

IVINS CITY - MINIMUM FIELD TESTING CHECKLIST

Project Name:

Contractor:

MINIMUM FIELD TESTING		Asterisk (*) indicates that Ivins City has modified the lot size or other information from the APWA standard specification.							Use Testing Firm	Test Date	Passed?	Retest Date
		APWA Spec	Lot	Sublot	Samples /sublot	Ref Test	Standard					
EARTHWORK												
	Roadway Proof Rolling Prior to Fill	32 05 10	1/2 veh width				18,000 pounds/tandem axle, verify no deflections	Ivins City Compaction Standards (APWA Section 31 23 26 as modified): Under Landscaped Areas: 90% Under Roadways: 95% Under Footings: 95% Under Sidewalks/Trails: 95% Exception for fine grained soils compaction requirements are 91%. Per 31 23 26 as modified, use modified proctor (ASTM D1557) for all compaction tests. Compact in lifts 6" thick compacted for Roadbase and 8" thick uncompacted for all other fills.				
	Roadway Proof Rolling Subgrade	32 05 10	1/2 veh width				18,000 pounds/tandem axle, verify no deflections					
	Roadway Subgrade Field Moisture/Density	32 05 10*	750 sy	-	1	ASTM D1557 Method A or D	Meet Compaction Standards		x			
	Pavement Area Fill Field Moisture/Density	32 05 10*	500 cy	-	1	ASTM D1557 Method A or D	Meet Compaction Standards		x			
	Driveway Area Fill Field Moisture/Density	32 05 10*	500 cy	-	1	ASTM D1557 Method A or D	Meet Compaction Standards		x			
	Sidewalk Area Fill Field Moisture/Density	32 05 10*	500 cy	-	1	ASTM D1557 Method A or D	Meet Compaction Standards		x			
	Embankment Fill Field Moisture/Density	31 23 23*	500 cy	-	1	ASTM D1557 Method A or D	Meet Compaction Standards		x			
	Strip Footing Subgrade Field Moisture/Density	31 23 23	200 lf	-	1	ASTM D1557 Method A or D	Meet Compaction Standards		x			
	Footing (not strip) Subgrade Field Moisture/Density	31 23 23	225 sf	-	1	ASTM D1557 Method A or D	Meet Compaction Standards		x			
	Trench Subgrade Field Moisture/Density	33 05 20*	Test not required by Ivins City						x			
	Trench Fill Field Moisture/Density	33 05 20*	200 lf / 2 lifts**		1	ASTM D1557 Method A or D	Meet Compaction Standards		x			
	Trench Fill Field Moisture/Density beneath footing	33 05 20	25 sf / lift	-	1	ASTM D1557 Method A or D	Meet Compaction Standards		x			
	Misc. Small Structures Subgrade Field Moisture/Density	31 23 23*	Test not required by Ivins City						x			
	Misc. Small Structures Backfill Field Moisture/Density	31 23 23*	Every 2 lifts	-	1	ASTM D1557 Method A or D	Meet Compaction Standards		x			
FLOWABLE FILL												
	Flowable Fill Trench - Compressive	31 05 15	1 d	100 cy	3cyl	ASTM D4832	28 d strength is 60 psi or less	Moisture must be Optimum +/- 2% ** Test haunches and top of pipe zone	x			
	Flowable Fill Roadway - Compressive	31 05 15	1 d	250 cy	3cyl	ASTM D4832	28 d strength is 60 psi or less		x			
PULVERIZED PAVEMENT												
	Gradation (Lab)	02 41 15*	15000 sf	-	1	ASTM C136	Verify with engineer that meets requirements of design.	x				
	Depth	02 41 15*	5000 sf	-	1		Average thickness >= design thickness, no single location deviation of more than 1-inch					
	Field Moisture/Density Testing	02 41 15*	7000 sf	-	1	ASTM D558/ASTM D2922	Meet Compaction Standards	x				
	California Bearing Ratio or R-Value (Lab)		15000 sf	-	1	ASTM D1883/ASTM D2844	Verify with engineer that meets requirements of design.					
ROADBASE												
	Field Sample Gradation (Lab)	32 11 23*	15000 sf	-	1	ASTM C136	See 32 11 23 Table 3 (2007 Supplement)	x				
	Field Moisture/Density Tests - Pavement Area	32 05 10*	-	7000sf/ 2 lifts	1	ASTM D2922	Meet Compaction Standards	x				
	Field Moisture/Density Tests - Curb & Gutter, Waterways	32 05 10*	-	300lf/ 2 lifts	1	ASTM D2922	Meet Compaction Standards	x				
	Field Moisture/Density Tests - Sidewalk	32 05 10*	-	300lf/ 2 lifts	1	ASTM D2922	Meet Compaction Standards	x				
	Field Moisture/Density Tests - Driveway Approach	32 05 10*	-	1500sf/ 2 lifts	1	ASTM D2922	Meet Compaction Standards	x				
	Grade, Cross-slope	32 11 23*	1000 sf	-	2 minimum		3/8" per 10 ft in any direction					
	Field Moisture/Density - Trench	33 05 20*	200 lf/ 2 lifts	-	1	ASTM D2922	Meet Compaction Standards	x				
	Field Moisture/Density - Trench under footing	33 05 20	25 sf/lift	-	1	ASTM D2922	Meet Compaction Standards	x				
	Thickness	32 11 23*	5000 sf	-	2 minimum		Average thickness >= design thickness, no single location deviation of more than 1-inch					
	Strip Footing Field Moisture/Density Test	31 23 23	200lf/lift	-	1	ASTM D2922	Meet Compaction Standards	x				
	Footing (not strip) Field Moisture/Density Test	31 23 23	225sf/lift	-	1	ASTM D2922	Meet Compaction Standards	x				
	Misc. Small Structures Field Moisture/Density Test	31 23 23	each lift	-	1	ASTM D2922	Meet Compaction Standards	x				
ASPHALT												
	Mix design verification	32 12 05	Per Type/Source				Matches approved mix design					
	Air Voids (Lab)	32 12 05	1 day	500 tons	1	ASTM D5581	3 - 5 percent (32 12 05 Table 3)	x				
	Dust to Asphalt Ratio (Lab)	32 12 05	1 day	500 tons	1	ASTM D6307	See 32 12 05 Table 1	x				
	Gradation by extraction (Lab)	32 12 05	1 day	500 tons	1	ASTM D5444	See 32 12 05 Table 1	x				
	Asphalt Content (Lab)	32 12 05	1 day	500 tons	1	ASTM D5581	3 - 5 percent (32 12 05 Table 3)	x				
	Asphalt Field Temperature	32 12 16	Each Transport Vehicle		1		325 deg F Maximum					
	Asphalt Surface Temperature	32 12 16*	-	-	Continuous		325 def F. Maximum, See Table 3 for Minimum Temperature 10ft behind paver					
	Marshall Density	32 12 16*	1 day	7000 sf	1		See Table 1.5	x				
	Core Rice Density (Lab)	32 12 16*	7000 sf	-	2 cores min	ASTM D2041	Avg 92 to 96% Density, Lowest 89% or greater (See 32 12 16 Table 1 in supplement)	x				
	Core Thickness	32 12 16*	7000 sf	-	2 cores min	ASTM D3549	3/8" deficiency limit avg	x				
	Grade	32 12 16	-	-	-		Verify within tolerance. 1/8" in 10 ft parallel to centerline					
	Cross-Slope	32 12 16	-	-	-		Verify within tolerance. 1/4" in 10 ft perpendicular to centerline					
	Roughness	32 12 16*	0.1 Lane mi	-	Continuous	ASTM E950 & ASTM E1274	Verify (See 32 12 16 Table 4) - Only required on Arterial Streets	?				
CONCRETE												
	Mix design verification	03 30 04	Per Type/Source				Matches approved mix design					
	Compressive Strength	03 30 05	50cy or 1d	-	4cyl/lot	ASTM C39	See 03 30 04 Table 3 - 1 break at 7days, 3 breaks at 28days, avg must meet strength	x				
	Temperature	03 30 05	50cy or 1d	-	1	ASTM C1064	60 deg F to 90 deg F (03 30 10 p. 208)					
	Air Entrainment	03 30 05	50cy or 1d	-	1	ASTM C231	See 03 30 04 Table 3	x				
	Slump Tests	03 30 05	50cy or 1d	-	1	ASTM C143	Specific to exposure conditions and finishing need	x				
	Line	32 16 13	All curbs and gutters				Less than 1/2" in 10 ft					
	Grade & Flood gutters	32 16 13	All				No more than 1/4" in 10 ft, Remove & replace where ponding is found					
	Curb Ramps	32 16 14	All				No standing water, no trip, slopes					

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		APWA Spec	Lot	Sublot	Samples /sublot	Ref Test	Standard				
DRAINAGE SYSTEMS											
	Materials verification prior to installation		All materials				Matches approved materials, free from visual defects				
	Alignment and Grade	33 08 00	All pipe				1/2" in 10 ft, 1" max variance from true line, when grade is 1% or less, variances must be 50% less				
	Obstruction and Deflection Test (Mandrel)	33 08 00	All pipe				3 to 7.5 % depending on pipe type, 1-inch max protuberance				
	Infiltration Test	33 08 00	All pipe				max 50 gal per inch dia per mile per 24 hrs				
	Pressure Testing - for force mains	33 08 00	All pipe				225 psi for 2 hrs, check allowable leakage				
	Video Inspection	33 08 00	All pipe				Free from visual defects, submit video electronic files and video log	x			
	Air Test	33 08 00	All pipe			UNI-B-6, ASTM F1417, ASTM C924	Per manufacturer's recommendations				
	Cleaning	33 41 00	All pipe				remove all debris after testing				
SEWER LINES											
	Materials verification prior to installation		All materials				Matches approved materials, free from visual defects				
	Alignment and Grade	33 08 00	All mains and laterals				1/2" in 10 ft, 1" max variance from true line, when grade is 1% or less, variances must be 50% less				
	Obstruction and Deflection Test (Mandrel)	33 08 00	All mains				3 to 7.5 % depending on pipe type, 1-inch max protuberance				
	Infiltration Test	33 08 00	All mains and laterals				max 50 gal per inch dia per mile per 24 hrs				
	Pressure Testing - for force mains	33 08 00	All mains				225 psi for 2 hrs, check allowable leakage				
	Video Inspection	33 08 00	All mains				Free from visual defects, submit video electronic files and video log	x			
	Air Test	33 08 00	All mains and laterals			UNI-B-6, ASTM F1417, ASTM C924	Per manufacturer's recommendations				
	Cleaning	33 31 00	All mains and laterals				remove all debris after testing				
CULINARY WATER											
	Materials verification prior to installation		All materials				Matches approved materials, free from visual defects				
	Pressure Testing	33 08 00	All pipe				225 psi for 2 hrs, check allowable leakage				
	Obstruction and Deflection Test (Mandrel)	33 08 00	All pipe				3 to 7.5 % depending on pipe type, 1-inch max protuberance				
	Disinfection, Flushing & Bacteria Testing	33 13 00	All pipe				Negative Bacteria sample				
	Operational Inspection		All pipe				All equipment is operating as designed				
	Tracer Wire Continuity Test	33 08 00*	All wire				All wire provides a continuous signal				
SECONDARY WATER											
	Materials verification prior to installation		All materials				Matches approved materials, free from visual defects				
	Alignment and Grade	33 08 00	All pipe				1/2" in 10 ft, 1" max variance from true line, when grade is 1% or less, variances must be 50% less				
	Pressure Testing	33 08 00	All pipe				225 psi for 2 hrs, check allowable leakage				
	Flushing	33 13 00	All pipe				2.5 fps flush				
	Operational Inspection		All pipe				For Irrigation Equipment				
	Tracer Wire Continuity Test	33 08 00*	All wire				All wire provides a continuous signal				
ROADWAY LIGHTING											
	Materials verification prior to installation		All materials				Matches approved materials, free from visual defects				
	Continuity	26 56 19	Circuit	-	1		Pass/Fail				
	Grounding	26 56 19	Circuit	-	1		Pass/Fail				
	Megger Test at 500 V DC	26 56 19	Circuit	-	1		Insulation Resistance to Ground not less than 10 megohms				
	Voltage	26 56 19	Circuit	-	1		Record voltage measured				
	Current	26 56 19	Circuit	-	1		Record current measured				
	Functional Test	26 56 19	Function		5days		Continuous satisfactory operation				