2024 MISCELLANEOUS UTILITIES PROJECTS

HURONVIEW BLVD. (WATER MAIN) - 2023009
ORKNEY DR. / CULVER RD. (WATER MAIN) - 2023009
ANN ARBOR RAILROAD/BOARDWALK (CULVERT) - 2022037

RFP No. 24-10
# 2024 MISCELLANEOUS UTILITIES PROJECTS

RFP NO. 24-10, FILE No. 2023-009

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**NOTES**

**PREPARED UNDER THE SUPERVISION OF**

JOHN V. BALINT, P.E. - MI LICENSE No. 6201054062

Hubbel, Roth, & Clark, Inc.

**DATE**

2 / 8 / 2024

**CITY APPROVAL**

2 / 8 / 2024

TRACY ANDERSON, P.E. - MI LICENSE No. 6201065162

PROJECT MANAGER

---

**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**

301 EAST HURON STREET

P.O. BOX 8647

ANN ARBOR, MI 48107-8647

734-794-6410

www.a2gov.org

© 2024 MISCELLANEOUS UTILITIES PROJECTS; BID No. RFP No. 24-10; 2023-009
### Construction Notes:

1. All work must be performed in accordance with the plans and specifications provided to the contractor.
2. The contractor shall ensure that all work is performed in a safe and workmanlike manner.
3. The contractor shall take all necessary precautions to prevent damage to existing utilities and property.
4. The contractor shall coordinate with public utilities and other affected parties to ensure a smooth construction process.
5. The contractor shall maintain all necessary permits and licenses required for the project.
6. The contractor shall ensure that all work is completed in accordance with applicable codes and regulations.
7. The contractor shall be responsible for the removal of all debris and materials from the site.
8. The contractor shall be responsible for any necessary repairs to public property caused by the work.
9. The contractor shall be responsible for any claims or disputes arising from the project.

### Traverse Points:

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### Contact Information:

**Public Utilities**
- Owner
- Contact
- Phone
- Website

**Private Utilities**
- Owner
- Contact
- Phone
- Website

**Other**
- Owner
- Contact
- Phone
- Website

---

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<td>PG58-28, LEVELING</td>
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**HURONVIEW BLVD**
**EXISTING TYPICAL SECTION**
P.O.B. TO STA 2+30
N.T.S.

**HURONVIEW BLVD**
**PROPOSED TYPICAL SECTION**
STA 2+30 TO STA 3+29
N.T.S.

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**Know what's below.**
**Call before you dig.**

---

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**301 EAST HURON STREET**
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**734-794-6410**
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2024 MISCELLANEOUS UTILITIES PROJECTS
HURONVIEW BLVD, TYPICAL SECTIONS

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2 OF 46
HURONVIEW BLVD
EXISTING TYPICAL SECTION
STA 3+29 TO STA 13+00

HURONVIEW BLVD
PROPOSED TYPICAL SECTION (WATER MAIN IN ROADWAY)
STA 3+29 TO 9+10 AND STA 10+40 TO 11+10

HURONVIEW BLVD
PROPOSED TYPICAL SECTION (WATER MAIN OUTSIDE OF ROADWAY)
STA 9+10 TO STA 10+40 AND STA 11+10 TO STA 13+00
MASONRY BULKHEAD

MINIMUM ONE CASING SPACER WITHIN 1' OF EACH CASING, TYP
1' MAX EA SIDE
1' MAX EA SIDE
8' MAX SPACING BETWEEN SPACERS, TYP

CARRIER PIPE
CARRIER PIPE
JOINT

STEEL CASING, SEE NOTES

NOTES:

POLYETHYLENE ENCASEMENT (DRY INSTALLATION)

POLYETHYLENE ENCASEMENT (WET INSTALLATION)

SD-W-2
PRECAST GATE WELL (WATERMAINS 16 INCH AND SMALLER)

SD-W-3
PRECAST GATE WELL (WATERMAINS 6 INCH AND SMALLER)

SD-W-1
PRECAST HORIZONTAL PIPE DETAIL

SD-W-6
TYPICAL PIPE CASING DETAIL

SD-W-7
POLYETHYLENE ENCASEMENT

POLYETHYLENE ENCASEMENT

PRECAST GATE WELL (BUTTERFLY VALVES) DETAIL

PRECAST GATE WELL (WATERMAINS 16 INCH AND SMALLER)
TRAFFIC CONTROL PROJECT NOTES:

1. TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH
   CONSTRUCTION PLAN. SPECIFICATION CHARTS AND EMERGENCY LAYOUT
   DIRECTED BY THE ENGINEER.

2. TEMPORARY ROAD CLOSURES OR OTHER ACTIONS NOT PERMITTED WITHOUT
   AUTHORIZATION AND IF PERMITTED MUST HAVE THE ABILITY TO BE REMOVED
   WITHIN 24 HOURS. TIME OF TRAFFIC CLOSURES MUST BE APPROVED BY THE
   CITY OF ANN ARBOR.

3. WORK ZONE.

4. ACCESS TO INTERSECTIONS, COMMERCIAL DRIVES AND RESIDENTIAL PROPERTIES
   DEEMED ACCEPTABLE BY CITY PUBLIC SAFETY PERSONNEL.

5. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE PLASTIC DRUMS WITH BATTERY
   OPERATED AMBER FLASHERS (ONE PER) AT PAVEMENT EDGE DROP-OFFS IN EXCESS
   OF 3 INCHES TO PROTECT THE TRAFFIC LANE AND THE WORK. THE DRUMS SHALL
   BE IN ACCORDANCE WITH MAINTAINING TRAFFIC TYPICAL CHANNELIZING DEVICES)
   Furnished by the Contractor for work protection CHANNELIZING DEVICES) Furnished
   by the Contractor for work protection

6. TO PROVIDE PLASTIC DRUMS WITH BATTERY OPERATED AMBER FLASHERS (ONE PER) AT
   PAVEMENT EDGE DROP-OFFS IN EXCESS OF 3 INCHES TO PROTECT THE TRAFFIC LANE
   AND THE WORK. THE DRUMS SHALL BE IN ACCORDANCE WITH MAINTAINING TRAFFIC
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7. TRAFFIC CHANNELIZING DEVICES (PLASTIC DRUMS) AND (42" FLUORESCENT
   OPERATED AMBER FLASHERS (ONE PER) AT PAVEMENT EDGE DROP-OFFS IN EXCESS
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   Furnished by the Contractor for work protection

8. THE CONTRACTOR SHALL PROVIDE 5000 FT OF REFLECTORIZED AND LIGHTED BARRIERS
   TO PROTECT THE TRAFFIC AND THE WORK AS PER THE CONSTRUCTION PLANS, SPECIFICATION
   02550 AND MMUTCD (LATEST EDITION).

9. DUPLEX BARRIERS WILL BE USED AT THE START AND END OF THE WORK ZONE.

10. TEMPORARY ROAD CLOSURES OR OTHER ACTIONS NOT PERMITTED WITHOUT
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11. CONTRACTOR SOLELY RESPONSIBLE FOR SAFETY OF PERSONS AND VEHICLES IN
    WORK ZONE.

12. ACCESS TO INTERSECTIONS, COMMERCIAL DRIVES AND RESIDENTIAL PROPERTIES
    DEEMED ACCEPTABLE BY CITY PUBLIC SAFETY PERSONNEL.

13. REPLACE ALL DISTURBED PAVEMENT MARKINGS IN KIND AFTER CONSTRUCTION.

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12+00
13+00
13+30
0'
196.67'
174.50'
163.83'
160.67'
152.50'
123.15'
91.50'
55.75'
52.75'
61.33'

PROPOSED RECEIVERS
PIT LOCATION
~10' LMTS

ESTIMATED LIMITS OF
PAVEMENT REMOVAL AND
REPLACEMENT FOR ABANDONMENT OF
EXISTING GATE VALVE BOX AND WELL.
BOX TO BE CUT TO 2' BELOW FINAL GRADE AND
FILLED WITH FLOWABLE FILL; FRAME, COVER,
AND CONE SECTION OF GATE WELL TO BE
REMOVED, AND REMAINING STRUCTURE
FILLED WITH FLOWABLE FILL.

PROPOSED LAUNCH PIT
LOCATION AND LIMITS
(~30' LONG BY ~10' WIDE)

ESTIMATED LIMITS OF
HURONVIEW BLVD HMA
PAVEMENT REMOVAL AND
REPLACEMENT.

2" 5E3 WEARING
COURSE
EXISTING PAVEMENT
(THICKNESS UNKNOWN)
5" 4E3 LEVELING
COURSE
EXISTING SUBGRADE
MATERIAL

2" 4EML LEVELING
COURSE
EXISTING BASE/SUBGRADE
MATERIAL (THICKNESS AND
COMPOSITION UNKNOWN).

8" (CIP) OF 21AA
LIMESTONE, COMPACTED
TO MINIMUM OF 98% OF
MAXIMUM UNIT WEIGHT.

18" (CIP) OF CL II GRANULAR
MATERIAL, COMPACTED TO
MINIMUM OF 95% OF THE
MAXIMUM UNIT WEIGHT.

MDOT DETAIL E3 CURB
EXISTING SUBGRADE
5" 4E3 LEVELING
COURSE
EXISTING PAVEMENT
(THICKNESS AND
COMPOSITION UNKNOWN).

2" 5E3 WEARING
COURSE
EXISTING PAVEMENT
(THICKNESS UNKNOWN)

6" (CIP) OF 21AA
LIMESTONE, COMPACTED
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COURSE
EXISTING PAVEMENT
(THICKNESS AND
COMPOSITION UNKNOWN).

2" 5E3 WEARING
COURSE
EXISTING PAVEMENT
(THICKNESS UNKNOWN)
STORM SEWER STRUCTURE TABLE

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ROADWAY LINE DATA

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<td>350.36'</td>
<td>2+00</td>
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ROADWAY CURVE TABLE

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**WATER MAIN STRUCTURE TABLE**

**WATER FUND QUANTITIES THIS SHEET**

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WATER MAIN STRUCTURE TABLE

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REMOVAL KEY TABLE

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**WATER FUND QUANTITIES THIS SHEET**

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City of Ann Arbor - Public Services - Engineering
City of Ann Arbor
Public Services
301 East Huron Street
P.O. Box 8647
Ann Arbor, MI 48107-8647
734-794-6410
www.a2gov.org

2024 MISCELLANEOUS UTILITIES PROJECTS

1" = 20'

ORKNEY DR. CULVER RD. REMOVAL
P.O.B. TO STA. 31+20

2023-009
WATER FUND QUANTITIES THIS SHEET

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

2024 MISCELLANEOUS UTILITIES PROJECTS
2023-009-28
1" = 20'

ORKNEY DR.

STA. 31+20 TO STA. 39+50

REM. KEY TABLE

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ORKNEY DR. CULVER RD. REMOVALS

N/A
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**NOTES:**

1. This water main table is subject to change.
2. All construction shall comply with the water service tap and lead as described in the City of Ann Arbor Water Service Map.
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CULVER RD. PROPOSED WATER MAIN STA. 220+25 TO P.O.E.

See Sheet 15 for Water Main, Box, Manholes.
PEDESTRIAN DETOUR USING OPPOSITE SIDE OF STREET

GENERAL NOTES

When designing or locating detours or sidewalks, the contractor shall provide clear and visible temporary pedestrian facilities and work areas as necessary to provide safe pedestrian access consistent with existing pedestrian facilities.

Temporary traffic control devices for pedestrians are shown. Other devices may be necessary to control vehicular traffic. Stage work, as necessary to provide clear and visible temporary pedestrian facilities, at all times.

PROJECT PLANS.

When the engineer determines that the contractor's operations or placement of temporary traffic control devices has caused a situation that the visibility of the pedestrian pathway is reduced or impaired, the contractor is required to move the temporary traffic control devices to another location. The contractor shall remove temporary traffic control devices in the reverse order of their placement. Temporary traffic control devices shall be delineated with post mounted signs located adjacent to a sidewalk. Sidewalks shall have a 7 foot minimum clearance from the bottom of the sign to the sidewalk surface.

PEDESTRIAN DETOUR TRAILBLAZING SIGNS SHALL BE USED IF THE PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL MAINTAIN PROPERLY POSITIONED TEMPORARY PEDESTRIAN CONTROL POINT IN THE FOLLOWING ORDER OF PREFERENCES: THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED BY THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL SCHEDULE AND POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

2. TEMPORARY PEDESTRIAN TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NEEDED TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NEEDED TO PROVIDE CLEAR AND VISIBLE TEMPORARY PEDESTRIAN ROUTE, AT ALL TIMES. FOR PEDESTRIAN ACCESS, THE CONTRACTOR SHALL PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES. FOR ROADWAYS WITH NO PEDESTRIAN FACILITIES, MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE CLEAR AND VISIBLE TEMPORARY PEDESTRIAN ROUTE, AT ALL TIMES.

3. THE CONTRACTOR SHALL PROVIDE TEMPORARY PEDESTRIAN ACCESS ROUTES (TPAR) CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

4. PEDESTRIAN TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE POSTED AND AN ALTERNATE ROUTE SHALL BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN CONTROL POINT IS CLEARED, REMOVED, OR DEACTIVATED.


6. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES, BARRICADES, TEMPORARY PAVEMENT MARKINGS AND EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.

7. IF POSSIBLE, SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCE NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE STANDARDS OF THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.

8. PEDESTRIAN ACCESS TO CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES, BARRICADES, TEMPORARY PAVEMENT MARKINGS AND EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.


10. THE CONTRACTOR SHALL PROVIDE TEMPORARY PEDESTRIAN ACCESS ROUTES (TPAR) CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.


12. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES, BARRICADES, TEMPORARY PAVEMENT MARKINGS AND EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.


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**GENERAL NOTES**

When closing or redirecting crossings or sidewalks, the contractor shall provide detectable temporary facilities in accordance with the City of Ann Arbor Standards.

Temporary traffic controls designed for pedestrians, are shown. Others devices may be used where temporary facilities are not feasible, as necessary, to provide an alternate pedestrian route (APR) at all times. For roadway with no available options, minimize the open sidewalk at all times.

Provide a smooth, continuous hard surface through the length of the APR. Compacts, aggregate, or gravel not are not acceptable. Provide a smooth, continuous hard surface through the length of the APR with a minimum clearance from the bottom of the sign to the sidewalk surface of 5 feet. Provide additional clearance from other sidewalks nearby, if open.

The permanent traffic control channelizes or closes the permanent roadway when required. The contractor shall sized and coordinate the work with the existing sidewalks and streets of the roads, not requiring walkway sections to remain open. Open sidewalks as necessary prior to the beginning of work that requires a pedestrian closure.

Post markers shall be located adjacent to permanent traffic control channelizations. Small, white markers are shown. These markers may vary in size and color. The typical dimensions of the markers are shown.

Post markers shall be located adjacent to permanent traffic control. Small, white markers are shown. These markers may vary in size and color. The typical dimensions of the markers are shown.

Provide temporary curbing with detectable warners.

Temporary traffic control devices designed for pedestrians, are shown. Other devices may be used where temporary facilities are not feasible, as necessary, to provide an alternate pedestrian route (APR) at all times. For roadway with no available options, minimize the open sidewalk at all times.

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CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. PROTECTIVE EDGING WITH A 2.5" MIN. HEIGHT ABOVE THE RAMP SHALL BE PLACED ALONG A CURB RAMP OR LANDING PLATFORMS THAT BOTHERLY DROP OF 3". ADDITION OF A SIDE APRON USES STEEPENING 1:4 DOWN EDGING SHOULDBE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR GREATER.

DETECTABLE EDGING LANDING IS REQUIRED. SIDE APRON TO THE PATH CHANGES DIRECTION. THIS REQUIREMENT APPLIES TO THE RAMP PLATFORMS. DETECTABLE EDGING IS ALSO REQUIRED TO THE ABOVE RAMP PLATFORMS. DETECTABLE EDGING IS ALSO REQUIRED TO THE ABOVE RAMP PLATFORMS.

DETECTABLE EDGING MUST BEGIN A MAXIMUM OF 2.5" ABOVE THE RAMP SURFACE, AND EXTEND AT LEAST 6" ABOVE THE RAMP SURFACE. CONTRASTING COLOR SHALL BE PLACED ON ALL CURB RAMP LANDINGS WHERE THE ALTERATION CHANGES DIRECTION (TURNS).

CURB RAMPS AND LANDINGS SHALL HAVE A 2% MAX. CROSS SLOPE.

CLEAR SPACE OF 48" x 48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR, 2" TO 4" WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.

WATER FLOW IN THE GUTTER SYSTEM SHALL NOT BE IMPAIRED.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHOULD BE VERTICAL UP TO 1/2" MAX, AND ROUNDED OR J-OINTER 1/2" BETWEEN 1/2" AND 1/4" HEIGHT.
GENERAL NOTES

- Peeling or other material that protrudes a maximum of 4 inches above the walkway clear space shall not extend into the walkway clear space and shall not exceed 0.5 inches in height above the walkway surface.

- Detectable edges shall be continuous and a minimum of 6 inches in height above the walkway surface.

- All devices used to channelize pedestrian flow should interlock such that gaps do not allow pedestrians to stray from the intended channelized path.

- The walkway surface shall be firm, stable, and slip-resistant. Compressed gravel, aggregate, or slag materials are not allowed.

- Longitudinal channelizing devices for pedestrians shall be 32 inches in height or greater.

- All devices used to channelize pedestrian flow shall conform to standards set by the American Association of State Highway and Transportation Officials (AASHTO).

- All devices used to channelize pedestrian flow shall not allow pedestrians to stray from the intended channelized path.

- All devices used to channelize pedestrian flow shall be firm, stable, and slip-resistant. Compressed gravel, aggregate, or slag materials are not allowed.
CONSTRUCTION NOTES:

1. The parties of interest in this storm drain improvement project shall be responsible for the protection of any existing public or private underground utilities. The contractor shall perform any necessary work to accommodate the storm drain system without compromising the integrity of existing utility systems. The contractor shall maintain open沟道 communication with the public utilities in the area to ensure that the project is completed without causing damage to existing underground utilities.

2. The contractor shall protect all existing public utilities, including electrical, gas, water, sewage, and telecommunication lines, during the installation of the storm drain system. The contractor shall be responsible for any damages to existing utility systems caused by the storm drain work.

3. The contractor shall ensure that all materials used in the construction of the storm drain system meet the specifications and requirements of the project. The contractor shall provide evidence of compliance with the specifications and requirements of the project.

4. The contractor shall ensure that all work performed is in accordance with the approved plans and specifications. The contractor shall maintain open沟道 communication with the public utilities in the area to ensure that the project is completed without causing damage to existing underground utilities.

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

PERMIT

ISSUING AUTHORITY
CITY OF ANN ARBOR CIVIL ENGINEERING
2311 E. SURVEY DRIVE
ANN ARBOR, MI 48104
734-384-1160

CONTACT INFORMATION

PUBLIC UTILITIES
OWNER
CONTACT

PRIVATE UTILITIES
OWNER
CONTACT

PROJECT NAME BENCHMARKS

<table>
<thead>
<tr>
<th>BM #</th>
<th>ELEV</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>829.350</td>
<td>SET CHISELED '+' ON THE NORTH RIM OF STORM MANHOLE LOCATED IN GRAVEL LOT ± 25 FEET NORTHWEST OF METAL UTILITY POLE</td>
</tr>
<tr>
<td>2</td>
<td>832.000</td>
<td>SET RAILROAD SPIKE IN SOUTHWEST SIDE OF UTILITY POLE LOCATED AT THE WEST END OF GRAVEL LOT</td>
</tr>
</tbody>
</table>
REMEDIATION PROJECT

PLAN:
1" = 20'

1. SANITARY MANHOLE
   - Size: 12"
   - MTRL: NE, SE
   - Invert: 829.41

2. STORM MANHOLE
   - Size: 54"
   - MTRL: RCP
   - Invert: 817.28
   - Direction: NNW
   - Invert: 813.38
   - Direction: SSE
   - Invert: 813.18
   - Direction: EAST

3. SQUARE CATCH BASIN
   - Size: 90"
   - MTRL: RCP
   - Invert: 813.10
   - Direction: EAST

4. SQUARE CATCH BASIN
   - Size: 90"
   - MTRL: RCP
   - Invert: 813.10
   - Direction: WEST

5. DS_STORM SEWER PIPE, 54 IN. DIA., REM,
6. STORM SEWER BULKHEAD
7. STORM SEWER STRUCTURE, REM
8. CLEAN STORM SEWER STRUCTURE
9. DITCH CLEANOUT
10. REMOVE DEBRIS

Temporary Access Drive - 100 SVC

Existing Control, No Access - 104 SVC

ANN ARBOR RAILROAD (100' WIDE)

BOARDWALK DRIVE (80' WIDE)

STRUCTURE TABLE

<table>
<thead>
<tr>
<th>#</th>
<th>TYPE</th>
<th>RIM</th>
<th>SIZE</th>
<th>MTRL</th>
<th>INVERT</th>
<th>DIRECTION</th>
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PLAN:

1" = 20'  

Know what's below. Call before you dig.

RECONSTRUCT FLOW CHANNEL FROM EXISTING CONCRETE CHAMBER STRUCTURE TO DIRECT FLOW FROM SOUTH CHANNEL CENTERLINE TO ELEVATION 825.00.

PLACE RIPRAP, PLAIN - 576 SYD. PLACE RIPRAP FROM CHANNEL CENTERLINE TO ELEVATION 823.00.

PLACE STORM SEWER, 90 IN., CL IV RCP - 45 FT.

PLACE STORM MANHOLE, 90 IN. DIA., PRECAST TEE, CL IV RCP - 1 EA.

RESTORE SLOPES FROM CENTERLINE OF CHANNEL OR TOP OF RIPRAP TO GRADING LIMITS.

PLACE TURF RESTORATION - 150 SYD.  

PLACE TURF RESTORATION - 200 SYD.  

LIMITS OF RIPRAP INSTALLATION.
NORTH CHANNEL

SOUTH CHANNEL

MUD MAT ALIGNMENT

PLAN: 1" = 20'

Know what's below. Call before you dig.
STORM MANHOLE, 90 IN. DIA., PRECAST TEE, CL IV RCP

SECTION A-A

EXISTING STORMWATER CHAMBER REHAB

SECTION B-B

SECTION C-C