

DIVISION 2

SECTION 02240 - WATER CONTROL AND DEWATERING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. The work of this section consists of controlling groundwater, site drainage, and storm flows during construction. The CONTRACTOR is cautioned that the work involves construction in and around drainage channels, local streams or rivers, and areas of local drainage. These areas are subject to frequent periodic inundation.

1.02 RELATED SECTIONS

- A. Section 02315 – Excavation and Embankments

PART 2 PRODUCTS

2.01 MATERIALS

- A. On-site materials may be used within the limits of construction to construct temporary dams and berms. The materials such as plastic sheeting, sand bags, and storm sewer pipe may also be used if desired by the CONTRACTOR.

PART 3 EXECUTION

3.01 CONSTRUCTION REQUIREMENTS

- A. General: For all excavation, the CONTRACTOR shall provide suitable equipment and labor to remove water, and he shall keep the excavation dewatered so that construction can be carried on under dewatered conditions where required by the Drawings and Specifications. Water control shall be accomplished such that no damage is done to adjacent channel banks or structures. The CONTRACTOR is responsible for investigating and familiarizing himself with all site conditions that may affect the work including surface water, level of groundwater and the time of year the work is to be done. All excavations made as part of dewatering operations shall be backfilled with the same type material as was removed and compacted to 95% of Maximum Standard Proctor Density (ASTM D698) except where replacement by other materials and/or methods are required. The CONTRACTOR shall conduct his operation in such a manner that storm or other waters may proceed uninterrupted along their existing drainage courses. By submitting a bid, the CONTRACTOR acknowledges that he has investigated the risk arising from such waters and has prepared his bid accordingly, and assumes all of said risk. At no time during construction shall the CONTRACTOR affect existing surface or subsurface drainage patterns of adjacent property. Any damage to adjacent property resulting from the CONTRACTOR's alteration of surface or subsurface drainage patterns shall be repaired by the CONTRACTOR at no additional cost to the OWNER. CONTRACTOR shall remove all temporary water control facilities when they are no longer needed or at the completion of the project. Pumps and generators used for dewatering and water control shall be quiet equipment enclosed in sound deadening devices.
- B. Surface Water Control: Surface water control generally falls in to the following categories:
 - 1. Normal low flows along the channel;
 - 2. Storm/flood flows along the channel;

3. Flows from existing storm drain pipelines; and,
 4. Local surface inflows not conveyed by pipelines.
- C. The CONTRACTOR shall coordinate, evaluate, design, construct, and maintain temporary water conveyance systems. These systems shall not worsen flooding, alter major flow paths, or worsen flow characteristics during construction. The CONTRACTOR is responsible to ensure that any such worsening of flooding does not occur. The CONTRACTOR is solely responsible for determining the methods and adequacy of water control measures.
- D. At a minimum, the CONTRACTOR will be responsible for diverting the quantity of surface flow around the construction area so that the excavations will remain free of surface water for the time it takes to install these materials, and the time required for curing of any concrete or grout. The CONTRACTOR is cautioned that the minimum quantity of water to be diverted is for erosion control and construction purposes and not for general protection of the construction-site. It shall be the CONTRACTOR's responsibility to determine the quantity of water which shall be diverted to protect his work from damage caused by storm water.
- E. The CONTRACTOR shall, at all times, maintain a flow path for all channels. Temporary structures such as berms, sandbags, pipeline diversions, etc., may be permitted for the control of channel flow, as long as such measures are not a major obstruction to flood flows, do not worsen flooding, or alter historic flow routes.
- F. Groundwater Control: The CONTRACTOR shall install adequate measures to maintain the level of groundwater below the foundation subgrade elevation and maintain sufficient bearing capacity for all structures, pipelines, earthwork, and rock work. Such measures may include, but are not limited to, installation of perimeter subdrains, pumping from drilled holes or by pumping from sumps excavated below the subgrade elevation. The foundation bearing surfaces are to be kept dewatered and stable until the structures or other types of work are complete and backfilled. Disturbance of foundation subgrade by CONTRACTOR operations shall not be considered as originally unsuitable foundation subgrade and shall be repaired at Contractor's expense.
- G. Any temporary dewatering trenches or well points shall be restored following dewatering operations to reduce permeability in those areas as approved by the ENGINEER.

END OF SECTION