

CITY OF HIGHLAND PARK UTILITY MATERIAL REQUIREMENTS		Contractor to Provide	Delivered Yes/No
<b>Water</b>			
Ductile Iron Pipe	Pressure Class 350 or Greater; Thickness Class 50 or Greater (w/ polywrap), AWWA C151 with mechanical-joint bell and plain spigot end		
Pipe Wrapping	ANSI/AWWA C105/A21.5 Polyethylene Wrap		
HDPE Water Main Pipe	HDPE SDR 7.0; AWWA C906 and approved for use with potable water under ANSI/NSF Standard 14. AWWA C906 and NSF 14 identifications must appear on exterior wall print line.		
PVC Pipe	Schedule 40, ASTM D 1785, C900		
Joint Gaskets	AWWA C111, rubber		
Bolts	Steel, AWWA C111		
Fire Hydrants	EJIW Model 5-BR250, AWWA C502, breakable flange type, open left (counter-clockwise), 5 1/4" valve seat opening and 6" diameter inlet, 6'-6" bury, two 33/4" (4.05" O.D.) pumper connections, w/ 4" Storz adaptor		
Storz Adaptor	Harrington 4" or approved equal		
Fire Hydrant Extensions	East Jordan Iron Works Hydrant Model 5-BR Extension Kit		
Fire Service Riser	Welded Fire Riser		
Tapping Sleeves	MSS SP-60, cast- or ductile-iron or stainless-steel, two-piece bolted sleeve with flanged outlet for new branch connection		
Gate Valves	AWWA C509 and AWWA C550, non-rising stem, high pressure, resilient seated, min pressure rating 250, shall be right (clockwise) to open		
Tapping Valve	AWWA, cast-iron, non-rising stem, resilient-seated gate valve with one raised face flange mating tapping-sleeve flange		
Butterfly Valves	Henry Pratt Rodney Hunt or approved equal		
Solid Sleeves	Shall be long sleeves		
Fittings	ANSI/AWWA C110/A21.10 or C153/A21.53 w/ Cement Mortar Lining & Asphaltic Seal Coat per ANSI/AWWA C104/A21.4 & Asphaltic Coating on Outside per ANSI/AWWA C110/A21.10 or C153/A21.53 Class 350 (Push-On) Solid Sleeves with Mechanical Joint and Cor-Blue Hardware		
Mechanical Joints for Hydrants & Solid Sleeves	EBAA Mega Lug Series 1100 Joint Restraint System; Bolts to be High Strength, Low Alloy Steel Ford Meter Box Company, Uni-Flange Retainer (UFR1400-D-x style)		
Valve Boxes	AWWA M44 for cast-iron, barrel approximately 5" in diameter, product # 06800019 shall be used including valve box cover # 6800		
Corporation Valve	FB 1000-4-NL		
Curb Stop Valve	Ford Z44-4444-M-NL		
Curb Boxes	Similar to AWWA M44 with barrel approximately 3" in diameter		

Coupling	Ford C44-XX		
Sampling Station	Non-freeze and drainable, 100 psig min., w/ one unthreaded nozzle with handle		
Soft Copper Tube	ASTM B 88, Type K, annealed temper		
Copper Unions	MSS SP-123, cast-copper-alloy, hexagonal-stock body with ball-and-socket, metal-to-metal seating surfaces, and threaded ends		
Plastic Tubing	ASTM D-2737, PE 3608 polyethylene plastic tubing (C.T.S.)		
Post Indicator	Clow model 2945A, By the same manufacturer as PIV valve, <i>open left</i>		
PI Valve	Clow F-6112, Push-On/ <i>open left</i>		
Gate Well	Brick or precast concrete with Kor-N-Seal		
Tapping Well	Precast concrete structure cut sheet		
Tracer Wire	#12 annealed copper wire or steel-core copper wire w/ blue insulation, open-cut sections must be polyethylene insulated 30 mils minimum thickness, directional drill areas must be a minimum of #6 and 30 mils minimum thickness		
Joint Restraint	U.S. Pipe – Megalug or approved equal		
Bore & Jack/Casing Spacers	ASTM 139		
Service Saddle Assemblies	AWWA C800, Ford Brass saddle style 202BSD or approved equal		
<b>Sewer/Drainage</b>			
Concrete Pipe	Reinforced ASTM Designation C-76 Class IV Reinforced Elliptical – ASTM Designation C-507 Non-Reinforced ASTM Designation C-14		
Concrete Pipe Joints	ASTM C-443		
HDPE Drainage Pipe	ADS N-12 Hancor Titeline Meeting AASHTO M-294 or ASTM F-892		
Steel Casing Pipe	Diameter of Pipe → Wall thickness (minimum) Under 14" → 0.250" 14", 16", 18" → 0.312" 18" → 0.375" 20", 22" → 0.375" 24", 26", 28", 30" → 0.500" 32", 34" → 0.563" 36", 38", 40", 42", 48" → 0.625" non-spiral, minimum yield strength 35,000 psi, leakproof joints, continuous welds; ASTMA53; Type E or S; Grade B ASTM A-139, Grade B, 35,000 psi Minimum Yield Strength		
HDPE Sewer Pipe Joints	ASTM D-3212		
Ductile Iron Sewer Pipe	Griffin H2Sewer Safe American Pipe with Protecto 401 Lining		
PVC Pipe	ASTM D3034-83 Minimum SDR-26		
PVC Pipe Joints	ASTM D 3212-81		

Edgedrain/Underdrain	except PVC plastic, shall conform with ASTM D3033; Geotextile wrapping		
Precast Manholes	ASTM C-478		
Concrete Masonry Units	ASTM C139 (only for use on storm sewer manholes)		
Concrete Brick	ASTM C-55, Grade N-1		
Frames and Covers	Cast Iron ASTM A 48, Class No. 30 per Casting Schedule (SD-GU-5 in PSSS); Note: 2 Pick holes allowed, not 3		
Flexible Pipe to Manhole Connector	Kor-N-Seal, Press Wedge, Pipe & Seal or approved equal		
Adjustment Rings	ASTM D1248-84 HDPE Ladtech		
Manhole Step	MA PS1-PF or Am. ML-10 and or PS1-B or Am. MSN 10		
Manhole Frame for 24-inch dia structure	EJIW 1045Z		
Manhole Frame	EJIW 1040A		
<b>Aggregates/Backfill Material</b>			
Class II Sand	Conforms to MDOT Class II with exceptions: 100% Passes 2" Sieve, Uniformity Coefficient = 6.0 or Greater		
21AA	Conforms to MDOT Sec. 8.02, Except Max. Loss by Wash is 8%		
6A Crushed Limestone	Required Bedding & Initial Backfill for PVC Sewer Pipe		
2NS	Required Bedding and Backfill for Road Underdrain/Edgedrain		
<b>Additional Items:</b>			
Concrete	Mix design and sieve analysis on aggregates		
Bituminous Paving Materials	Mix design and sieve analysis on aggregates		
Concrete Pipe	Pipe certification letter		
Concrete Manhole	Component part cut sheet for precast structures		
Water Pipe	Pipe certification letter		
Silt Fence	Catalogue cut sheet		
Inlet Filters	Catalogue cut sheet		
Aggregates	Each gradation for drainage system (3 different material certifications)		
Porous Paver Blocks	Catalogue cut sheet and sample		
Perforated Pipe	Catalogue cut sheet		
Underdrain	Catalogue cut sheet		
Plant Materials	Seed source certification		
<b>Last Updated: July 2018</b>			