CITY OF LIVERMORE

TECHNICAL SPECIFICATIONS

DIVISION 2 – EXISTING CONDITIONS

Section 022100 Monuments
Section 024100 Demolition

DIVISION 3 - CONCRETE

Section 033050 -Utility Cast-in-Place Concrete
Section 033055 -Cast-in-Place Concrete Pipe
Section 033500 -Textured Concrete Paving
Section 034800 -Precast Concrete Vaults, Utility Boxes, and Storm Water Field Drop Inlets
Section 036000 -Grout

DIVISION 5 - METALS

Section 055000 -Miscellaneous Metalwork
Section 055900 -Ductile Iron Pipe

DIVISION 9 - FINISHES

Section 099000 -Protective Coating

DIVISION 31 – EARTHWORK

Section 310000 - Earthwork
Section 311300 - Selective Tree and Vegetation Trimming and Removal
Section 311316 - Root Pruning
Section 312300 - Utility Earthwork
Section 312323 - Controlled Low Strength Materials (CLSM)

DIVISION 32 – EXTERIOR IMPROVEMENTS

Section 321000 - Asphalt Pavement, Base, and Surface Treatments
Section 321200 - Flexible Pavement Coatings
Section 321300 - Concrete Surface Improvements
Section 321400 - Interlocking Precast Concrete Pavers
Section 321723 - Traffic Stripes and Pavement Markings
Section 323113 - Chain Link Fences and Gates
Section 328000 - Irrigation Systems
Section 329113 - Landscape Soil Preparation
Section 329119 - Landscape Grading
Section 329300 - Landscape Planting
Section 329305 - Landscape and Irrigation Maintenance

DIVISION 33 – UTILITIES

Section 330130 - Sanitary Sewer and Storm Drain System Leakage Testing
Section 330523 - Steel Casing Boring and Jacking
Section 330526 - Piping Identification Systems

Section 331100 - Piping, General
Section 331102 - PVC Pressure Pipe
Section 331104 - Steel Pipe - Mortar-Lined and Mortar-Coated
Section 331106 - Steel Pipe - Fabricated Specials
Section 331200 - Miscellaneous Piping, Valves, Fittings, and Appurtenances
Section 331213 - Backflow Prevention Assemblies and Pressure Reducing Valves
Section 331215 - Valves, General
Section 331216 - Gate Valves
Section 331217 - Butterfly Valves
Section 331218 - Check Valves
Section 331219 - Fire Hydrants
Section 331233 - Water Meters
Section 331300 - Pressure Pipeline Testing and Disinfection
Section 333100 - Reinforced Concrete Pipe (PVC-Lined)
Section 333102 - ABS and PVC Composite Pipe
Section 333104 - Small ABS and PVC Non-Pressure Pipe
Section 333106 - Vitrified Clay Pipe
Section 333900 - Precast Concrete Maintenance Holes
Section 334100 - Corrugated Polyethylene Nonpressure Pipe (HDPE)
Section 334102 - Reinforced Concrete Pipe

DIVISION 34 – TRANSPORTATION

Section 344100 - Traffic Signals and Lighting Systems
Section 344105 - Signage

SECTION 022100 - MONUMENTS

PART 1 -- GENERAL

1.1 THE REQUIREMENT

A. The CONTRACTOR shall provide all materials, equipment, and labor necessary to furnish and install cast-in-place Portland Cement Concrete survey monuments and all appurtenant work, complete in place, as shown on the Drawings and as specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A.	Section 312300	Utility Earthwork.
B.	Section 321000	Asphalt Pavement, Base and Surface Treatments.
C.	Section 321300	Concrete Surface Improvements
D.	Section 033050	Utility Cast-in-Place Concrete.
E.	Division 1	General Requirements.

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. **Commercial Standards:**

ASTM A 48	Specification for Gray Iron Castings.

1.4 CONTRACTOR SUBMITTALS

A. **Certificates of Compliance:** Certificates of Compliance shall be provided for all products and materials proposed to be used under this Section.

PART 2 -- PRODUCTS

2.1 FRAME AND COVER

A. Monument frame and covers shall be grey iron castings conforming to ASTM A 48, Class 30. Monument cover shall be marked "Monument." Each cover shall be ground or otherwise finished so that it will fit in its frame without rocking. Monument frame and cover shall be **Phoenix Iron Works P-2501, Monroe #9279, or equal.**

2.2 BRONZE SURVEY MARKER

A. Bronze survey markers shall be a 2-1/2 inch domed disk with stem and appropriate survey information as specified on the Drawings.

2.3 FORMING TUBE

A. Tubes for forming portland cement concrete collar and monument shall be a non-metallic type of the size and dimensions shown on the Drawings.

2.4 PORTLAND CEMENT CONCRETE

A. Portland Cement Concrete for collars and footings shall be Class C in conformance with Section 033050, "Utility Cast-in-Place Concrete."

2.5 ASPHALT CONCRETE PAVEMENT

A. Asphalt concrete for monuments shall be in conformance with "Fine Asphalt Concrete Paving" in PART 2 – “Products” of Section 321000, "Asphalt Pavement, Base and Surface Treatments."

2.6 DRAIN ROCK

A. Drain rock material shall be in conformance with Permeable Material, Class 1 or 2, in PART 2 – “Products” of Section 312300, "Utility Earthwork."

PART 3 -- EXECUTION

3.1 GENERAL

A. Monuments shall not be installed until the asphalt concrete pavement has been completed. Monuments shall be installed at the locations shown on the Drawings.

B. Concrete, form tube, bronze survey marker, frame and cover, and asphalt concrete shall be installed as shown on the Drawings.

3.2 PORTLAND CEMENT CONCRETE

A. Hand mixing of the Portland Cement Concrete for use in constructing monuments will be allowed.

B. All portland cement concrete shall be placed and thoroughly consolidated.

3.3 ASPHALT CONCRETE PAVEMENT

A. Asphalt concrete for pavement shall be placed in conformance with PART 3 – “Execution” of Section 321000, "Asphalt Pavement, Base and Surface Treatments."

3.4 DRAIN ROCK

A. Drain rock material shall be installed in conformance with Section 312300, "Utility Earthwork," and shall be compacted to 95 percent relative compaction.

- END OF SECTION -

SECTION 024100 - DEMOLITION

PART 1 -- GENERAL

1.1 THE REQUIREMENT

A. The CONTRACTOR shall provide all materials, equipment and labor necessary to perform and complete all demolition work shown on the Drawings and as specified herein. This includes, but is not necessarily limited to, such items as demolition, removal, recycling and disposal of asphalt concrete, miscellaneous concrete, vegetation and all other structures, or features as required.

B. Manufactured articles, materials, equipment, and accessories shall be demolished in accordance with the manufacturer's printed specifications and recommendations, and industry standards, unless otherwise shown or specified.

C. Hazardous materials shall be handled, removed and disposed of in accordance with all regulatory agency requirements.

D. Building utilities shall be disconnected, removed, capped and identified in accordance with the appropriate agency requirements.

E. The CONTRACTOR shall coordinate with the CITY for demolition permits required by the CITY and with all other regulatory agencies and utility companies.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 312300 Utility Earthwork.

B. Division 1 General Requirements.

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. The demolition and sealing of wells, septic tanks and underground tanks shall be in accordance with regulatory agency requirements. The CONTRACTOR shall obtain all required permits and file all required reports.

B. **Commercial Standards:**

1. USA Underground Service Alert.

1.4 CONTRACTOR SUBMITTALS

A. **Demolition Schedule:** The CONTRACTOR shall submit a complete coordination schedule for demolition work including shut-off and continuation of utility services prior to start of the work. The schedule shall indicate proposed methods and operations of facility demolition, and provide a detailed sequence of demolition and removal work to ensure uninterrupted operation of occupied areas.

B. The CONTRACTOR shall provide copies of written agreements from private land owner's, landfill operators, or other agencies accepting disposal of any demolished material prior to any work.

1.5 JOB CONDITIONS

A. **Condition of Facilities:** The CITY assumes no responsibility for actual condition of facilities to be demolished. The CONTRACTOR shall visit the site and inspect the existing facilities.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION

3.1 OCCUPANCY AND POLLUTION CONTROL

A. Water sprinkling, temporary enclosures, chutes and other suitable methods shall be used to limit dust and dirt rising and scattering in the air. The CONTRACTOR shall comply with all government regulations pertaining to environmental protection.

B. Water shall not be used in a manner that creates hazardous or objectionable conditions such as ice, flooding, or pollution.

3.2 PROTECTION

A. Safe passage of persons around area of demolition shall be provided in accordance with all safety and regulatory requirements. Operations shall be conducted to prevent damage to adjacent buildings, structures, other facilities, people and property.

B. Interior and exterior shoring, bracing, or supports shall be provided to prevent movement, settlement or collapse of structures to be demolished and to adjacent facilities to remain.

C. Existing landscaping materials, structures, and appurtenances which are not to be demolished shall be protected and maintained as necessary.

D. The CONTRACTOR shall protect and maintain conduits, drains, sewers, pipes and wires that are not to be demolished.

3.3 SMALL STRUCTURE DEMOLITION

A. Small structures may be removed intact when acceptable to the ENGINEER and approved by the City Building Official.

B. Demolition shall proceed in a systematic manner, typically from top of structure to ground.

C. Concrete and masonry shall be demolished in small sections.

3.4 BELOW-GRADE DEMOLITION

A. Footings, foundation walls, below-grade construction and concrete slabs on grade including utility lines shall be demolished and removed to a depth which will not interfere with new construction but shall not be less than 12 inches below existing ground surface or future ground surface, whichever is lower.

B. Below-grade areas and voids resulting from demolition of structures shall be completely filled.

C. All fill and compaction shall be in accordance with Section 312300, "Utility Earthwork."

D. All fill and compaction surfaces shall be graded to meet adjacent contours and to provide flow to surface drainage structures, or as shown on the Drawings.

E. Where installation of new utilities require partial removal or demolition of an existing utility, the existing utility shall be removed to sound material. Pipes to be demolished that require no future connection shall be removed to the extent required and sealed and capped. Sanitary sewer laterals shall be removed as required and a new two-way sewer clean out shall be installed in accordance with the Standard Specifications and Details. Pipes to be demolished that require a connection shall

be removed to the extent required to install the new connection. Pipe sections shall be removed either by sawcutting, removing a complete pipe section to an existing joint, or other adequate means which results in a clean joint.

F. The CONTRACTOR shall demolish and seal all wells, septic tanks and underground tanks in accordance with applicable regulatory agency requirements and permits.

G. Joint domestic/fire service laterals shall be abandoned as follows:

1. The Blow Off Assembly shall be removed and capped underground.
2. At the connection to the main the existing lateral valve shall be removed and a blind flange shall be installed on the tee at the main. The lateral pipe shall be abandoned in place by capping both ends of the lateral pipe.
3. The existing structural section of the roadway shall be replaced in kind in accordance with the City Standard specifications.

3.5 AT GRADE DEMOLITION

A. All asphalt concrete and all portland cement concrete curbs, gutters, sidewalks, access ramps and driveways shall be saw-cut at the nearest scoreline or deep joint and removed entirely to the saw-cut limits. Where adjacent pavement or concrete is broken or deteriorated sufficiently to prohibit a sound replacement the entire deteriorated section shall be removed to the limits determined by the ENGINEER.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. Demolition and removal of debris shall be conducted to ensure minimum interference with roads, streets, walks and other adjacent occupied or used facilities which shall not be closed or obstructed without permission from the CITY. Alternate routes shall be provided around closed or obstructed traffic ways.

B. Site debris, rubbish and other materials resulting from demolition operations shall become the property of the CONTRACTOR and shall be removed by the CONTRACTOR at the CONTRACTOR's expense to a suitable site. The proper and legal disposal of demolished materials shall be the responsibility of the CONTRACTOR.

3.7 PATCHING AND REPAIRING

A. The CONTRACTOR shall provide patching, replacing, repairing and refinishing of damaged areas or damaged adjacent facilities involved in the demolition. New concrete shall match the existing adjacent surfaces, in kind or of better quality, to the satisfaction of the ENGINEER, at no cost to the CITY or to the owners of the facilities.

3.8 CLEANUP

A. During and upon completion of work the CONTRACTOR shall promptly remove unused tools and equipment, surplus materials, rubbish, debris and dust and shall leave areas affected by work in a clean, approved condition.

B. The CONTRACTOR shall clean adjacent structures and facilities of dust, dirt and debris caused by demolition, as directed by the ENGINEER or governing authorities, and return adjacent areas to condition existing prior to start of work.

C. The CONTRACTOR shall clean and sweep daily all street and roads affected by its operation.

- END OF SECTION -