPING INSTALLATION:

All landscaping shall be installed per the <u>Approved</u> civil improvement plans. This is to include applicable irrigation metering and backflow devices.

12. LANDSCAPING MAINTENANCE:

The property owner and future property owners or Home Owners Association (if established) are responsible for the perpetual maintenance of all irrigation and landscaping within the public right of way adjacent to their property and all common areas associated with this development per City Code 9-15-16.

13. SURVEY MONUMENTS AND REFERENCE LINES OR POINTS:

The DEVELOPER is responsible for all monumentation required by Boulder City adopted standards.

14. IMPROVEMENT PLAN SUBMITTAL REQUIREMENTS:

The improvement plan review process will handle 3 submittals. Each submittal will undergo a review process with comments and a resubmittal addressing the comments. The three submittals will be a 60% plan set, a 90% plan set with an included bonding estimate sheet, and a 100% plan set with an included bonding estimate sheet.

A submittal will consist of one full size (24 x 36) hard copy set of plans and one digital set in PDF format. A complete bonding estimate sheet in hard copy and digital format.

14.1. The following is a list of requirements that must be provided on a set of 60% plans. 14.1.1. All of the Concept Review items

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- 14.1.2. Design issues identified at Concept Review resolved.
- 14.1.3. Correct City title block
- 14.1.4. Project title
- 14.1.5. Sheet Orientation: North or west is up
- 14.1.6. Stationing orientation left to right or bottom to top
- 14.1.7. Sewer stationing
- 14.1.8. Key sheet
- 14.1.9. Site map
- 14.1.10. Drainage basin map
- 14.1.11. Typical sections are proportionally correct and oriented in the direction of stationing.
- 14.1.12. Profile locate above plan view
- 14.1.13. All easements and Rights-of-Way
- 14.1.14. **Half street** improvements (without existing pavement): Proposed profile at gutter, edge of pavement, and centerline. Existing profile at centerline and proposed edge of pavement.
- 14.1.15. **Half street** improvements (with existing pavement): Proposed profile at gutter, centerline, and saw cut.
- 14.1.16. **Street** improvements (with existing pavement): Proposed profile at gutter, saw cut, front & back of walk, and building face (property line).
- 14.1.17. General Notes
- 14.1.18. Site specific details Street, ramps, driveways, etc.
- 14.1.19. Master water and sewer plan
- 14.1.20. Planting details (irrigation meter/RPPA/landscape)
- 14.1.21. Structural details (if applicable)
- 14.1.22. Electrical conduit plan
- 14.1.23. Street lighting (if applicable)
- 14.1.24. Erosion control plan, details & notes (number plan sheet EC xx) These sheets are not part of the total set do not number as so.
- 14.1.25. Temporary Traffic Control Plan (if detour or complicated closure required)
- 14.1.26. Construction notes
- 14.1.27. Storm water narrative (Public and Private treatment, detention and disposal)
- 14.1.28. Cut/fill lines (horizontal)
- 14.1.29. Utility locate pot hole
- 14.1.30. Bond estimate sheet (signed by Engineer)
- 14.2. The following is a list of requirements that must be provided on a set of 90% plans.
 - 14.2.1. Include everything from 60% plan submittal as refined by comments
 - 14.2.2. Include written response to previous City comments
 - 14.2.3. Include all items that will be offered for dedication to the City for perpetual maintenance
 - 14.2.4. Refined bond estimate to match plans (signed by Engineer)

- 14.3. The following is a list of requirements that must be provided on a set of 100% plans.
 - 14.3.1. Include everything from 90% plan submittal as refined by comments
 - 14.3.2. Include written response to previous City comments
 - 14.3.3. All of the concept development and design development items
 - 14.3.4. City Standard Drawings & Details
 - 14.3.5. Standard title block
 - 14.3.6. Engineer signature & stamp
 - 14.3.7. Refined bond estimate to match plans (signed by Engineer)

15. NOTICE OF COMMENCEMENT OF CERTAIN WORK:

The DEVELOPER shall notify the Public Works Department of the date and hour for when any of the following items is expected to begin, notification to be no less than 24 hours in advance of the anticipated start time of the work item; and if thereafter conditions develop to delay the start of work, the DEVELOPER agrees to notify the Public Works Department of the delay immediately.

All improvements as referenced in Exhibit "A" shall be inspected by the Public Works Department.

Inspections are available Monday through Thursday from 7:30 am to 5:00 pm. The DEVELOPER may request inspections outside of this time frame if the DEVELOPER provides 24 hour notice and pays the over-time inspection fee as required. Work in the Public Right-of-Way shall not be performed on Fridays, Saturdays, Sundays, or Holidays that are City Observed.

Should the DEVELOPER suspend work on any item longer than overnight (except during weekends and legal holidays), a new notification shall be made to the Public Works Department before work may begin anew on any items requiring inspection.

16. <u>APPROVAL OF WORK AFTER INSPECTION</u>:

- 16.1. Whenever the City Engineer or his duly authorized representative inspects portions of work as mentioned hereinbefore and finds the work performed to be in a satisfactory condition for inclusion in the completed project, the City Engineer or his duly authorized representative shall issue a statement in writing of inspection which shall permit the DEVELOPER to perform the next phase of the construction.
- 16.2. Inspection and approval of any item of work shall not forfeit the right of the City to require the corrections of quality workmanship or materials at any time during the course of work, although previously approved by oversight.
- 16.3. Nothing herein shall relieve the Engineer of Record and the DEVELOPER of the responsibility for proper design, construction, and maintenance of the work, materials

Form # OI-001 Created 5/15/2014 Revised 6/8/2016 and equipment required under the terms of this agreement until all work has been completed by him and accepted by the City of Boulder City.

17. ADJUSTMENT AND EXTENSIONS TO EXISTING UTILITIES AND COST THEREOF:

The DEVELOPER shall provide for extensions and adjustments necessary to all existing utilities because of the work required by this development, without cost to the City.

18. FULL COMPLIANCE WITH CITY REQUIREMENTS:

The DEVELOPER shall perform and complete all such improvements in accordance with the general regulations, specifications and ordinances of the said City of Boulder City and approval of the final construction plans shall not be made until all street plans and profiles, including drainage provisions, master water and sewer plan, electrical light layout, architectural arrangement of construction units and all other such plans and specifications as may be required have been submitted to, and approved by, the various City Departments concerned.

The City shall have the right to require corrections by the DEVELOPER at any time before release of the bond (or cash deposit in lieu of bond) required herein, of any item or items contained in this agreement which do not conform to City standards, specifications or ordinances, even though the plans for the item in question may have been approved by the Public Works Department.

The DEVELOPER shall start said improvements within thirty (30) days from the date of the signing of this agreement and said improvements shall be completed prior to occupancy of any structure or structures, except, when work falling under this agreement also falls under the agreement known as Restrictive Covenant Running with the Land, the said improvements shall be completed within twelve (12) months from the date of notification under that agreement.

In the event the DEVELOPER fails to complete said improvements within said period, the City, at its option may proceed to complete said improvements at the expense of the DEVELOPER or under his bond.

19. The One-year Warranty of Improvements, as required in accordance with the provisions of Section 11-39-8 (1) of the Boulder City Code, shall become effective upon City Council approval, by adoption of a resolution to that effect, of final acceptance of the public improvement's as stipulated in the Off-Site Agreement and Exhibit "A".

DEVELOPER

		Ву:		
STATE OF NEVADA)				<u> </u>
)s:	S			
COUNTY OF CLARK)				
On this	day of		_, 20	, personally
appeared before me,	a Notary Public for s	said State and County,		
		and and who executed the		
acknowledged to me purposes therein mei		he same freely and volu	untarily and	d for the uses and
		NOTARY PUBLIC in a County, State of Nev		ζ
	<u>CORPC</u>	DRATE CERTIFICATE		
		·		
		, certify that I		
		as DEVELOPER in the footsigned said Agreemen		
		of sai		
Agreement was duly s body and is within the	_	nalf of said Corporation ate powers.	by Authori	ty of its governing
(CORPORATE SEAL)		Secret	ary	