CEDAR CITY
PUBLIC WORKS IMPROVEMENTS
DESIGN CHECKLIST
ENGINEERING CHECKING LOG

PROJECT_____ DESIGN ENGINEER _____

DATE	CHECKER	HOURS	RATE	COSTS

TOTAL COSTS _____

PUBLIC WORKS IMPROVEMENTS
DESIGN CHECKLIST

Revised 05-6-14

PROJECT: _____ OWNER: _____ DESIGN ENGINEER: _____

LOCATION/ADDRESS:_____

Design Documents / Checked Item/details	Approved	Need	N/A	Criteria/Comments
A. Engineering Studies/Reports				
1. Soils Report				
A) Engineer	_____	___	___	_____
B) Findings	_____	___	___	_____
C) Recommendations				
1) Building Foundations	_____	___	___	_____
2) Street/Sidewalks	_____	___	___	_____
3) Underground Utilities	_____	___	___	_____
D) Consultant Review	_____	___	___	Where Required _____
2. Drainage Study				
A) Design Flows	_____	___	___	_____
B) Recommendations				
1) Storm Drains	_____	___	___	_____
2) Inlets	_____	___	___	_____
3) Detention Basin	_____	___	___	_____
3. Traffic Study	_____	___	___	_____
4. Sewer Study				
A) Design Flows	_____	___	___	_____

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	B) Gravity Pipe Sizing	____	____	____	____
	C) Pressure Pipe Sizing	____	____	____	____
	D) Lift Station Pump Sizing	____	____	____	____
	E) Wet Well Sizing	____	____	____	____
B. Engineering Drawings					
	1. Two sets of Check Prints	____	____	____	1- Eng. 1- Public Works
	2. Title Page				
	A) Project Name	____	____	____	____
	B) Project Site Plan	____	____	____	____
	C) Vicinity Map	____	____	____	____
	D) Drawing Index	____	____	____	____
	E) Approval Certifications				
	1) City Engineer	____	____	____	____
	2) Public Works Director	____	____	____	____
	F) Utility Contacts				
	1) Electrical	____	____	____	Name, Phone Number
	2) Natural Gas	____	____	____	Name, Phone Number
	3) Telephone	____	____	____	Name, Phone Number
	4) Cable T.V.	____	____	____	Name, Phone Number
	5) City Water	____	____	____	Name, Phone Number
	6) City Sewer	____	____	____	Name, Phone Number
	7) City Storm Drain	____	____	____	Name, Phone Number
	8) City Streets	____	____	____	Name, Phone Number
	9) City Engineer	____	____	____	Name, Phone Number
	3. All Drawings				
	A) Title Block				
	1) Project Name	____	____	____	____
	2) Date	____	____	____	____

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	3) Scale				
	4) Engineer/Surveyor				
	5) Sheet #				
	6) Section, Township & Range Location				
	B) North Arrow				
	C) Design Engineer's Certification (On all drawings)				
	1) Engineer's Stamp & Sig.				
	2) Internal Checker's Initials				
	3) Initialed Checklist				All Items Initialed
	D) Existing Private Utilities				
	1) Blue Stake				
	2) Locate				
	3) Show on Drawing				
	4) Labels				
	5) Dimensions				
4. Overall Improvement Plan					
	A) Survey Control				
	1) Monument				
	2) Line Bearing/Length				
	3) Basis of Bearing				NAVD 27
	4) Elevation Datum				
	B) Streets				
	1) Name/Number				
	2) Widths				
	3) Fillets				

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	4) Street Lights	____	____	____	_____
	C) Water System				
	1) Line Location	____	____	____	_____
	2) Line Size	____	____	____	_____
	3) Valving	____	____	____	_____
	4) Fire Hydrants	____	____	____	_____
	5) PRV's	____	____	____	_____
	6) Air/Vacs	____	____	____	_____
	D) Sewer System				
	1) Line Location	____	____	____	_____
	2) Line Size	____	____	____	_____
	3) Manholes	____	____	____	_____
	E) Drainage System				
	1) Line Location	____	____	____	_____
	2) Line Size	____	____	____	_____
	3) Manholes	____	____	____	_____
	4) Curb Inlets/Outlets	____	____	____	_____
	5) Channels	____	____	____	_____
	6) Basins	____	____	____	_____
	7) Irrigation Ditches	____	____	____	_____
5. Plan/Profile Sheets (Streets, Water, Sewer & Storm Drains on same plan/profile sheets)					
	A) Proposed Streets (Plan/Profile)				
	1) Master Planned Streets	____	____	____	_____
	2) Name/Number	____	____	____	No Duplicates
	3) Curve Information				
	a) Tags	____	____	____	_____
	b) Table	____	____	____	On each P/P sheet for curve on that sheet with Coordinates for P.C.'s, P.I.'s, & P.T.'s

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	c) Minimum Radius				Per Standards
	4) Horizontal Site Distance				
	5) Existing Street Transition (extend 200' beyond in 25' station increments for slopes & elevations)				
	a) Horizontal				
	b) Vertical				
	c) Saw Cut Edges				
	6) Future Street Transition (extend 200' beyond)				
	a) Horizontal				
	b) Vertical				
	7) Signs				
	a) Type				
	b) Location				
	8) Slopes				15% Max/0.5% min.
	9) Street Bearings/Lengths				
	10) Plan/Profile Elevations				
	a) Street Center lines				100 Ft. Station, P.C.'s & P.T.'s
	b) Top Back of Curb				All PC's and PT's
	c) X-Gutter Elevations				Both ends
	11) Vertical Site Distance				
	12) Cut/Fills				>5' = Soils Report
	13) Temp. Cul-de-sac				
	14) Street Widths				
	15) Curb, Gutter & Sidewalk				
	a) Location				
	b) Handicap Access				
	c) Cross Gutters				
	16) Driveways				
	a) Location				

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	b) Width	____	____	____	____
	c) Type	____	____	____	Residential/Commercial
	17) Centerline Monuments				
	a) Location	____	____	____	____
	b) Coordinates	____	____	____	____
	18) Intersections				
	a) 90° ± 5°	____	____	____	____
	b) Fillets	____	____	____	15' Minimum radius
	c) Vertical Alignment	____	____	____	4% Max. Grade of intersecting street
	d) Horiz. Alignment	____	____	____	Centerline Aligned or 150' apart
	19) Asphalt Tapers				
	a) Length	____	____	____	50' Minimum
	b) Chevron Signs	____	____	____	____
	20) Utility Conduit Crossings	____	____	____	Per Detail R-12
	21) Street Lights				
	a) Locations	____	____	____	Per Standards
	b) RMP J-Box/Trans	____	____	____	<10' from light
	c) Spacing	____	____	____	Per Standards
	d) Development Power Plan	____	____	____	____
	22) Finish Street Cross Sections	____	____	____	Every 200', 20 feet into lot
	23) Utility Maintenance Access Road	____	____	____	Per Detail R-5 for off-site water, sewer & storm drains
B. Proposed Water System (on Plan Only)					
	1) Master Planned Water Mains	____	____	____	____
	2) Water Mains				
	a) Size	____	____	____	8" Min./Update Model

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	b) Location				15' Off Road
	c) Material				Ductile Iron
	d) Valve Spacing				Per Standards
	e) Valve Type				>8-inch - Butterfly Valve
	f) Valve Coordinates				On Cedar City Coordinate System
	g) Fire Hydrants				
	h) Future St. Stubs				
	i) System Connection				
	j) Blow-Offs				
	k) PRV Stations				
	l) Min. Static Water Pressure				45 PSI Minimum
	3) Laterals				
	a) Size				1-Inch Minimum
	b) Location				Center of Lots
	c) Material				
	d) Valves				
	e) Meter Locations				Behind Sidewalk
	f) Coordinates				
	g) Cap/Thrust Ends				Larger Laterals > 3
C) Proposed Sewer (Plan/Profile)					
	1) Master Planned Sewer Mains				
	2) Gravity Sewers				
	a) Size				8" Minimum
	b) Location				Per Detail R-3 in Roads
	c) Material				PVC SDR.35
	d) Slopes				.5% Min. />10% - Velocity Data
	e) Manholes				

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	1. Location				400 Ft. Apart Maximum
	2. Size				4 Ft. Diameter Minimum
	3. Depth				9 Ft. Minimum (inv.)
	4. Coordinates				On Cedar City Coordinate System
	5. Invert In Elevation				
	6. Invert Out Elevation				Invert In - 0.05'
	7. Rim elev.				
	f) Temporary End Clean Out				
	1. Size				8- Inch Minimum
	2. Metal Cap				
	g) Future Street Stubs (Capped)				
	h) Connection Detail				
	i) Sewer Laterals				
	1. Size				4 - Inch Minimum
	2. Location				10' Off Lot Line Low Side
	3. Material				PVC or ABS SDR-35
	3) Pressure Sewers				
	a) Size				
	b) Location				In Roads
	c) Material				
	d) Color				
	e) Depth				
	f) Valve Spacing				1000' Maximum
	g) Valve Type				
	h) Valve Coordinate				

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	i) Future Stubs				
	j) Clean Out				
	k) Location Wire				
	l) Locate Posts				
	m) Laterals				
	1. Size				
	2. Location				
	3. Material				
	4. Valves				
	5. Cap/Thrust Ends				
	4) Lift Station				Per Standards
	D) Proposed Storm Drain Plan/Profile				
	1) Master Planned Storm Drains				
	2) Drainage Destination				
	3) Storm Drain				
	a) Size				12" Minimum
	b) Location				
	c) Slope/Profile				.5% Minimum
	d) Material				Concrete > 24" or HDPE <= 24"
	e) Manholes				
	1. Spacing				500 Ft. Apart max./at angle points
	2. Coordinates				On Cedar City Coordinate System
	3. Size				Per Detail S-5
	f) Metal End Sections				Per Detail D-4
	g) Curb Inlets				Per Detail D-1
	h) Curb Outlets				Per Detail D-2 or D-3
	4) Culverts				
	a) Size				15" Minimum

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	b) Slope				.3% Minimum
	c) End Elevations				
	d) Pipe Material				Concrete >24" or HDPE <=24"
	e) Metal End Sections				Per Detail D-4
	f) Curb Inlets				Per Detail D-1
	5) Open Channels				
	a) Plan /Profile				Slopes, elevations
	b) Cross Section				
	1. Side Slope				3:1 Maximum
	2. Total Depth				
	3. High Water Depth				
	4. Hydraulic Data				Flow, velocity, design storm
	6) Detention (per City Drainage Ordinance)				
	a) Size				Length/Width/Depth/Volume
	b) Berm Section				Slopes, Compaction
	c) Fencing				Per UDOT Detail 720-3
	d) Paved Access				Street Section
	e) Emergency Spillway Detail				Sized for 100 Year Storm
	f) Outlet Detail				
	7) Irrigation Ditches				
	a) Piped in Residential And Commercial				
	b) Irrigation Company Letter				
E) Section Corner Monumentation					
	1) Remonumented in Streets				

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	2) R.P.'s in Lots				
6. Grading Plan					Per Soils Report
7. Typical Sections/Details/Schedules					
	A) Testing Schedule				Detail X-3
	B) Road				
	1) Width				Detail R-4 - 50 ft. Minimum
	2) Sub-Base				Per Soils Report
	3) Base Gravel				Per Soils Report
	4) Asphalt				Per Soils Report
	5) Fog Seal				.15 Gal./S.Y. SS-1
	6) Saw Cut				
	C) Sidewalk/Curb & Gutter				
	1) Width				
	2) Thickness				
	3) Base Gravel				Per Soils Report
	4) Sub-Base				Per Soils Report
	D) Sewer Manholes				Detail S-2
	E) Thrust Blocks				Detail W-3
	F) Water Laterals				Detail W-5, W-6 or W-7
	G) Water Main Tie				Detail W-10
	H) Trench Sections				
	1) Standard Detail				Detail R-1 or R-2
	2) Soils requirements				
	I) Sign Installation/Asphalt Taper				Detail R-9
	J) Storm Drain Manholes				Detail D-4
	K) Curb Inlets				Detail D-1
	L) Curb Outlets				Detail D-2 or D-3
	M) Sewer Lateral				Detail S-1

Design Documents	Checked Item/Details	Approved	Need	N/A	Criteria/Comments
	N) Sewer Main Tie				
	O) Temporary Sewer Cleanout				Detail S-10
	P) Centerline Monuments				Detail R-8
	Q) Blow Off				Detail W-1
	R) Fire Hydrants				Detail W-2
	S) MH Valve Grades				Details S-2, W-1 & D-4
	T) Cross Gutters				Detail C-2
	U) Handicap Access				Detail C-5
	V) Utility Location				Detail R-3
	W) Conduit Crossings				Detail R-12
	X) Temp. Cul-de-sac Section				
	Y) End Section				Detail D-5
	Z) PRV Station				Detail W-4
	AA) Street Lights				Detail R-14, R-15 or R-16
	AB) Pressure Sewer Blow-Off Marking Post				
	AC) Driveways				
	AD) Utility Maintenance Access Roads				Detail R-5
C. Approvals/Clearance Letters					
	1. Prairie Dog Clearance Letter				On-Site and Off-Site Improvements
	2. HCP Participation Form				Signed and Notarized
	3. UDOT Approval Letter				If fronting State Highway
	4. Irrigation Company Approval Letter				
	5. Stamped/Signed Drawings				3 sets 24"X36", 1 set 11"X17"
	6. City Engineers Approval				
	7. Public Works Director Approval				