CITY OF ANN ARBOR
ENGINEERING

HIGH LEVEL TRUNKLINE
SANITARY SEWER REHAB

RFP No. 22-70, FILE No. 2022024
NOTE: THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS DIG PRIOR TO CONSTRUCTION.

**ROAD CROSS-SECTION DETAIL**

**HMA APPLICATION ESTIMATE**

<table>
<thead>
<tr>
<th>HMA MIX</th>
<th>RATE OF APPLICATION</th>
<th>THICKNESS (INCHES)</th>
<th>AWI (MIN.)</th>
<th>BINDER</th>
<th>LOCATION/NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>5E1</td>
<td>220 LB/SYD</td>
<td>2</td>
<td>260 (TOP)</td>
<td>64-28</td>
<td>TOP COURSE</td>
</tr>
<tr>
<td>4E1</td>
<td>220 LB/SYD</td>
<td>2</td>
<td>-</td>
<td>64-28</td>
<td>LEVELING COURSE</td>
</tr>
<tr>
<td>3E1</td>
<td>330 LB/SYD</td>
<td>3</td>
<td>-</td>
<td>64-28</td>
<td>BASE COURSE</td>
</tr>
<tr>
<td>Bond Coat SS-1h</td>
<td>0.05 - 0.15 GAL/SYD</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>INCLUDE IN COST OF HMA ITEM</td>
</tr>
</tbody>
</table>
BYPASS MANHOLE DETAIL

6" CONC. M.H. BLOCK WITH MORTAR JOINTS & FILLED Voids. OUTSIDE FACE SHALL RECEIVE 1/2" MORTAR COAT AND STRUCK SMOOTH.

MIN (1):MAX (3) BRICK OR 2" PRECAST CONC. ADJUSTMENT RING COURSES FOR ADJUSTING CASTING TO FINISH GRADE

6" CONC. M.H. BLOCK WITH MORTAR JOINTS & FILLED Voids. OUTSIDE FACE SHALL RECEIVE 1/2" MORTAR COAT AND STRUCK SMOOTH.

INSTALL WRAPID SEAL BY CCI PIPING SYSTEMS OVER THE EXTERIOR OF ALL REPAIRED MANHOLE SECTIONS

INSTALL TEMPORARY ROAD PLATE TO MAINTAIN TRAFFIC WITH TEMPORARY ASPHALT RAMPS AS NECESSARY TO ENSURE SMOOTH PATH OF TRAVEL

CITY OF ANN ARBOR STANDARD SANITARY SEWER CASTING

CASTING AND BRICKS POINTED WITH MORTAR

HDPE TEMPORARY BYPASS PIPE

REMOVE EXISTING MANHOLE CONE AND CASTING AS NECESSARY TO INSTALL HDPE BYPASS PIPE

21AA COMPACTED TO 96% OF THE MAXIMUM DRY DENSITY

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Know what's below. Before you dig. Call R.
NOTE: TRENCH ACROSS HURON STREET SHALL BE INSTALLED IN TWO PHASES TO MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES.

MAINTAIN NORTH-SOUTH CROSSWALK DURING BYPASS OPERATION. REPLACE CROSSWALK MARKINGS AS NEEDED UPON CONSTRUCTION COMPLETION. (PAVT MRKG, ONLY COLD PLASTIC, 12-INCH CROSSWALK)

SAWCUT AND REMOVE PAVEMENT TO CUT TRENCH FOR BYPASS LINES. INSTALL ROAD PLATE TO MAINTAIN TWO-WAY TRAFFIC. REPAVE 10' SECTION OF ROADWAY UPON CONSTRUCTION COMPLETION.

PROPOSED 6" HDPE SDR11 BYPASS (1.1 CFS INCLUDING ALL CONNECTED BYPASS PIPES) INSTALLED AT GRADE ALONG SIDEWALK INSTALLED IN TRENCH ACROSS HURON ST.

NOTE: TRENCH ACROSS HURON STREET SHALL BE INSTALLED IN TWO PHASES TO MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES.

PROPOSED 15" HDPE SDR11 BYPASS (8.5 CFS INCLUDING ALL CONNECTED BYPASS PIPES) INSTALLED AT GRADE ALONG SIDEWALK INSTALLED IN TRENCH ACROSS HURON ST.

TOPOGRAPHIC INFORMATION WAS PROVIDED BY OTHERS. UTILITY INFORMATION IS PRESENTED BASED ON THE BEST INFORMATION AVAILABLE. CONTRACTOR TO FIELD VERIFY CONDITIONS AND CONTACT MISS-DIG PRIOR TO ANY EXCAVATION.

NOTE: TRENCH ACROSS HURON STREET SHALL BE INSTALLED IN TWO PHASES TO MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES.

SAWCUT AND REMOVE PAVEMENT TO CUT TRENCH FOR BYPASS LINES. INSTALL ROAD PLATE TO MAINTAIN TWO-WAY TRAFFIC. REPAVE 10' SECTION OF ROADWAY UPON CONSTRUCTION COMPLETION.

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PROPOSED 15" HDPE SDR11 BYPASS (8.5 CFS INCLUDING ALL CONNECTED BYPASS PIPES) INSTALLED AT GRADE ALONG SIDEWALK INSTALLED IN TRENCH ACROSS HURON ST.

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Notes:

1. Contractor shall provide traffic control as required by the City or as indicated on these plans to protect the bypass pumping setup.

2. Where bypass pipe crosses a sidewalk, pedestrian access shall be maintained using an ADA compliant ramp over bypass pipe unless otherwise noted.

3. Low-profile bypass road ramps shall be rated for 15-20 ft. loading and secured in place in accordance with the manufacturer's recommendations. Contractor to restore a clean pavement surface once ramps are removed.

4. Low-profile bypass road ramps shall be checked for leaks upon pump startup, and daily for the duration of bypass pumping. Contractor shall monitor 24-hours per day while the pumps are running.

5. Bypass flow rate estimates and pipe sizing on the plans are estimated for dry weather flows only.

6. Contractor shall monitor the maximum practical distance from highway tracks along the bypass route, and maintain a minimum of 0.5 feet separation from center of railway. The bypass pipe in the rail right-of-way shall be marked with high-visibility reflective tape.

7. Contractor to verify locations of underground utilities with Trenching prior to any excavation.

8. Bypass pipe shall be staked in place or otherwise secured to prevent movement.

Jefferson to William Bypass Overview
CUT TRENCH FOR BYPASS LINE, INSTALL ROAD PLATE TO MAINTAIN TWO-WAY TRAFFIC, REPave 18' SECTION OF ROADWAY UPON CONSTRUCTION COMPLETION.

NOTES:
1. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY THE CITY OR AS INDICATED IN THESE PLANS TO PROTECT THE BYPASS PUMPING SETUP.
2. WHERE BYPASS PIPE CROSSES A SIDEWALK, PEDESTRIAN ACCESS SHALL BE MAINTAINED USING AN ADA COMPLIANT RAMP OVER BYPASS PIPE UNLESS OTHERWISE NOTED.
3. LOW PROFILE BYPASS ROAD RAMPS SHALL BE RATED FOR H-20 LOADING AND SECURED IN PLACE IN ACCORDANCE WITH THE MANUFACTURER’S RECOMMENDATIONS. CONTRACTOR TO RESTORE A CLEAN PAVEMENT SURFACE ONCE RAMPS ARE REMOVED.
4. LOW PROFILE BYPASS ROAD RAMPS SHALL BE CHECKED FOR LEAKS UPON PUMP START-UP AND DAILY FOR THE DURATION OF BYPASS PUMPING. CONTRACTOR SHALL MONITOR 24-HOURS PER DAY WHILE THE PUMPS ARE RUNNING.
5. BYPASS FLOW RATE ESTIMATES AND PIPE SIZING ON THE PLANS ARE ESTIMATED FOR DRY WEATHER FLOWS ONLY.
6. CONTRACTOR TO VERIFY LOCATIONS OF UNDERGROUND UTILITIES WITH MMS-200 PRIOR TO ANY EXCAVATION.
7. BYPASS PIPE SHALL BE STACKED IN PLACE OR OTHERWISE SECURED TO PREVENT MOVEMENT.

Washington to Miller Bypass Overview

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William to Washington Bypass Overview

NOTES:
1. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY THE CITY OR AS INDICATED ON THESE PLANS TO PROTECT THE BYPASS PUMPING SETUP.
2. WHERE BYPASS PIPE CROSSES A SIDEWALK, PEDESTRIAN ACCESS SHALL BE MAINTAINED USING AN ADA COMPLIANT RAMP OVER BYPASS PIPE UNLESS OTHERWISE NOTED.
3. LOW-PROFILE BYPASS ROAD RAMPS SHALL BE RATED FOR H-25 LOADING AND SECURED IN PLACE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS, CONTRACTOR TO RESTORE A CLEAN PAVEMENT SURFACE ONCE RAMPS ARE REMOVED.
4. LOW PROFILES BYPASS ROAD RAMPS SHALL BE CHECKED FOR LEAKS UPON PUMP STARTUP, AND DAILY FOR THE DURATION OF BYPASS PUMPING. CONTRACTOR SHALL MONITOR 24-HOURS PER DAY WHILE THE PUMPS ARE RUNNING.
6. CONTRACTOR SHALL MAINTAIN THE MAXIMUM PRACTICAL DISTANCE FROM RAILROAD TRACKS ALONG THE PROPOSED ROUTE, AND MAINTAIN A MINIMUM OF 20 FEET SEPARATION FROM CENTER OF RAILWAY. THE BYPASS PIPE IN THE RAILROAD RIGHT-OF-WAY SHALL BE MARKED WITH HIGH VISIBILITY REFLECTIVE TAPE.
7. CONTRACTOR TO VERIFY LOCATIONS OF UNDERGROUND UTILITIES WITH MISS-20 PRIOR TO ANY EXCAVATION.
8. BYPASS PIPE SHALL BE STACKED IN PLACE OR OTHERWISE SECURED TO PREVENT MOVEMENT.
Manhole  
Sanitary Lead  
Sanitary Main  
Proposed Lining

Crosslot from S. Ashley St to S. First St

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71-XXXXX (Manhole ID)  
X.XX ft (Manhole Depth)
Crosslot from S. Ashley St to S. First St

For terms and conditions of use see www.a2gov.org/terms
S. First St between W. Liberty St & W. Washington St

For terms and conditions of use see www.a2gov.org/terms
S. State St & Arch St

71-XXXXX (Manhole ID)
X.XX ft (Manhole Depth)

For terms and conditions of use see www.a2gov.org/terms
Xlot between W. Liberty St & S. First St

For terms and conditions of use see www.a2gov.org/terms
Xlot between W. Jefferson St & S. Ashley St

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