

## REPAIR TEAM – WATER DISTRIBUTION SYSTEM

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| <b>DESCRIPTION</b>                             | The Repair Team - Water Distribution System repairs system mains, valves, hydrants, and other parts of the water distribution infrastructure  |
| <b>RESOURCE CATEGORY</b>                       | Public Works  |
| <b>RESOURCE KIND</b>                           | Team  |
| <b>OVERALL FUNCTION</b>                        | The Repair Team - Water Distribution System repairs all types of mains, valves, hydrants, and storage facilities in all types of water distribution facilities. The work encompasses excavation through backfill. This team does not repair pump stations.  |
| <b>COMPOSITION AND ORDERING SPECIFICATIONS</b> | <ol style="list-style-type: none"> <li>1. Discuss logistics for deploying this team, such as working conditions, safety, length of deployment, security, lodging, transportation, and meals, prior to deployment</li> <li>2. Requestor orders additional mission-specific National Incident Management System (NIMS) Utility Worker Specialist - Water Sector Infrastructure personnel, such as mechanics, welders, electricians, and repair technicians, as single resources to supplement this team</li> <li>3. Requestor provides details about water distribution components needing repair, such as specific water main materials and size ranges, typical depth, soil conditions, hydrant and valve makes and models, and any materials responders should provide</li> <li>4. Requestor provides plans showing water main locations and notifies "call-before-you-dig" services in the region</li> <li>5. Requestor specifies depth of main repair so provider can select appropriate shoring and trenching protection equipment</li> <li>6. Based on the mission, requestor and provider coordinate on welding equipment, traffic control considerations, and other deployment requirements</li> <li>7. Requestor orders NIMS typed water valve maintenance truck/trailer equipment in conjunction with any of the typed teams to support water valve maintenance and valve box/catch basin cleaning, if necessary</li> <li>8. Requestor provides external support, such as vehicle fuel and power for phones, computers, and other rechargeable devices</li> <li>9. Requestor specifies any necessary safety qualifications and equipment, such as confined-space entry, trenching, and shoring capabilities</li> </ol> |

Each type of resource builds on the qualifications of the type below it. For example, Type 1 qualifications include the qualifications in Type 2, plus an increase in capability. Type 1 is the highest qualification level.

| COMPONENT  | TYPE 1  | TYPE 2  | TYPE 3  | TYPE 4   | NOTES  |
|--|---|---|---|--|--|
| <b>MINIMUM PERSONNEL PER TEAM</b>                  | 8   | 7   | 6   | 5  | Not Specified  |
| <b>MANAGEMENT AND OVERSIGHT PERSONNEL PER TEAM</b> | Same as Type 2  | Same as Type 3  | Same as Type 4  | 1 - NIMS Type 1 Water Operations Team Leader                     | Not Specified  |
| <b>SUPPORT PERSONNEL PER TEAM</b>                  | Same as Type 2, PLUS:<br>1 - NIMS Utility Worker Specialist - Water Sector Infrastructure | Same as Type 3, PLUS:<br>1 - NIMS Utility Worker Specialist - Water Sector Infrastructure | Same as Type 4, PLUS:<br>1 - NIMS Utility Worker Specialist - Water Sector Infrastructure | 4 - NIMS Utility Worker Specialist - Water Sector Infrastructure | The NIMS Utility Worker Specialist - Water Sector Infrastructure can be a welder, electrician, or mechanic. Requestor specifies worker specialty based on mission needs. |
| <b>REPAIR CAPABILITY PER TEAM</b>                  | 24 inches and larger, with depths up to 20 feet   | 24 inches and smaller, with depths up to 20 feet  | 12 inches and smaller, with depths up to 10 feet  | 12 inches and smaller, with depths up to 6 feet                  | Not Specified  |

## Resource Typing Definition for Infrastructure Systems Public Works

| COMPONENT  | TYPE 1  | TYPE 2                                 | TYPE 3   | TYPE 4  | NOTES  |
|--|---|--|--|---|--|
| <b>SPECIALIZED EQUIPMENT PER TEAM</b>                      | Same as Type 2, PLUS:<br>1 - Type 3 hydraulic excavator (medium mass excavation: 1.85 to 4 cubic yard buckets)<br>1 - Truck with equipment boom | Same as Type 3                         | Same as Type 4, PLUS:<br>1 - Tandem dump truck | 1 - Backhoe loader<br>1 - Utility truck<br>1 - Tandem dump truck  | Equipment includes a full complement of industry-specific tools necessary for the operations and repairs indicated.  |
| <b>PERSONAL PROTECTIVE EQUIPMENT (PPE) PER TEAM MEMBER</b> | Same as Type 2  | Same as Type 3                         | Same as Type 4                                 | 1. Hard hat<br>2. Reflective vest<br>3. Gloves<br>4. Protective clothing<br>5. Protective footwear<br>6. Flashlight | PPE is mission-specific and may vary by work environment; it includes protective footwear, protective clothing for skin exposure, eye and ear protection, respirators, gloves, and masks.  |
| <b>ELECTRONICS EQUIPMENT PER TEAM</b>                      | Same as Type 2  | Same as Type 3                         | Same as Type 4                                 | 1. Laptop computer<br>2. Digital camera<br>3. GPS<br>4. Appropriate software  | 1. Appropriate software includes word processing, spreadsheet, and database management programs.<br>2. Consider other equipment and supplies as necessary based on ordering specifications.  |
| <b>COMMUNICATIONS EQUIPMENT PER TEAM</b>                   | Same as Type 2  | Same as Type 3                         | Same as Type 4                                 | 1. Cell phone<br>2. Portable radio  | 1. Consider alternate forms of communication, such as satellite phones, based on the mission assignment and team needs.<br>2. Requestor provides radio specifications.<br>3. Provider supplies necessary chargers and backup batteries for battery-powered portable equipment. |
| <b>TRANSPORTATION EQUIPMENT PER TEAM</b>                   | Same as Type 2  | Same as Type 3, PLUS:<br>1 - Truck/SUV | Same as Type 4                                 | 1 - Truck/SUV   | Vehicles must be capable of traversing rough terrain, flood conditions, and adverse environmental conditions, and must carry equipment necessary for maintaining vehicle operation.  |

## NOTES

Nationally typed resources represent the minimum criteria for the associated component and capability.

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## REFERENCES

1. FEMA, NIMS 508: System Flushing and Flow Testing Team – Water Distribution
2. FEMA, NIMS 508: Water Valve Maintenance (Truck/Trailer) – Water Distribution
3. FEMA, NIMS 509: Utility Worker Specialist – Water Sector Infrastructure
4. FEMA, NIMS 509: Water Operations Team Leader
5. FEMA, National Incident Management System (NIMS), October 2017
6. FEMA, National Response Framework, June 2016