

**HOUSTON INDEPENDENT
SCHOOL DISTRICT**



**Essential Functions and
Physical Demands Analysis**

Job Details

Job Title: Plumber Journeyman	Department: Facilities Management and Operations (Plumbing) Job Analyst: Benjamin Haynes, OTD
Job Code: 000857	
Date of Analysis: 11/12/03	

Summary of Essential Functions

The Plumber Journeyman with Houston Independent School District is required to perform the following essential functions during the course of a normal workday:

1. Responsible for receiving work orders from the General Supervisor in the department.
2. Responsible for obtaining special parts and equipment from vendors.
3. Responsible for completing general plumbing work.
4. Responsible for turning in daily service reports.

Product /Workplace Descriptions

The work of a Plumber Journeyman with Houston Independent School District is performed in a school district involved primarily in the education of school-aged children and students grades Kindergarten through twelfth grade. The specific department in which the duties are performed is the Facilities Management and Operations (Plumbing) department. The work of a Plumber Journeyman takes place throughout the HISD. The worker is required to complete work in schools and administrative buildings.

The Plumber Journeyman receives work orders from his/her General Supervisor in the Facilities Management and Operations (Plumbing) department. The worker is required at times to go out to vendors and obtain specific plumbing parts that may not be stocked by the department. The worker completes many general plumbing tasks, including, but not limited to: fixing leaks, installing new water lines, removing clogs from piping, repairing clogged drainage systems, and servicing specific equipment (water fountains, sinks, toilet bowls, dishwashers, washing machines, fountains). The worker must also complete some general paperwork related to plumbing work that is completed. This paperwork generally

denotes what work was completed, how much time it took to complete the work, and what types of parts and equipment was required to complete work.

The peak force required to pull sewer machine with wheels over concrete is 9.8 pounds. The sewer machine is pulled with one hand, generally with the forearm in supination or pronation. The handlebar for the sewer machine is 28 inches off the ground.

The weight of smallest sewer machine used by the Plumber Journeyman is 82.8 pounds. This sewer machine is the only sewer machine that is lifted independently. This sewer machine is lifted with two hands, generally with the forearms in supination, out of the back of the Plumber Journeyman's truck. This sewer machine has a handle bar that is 28 inches off the ground, and the base of the machine must be lifted up to 36 inches off the ground in order to get the machine into the back of the truck.

The weight of a power pony used to thread pipes by the Plumber Journeyman is 28.5 pounds.

The weight of a normal tool pouch is 9.4 pounds. This tool pouch is carried at all times by the Plumber Journeyman, with a shoulder strap over one shoulder.

The weight of 36-inch pipe wrench used by the Plumber Journeyman is 18.8 pounds. This pipe wrench could be used high up in the air, with an over the shoulder reach. This tool could be held for 15-20 minutes at a time with a neutral, pronated, or supinated grip.

The work of a Plumber Journeyman with Houston Independent School District is performed both indoors and outdoors in a school system environment. Temperature and humidity levels vary dependent upon the weather. The temperature and humidity levels indoors are generally ambient due to climate control. The temperature outside can vary from hot and humid during the summer months to cold and icy during the winter months. The worker must be able to endure the elements in order to successfully complete work related tasks and activities. The worker must also be able to ambulate safely in wet and slippery environments.

The worker is required to wear goggles, rubber gloves, leather gloves, earplugs, hard hats, asbestos suits, respirators, and rubber boots in the performance of this work.

Tools and equipment used in this Plumber Journeyman include, but are not limited to the following: various hand tools, sewer machines, snakes, rotary hammers, saw-zalls, power threaders, pipe vices, back hoe, jet machines, ladders, and jackhammers.

Regular, dependable attendance is an essential function of this position.

**HOUSTON INDEPENDENT
SCHOOL DISTRICT**



Physical Demands Analysis Summary Page

**Position Title: Plumber Journeyman
Operations (Plumbing)
Date of Analysis: 11/12/03**

Department: Facilities Management and

SITTING/STANDING/WALKING	Never (0%)	Occasional (1-33%)	Frequent (34-66%)	Constant (67-100%)	Worker's Ability	
					Yes	No
Sitting		√				
Standing			√			
Walking			√			
Crawling		√				

Peak Forces Involved in Work Processes

Force measurements were taken of various activities requiring strength in the performance of the Plumber Journeyman duties for this position. Force takes into consideration the average velocity and/or acceleration of the lift and the effort necessary to overcome inertia. Other factors taken into consideration are the necessary strength to grasp and perform manipulative activities that have an associated strength factor.

ACTIVITY PERFORMED	PEAK FORCE AVERAGE	Worker's Ability	
		Yes	No
Force required to pull sewer machine with wheels over concrete	9.8 pounds		

Lifting Activities

Note: All lifting activities cover both lifting and lowering processes. The point of origin and/or the destination of the lift are classified in the three body zone ranges. The weight ranges given are the weight of the product to be lifted or lowered and does not include the force to be employed in the lifting process. Frequencies are calculated based upon the number of lifts and lowers, the average time of each lift, and then divided into the total time in the workday.

LIFTING LEVEL FLOOR TO WAIST	Never (0%)	Occasional (1-33%)	Frequent (34-66%)	Constant (67-100%)	Worker's Ability	
					Yes	No
0-10 pounds		√				
10-20 pounds		√				
20-50 pounds		√				
50-70 pounds		√				
70 + pounds		√				
Total Floor to Waist Lifts		√				

LIFTING LEVEL WAIST TO SHOULDER	Never (0%)	Occasional (1-33%)	Frequent (34-66%)	Constant (67-100%)
0-10 pounds		√		
10-20 pounds		√		
20-50 pounds		√		
50-70 pounds		√		
70 + pounds		√		
Total Waist to Shoulder Lifts		√		

Worker's Ability	
Yes	No

LIFTING LEVEL ABOVE THE SHOULDER	Never (0%)	Occasional (1-33%)	Frequent (34-66%)	Constant (67-100%)
0-10 pounds		√		
10-20 pounds		√		
20-50 pounds		√		
50-70 pounds	√			
70 + pounds	√			
Total Above Shoulder Lifts		√		

Worker's Ability	
Yes	No

	Never (0%)	Occasional (1-33%)			Frequent (34-66%)			Constant (67-100%)			Worker's Ability	
		ND*	Dom.	Both	ND*	Dom.	Both	ND*	Dom.	Both	YES	NO
UPPER BODY												
Pushing					√	√	√					
Pulling					√	√	√					
Carrying		√	√	√								
Handling					√	√	√					
Grip Strength												
- Neutral Grip		√	√	√								
- Pronated Grip		√	√	√								
- Supinated Grip		√	√	√								
Pinch Strength												
- Key/Lateral		√	√	√								
- Palmar		√	√	√								
- Tip		√	√	√								
Fingering		√	√	√								
Feeling		√	√	√								
Reaching Below Knees		√	√	√								
Reaching Knee to Shoulder					√	√	√					
Reaching Above Shoulder		√	√	√								

LOWER BODY REQUIREMENTS	Never (0%)	Occasional (1-33%)	Frequent (34-66%)	Constant (67-100%)
Kneeling		√		
Crouching/Squatting		√		
Stooping		√		
Stair/Ladder/Climbing		√		
Balancing		√		
Crawling		√		

Worker's Ability	
Yes	No

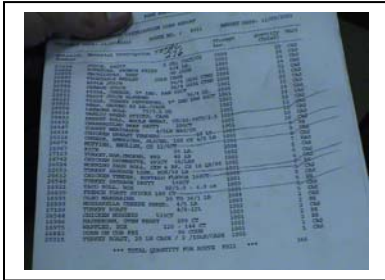
OTHER PHYSICAL DEMAND REQUIREMENTS	Never (0%)	Occasional (1-33%)	Frequent (34-66%)	Constant (67-100%)	Worker's Ability	
					Yes	No
Correctible Vision				√		
Uncorrected Vision	√					
Color Vision	√					
Talking			√			
Hearing			√			
Smell		√				

Additional Comments: _____	
Reviewed by: _____	Date: _____



Physical Demand Analysis

Job Title: Plumber Journeyman	Department: Facilities Management and Operations (Plumbing)
Prepared By: Benjamin Haynes, OTD	Date of Analysis: 11/12/03



Essential Function 1: Responsible for receiving work orders from the General Supervisor in the department.

Function Description: The Plumber Journeyman is responsible for receiving work orders from his/her General Supervisor in the department. The work orders could be in writing or they could be verbal.

Required Physical Demands	Description
Standing	Required to perform the duties associated with this essential function.
Walking	Required to perform the duties associated with this essential function.
Carrying	Required to perform the duties associated with this essential function. Required to carry paperwork, clipboard and writing utensil.
Reaching Knees to Shoulder	Required to perform the duties associated with this essential function.
Handling	Required to perform the duties associated with this essential function.
Grip Strength	
- Neutral Grip	Required to perform the duties associated with this essential function. Required to carry paperwork and clipboard.
Pinch Strength	
- Palmar Pinch	Required to perform the duties associated with this essential function. Required to manipulate paperwork.
- Tip Pinch	Required to perform the duties associated with this essential function. Required to manipulate paperwork and a writing utensil.
Correctible Vision	Required to perform the duties associated with this essential function.
Talking	Required to communicate with Supervisor to ask any pertinent questions regarding the work order.
Hearing	Required to communicate with Supervisor to ask any pertinent questions regarding the work

	order.
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Essential Function 2: Responsible for obtaining special parts and equipment from vendors.

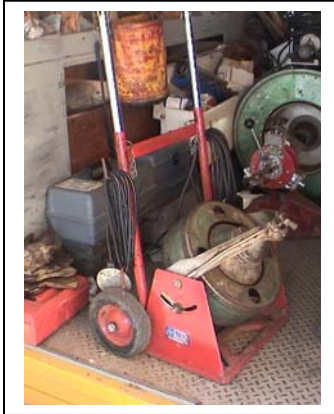
Function Description: The Plumber Journeyman is responsible for contacting vendors who specialize in plumbing parts and equipment. The worker must go out to the vendor, inspect parts, and determine what parts are needed to complete specific work orders. The FMO Plumbing department keeps parts and equipment in stock, but at times, additional items are required.

Required Physical Demands	Description
Standing	Required to perform the duties associated with this essential function.
Walking	Required to perform the duties associated with this essential function. Required to browse parts and equipment.
Correctible Vision	Required to perform the duties associated with this essential function.
Talking	Required to communicate with vendors to explain what types of parts and equipment are required to complete work.
Hearing	Required to communicate with vendors to explain what types of parts and equipment are required to complete work.



Essential Function 3: Responsible for completing general plumbing work.

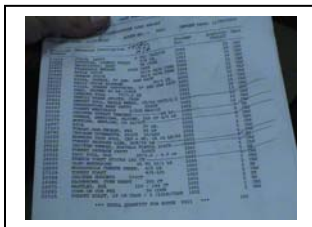
Function Description: The Plumber Journeyman is responsible for completing general plumbing work throughout the school district. The worker must be able to lift and manipulate various types of tools and equipment. The worker is required to service piping, water fountains, toilet bowls, sinks, drains, and large industrial coolers.



Required Physical Demands	Description
Standing	Required to perform the duties associated with this essential function.
Walking	Required to perform the duties associated with this essential function. Required to access worksites.
Sitting	Required to perform the duties associated with this essential function. At times, the worker is able to sit down to complete work related tasks and activities. The worker would be required to sit when working on piping under a counter top or other piping that is located close to the ground.
Stair/Ladder Climbing	Required to perform the duties associated with this essential function. Required to access job sites. The worker is required at times to transport the sewer machines up and down flights of stairs.
Balancing	Required to perform the duties associated with this essential function. Required when manipulating large tools and pieces of equipment.
Lifting	Required to perform the duties associated with this essential function. The weight of smallest sewer machine used by the Plumber Journeyman is 82.8 pounds. The weight of

	power pony used to thread pipes by the Plumber Journeyman is 28.5 pounds. The weight of a normal tool pouch is 9.4 pounds. The weight of 36-inch pipe wrench used by the Plumber Journeyman is 18.8 pounds.
Carrying	Required to perform the duties associated with this essential function. Required to carry tools and equipment.
Pushing	Required to perform the duties associated with this essential function. Required to push against hand tools when torquing. The sewer machine also has a traditional plumbing “snake” that is pushed into clogged drains.
Pulling	Required to perform the duties associated with this essential function. Required to pull against hand tools when torquing. The peak force required to pull sewer machine with wheels over concrete is 9.8 pounds. The sewer machine also has a traditional plumbing “snake” that is pulled out of clogged drains after the clog has been removed. At times, the Plumber Journeyman is required to develop a rope and pulley system to pull tools and equipment up onto rooftops.
Stooping	Required to perform the duties associated with this essential function. Required at times for sustained periods of time.
Kneeling	Required to perform the duties associated with this essential function. Required at times for sustained periods of time.
Crouching	Required to perform the duties associated with this essential function. Required at times for sustained periods of time.
Crawling	Required to perform the duties associated with this essential function. The Plumber Journeyman is required at times to crawl in order to access jobsites. The worker may have to crawl in between chase walls and in tight crawl spaces.
Reaching Below Knees	Required to perform the duties associated with this essential function.
Reaching Knees to Shoulder	Required to perform the duties associated with this essential function.
Reaching Above Shoulder	Required to perform the duties associated with this essential function.
Handling	Required to perform the duties associated with this essential function. Required to manipulate tools and equipment.
Grip Strength	
- Neutral Grip	Required to perform the duties associated with this essential function. Required to manipulate tools.
- Supinated Grip	Required to perform the duties associated with this essential function. Required to manipulate tools. Also required at times when pulling the

	sewer machine.
- Pronated Grip	Required to perform the duties associated with this essential function. Required to manipulate tools.
Fingering	Required to perform the duties associated with this essential function. Required for fine motor manipulation of small parts and equipment.
Pinch Strength	
- Lateral Pinch	Required to perform the duties associated with this essential function.
- Palmar Pinch	Required to perform the duties associated with this essential function.
- Tip Pinch	Required to perform the duties associated with this essential function.
Correctible Vision	Required to perform the duties associated with this essential function.
Smell	Required to perform the duties associated with this essential function. Required to detect sewer system back up and also gas leaks in boiler rooms.



Essential Function 4: Responsible for turning in daily service reports.

Function Description: The daily service report denotes how many hours were required to complete each job, what types of equipment was used to complete the job, and whether or not any additional tools or equipment were required to complete the job.

Required Physical Demands	Description
Sitting	Required to perform the duties associated with this essential function.
Pushing	Required to perform the duties associated with this essential function. Required to manipulate computer mouse/writing utensil. Also required to push computer keyboard keys.
Pulling	Required to perform the duties associated with this essential function. Required to manipulate computer mouse/writing utensil.
Stooping	Required to perform the duties associated with this essential function.
Reaching Knees to Shoulder	Required to perform the duties associated with this essential function.
Grip Strength	
- Pronated Grip	Required to perform the duties associated with this essential function. Required to grip computer mouse.
Fingering	Required to perform the duties associated with this essential function. Required to manipulate

	computer keyboard.
Pinch Strength	
- Palmar Pinch	Required to perform the duties associated with this essential function. Required to manipulate paperwork.
- Tip Pinch	Required to perform the duties associated with this essential function. Required to manipulate paperwork. Also required to manipulate writing utensil.
Correctible Vision	Required to perform the duties associated with this essential function.