ADDENDUM No. 1

RFP No. 23-11

Geddes Avenue and 2190 South State Street Retaining Walls

Due: April 25, 2023 at 10:00 AM (local time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. This Addendum includes forty-three (43) pages.

The Proposer is to acknowledge receipt of this Addendum No. 1, including all attachments in its Proposal by so indicating in the proposal that the addendum has been received. Proposals submitted without acknowledgement of receipt of this addendum may be considered non-conforming.

The following forms provided within the RFP Document should be included in submitted proposal:

- Attachment D - Prevailing Wage Declaration of Compliance
- Attachment E - Living Wage Declaration of Compliance
- Attachment G - Vendor Conflict of Interest Disclosure Form
- Attachment H - Non-Discrimination Declaration of Compliance

Proposals that fail to provide these completed forms listed above upon proposal opening may be rejected as non-responsive and may not be considered for award.

I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the RFP documents which are outlined below are referenced to a page or Section in which they appear conspicuously. Offerors are to take note in its review of the documents and include these changes as they may affect work or details in other areas not specifically referenced here.

<table>
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<th>Section/Page(s)</th>
<th>Change</th>
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<tr>
<td>Page 13 Section III.D</td>
<td>Replace with page Addendum 1-5. Corrected language in Paragraph 1 related to a statement from the bidder as to what percentage of its workforce resides in the City of Ann Arbor and in Washtenaw County, Michigan.</td>
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<td>Pages 15-17 Section III.E</td>
<td>Schedule of Pricing/Cost Forms; replace with pages Addendum 1-6 to 8. Changes are as follows:</td>
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Pages 15-17
Section III.E (continued)
Replaced pay items 2047010 - Timber Wall, Rem with 2047011 - Timber Wall, Rem to reflect pay unit correction; 803100 – Steps, Conc with pay item 8037050 – Steps, Conc, Modified; and 8150547 - Betula nigra, tree form, 2 inch with 8150808 - Cercis canadensis, tree form, 2 inch.

Remove pay item 2020002 – Tree, Rem, 19 inch to 36 inch.

Revised estimated quantities for pay items 2020002 – Tree, Rem, 6 inch to 18 inch; 8167011 - Turf Establishment, Performance; 8087001 - Fence, Ornamental, Alternate 1; and 8087001 - Fence, Ornamental, Alternate 2.

Pages DS-9 to DS-10
Detailed Specifications
Detailed Specification for Project Schedule and Payment; replace with pages Addendum 1-9 to 11. Revised sequence of work requirements and overall project completion date. Added calendar day completion and open to traffic requirements for each location.

Pages DS-25 to DS-26
Detailed Specifications
Detailed Specification for Cast in Place Concrete Retaining Wall with Thin Stone Veneer; replace with pages Addendum 1-12 to 13. Revised Materials section and added color and technique requirements related to the grout/mortar for the thin natural stone veneer.

Pages DS-27 to DS-30
Detailed Specifications
Detailed Specification for Modular Block Retaining Wall; replace with pages Addendum 1-14 to 17. Revised Materials section.

Detailed Specifications

Appendix
MDOT Standard Plans/ Special Details

Attachments
Attachment E – City of Ann Arbor Living Wage Ordinance Declaration of Compliance; replace with page Addendum-1-32. Updated the minimum hourly wage rates.

Attachments
Attachment F – City of Ann Arbor Living Wage Ordinance Poster; replace with page Addendum-1-33. Updated the minimum hourly wage rates.

Plans
Sheets 1 to 10
Replace Plan Set in its entirety. Sheet revisions are noted below.

Sheet 1
Sheet 4  Revised call outs on the “Wall Section View” detail. Revised “Wall Section View” and “Wall Reinforcement Section” details to show a flat wall cap. Revised “Sidewalk Construction Notes”.

Sheet 5  Revised “Removal Key” and “Construction Key” items and descriptions to be consistent with contract pay items being used as part of the project. Adjusted the grading and temporary construction easement limits on the “Removal Plan View” and the “construction Plan View”. Added and revised call outs including quantities related to removal and construction work to reflect revisions to the “Removal Key” and “Construction Key”.

Sheet 6  Adjusted the grading and temporary construction easement limits and related call outs.

Sheet 7  Revised “Removal Key” items and descriptions to be consistent with contract pay items being used as part of the project. Adjusted the grading limits. Added and revised call outs including quantities related to removal work to reflect revisions to the “Removal Key”. Added notation related to the landmark tree and business signing and lighting on site.

Sheet 8  Revised “Construction Key” items and descriptions to be consistent with contract pay items being used as part of the project. Adjusted the grading limits. Added and revised call outs including quantities related to construction work to reflect revisions to the “Construction Key”. Added notation related to the landmark tree and business signing and lighting on site.

Sheet 9  Adjusted the grading limits.

II. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the RFP. Respondents are directed to take note in their review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

Question 1: What type of railing is to be used for the concrete steps at the Geddes Avenue location?

Answer 1: Furnished materials and construction of the stair railings proposed for the project must be in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction and match the color of the ornamental fencing proposed for the project.
Question 2: Is soil boring information available for the 2190 South State location?

Answer 2: No, soil boring information is not available for that location.

Question 3: Will the City of Ann Arbor consider approving an alternative modular block type for use on the gravity retaining wall at the 2190 South State Street location should there be one that is a standard stock item or another that is more readily available?

Answer 3: The City may approve use of an alternative block type for the gravity retaining wall providing it meets the design requirements and contract specifications for the project.

Question 4: Would the City of Ann Arbor consider revising the completion date for the project and moving it further out to allow more time to perform the work at each location since it requires completion in sequential order?

Answer 4: The City will consider this request and may also revise the currently specified requirement for the work to be performed sequentially at each location and instead allow it to occur simultaneously. Revisions, if any, to the project schedule and sequencing of work will be addressed as part of an addendum.

Proposers are responsible for any conclusions that they may draw from the information contained in the Addendum.
Bidder must identify a designated qualified safety representative responsible for bidder’s safety program who serves as a contact for safety related matters.

2. Provide the bidder’s Experience Modification Rating (“EMR”) for the last three consecutive years. Preference within this criterion will be given to an EMR of 1.0 or less based on a three-year average.

3. Evidence that all craft labor that will be employed by the bidder for the project has, or will have prior to project commencement, completed at least an authorized 10-hour OSHA Construction Safety Course.

4. For the last three years provide a copy of any documented violations and the bidder’s corrective actions as a result of inspections conducted by the Michigan Occupational Safety & Health Administration (MIOSHA), U.S. Department of Labor – Occupational Safety and Health Administration (OSHA), or any other applicable safety agency.

C. Workforce Development – 20 Points

1. Documentation as to bidder’s pay rates, health insurance, pension, or other retirement benefits, paid leave, or other fringe benefits to its employees.

2. Documentation that the bidder participates in a Registered Apprenticeship Program that is registered with the United States Department of Labor Office of Apprenticeship or by a State Apprenticeship Agency recognized by the USDOL Office of Apprenticeship. USDOL apprenticeship agreements shall be disclosed to the City in the solicitation response.

3. Bidders shall disclose the number of non-craft employees who will work on the project on a 1099 basis, and the bidders shall be awarded points based on their relative reliance on 1099 work arrangements with more points assigned to companies with fewer 1099 arrangements. Bidders will acknowledge that the City may ask them to produce payroll records at points during the project to verify compliance with this section.

D. Social Equity and Sustainability – 20 Points

1. A statement from the bidder as to what percentage of its workforce resides in the City of Ann Arbor and in Washtenaw County, Michigan. The City will consider in evaluating which bids best serve its interests, the extent to which responsible and qualified bidders employ individuals in either the city or the county. Washtenaw County jurisdiction is prioritized for evaluation purposes for this solicitation.

2. Evidence of Equal Employment Opportunity Programs for minorities, women, veterans, returning citizens, and small businesses.
### E. Schedule of Pricing/Cost – 20 Points

Company: ____________________________________________

**Unit Price Bid**

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**TOTAL FROM PAGE ADDENDUM 1-7** $ 

**TOTAL BASE BID** $ 

Addendum 1-8
a. Description.

Examination of Plans, Specifications, and Work Site: Proposer shall carefully examine the Bid Form, plans, specifications, and the work site until it is satisfied as to all local conditions affecting the contract and the detailed requirements of construction. The submission of the bid shall be considered prima facie evidence that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and all requirements of the contract.

Complete the entirety of work under this Contract in accordance with, and subject to, the scheduling requirements as outlined below, and all other requirements of the Contract Documents.

1. The City expects to furnish the Contractor with two (2) copies of the Contract, for its execution, on or before May 12, 2023. The Contractor shall properly execute both copies of the Contract and return them, with the required Bonds and Insurance documentation, to the City within fifteen (15) working days. City Council approval to award this contract is expected on June 5, 2023.

2. By no later than the Pre-Construction Meeting the Contractor shall submit a detailed schedule of work for the Engineer's review and approval. The proposed schedule must fully comply with the scheduling requirements contained in this Detailed Specification. Work shall not start until a schedule is approved in writing by the Engineer. The Contractor shall update the approved work schedule at the request of the Engineer and present it to the Engineer within seven (7) calendar days of said request. It shall also be prepared to present an up-to-date approved work schedule at all progress meetings scheduled for the project.

3. The Contractor shall begin the work of this project on or before July 5, 2023, and only upon approval from the Project Engineer, and in no case without an approved detailed schedule of work, receipt of the fully executed Contract, and Notice to Proceed. Appropriate time extensions shall be granted if the Notice to Proceed is delayed beyond this date.

4. Conduct the work as shown on the plans and as specified in the contract. Perform and complete all work at the Geddes Avenue project location with exception to landscape plantings and turf restoration before mobilizing and working to complete the 2190 S. State Street location. With approval, the Engineer may allow the Contractor’s operations to include work at both project locations simultaneously using separate crews if, in its opinion, this appears reasonable to allow for proper and thorough inspection, and the Contractor’s work progresses without delay at each location. If approved, should the Contractor fail to meet the above expectations, the Engineer will direct that simultaneous work be discontinued. Should this occur, the Contractor will complete work at the location the has progressed furthest and the remobilize to complete the other.
5. Complete work and open to traffic the Geddes Avenue location within 25 calendar days of commencing work. Complete work and open to traffic the 2190 South State Street location within 22 calendar days of commencing work. Complete work on the entire project on or before the final completion date of **August 23, 2023**. Project completion includes but is not limited to the following: existing concrete sidewalk, ramp, and stair removals; rockery wall removals and salvaging, timber wall removal; cast-in-place and modular block retaining wall construction; stairway construction; rockery wall reinstallation; sidewalk and curb ramp construction; decorative fence installation; landscape plantings; restoration of all disturbed areas; and removal of all temporary traffic control devices.

6. The City of Ann Arbor will impose the following workday, hour and other work restrictions.

Contractor operations shall be limited by local municipality work time, noise, and dust ordinance:

- Monday through Friday: 7:00 a.m. – 8:00 p.m.
- Saturday: 7:00 a.m. – 8:00 p.m. with notice given to City of Ann Arbor no less than 48 hours and no more than five (5) days.
- Sunday: only with written approval from the City of Ann Arbor.

No work shall be performed during holiday periods as follows, unless approved by the City of Ann Arbor:

- Independence Day: from 3:00 p.m., Monday, July 3 through 7:00 a.m., Wednesday, July 5

Time is of the essence in the performance of the work of this contract. The Contractor is expected to mobilize sufficient personnel and equipment and work throughout all authorized hours to complete the project by the intermediate (location specific) and final completion dates. Should the Contractor demonstrate that they must work on some Sundays in order to maintain the project schedule, they may do so between the hours of 9:00 a.m. and 5:00 p.m. with prior approval from the City. There will be no additional compensation due to the Contractor for work performed on Sundays.

Failure to complete all work as specified herein within the times specified herein, including time extensions granted thereto as determined by the Engineer, shall entitle the City to deduct from the payments due the Contractor, **$800.00** in Liquidated Damages, and not as a penalty, for delays in the completion of the work for each and every calendar day beyond the contract completion times/dates required by this Detailed Specification.

Assessment of Liquidated Damages will occur until the required work is complete in the current construction season. If, with the Engineer’s approval, work extends beyond seasonal limitations, the assessment of Liquidated Damages will discontinue until the work resumes in the following construction season.
b. Measurement and Payment.

If the construction contract is not complete by the specified completion date including any extensions of time granted thereto, at the sole discretion of the City of Ann Arbor it may terminate the Contract. Should this occur, no additional compensation will be due to the Contractor, and the Contractor may be forbidden to bid on future City of Ann Arbor projects for a period of at least three (3) years. If the Engineer elects to terminate the Contract, payment for contract items with a Lump Sum unit price will be up to a maximum amount equal to the percentage of the contract work that is complete at the time of termination.

No additional compensation will be paid to the Contractor to remobilize at a project location.

Include any/all Contractor costs associated with efforts to organize, coordinate, and schedule the project work in the contract unit price bid for the pay item **General Conditions, Max $\_\_\_.**
a. Description. This work consists of providing all labor, equipment, and materials to construct a reinforced cast in place (CIP) concrete retaining wall with a natural stone veneer. Perform all work according to the plans and section 706 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, except as modified herein, and as directed by the Engineer.


Furnish a natural stone veneer for the reinforced CIP concrete retaining wall from the following manufacturer or approved equal:

The Quarry Mill
2670 Stone Rd, Sturgeon Bay, WI 54235
(920) 213-7792
www.quarrymill.com
Veneer Type: Castle Rock Style “Monroe” Natural Granite Thin Stone Veneer with “Antique White” grout.

Ensure the furnished reinforced CIP concrete retaining wall natural stone veneer and other components are from one manufacturer.

Furnish a wall cap for the top of the reinforced CIP concrete retaining wall from the following manufacturer or approved equal:

Stepstone, Inc.
17025 South Main Street, Gardena, CA 90248
(800) 572-9029
https://www.stepstoneinc.com/products/wall-cap/sonorastone/flat
Cap Unit Type: Sonorastone® Flat Wall Cap 3

Ensure the furnished reinforced CIP concrete retaining wall caps and other components are from one manufacturer.

The Engineer must approve the materials and installation methods for the natural stone veneer including the mortar/grout and wall caps prior to construction.

c. Construction Methods. Construct the wall according to the plans, section 706 of the Standard Specifications for Construction and as specified herein. Excavate as required, prepare leveling pad or base, furnish and place drainage system, furnish and place backfill and construct the reinforced CIP concrete retaining wall of varying heights in the location shown on the plans. Examine the site and notify the Engineer of any site conditions that may adversely affect the installation or performance of the wall. Obtain the Engineer's approval before beginning the
installation. Construct the wall according to the Engineer approved shop drawings, manufacturer’s recommendations, and the following:

1. Excavate as required for footing. Do not disturb base beyond the lines shown. Overexcavation, not approved by the Engineer, will not be paid for and replacement with compacted fill and/or wall components will be required.

2. Undercut according to this specification, the plans, section 205 of the MDOT 2020 Standard Specifications for Construction and as directed by the engineer.

3. Place aggregate base on undisturbed soils or foundation soils prepared in accordance with section 302 of the MDOT 2020 Standard Specifications for Construction. Compact aggregate base to 95% dry density to provide a level, hard surface on which to place the footing concrete.

4. Install geotextile fabric and drainage as shown on the plans.

5. Outlet the underdrain to a drainage structure as approved by the Engineer.

6. Place geotextile fabric over top of backfill and place restoration items to finished grade.

No additional time or compensation will be granted in securing the Engineer’s approval.

Construct grout/mortar joints for the natural stone veneer using a “Grapevine” technique.

d. Measurement and Payment. Measure and pay for the completed work, as described, at the contract unit price using the following pay item:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retaining Wall, Conc, with Thin Stone Veneer</td>
<td>Square Foot</td>
</tr>
</tbody>
</table>

Retaining Wall, Conc, with Thin Stone Veneer includes all materials, labor, and equipment necessary to complete the work as described in this specification. The Engineer will measure the vertical dimension between from the bottom of the natural stone veneer to the top of the wall cap multiplied by wall length. The Engineer will measure the horizontal dimension along the base of the front of the retaining wall.

The contract unit price for Retaining Wall, Conc, with Thin Stone Veneer shall include all earthwork required to complete the wall system as described and shown on the detailed wall plans and as directed by the Engineer. Payment for this item includes excavating, removing, and disposing of unsuitable material, and backfilling and compacting. Furnishing and installing levelling pad, underdrain and geotextile fabric as shown on the plan shall be included in the contract unit price for Retaining Wall, Modular Block.

Retaining Wall, Conc, with Thin Stone Veneer includes concrete and steel reinforcement except as specified on the plans.

Retaining Wall, Conc, with Thin Stone Veneer includes the cost of forming, finishing and curing and low temperature protection.
a. **Description.** This item includes furnishing all materials and labor required for the design and construction of a precast concrete modular block (PMB) gravity retaining wall without geosynthetic reinforcement. Perform work in accordance with the requirements of this specification and in acceptable conformity with the lines, grades, design and dimensions shown in the project plans. This work also includes the preparation and submittal of detailed shop drawings for Owner’s approval. Complete this work per section 706 of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, details shown on the plans, the wall system manufacturer's recommended installation procedures, approved shop drawings, and this detailed specification.

Plan and elevation sheets in the shop drawings shall include, but are not limited to the following information:

1. Elevation view of the wall noting elevations at the top of the wall, at all horizontal and vertical break points, and at least every 25 feet along the face of the wall, all steps in the wall bottom, the length, the original and final ground lines, and applied bearing pressures.

2. Plan view of the wall that indicate the offsets from the construction centerline to the wall reference line at all changes in horizontal alignment and the centerline and size of any drainage structure or drainage pipe behind, passing through, or under the wall.

3. Typical cross sections showing the relationship between existing ground elevations and proposed grades, construction limits, excavations limits, and fill requirements.

4. General notes for constructing the wall.

5. Horizontal and vertical curve data for layout and constructing the wall.

6. Summary of material quantities on the elevation sheet of the wall.

7. Detail sheets for the wall showing the following:
   
   A. Details for placement of modular block facing elements.

   B. Details for construction around utilities, drainage structures, and other appurtenances or obstructions.

   C. Details that show end treatment at the wall point of beginning (POB) and wall point of ending (POE).

Design calculations shall be provided for each wall height change. Plans and calculations shall be signed and sealed by a Professional Engineer actively licensed in the state of Michigan.
b. **Materials.** Furnish precast modular block (PBM) gravity retaining wall from the following manufacturer or approved equal:

Keystone Retaining Wall Systems LLC  
4444 West 78th Street, Minneapolis, MN 55435  
(952) 897-1040  
www.keystonewalls.com  
Block Unit Type: Keystone Standard III Unit 21 Straight Split (Color: Walnut Blend)  
Cap Unit Type: Single Face Soft Split Unit (Color: Walnut Blend)

Ensure the furnished precast modular block wall (PMB) and all components are from one manufacturer.

**The Engineer must approve the installation method, face texture, and color of the block wall system prior to construction.**

1. Wall – Provide Straight Split texturing in “Walnut Blend” color as manufactured by Keystone or approved equal. Provide the manufacturer's sample photos of completed 3 completed projects prior to ordering for confirmation by the Engineer. Top blocks shall be flat tops with textured faces on front and back with accessory cap blocks on top. Steps and corner blocks shall also have the exposed ends textured as indicated on the plans.

   **A.** Minimum compressive strength of the blocks must meet manufacturer’s recommendation. Blocks must be fabricated with air-entrained concrete.

   **B.** Provide manufacturer's test data certification, according to the MDOT Quality Assurance Procedures Manual, documenting that the blocks meet these specifications when tested as specified in ASTM C 1372. Freeze-thaw data must represent testing completed within the 12 months prior to delivery. Freeze-thaw testing must be conducted in saline solution as specified in ASTM C 1262. Freeze-thaw test results must be reported in 10-cycle intervals.

If project sampling and testing is required, sampling frequency and sample size will be as stated for concrete brick in Section G of the Materials Quality Assurance Procedures Manual.

   **C.** Protect blocks from damage, chipping, and soiling during delivery and storage. Store off the ground, on pallets or wood platforms. Do not use blocks with chips, cracks, voids, discoloration, or other visible defects exceeding the finish and appearance limits in ASTM C 1372.

   **D.** Blocks must conform to the manufacturer’s requirements and sizes. Top blocks must be straight top. Corner block widths may be reduced by half. Provide accessory cap blocks with finished sides for all exposed edges.

   **E.** The Contractor shall provide appropriately sized blocks for the wall, given the design parameters and subject to approved shop drawings.

   **F.** Wall Color – The wall shall be standard concrete color.

2. Leveling Pad – Provide a 21AA aggregate leveling pad compacted in place at a
thickness that meets load requirements, or 2,000 psi concrete, per manufacturer’s recommendations.

3. Drainage System – Provide underdrain and underdrain bedding per MDOT Specification Section 404 and as recommended by the wall manufacturer.

4. Backfill - Use open graded 6A material for drainage fill and as recommended by the manufacturer.

5. Non-woven geotextile separator – Per MDOT Specification 910 as a separator layer and as recommended by the manufacturer.

c. Construction Methods. Excavate as required, prepare leveling pad or base, furnish and place drainage system, furnish and place backfill and erect a nonreinforced mortarless PMB gravity retaining wall of varying heights in the location shown on the plans. Examine the site and notify the Engineer of any site conditions that may adversely affect the installation or performance of the wall. Obtain the Engineer’s approval before beginning the installation. Erect the wall according to the Engineer approved shop drawings, manufacturer’s recommendations, and the following:

1. Excavate as required for footing. Do not disturb base beyond the lines shown. Over- excavation, not approved by the Engineer, will not be paid for and replacement with compacted fill and/or wall components will be required.

2. Undercut according to this specification, the plans, section 205 of the Standard Specifications and as directed by the engineer.

3. Place aggregate base on undisturbed soils or foundation soils prepared in accordance with section 302 of the Standard Specifications for Construction. Compact aggregate base to 95% dry density to provide a level, hard surface on which to place the first course of blocks.

4. Place the first course of blocks in full contact with the prepared aggregate or concrete base material. Check each block for level and alignment. Ensure that the top of all blocks in base course are at the same elevation.

5. Place each course of blocks for the full length of wall. Install geotextile fabric and drainage as recommended by the manufacturer.

6. Outlet the underdrain to a drainage structure as approved by the Engineer.

7. Place geotextile fabric over top of backfill and place restoration items to finished grade.

d. Measurement and Payment. Measure and pay for the completed work, as described, at the contract unit price using the following pay item:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retaining Wall, Modular Block</td>
<td>Square Yard</td>
</tr>
</tbody>
</table>

Addendum 1-16
Retaining Wall, Modular Block includes all materials, labor, and equipment necessary to complete the work as described in this specification. Quantities will be computed based on plan quantities from the bottom of bottom block to top of top block unit multiplied by wall length. The leveling pad will not be paid for separately.

The contract unit price for Retaining Wall, Modular Block shall include all earthwork required to complete the wall system as described and shown on the detailed wall plans and as directed by the Engineer. Payment for this item includes excavating, removing, and disposing of unsuitable material, and backfilling and compacting. Furnishing and installing levelling pad, underdrain and geotextile fabric as shown on the plan shall be included in the contract unit price for Retaining Wall, Modular Block.
a. **Description.** This work consists of installing precast concrete step units in accordance with section 803 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction as shown on the Plans and described herein, and as directed by the Engineer.

b. **Materials.** Provided materials meeting the requirements specified in applicable subsection 803.02 of the MDOT 2020 Standard Specifications for Construction and as specified herein.

Furnish precast concrete step unit from the following manufacturer or approved equal:

Belgard®
(877) 235-4273
Step Unit Type: Landings™ Step

The Contractor shall submit product data sheets and a sample of the step unit to the Engineer for approval prior to ordering materials.

**The Engineer must approve the installation method, face texture, and color of step units prior to construction.**

c. **Construction.** Perform this work in accordance with subsection 803.03 of the MDOT 2020 Standard Specifications for Construction and as required herein. The Contractor is responsible for constructing steps in accordance with current ADAAG and PROWAG standards and guidelines and applicable building codes.

Place step units according to manufacturer’s specifications.

d. **Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit prices using the following pay items:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step, Conc, Modified</td>
<td>Each</td>
</tr>
</tbody>
</table>

Measure **Step, Conc, Modified** individually in place by unit each and pay for it at the contract unit price, which price include the costs for all labor, equipment and materials to complete the work.
* Maximum landing slope is 2.0% in each direction of travel. Landing minimum dimensions 5' x 5'. See notes.

** Maximum ramp cross slope is 2.0%. Running slope 5% - 7% (8.3% maximum). See notes.

Curb Ramp Type R
(Rolled Sides)

Permanent Obstruction

Curb Ramp Type F
(Flared Sides, Two Ramps Shown)

Detectable Warning Surface
24" Across Full Width
(See Notes)

Full curb height may be reduced to accommodate maximum side flare slope

Michigan Department of Transportation
Bureau of Development Standard Plan for
Curb Ramp and Detectable Warning Details

Prepared
by
Design Division

Drawn by:

Checked by:

Approved by:

Department Director
Paul C. Jimerson

Gregg Brunner, P.E.
Gregg Brunner
Oct 14, 2021 12:32 PM

Director, Bureau of Field Services

Bradley C. Walford
Oct 16, 2021 11:55 AM

Director, Bureau of Development

Addendum 1-19
**Maximum landing slope is 2.0% in each direction of travel. Landing minimum dimensions 5' x 5'. See Notes.**

**Maximum ramp cross slope is 2.0%. Running slope 5% - 7% (0.3% maximum). See Notes.**

**Curb Ramp Type RF**
(Rolled / Flared Sides)

**Pavement**

**Curb Ramp Opening**

**Ramp Run**

**Landing**

**Detectable Warning Surface**
24" across full width (See Notes)

**Ramp slope 5% - 7% (0.3% maximum). See Notes.**

**1" Expansion Joint**

**Grade Break**

**Section A-A**

***Transition adjacent gutter pan cross section to provide 5.0% maximum counter slope across the ramp opening.***

**Pavement shall end flush with the gutter pan.**

**Ramp shall end flush with back of curb.**

**Lane tie and reinforcement as in adjacent curb & gutter. See Standard Plan R-30-Series.**

**Section through Curb Ramp Opening**
(Typical All Ramp Types)

**Michigan Department of Transportation**
Bureau of Development Standard Plan For

**Curb Ramp and Detectable Warning Details**

Addendum 1-20
** Maximum landing slope is 2.0%. In each direction of travel. Landing minimum dimensions 5' x 5'. See notes.
** Maximum ramp cross slope is 2.0%. Running slope 5% - 7% (8.3% maximum). See notes.

Curb Ramp Type P
(Parallel Ramp)
Do not use in areas where ponding may occur

Curb Ramp Type C
(Combination Ramp)
Detectable warning surface 24" across full width if median width is at least 6'-0". Otherwise no detectable warning is required.

Curb Ramp Type M
(Median Island)

Michigan Department of Transportation
Bureau of Development Standards Plan for
Curb Ramp and Detectable Warning Details
* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (0.3% MAXIMUM). SEE NOTES.

"NON-WALKING" AREA
ROLLED CURB

2" MAXIMUM DETECTABLE WARNING BORDER OFFSET MEASURED FROM THE ENDS OF THE RADIUS. SEE NOTES

(RADIAL DETECTABLE WARNING SHOWN)

"NON-WALKING" AREA

2" MAXIMUM DETECTABLE WARNING BORDER OFFSET MEASURED FROM THE ENDS OF THE RADIUS. SEE NOTES

(TANGENT DETECTABLE WARNING SHOWN)

CURB RAMP TYPE D
(DEPRESSED CORNER)
USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
CURB RAMP AND DETECTABLE WARNING DETAILS

4-7-2022 5-8-2020 R-28-J SHEET 4 OF 7

Addendum 1-22
**THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6' MINIMUM AND 15' MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.**

**DETECTABLE WARNING AT RAILROAD CROSSING**

**DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY**

**MICHIGAN DEPARTMENT OF TRANSPORTATION**
**BUREAU OF DEVELOPMENT STANDARDS PLAN FOR**

**CURB RAMP AND DETECTABLE WARNING DETAILS**

Addendum 1-23
CURB RAMP ORIENTATION

SECTION B-B

CURB RAMP AND DETECTABLE WARNING DETAILS

LEGEND

- SLOPED SURFACE
- DETECTABLE WARNING
- "NON-WALKING" AREA
- CROSSWALK MARKING
- PREFERRED LOCATION OF DRAINAGE INLET (TYP.)
- ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)

CURB RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET GREATER THAN 5')

CURB RAMP PERPENDICULAR TO RADIAL CURB (TYPE F SHOWN)
(USE WITH RADIAL CURB WHEN THE CROSSWALK AND CURB RAMP ARE NOT ALIGNED)

CURB RAMP PERPENDICULAR TO TANGENT CURB
(TYPE F AND TYPE RT SHOWN)

WHERE BOTH ENDS OF THE BOTTOM GRADE BREAK ARE WITHIN 5' OF THE BACK OF CURB, THE DETECTABLE WARNING SHALL BE LOCATED ON THE RAMP SURFACE AT THE BOTTOM GRADE BREAK.

CURB RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET LESS THAN 5')

GRADE BREAK (TYP)
2% (5.0% MAX.) SLOPE BEYOND BOTTOM GRADE BREAK

PAVEMENT
CURB RAMP OPENING
RAMP RUN

GRADE BREAK

5.0% MAX. (15.0% MAX.) SEE NOTES

RAMP SLOPE 5% - 7%
(6.3% MAXIMUM) SEE NOTES

1" EXPANSION JOINT

APPROACH AREA SHALL END FLUSH WITH BACK OF CURB

RAMP AND LANDING SLAB THICKNESSES SHALL BE AS CALLED FOR ON THE PLANS
24" DETECTABLE WARNING, EXTENDING THE WIDTH OF THE RAMP.

GRADE BREAK AT THE TOP AND BOTTOM OF CURB RAMPS, SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL.

TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5.0% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.

SEE SHEET 2 FOR CURB RAMP OPENING DETAILS.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

Addendum 1-24
NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

CURB RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROWING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPS WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMPS WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

WHEN 5' MINIMUM WIDTHS ARE NOT PRACTICABLE, RAMPS WIDTH MAY BE REDUCED TO 4' AND LANDINGS TO NOT LESS THAN 4' X 4'.

CURB RAMPS WITH A RUNNING SLOPE ≥5% DO NOT REQUIRE A TOP LANDING. HOWEVER, ANY CONTINUOUS SIDEWALK OR PEDESTRIAN ROUTE CROSSING THROUGH OR INTERSECTING THE CURB RAMP MUST INDEPENDENTLY MAINTAIN A CROSS SLOPE NOT GREATER THAN 2% PERPENDICULAR TO ITS OWN DIRECTION(S) OF TRAVEL.


FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE PLACED UNIFORMALLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH NOT INCLUDING LANDINGS OR TRANSITIONS.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRADE. OPENINGS SHALL NOT BE GREATER THAN 1/2". ELONGATED OPENINGS SHOULD BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

FLARED SIDES WITH A SLOPE OF 10% MAXIMUM MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNBROKEN CIRCULATION PATH LATERALLY CROSSES THE CURB RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS Bordered BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

4-7-2022  5-6-2020  R-28-J

Addendum 1-25
### APPLICABLE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

**COMPREHENSIVE DETAILS ARE LOCATED IN SECTION 6 OF THE SOIL EROSION & SEDIMENTATION CONTROL MANUAL**

- **A** = SLOPES
- **B** = STREAMS AND WATERWAYS
- **C** = SURFACE DRAINAGEWAYS
- **D** = ENCLOSED DRAINAGE (INLET & OUTFALL CONTROL)
- **E** = LARGE FLAT SURFACE AREAS
- **F** = BORROW AND STOCKPILE AREAS
- **G** = DNRE PERMIT MAY BE REQUIRED

<table>
<thead>
<tr>
<th>KEY</th>
<th>DETAIL</th>
<th>CHARACTERISTICS</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TURBIDITY CURTAIN</td>
<td>A Turbidity Curtain is used when slack water area is necessary to isolate construction activities from the watercourse. The still water area contains the sediments within the construction limits.</td>
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<tr>
<td>2</td>
<td>GRUBBING OMITTED</td>
<td>Retains existing root mat which assists in stabilizing slopes. Assists in the revegetation process by providing sprout growth. Reduces sheet flow velocities preventing rilling and gullying. Discourages off-road vehicle use.</td>
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<tr>
<td>3</td>
<td>PERMANENT/TEMPORARY SEEDING</td>
<td>Inexpensive but effective erosion control measure to stabilize flat areas and mild slopes. Permits runoff to infiltrate soil, reducing runoff volumes. Proper preparation of the seed bed, fertilizing, mulching and watering is critical to its success.</td>
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<tr>
<td>4</td>
<td>DUST CONTROL</td>
<td>Dust control can be accomplished by watering, and/or applying calcium chloride. The disturbed areas should be kept to a minimum. PERMANENT/TEMPORARY SEEDING (KEY 3) should be applied as soon as possible.</td>
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<tr>
<td>5</td>
<td>SODDING</td>
<td>Provides immediate vegetative cover such as at spillways and ditch bottoms. Proper preparation of the topsoil, placement of the sod, and watering is critical to its success.</td>
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<tr>
<td>6</td>
<td>VEGETATED BUFFER STRIPS</td>
<td>Reduces sheet flow velocities preventing rilling and gullying. Assists in the collection of sediments by filtering runoff. Assists in the establishment of a permanent vegetative cover.</td>
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</tbody>
</table>

**DEPARTMENT DIRECTOR**
Kim T. Staudle

**ENGINEER OF DELIVERY**
John C. Fisk

**ENGINEER OF DELIVERY**
Mark A. Van Pelt

**MICHIGAN DEPARTMENT OF TRANSPORTATION**
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SOIL EROSION & SEDIMENTATION CONTROL MEASURES**

- 9-10-2010
- 6-3-2010
- R-96-E
- SHEET 1 OF 6

Addendum 1-26
<table>
<thead>
<tr>
<th>KEY</th>
<th>DETAIL</th>
<th>CHARACTERISTICS</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>RIPRAP</td>
<td>Used where vegetation cannot be established. Very effective in protecting against high velocity flows. Should be placed over a geotextile liner.</td>
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<tr>
<td>8</td>
<td>AGGREGATE COVER</td>
<td>Can be used in any area where a stable condition is needed for construction operations, equipment storage or in heavy traffic areas. Reduces potential soil erosion and fugitive dust by stabilizing raw areas.</td>
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<tr>
<td>9</td>
<td>BENCHED</td>
<td>Reduces sheet flow velocities preventing rilling and gullyng. Assists in the collection and filtering of sediments. Provides access for stabilizing slopes.</td>
<td></td>
<td></td>
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<tr>
<td>10</td>
<td>DIVERSION DIKE</td>
<td>Assists in the diversion of runoff to a stable outlet or sediment control device. Reduces sheet flow velocities preventing rilling and gullyng. Collects and diverts runoff to properly stabilized drainage ways. Works well with INTERCEPTING DITCH (KEY 11)</td>
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<tr>
<td>11</td>
<td>INTERCEPTING DITCH</td>
<td>Assists in the diversion of runoff to a stable outlet or sediment control device. Reduces sheet flow velocities preventing rilling and gullyng. Works well with DIVERSION DIKE (KEY 10)</td>
<td></td>
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<tr>
<td>12</td>
<td>INTERCEPTING DITCH AND DIVERSION DIKE</td>
<td>Assists in the diversion of runoff to a stable outlet or sediment control device. Reduces sheet flow velocities preventing rilling and gullyng.</td>
<td></td>
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<tr>
<td>13</td>
<td>GRAVEL FILTER BERM</td>
<td>Useful in filtering flow prior to its reentry into a lake, stream or wetland. Works well with SEDIMENT TRAP (KEY 20) and TEMPORARY BYPASS CHANNEL (KEY 35). Not to be used in lieu of a CHECK DAM (KEY 37) in a ditch.</td>
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<tr>
<td>14</td>
<td>GRAVEL ACCESS APPROACH</td>
<td>Provides a stable access to roadways minimizing fugitive dust and tracking of materials onto public streets and highways.</td>
<td></td>
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</tr>
<tr>
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<td>A</td>
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<tr>
<td>15</td>
<td>SLOPE DRAIN SURFACE</td>
<td>Excellent device for carrying water down slopes without creating an erosive condition. Generally used in conjunction with DIVERSION DIKE (KEY 10), INTERCEPTING DITCH (KEY 11) and INTERCEPTING DITCH AND DIVERSION DIKE (KEY 12) to direct flow to a stable discharge area or SEDIMENT TRAP (KEY 20).</td>
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<tr>
<td>16</td>
<td>TREES, SHRUBS AND PERENNIALS</td>
<td>Trees, shrubs and perennials can provide low maintenance long term erosion protection. These plants may be particularly useful where site aesthetics are important along the roadside slopes.</td>
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<td>17</td>
<td>PIPE DROP</td>
<td>Effective way to allow water to drop in elevation very rapidly without causing an erosive condition. Also works as a sediment collector device. May be left in place as a permanent erosion control device.</td>
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<tr>
<td>18</td>
<td>DEWATERING WITH FILTER BAG</td>
<td>It may be necessary to dewater from behind a cofferdam or construction dam to create a dry work site. Discharged water must be pumped to a filter bag. A GRAVEL FILTER BERM (KEY 13) may be placed downslope of the filter bag to provide additional filtration prior to entering any stream or wetland.</td>
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<tr>
<td>19</td>
<td>ENERGY DISSIPATORS</td>
<td>A device to prevent the erosive force of water from eroding soils. Used at outlets of culverts, drainage pipes or other conduits to reduce the velocity of the water. Prevents structure scouring and undermining.</td>
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<tr>
<td>20</td>
<td>SEDIMENT TRAP</td>
<td>Used to intercept concentrated flows and prevent sediments from being transported off site or into a watercourse or wetland. The size of a Sediment Trap is 5 cubic yards or less. Works well when used with CHECK DAM (KEY 37).</td>
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<tr>
<td>21</td>
<td>SEDIMENT BASIN</td>
<td>A Sediment Basin is used to trap sediments from an upstream construction site. Requires periodic inspections, repairs, and maintenance. Where practical, sediments should be contained on site. A Sediment Basin should be the last choice of sediment control. The size of a Sediment Basin is greater than 5 cubic yards.</td>
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<tr>
<td>22</td>
<td>VEGETATIVE BUFFER AT WATERCOURSE</td>
<td>This practice is used to maintain a vegetative buffer adjacent to a watercourse. When utilized with SILT FENCE (KEY 26) it will, under normal circumstances, prevent sediment from leaving the construction site.</td>
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</table>

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
SOIL EROSION & SEDIMENTATION CONTROL MEASURES

9-10-2010  6-3-2010  R-96-E
F.R.W.A. APPROVAL  PLAN DATE  SHEET 3 OF 6

Addendum 1-28
<table>
<thead>
<tr>
<th>KEY</th>
<th>DETAIL</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>STREAM RELOCATION</td>
<td>A detail depicting the proper procedures for stream relocation. Maintains same width, depth, and flow velocity as the natural stream. Revegetate banks with PERMANENT/TEMPORARY SEEDING (KEY 3), MULCHING AND MULCH ANCHORING (KEY 28), MULCH BLANKETS AND HIGH VELOCITY MULCH BLANKETS (KEY 33) and woody plants to shade the stream.</td>
</tr>
<tr>
<td>24</td>
<td>SAND AND STONE BAGS</td>
<td>Sand and stone bags are a useful tool in the prevention of erosion. Can be used to divert water around a construction site by creating a DIVERSION DIKE (KEY 10). Works well for creating a CONSTRUCTION DAM (KEY 36) and temporary culvert and fill.</td>
</tr>
<tr>
<td>25</td>
<td>SAND FENCE AND DUNE STABILIZATION</td>
<td>A Sand Fence traps blowing sand by reducing wind velocities. Can be used to prevent sand from blowing onto roads. Must be maintained until sand source is stabilized.</td>
</tr>
<tr>
<td>26</td>
<td>SILT FENCE</td>
<td>A permeable barrier erected below disturbed areas to capture sediments from sheet flow. Can be used to divert small volumes of water to stable outlets. Ineffective as a filter and should never be placed across streams or ditches where flow is concentrated.</td>
</tr>
<tr>
<td>27</td>
<td>PLASTIC SHEETS OR GEOTEXTILE COVER</td>
<td>Plastic Sheets can be used to create a liner in temporary channels. Can also be used to create a temporary cover to prevent erosion of stockpiled materials.</td>
</tr>
<tr>
<td>28</td>
<td>MULCHING AND MULCH ANCHORING</td>
<td>Anchored mulch provides erosion protection against rain and wind. Mulch must be used on seeded areas to promote water retention and growth. Should be inspected after every rainstorm and repaired as necessary until vegetation is well established.</td>
</tr>
<tr>
<td>29</td>
<td>INLET PROTECTION FABRIC DROP</td>
<td>Provides settling and filtering of silt laden water prior to its entry into the drainage system. Can be used in median and side ditches where vegetation will be disturbed. Allows for early use of drainage systems prior to project completion.</td>
</tr>
<tr>
<td>30</td>
<td>INLET PROTECTION GEOTEXTILE AND STONE</td>
<td>Provides settling and filtering of silt laden water prior to its entry into the drainage system. Should be used in paved areas where drainage structures are existing or proposed. Allows for early use of drainage systems prior to project completion.</td>
</tr>
<tr>
<td>KEY</td>
<td>DETAIL</td>
<td>CHARACTERISTICS</td>
</tr>
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</tr>
<tr>
<td>31</td>
<td><strong>INLET PROTECTION SEDIMENT TRAP</strong></td>
<td>An Inlet Protection Sediment Trap is a temporary device that can be used in areas where medium flows are anticipated. Effective in trapping small quantities of sediments prior to water entering the drainage system. Can be used in areas such as median and side ditches.</td>
</tr>
<tr>
<td>32</td>
<td><strong>SLOPE ROUGHENING AND SCARIFICATION</strong></td>
<td>A simple and economical way to reduce soil erosion by wind and water. Can be accomplished by harrowing with a disk, back blading, or tracking with a dozer perpendicular to the slope.</td>
</tr>
<tr>
<td>33</td>
<td><strong>MULCH BLANKETS AND HIGH VELOCITY MULCH BLANKETS</strong></td>
<td>Mulch blankets provide an immediate and effective cover over raw erodible slopes affording excellent protection against rain and wind erosion. High velocity mulch blankets work well for stabilizing the bottom of ditches in waterways.</td>
</tr>
<tr>
<td>34</td>
<td><strong>COFFERDAM</strong></td>
<td>Used to create a dry construction area and protect the stream from raw erodible areas. Must be pumped dry or dewatered according to DEWATERING WITH FILTER BAG (KEY 18).</td>
</tr>
<tr>
<td>35</td>
<td><strong>TEMPORARY BYPASS CHANNEL</strong></td>
<td>Utilized when a dry construction area is needed. Isolates stream flows from raw erodible areas minimizing erosion and subsequent siltation. Can incorporate SEDIMENT BASIN (KEY 21), CHECK DAM (KEY 37), and GRAVEL FILTER BERM (KEY 13) to remove sediments from water. Construction sequence of events may be necessary.</td>
</tr>
<tr>
<td>36</td>
<td><strong>CONSTRUCTION DAM</strong></td>
<td>Used to create a dry or slack water area for construction. Isolates the stream from raw erodible areas. Can be created out of any non-erodible materials such as SAND AND STONE BAGS (KEY 24), a gravel dike with clay core or plastic liner, steel plates or plywood.</td>
</tr>
<tr>
<td>37</td>
<td><strong>CHECK DAM</strong></td>
<td>Can be constructed across ditches or any area of concentrated flow. Protects vegetation in early stages of growth. A Check Dam is intended to reduce water velocities and capture sediment. A Check Dam is not a filtering device.</td>
</tr>
</tbody>
</table>

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

SOIL EROSION & SEDIMENTATION
CONTROL MEASURES

9-10-2010  6-3-2010  R-96-E  SHEET 5 OF 6

Addendum 1-30
NOTES:

THIS STANDARD PLAN WILL SERVE AS A KEY IN THE SELECTION OF THE APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL DETAILS. THIS PLAN ALSO PROVIDES THE KEY TO THE NUMBERED EROSION CONTROL ITEMS SPECIFIED ON THE CONSTRUCTION PLANS. REFER TO THE MOST RECENT SOIL EROSION AND SEDIMENTATION CONTROL MANUAL, SECTION 6 FOR SPECIFIC DETAILS, CONTRACT ITEMS (PAY ITEMS), AND PAY UNITS.

COLLECTED SILT AND SEDIMENT SHALL BE REMOVED PERIODICALLY TO MAINTAIN THE EFFECTIVENESS OF THE SEDIMENT TRAP, SEDIMENT BASIN, AND SILT FENCE. AGGREGATES PLACED IN STREAMS SHOULD CONTAIN A MINIMUM OF FINES.

TEMPORARY EROSION AND SEDIMENTATION CONTROL PROVISIONS SHALL BE COORDINATED WITH THE PERMANENT CONTROL MEASURES TO ASSURE EFFECTIVE CONTROL OF SEDIMENTS DURING CONSTRUCTION OF THE PROJECT.

ALL TEMPORARY EROSION CONTROL DEVICES SHALL BE REMOVED AFTER VEGETATION ESTABLISHMENT OR AT THE DISCRETION OF THE ENGINEER. CARE SHALL BE TAKEN DURING REMOVAL TO MINIMIZE SITATION IN NEARBY DRAINAGE COURSES.
ATTACHMENT E
LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than $10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than $10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than $10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here [___] No. of employees

The Contractor or Grantee agrees:

(a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as $15.90/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than $17.73/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

Check the applicable box below which applies to your workforce

[___] Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits

[___] Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits

(b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.

(c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.

(d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.

(e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

______________________________  ________________________________
Company Name  Street Address

______________________________  ________________________________
Signature of Authorized Representative  Date  City, State, Zip

______________________________  ________________________________
Print Name and Title  Phone/Email address

City of Ann Arbor Procurement Office, 734/794-6500, procurement@a2gov.org  Rev. 3/7/23

Addendum 1-32
CITY OF ANN ARBOR
LIVING WAGE ORDINANCE

RATE EFFECTIVE APRIL 30, 2023 - ENDING APRIL 29, 2024

$15.90 per hour
If the employer provides health care benefits*

$17.73 per hour
If the employer does NOT provide health care benefits*

Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than $10,000 in a twelve-month period of time must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.

ENFORCEMENT

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than $500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

* Health Care benefits include those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed $.50 an hour for an average work week; and the employer cost or contribution must equal no less than $1/hr for the average work week.

The Law Requires Employers to Display This Poster Where Employees Can Readily See It.

For Additional Information or to File a Complaint contact Colin Spencer at 734/794-6500 or cspencer@a2gov.org

Revised 2/1/2023
CITY OF ANN ARBOR
ENGINEERING

GEDDES AVENUE AND
2190 STATE STREET
RETAINING WALLS

RFP NO. 23-11, FILE NOS. 2022-009 & 2023-003
PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

PERMIT ISSUING AUTHORITY

* NO COST TO CONTRACTOR

CONSTRUCTION NOTES:

PROJECT NAME: BENCHMARKS

BM # | ELEV | DESCRIPTION
--- | --- | ---
4 | 912.74 | SET BENCH TIE S SIDE FF N SIDE OF GEDDES AVE 19± W OF HARVARD PL
5 | 910.81 | SET BENCH TIE S SIDE FF S SIDE OF GEDDES AVE 20′± E OF HARVARD PL
891 | 668.25 | RETAINING WALL PLANS

PRIVATE UTILITIES

CONTACT INFORMATION

PUBLIC UTILITIES

OWNER | CONTACT
--- | ---

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

2022-009 & 2023-003 - GEDDES AVENUE RETAINING WALL

RETAINING WALL PLANS

STANDARD NOTES

913.74
910.91
SET BENCH TIE N SIDE PP S SIDE OF GEDDES AVE 20′± W OF HIGHLAND RD
869.25
ARROW ON HYDRANT, LOCATED ON THE SOUTHWEST CORNER OF S. STATE STREET AND PARKCREST AVENUE.
SET BENCH TIE S SIDE PP N SIDE OF GEDDES AVE 15′± E OF HARVARD PL

Call before you dig.

Know what’s below.
Know what's below. Call before you dig.
REMOVAL PLAN VIEW

CONSTRUCTION PLAN VIEW

GEDDES AVE
(66' WIDE R.O.W.)

ONONDAGA ST
(60' WIDE R.O.W.)

HARVARD PL
(66' WIDE R.O.W.)

KEY

CG

SW4

SWR6

ISRW

DWS

OF

RCRW

STP

TS

TE

CONSTRUCTION KEY

KEY

CG

SW4

SWR6

ISRW

DWS

OF

RCRW

STP

TS

TE

REMOVAL KEY

KEY

CG

SW4

SWR6

ISRW

DWS

OF

RCRW

STP

TS

TE

"GEDDES AVENUE RETAINING WALL"

RETAINING WALL PLANS

REMOVAL & CONSTRUCTION PLAN - GEDDES AVENUE

* DWS
* SWR6
SW4
* CG
STP
* TS
TE
RCRW
ISRW
TE
RCRW
OF
STP
TS
TE
SW4
Know what's below. Call before you dig.
Know what's below. Call before you dig.