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**NOTES:**
1. **STATEMENTS OF ESTIMATED QUANTITIES**
2. **DETERMINE THE TOTAL PROJECT QUANTITY OF EACH SUBCONTRACTOR**
3. **REFERENCES**
4. **SPECIFICATIONS**
5. **REVISIONS**
6. **CONTRACT DOCUMENTS**
7. **CONSTRUCTION DRAWINGS**

**STATEMENT OF ESTIMATED QUANTITIES & NOTES**

**SHEET NO. 3 OF 47 SHEETS**
GENERAL CONSTRUCTION NOTES
1. When the plan notes refer to the word "materials," it means the materials shall be in conformance with the listed specifications or products shall be in conformance with the product specifications and these materials shall be of the quality required for the project.
2. The contract shall be based on the materials and shall be subject to the terms and conditions of the contract.
3. Any materials specified in the contract shall be of the quality required for the project.
4. All materials shall be of the quality required for the project.

UTILITIES
1. The contractor shall be responsible for the installation of the utilities in the area.
2. The utilities shall be installed in the area.
3. The utilities shall be of the quality required for the project.
4. The utilities shall be of the quality required for the project.

REMOVALS
1. The contractor shall remove all materials and then the materials shall be removed from the area.
2. The contractor shall remove the materials from the area.
3. The contractor shall remove the materials from the area.
4. The contractor shall remove the materials from the area.

GRADING, BASE & SURFACE
1. All materials shall be installed with proper preparation, compacted and set to elevation.
2. All materials shall be installed with proper preparation, compacted and set to elevation.
3. All materials shall be installed with proper preparation, compacted and set to elevation.

EDUCATIONAL DETAILS
1. All materials shall be installed with proper preparation, compacted and set to elevation.
2. All materials shall be installed with proper preparation, compacted and set to elevation.
3. All materials shall be installed with proper preparation, compacted and set to elevation.

STANDARD PLATES & NOTES
1. The following standard plates shall be provided:

CITY STANDARD DETAILS
1. The following city standard details shall be provided:

STANDARD PLATES & NOTES
1. The following standard plates shall be provided:

Plate No. | Description
----------|------------
01773 | Supplemental Payment Requirements
01774 | Typical Concrete Slab Assembly (6 sheets)
01775 | Binder Casting for Manholes (For use in all traffic areas) - Casting No. 150 and 210
01776 | Standard Bariracles

EDUCATIONAL DETAILS
1. The following city standard details shall be provided:

<table>
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<tr>
<th>Item No.</th>
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<tr>
<td>E5</td>
<td>Electrical Rod, PE Material, PE Gas Main Coupling, Water Main Coupling, Electrical Rod (6 sheets)</td>
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<td>E6</td>
<td>All Steel 4&quot; and Larger PE Gas Main Couplings, Gas Main Branch Connections to Steel Main</td>
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<td>E7</td>
<td>Typical XH Joint</td>
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<tr>
<td>E8</td>
<td>PE Valve Box Setting</td>
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<td>E11</td>
<td>PE Gas Main Coupling</td>
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<td>E12</td>
<td>Water Valve Box - Relief Valve</td>
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<td>E13</td>
<td>Concrete Enclosed Valve Box Solar in Roadway</td>
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NOTES:
1. The typical duct bank consists of (36) 6" conduits in a 3x3 array on 3 cells. Re-alignment of the duct bank arrays is required at connections to exiting manholes and may be required for utility crossings if other obstructions are encountered. No change orders or modifications to the plan and spec for duct bank shall be permitted regardless of the number of times the re-alignment(s) required.

KEY NOTES (APPLY TO ALL TYPICAL SECTIONS AS NOTED):
1. Timming, elevations, locations, contacting and preparing in place base prior to paving shall be considered incidental.
2. Where surface material from excavation is not available, contractor shall provide aggregate gravel at the discretion of the engineer.
3. Concrete document shall consist of one 6" high concrete course with red one. Base course shall consist of 2" of concrete strengths concrete strength is five of the concrete strengths concrete required tests for each days four day strength. Refer to special provisions for additional requirements.
4. No adjustments in concrete quantities of masonry will be made for additional excavation above those shown or as may be required to align the contractor's concrete opinion. All future expansions, settlement, or other such events are to be considered incidental.
5. Spacers shall be placed in the correct locations spaced at a rate of 3 x 3 cells. Spacers shall be placed on 8" centers on center. Between the position of the pipe at each point the pipe shall be placed in the correct position and shall be placed at 8" centers on center. Provide sufficient spacing for the pipe to prevent displacement of the pipe during the concrete pour. The paving shall not act as a bearing surface for the pipe, maintain 72-inch spacing between center of center line and paving. Emergency power shall be furnished for installation by contractor.
6. Paving shall not be measured separately but shall be included for payment under item 20000-02, "Duct Bank.
7. Final grades shall match existing grades unless otherwise noted in the plans.
8. Paving concrete duct bank from STA. 124+50 to STA. 184+00 refers to special provisions for additional instructions and requirements.
9. Protect and prevent.
10. Where adjacent pavement is undermined by the contractor's operations such that removal of the fill material to the specified crown cannot be avoided, the contractor shall provide, repair or furnish material.
11. Sand and/or concrete pavement (full depth)
12. Payment for concrete pavement shall be limited to removal of inplace material between bottom of inplace pavement and bottom of proposed layer of granular material.
13. Refer to Steam and Hot Water Plans for steam and hot water design.
14. Water major relief lines shall be located prior to paving. Imperial Steel Reinforcing, Inc. is responsible for providing relief facilities during construction. Refer to Special Provisions.
15. Prime (incidental).

INSET A
In-place concrete paving, NTS

INSET B
In-place concrete paving, NTS

INSET C
Proposed concrete paving, NTS

INSET D
Proposed concrete paving, NTS

TYPICAL DUCT BANK SECTION
APPLIED: STA. 124+50 TO STA. 184+00
STA. 134+00 TO STA. 249+00
(CONCRETE SPACING & MATERIALS SHALL MEET MINIMUM NEC REQUIREMENTS)
WORK TO BE DONE (NOT TO SCALE)
1. REMOVE ALL MORTAR SPALLING CONCRETE TO SOUND CONCRETE.
2. REMOVE ALL CORROSION/EXPOSED REBAR/SPALLING CONCRETE.
3. KEEP EXPOSED REBAR WITHIN 1/2" (MIN) TO ENSURE STRENGTH.
4. LEAVE ALL EXPOSED CONCRETE SURFACES DRY TO 95% DRY.
5. USE FINE GRIT TEXTURAL CONCRETE OF APPROVED QUALITY.
   CRACK ALONG MORTAR LINE
   CRACK ALONG MORTAR LINE

KEY NOTES:
1. SMALL HOLE PATTERN UNDER THE SINGLE LAMP LENS FOR EASY ELECTRICAL WIRING.
2. POURED CONCRETE TO ASSIST TRAFFIC FLOW.

NEWER CONCRETE

MASONRY BRICK

SPALLING W/ EXPOSED REBAR

CONC ROOF

TO TOP OF CASTING ELEV = 620.97'
NOTE: VAULT LOOKED TO BE IN GOOD SHAPE STRUCTURALLY.

WORK TO BE DONE

1. INSTALL 6 - 6" PVC CONDUIT PER DETAIL ON SHEET 11.
2. INSTALL 6 - 6" PVC CONDUIT PER DETAIL ON SHEET 11.
3. INSTALL 6 - 6" PVC CONDUIT PER DETAIL ON SHEET 11.
4. INSTALL 6 - 6" PVC CONDUIT PER DETAIL ON SHEET 11.

KEY NOTES:
1. See typical connection detail on Sheet 11.
2. See typical connection detail on Sheet 11.
**MH-13 BUTTERFLY DIAGRAM**

**WORK TO BE DONE**

1. Remove all concrete/spalling concrete to show concrete.
2. Remove all concrete/brick from exterior render surfaces.
3. Apply a coat of gray primer to exterior render surfaces.
4. Clean all exterior render surfaces of dust & debris.
5. Use free-form functional concrete to stop or approved equal to fill all spalled concrete areas.

**KEY NOTES:**

1. REMOVE ALL SPALLED CONCRETE TO SHOW CONCRETE.
2. REMOVE ALL CONCRETE/BRICK FROM EXTERIOR RENDER SURFACES.
3. APPLY A COAT OF GRAY PRIMER TO EXTERIOR RENDER SURFACES.
4. CLEAN ALL EXTERIOR RENDER SURFACES OF DUST & DEBRIS.
5. USE FREE-FORM FUNCTIONAL CONCRETE TO STOP OR APPROVED EQUAL TO FILL ALL SPALLED CONCRETE AREAS.

**DRAWER INFORMATION:**

1. **CUT OFF:**
   - Cut off 3'-0" hole in the east & west concrete walls & remove all brick/concrete.
   - Install 4" thick coated repair dowels into the concrete with 6" long using 11W-6361 adhesive or approved equal.
   - Plate a - 6" diameter PVC conduit in hole.
   - Use 600 psi concrete to encase the new conductors.

2. **MH-13 SOUTH WALL CONNECTION DETAIL**

**NOT TO SCALE**
WEST SPALLING W/ EXPOSED REBAR

SPALLING

8' X 7' REPAIR SECTION SPALLING & SAGGING

SPALLING W/ EXPOSED REBAR

8" X 12" X 21" DEEP CAVITY W/ ABANDONED CONDUIT

CRACKING & SPALLING

48" X 28" X 26" DEEP CONDUIT POCKET

6.458' DEEP
8.5" CONCRETE CEILING
8" TO RIM TOP OF CASTING
ELEV. = XXXX

CONC

WEST
NORTH
EAST
SOUTH

6"
36"
16'-6"
8'-11" 31"

6.458' DEEP
8.5" CONCRETE CEILING
8" TO RIM TOP OF CASTING
ELEV. = XXXX

CONC

WORK TO BE DONE

1. REMOVE ALL LOOSE SPALLING CONCRETE TO SMOOTH CONCRETE
2. REMOVE ALL CORROSION PROOF CONDUIT REPAIR SURFACES
3. INSTALL CONTROL WIRE AND 6" PVC BUNDLE TO ALL CORRODED REPAIR SURFACES
4. INSTALL 6" PVC CONDUITRepair and 6" PVC CONDUIT Repair
5. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
6. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
7. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
8. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
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16. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
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18. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
19. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
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21. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
22. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
23. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
24. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
25. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair

KEY NOTES:

1. ALL CONDUIT MUST BE REMOVED FROM THE CONCRETE WALL
2. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
3. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair
4. INSTALL 6" PVC CONDUIT Repair and 6" PVC CONDUIT Repair

CONSTRUCTION DETAILS
TYPICAL PERMANENT WATER SERVICE CONNECTION (3" AND LARGER)

NOTE: TO SCALE

TYPICAL PERMANENT WATER SERVICE CONNECTION (2" AND SMALLER)

NOTE: TO SCALE

INSULATING WATER MAIN AT STEAM CROSSING

NOTE: TO SCALE
**REGIONAL CONTROL NOTES**

1. WASTES (E.G., CLAY) STORED ON-SITE PERMIT, CONSTRUCTION, SHALL APPLY.

2. THE CONTRACTOR IS RESPONSIBLE FOR COLLECTING CONTROL ON THE PROJECT. NO PERMIT IS ISSUED, CONSTRUCTION, SHALL APPLY.

3. MAINTAIN NO PERMIT TO DISPOSAL TO A PERMITTED FACILITY, CONSTRUCTION, SHALL APPLY.

4. CONSTRUCTION, SHALL APPLY.

5. CONSTRUCTION, SHALL APPLY.

6. CONSTRUCTION, SHALL APPLY.

7. CONSTRUCTION, SHALL APPLY.

8. CONSTRUCTION, SHALL APPLY.

9. CONSTRUCTION, SHALL APPLY.

10. CONSTRUCTION, SHALL APPLY.

11. CONSTRUCTION, SHALL APPLY.

12. CONSTRUCTION, SHALL APPLY.

13. CONSTRUCTION, SHALL APPLY.

14. CONSTRUCTION, SHALL APPLY.

**CONSTRUCTION PRACTICES TO MINIMIZE STORM WATER CONTAMINATION**

To prevent storm water contamination from occurring, the following practices will be implemented:

1. All areas that use storm water must be kept in a smooth condition to allow sheet flow of storm water and prevent pooling of water. Hydro-seeding/seed matting is used as a temporary practice.

2. A temporary construction pad will be constructed to reduce volume of sediment off the project vicinity.

3. All non-structural water materials will be collected and stored in appropriate storage containers or other approved containers and then transported to a properly approved facility. No other storage facility or container will be stored on-site.

4. PERMITTING WILL BE ISSUED AS NEEDED. FOR STORAGE CONTAINERS AND APPROVALS. FOR STORAGE CONTAINERS AND APPROVALS, WILL BE ISSUED AS NEEDED. ALL STORAGE CONTAINERS AND APPROVALS, WILL BE ISSUED AS NEEDED.

5. A Provide sediment and erosion control contractor will collect all sedimentation from the site to a state approved facility.

6. A Provide sediment and erosion control contractor will collect all sedimentation from the site to a state approved facility.

7. All storage and erosion control contractors will be provided with a copy of the approved plan and maintenance plan.

**PROJECT DETAILS**

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<th>Summary of Permitted and Impervious</th>
<th>TOTAL</th>
<th>DURING</th>
<th>HYDROGRAPHY</th>
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**EROSION & SEDIMENT CONTROL PLAN**

*Sheet No: 17 of 47 Sheets*
TEMPORARY WATER SERVICE SYSTEM STAGING REQUIREMENTS:

1. The contractor shall work with the city to ensure continuous service to all buildings served by the work.
2. Valves shall be composed sequentially, new water mains shall be tested and isolated in service prior to subsequent stages being started.
3. Refer to special provisions for additional requirements.

TEMPORARY WATER SERVICE SYSTEM NOTES:

1. The contractor shall provide a schedule project information and equipment list to the engineer for approval at least 14 days prior to installation of temporary water service.
2. The contractor shall submit a pre-installation meeting with the city of(such prior to the installation of the temporary water system.
3. Temporary water service shall be fully established for each water main construction stage prior to the construction of the new water main.
4. The contractor shall be responsible for installing the temporary water service system as shown on the plans. The contractor shall take adequate steps to protect temporary water service lines during construction.
5. The temporary water system shall meet the pressures and demand test requirements as specified in the city of(such standard construction specifications section.
6. Prior to making any connection temporary water service pipe the press shall be certified new water main caps should have is not accessible. If the pipe requires continuous water flow, temporary water services may be subcontracted and necessary for existing service lines to 300 PSI.
7. The contractor shall provide two (2) emergency pumps connected to the temporary water system. The emergency contract shall be available 24 hours a day and is staffed by certified emergency technicians. (See temporary water construction details)
8. Emergency 15 and 30 minute emergency leak test and hose controls. Where temporary water mains cross active vehicle and pedestrian path, the contractor shall provide vehicle paths around accessible areas to prosecute crossings.

KEY NOTES:
1. The existing services will be removed by the single connection to existing mains, coordinate with building owner to facilitate.

LEGEND:
- Phase 1 - Temporary Water Service System
- Phase 2 - Temporary Water Service System
- Phase 3 - Temporary Water Service System
- Phase 4 - Temporary Water Service System
- Provide Temporary Water Service Connection (see temporary water construction details)
- Connect Temporary Main to Existing Hydrant

GENERAL LAYOUT

TEMPORARY WATER SERVICE SYSTEM

MICHIGAN ST., 6TH-3RD AVE WEST
LAI PROJ. NO. 197724

SHEET NO. 22 OF 47 SHEETS
CONNECT SVC VIA MH ACCESS

TEMPORARY 6" PE MAIN (PHASE 1)
PROVIDE PERMANENT WATER CONNECION ASSEMBLY (SEE CONSTRUCTION DETAILS)

TEMPORARY MAIN TO SUPERIOR ST. HYDRANT. REFER TO GENERAL LAYOUT FOR CONTINUATION.

CONNECT TEMPORARY MAIN TO SUPERIOR ST. HYDRANT. REFER TO GENERAL LAYOUT FOR CONTINUATION.

NEW 20" HDPE CAP EXST'G WATER MAIN
EAST & WEST. PROVIDE TEMPORARY DEAD END THRUST BLOCKING (SEE CONSTRUCTION DETAILS)

20" BUTTERFLY VALVE
CONNECT TEMPORARY MAIN TO SUPERIOR ST. HYDRANT. REFER TO GENERAL LAYOUT FOR CONTINUATION.

PROVIDE TEMPORARY WATER SERVICE CONNECTION (SEE TEMPORARY WATER CONSTRUCTION DETAILS)

W. MICHIGAN ST.
CONNECT SVC VIA MH ACCESS

W. MICHIGAN ST.
CONNECT TEMPORARY MAIN TO SUPERIOR ST. HYDRANT. REFER TO GENERAL LAYOUT FOR CONTINUATION.

PROVIDE PERMANENT WATER CONNECION ASSEMBLY (SEE CONSTRUCTION DETAILS)

TEMPORARY 6" PE MAIN (PHASE 1)
PROVIDE PERMANENT WATER CONNECION ASSEMBLY (SEE CONSTRUCTION DETAILS)

TEMPORARY MAIN TO SUPERIOR ST. HYDRANT. REFER TO GENERAL LAYOUT FOR CONTINUATION.

NEW 20" HDPE CAP EXST'G WATER MAIN
EAST & WEST. PROVIDE TEMPORARY DEAD END THRUST BLOCKING (SEE CONSTRUCTION DETAILS)

20" BUTTERFLY VALVE
CONNECT TEMPORARY MAIN TO SUPERIOR ST. HYDRANT. REFER TO GENERAL LAYOUT FOR CONTINUATION.

PROVIDE TEMPORARY WATER SERVICE CONNECTION (SEE TEMPORARY WATER CONSTRUCTION DETAILS)

W. MICHIGAN ST.
CONNECT TEMPORARY WATER TO HYDRANT AT SE CORNER OF SUPERIOR ST. SEE GENERAL LAYOUT FOR CONTINUATION

TEMPORARY 2" PE MAIN (PHASE 3)

CLOSE MEDICAL ARTS ACCESS (SEE PROFILE)

NEW 20" HDPE MAIN

TWO EXISTING SERVICES WILL BE SERVED BY THIS SINGLE CONNECTION

MEDICAL ARTS ACCESS PHASE 2: OPEN PHASE 3: CLOSED REFER TO TRAFFIC CONTROL PLANS FOR ADDITIONAL REQUIREMENTS

MVCNTRAL ARTS ACCESS PHASE 2: CLOSED PHASE 3: OPEN REFER TO TRAFFIC CONTROL PLANS FOR ADDITIONAL REQUIREMENTS

TWO EXISTING SERVICES WILL BE SERVED BY THIS SINGLE CONNECTION
PROVIDE CAUTION WARNING TAPE & SIGNAGE AND PROVIDE ADA ACCESSIBLE PEDESTRIAN RAMPS ACROSS SIDEWALK WHERE REQUIRED. TYPICAL OF (2) LOCATIONS (MINIMUM)

CLOSE REPUBLIC BANK ACCESS

MAINTAIN REPUBLIC BANK ACCESS

SEE PHASE 3 PLANS FOR CONTINUATION

NEW 20" HOPE MAIN

TEMPORARY 2" PE MAIN (PHASES 3 AND 4)

CLOSE REPUBLIC BANK ACCESS

PROVIDE CAUTION WARNING TAPE & SIGNAGE AND PROVIDE ADA ACCESSIBLE PEDESTRIAN RAMPS ACROSS SIDEWALK WHERE REQUIRED. TYPICAL OF (2) LOCATIONS (MINIMUM)

67" BUTTERFLY VALVE

20" BUTTERFLY VALVE

LEGEND

PROVIDE TEMPORARY WATER SERVICE CONNECTION (SEE TEMPORARY WATER SERVICE CONSTRUCTION DETAILS)

PHASE 4

PROVIDE PERMANENT WATER CONNECTION ASSEMBLY (SEE PERMANENT WATER CONSTRUCTION DETAILS)

20" BUTTERFLY VALVE FOR TEMPORARY SVK & SVR

CONNECT HOSE TO NEW VALVE AT PHASE 4

NEW 20" HOPE MAIN

20" BUTTERFLY VALVE

20" BUTTERFLY VALVE

20" BUTTERFLY VALVE
KEY NOTES:
1. MAINTAIN ACCESS TO MEDICAL ARTS GARAGE AT ALL TIMES.
2. PROVIDE TEMPORARY TWO-WAY TRAFFIC PER TRAFFIC CONTROL DETAILS.
KEY NOTES:
1. Maintain access to Republic Bank at all times.
2. Maintain access to Medical Arts Garage at all times.
3. Provide two-way traffic per Traffic Control Details.

LEGEND:
- APPROPRIATE PHASE 3 WORK AREA
- PHASE 3 MICHIGAN ST. DETOUR ROUTE
- TRAFFIC FLOW ARROW

PHASE 3

W. SUPERIOR ST.

PHASE 3 MICHIGAN ST.

PHASE 3 6TH-3RD AVE WEST

T.R. 35 S.B.

T.R. 35 N.B.

W. RAILROAD ST.

E RAILROAD ST.

THANK YOU FOR YOUR ATTENTION AND INQUIRIES ARE WELCOME AT 313-251-5520