DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO
HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED
CONNECT NORTHGLENN MULTIMODAL IMP-SMS
CITY OF NORTHGLENN, COLORADO
CDOT PROJECT NUMBER: STU M945-007, 24362

PROJECT MAP
GENERAL NOTES

1. All construction shall be in accordance with the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction (Current Edition at Project Award), the M&S Standard Plans (as indicated on the Standard Plans List), and the Field Materials Manual (Current Edition at Project Award).

2. No Right-Of-Way acquisition will be needed for this project. All work will be completed entirely within the existing Right-Of-Way.

3. The Contractor shall limit construction activities to construction limits shown in the plans unless otherwise directed by the Engineer. Any disturbance beyond these limits shall be restored to the original condition by the Contractor at their own expense. Construction activities, in addition to normal construction procedures, shall include the parking of vehicles or equipment, disposal of litter and any other action which would alter existing conditions.

4. The Contractor shall keep existing drainage structures functional and maintain drainage to those structures. Maintaining drainage will not be paid for separately, but shall be included in the work.

5. The Contractor shall provide a means of protection to the traveling public from falling debris by approved traffic control measures of screening, etc. Such protection shall be approved by the Engineer prior to any demolition or construction. Any debris that falls into the roadway shall be removed immediately and all work shall stop until the issue is addressed and approved by the Engineer. All protection measures shall be included in the cost of the work and not paid for separately.

6. It is estimated that 2 Sanitary Facilities will be required on this project. Sanitary Facilities shall be fully operational before construction can begin. Sanitary Facilities pay item shall include cleaning a minimum of twice a week.

7. The Contractor shall implement a containment system preventing all construction/ demolition debris from falling into water bodies or the ground below.

8. During construction over roadways, the Contractor shall provide a means of protection to the traveling public from falling debris by approved traffic control measures of screening, etc. Such protection shall be approved by the Engineer prior to any demolition or construction. Any debris that falls into the roadway shall be removed immediately and all work shall stop until the issue is addressed and approved by the Engineer. All protection measures shall be included in the cost of the work and not paid for separately.

9. The Contractor may work on multiple structures and/or multiple locations concurrently to meet the project time count schedule.

10. The Contractor shall comply with all Local Agency(s) noise ordinances and/or other restrictions applicable to nighttime construction activities for projects within the local municipal service areas. Projects falling within unincorporated areas of a County will be governed by County Code. The Contractor shall coordinate with the Local Agency(s) and/or CDOT for all necessary noise exemptions or notices, noise permit variances, and approvals to do night work as required. If Local Agency nighttime noise restrictions do not exist and there are no sensitive receptors in the project area, the approvals to do nighttime work shall be approved through the CDOT Engineer. Standard noise controls and best management practices for reducing equipment and construction activity noise levels shall be utilized in all cases and will be the responsibility of the contractor to consistently employ when working in noise sensitive areas after 7:00 p.m.

11. For this project, the Contractor is required to review and understand all local agency ordinances with project applicable noise restrictions. When conditions apply, the contractor shall submit a nighttime noise ordinance memorandum(s) to all jurisdictional local authorities. This memorandum shall request construction noise exemptions for night work operations (at least two weeks prior to the proposed night work start date) where construction work is scheduled between the hours of 7:00 p.m. and 7:00 a.m. The following information should be included in the exemption request submittals and sent to the City/County Engineer: (1) Requesting entity, (2) Contact person and phone number, (3) Location of the work, (4) Reasons night work is being requested, (5) Type of activity proposed to occur at night, (6) Equipment proposed to be used at night, (7) Start and end date proposed, (8) Total number of night work is proposed to occur.

12. All nighttime construction activities subject to noise level restrictions cannot begin until the necessary documentation and notifications have been approved by the local agency authority, the CDOT Engineer and/or the region's noise specialist. All exemption requests and permitting requirements will not be paid for separately, but will be included in the work.

13. No parking or staging shall occur within open space areas or trails adjacent to the project.

14. If paleontological resources are discovered during project construction work in the immediate area of the find should cease, and Dr. Nicole Peavy (nicole.peavy@state.co.us) should be notified as soon as possible per Section 107.23 of the Standard Specifications.

UTILITIES

15. Utilities as shown on the plan sheets are plotted from the best available information. The contractor's attention is directed to subsection 105.11 of the standard specifications concerning utilities. The contractor shall comply with article 3.5 of title 5, CRS ("excavation requirement") when excavating or grading is planned in the area of underground utilities.

16. Utilities are depicted on these plans in accordance with their actual quality level as defined in the American society of civil engineer's document ASCE 38 "standard guideline for the collection and depiction of existing underground utility data." reliance upon this data for risk management purposes during bidding does not relieve the excavator or utility owner from following all applicable utility damage prevention statutes, policies, and/or procedures during construction.
17) The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at 811 to have locations of UNCC-registered lines marked by member companies. All other underground facilities shall be located by contacting the respective owner. Utility service laterals shall also be located prior to beginning excavation or grading.

18) The Contractor shall be responsible for verifying the location and depth of all existing utilities as necessary to ensure that the utilities will not be impacted by construction activities. If existing utilities are within close proximity horizontally or vertically to proposed installations, the contractor shall contact the Engineer. Any existing utility, which is to remain but is damaged as a result of the contractor's operation, shall be replaced at the contractor's expense.

DIVISION 2 EARTHWORK

19) Erosion/Sediment Control measures must be implemented before construction. All Erosion/Sediment Control BMPs shall be placed as needed according to the construction phasing and as approved by the Engineer. All Erosion/Sediment Control and Stormwater responsibilities are as stated in the Stormwater Management Plan.

20) The Contractor shall protect all storm sewer facilities and waterways adjacent to any work location including, but not limited to where pumping cutting or operations involving sawcutting, grinding, sandblasting, asphalt planing, paving or other activity that may result in pollution per the Stormwater Management Plan or as directed by the Engineer. The Contractor shall remove and properly dispose of all water products generated by operations, including, but not limited to cutting or operations on a daily basis. The discharge of any water contaminated by waste products from cutting operations to the storm sewer is prohibited. The cost of the containment and removal of water products shall not be measured and paid for separately, but shall be included in the work.

21) The Contractor shall remove on a daily basis all sediment, mud, debris, or other potential pollutants which may be discharged to, or accumulate in the flow lines and public right-of-ways as a result of construction activities associated with this project. The cost of the containment and removal of debris shall be measured and paid for separately, but shall be included in the work.

22) All inlets shall be protected during milling and paving operations. The protection shall be removed at the end of each day. The cost of protection shall be included in the work.

23) All removals shall become the property of the Contractor unless otherwise indicated in the plans and project specifications. The Contractor shall properly dispose of all materials. Disposal of material, regardless of property ownership shall be in accordance with all State, Federal, and Local Environmental Regulations.

24) Dust control shall be the responsibility of the Contractor. The cost of this work will not be paid for separately, but shall be included in the work. Water shall be used as a dust palliative where required. Locations shall be as directed by the Engineer.

DIVISION 40 PAVEMENT

25) In areas where cutting or patching is necessary, the pavement shall be cut to a neat line as directed by the Engineer. Sawcutting will not be paid for separately, but shall be included in the cost of work.

26) Roadways shall be free of any loose debris before being opened to traffic. Sweeping shall be done with a pick-up broom. The cost of the removal, disposal, and cleaning shall not be paid for separately but shall be included in the cost of work.

27) Public Information Services (Tier II) will be required on this project. See Special Provisions for details.

28) No traffic shall be diverted onto roadway shoulders unless shown in the plans or previously approved by Engineer. If the Contractor diverts traffic onto shoulders, the Contractor shall sweep at the direction of the Engineer. If the sweeping is not construction related it will be paid for as Sweeping (Sediment Removal) per hour.

29) No equipment or material stockpiles shall be left in the work zone or clear zone other than during established and approved time, and during work being performed.

30) It is estimated that the following items and quantities will be required for this project as approved and/or directed by the CDOT Project Engineer:

<table>
<thead>
<tr>
<th>PAY Item</th>
<th>Description</th>
<th>Pay Unit</th>
<th>Initial Cost</th>
<th>Increased Cost</th>
<th>Permanent Bulk/On</th>
<th>Vicinal Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>200-00200</td>
<td>Erosion Log Type 1 (12 inch)</td>
<td>LF</td>
<td>100</td>
<td>50</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>200-00200</td>
<td>Aggregate Bag</td>
<td>LF</td>
<td>30</td>
<td>20</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>200-00200</td>
<td>Pre-fabricated Concrete Manhole Structure (Type 1)</td>
<td>EA</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>200-00100</td>
<td>Sweeping (Sediment Removal)</td>
<td>HR</td>
<td>10</td>
<td>10</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>212-00700</td>
<td>Organic Fertilizer</td>
<td>LBS</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>212-00700</td>
<td>Seeding (Native) Grasses</td>
<td>ACRE</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>219-00500</td>
<td>Spray-on Mulch (Blanket)</td>
<td>ACRE</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>801-11520</td>
<td>Fence (Plastic)</td>
<td>LF</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>
31) In the unlikely event that suspected asbestos-containing material (ACM) is encountered, including with buried utilities, workers will follow CDOT Specification 250.07 – Asbestos-Containing Material Management and CDOT Regulated Asbestos-Contaminated Soil Management Standard Operating Procedure. Additionally, depending on the type of ACM, this material must also be abated in accordance with either Section 5.5 of the Soka Waste Regulations, or regulation no. 8 of the Air Quality Control Commission regulations.

32) Although encountering impacted soil or groundwater is not expected, if impacted soil and/or groundwater is encountered, work will stop immediately, and the procedures outlined in the CDOT Specification 250 shall be followed. All costs associated with sampling, handling or disposal, if necessary, will be paid for by Force Account.

33) There shall be no disturbance to recreational properties nor accesses to them. The Contractor shall maintain continuous access throughout the project for pedestrians and bicyclists via existing sidewalks and trails, or via temporary all-weather alternate routes as needed.
GENERAL NOTES

1. Pole and pedestal must be designed to meet the requirements outlined in the "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals," published by AASHTO, or a wind velocity of 100 mph.

THE CONTRACTOR SHALL SUBMIT TWO SETS OF WORKING DRAWINGS, SIGNED AND SEALIED BY A PROFESSIONAL ENGINEER RECORDED IN THE STATE OF COLORADO, IN ACCORDANCE WITH SECTION 115.02 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

DESIGN DATA

THE DESIGN HEREIN ASSUMES THAT FLASHING BEACONS ARE INSTALLED WITHIN THE ROADWAY PRISM WITH THE FOLLOWING SOIL CONDITIONS:

- SOIL TYPE: V= 30'Lb./cu. ft.
- SOIL CONSISTENCY: S= 200'pcf; FOR MODERATE STIFF COHESIVE SOIL
- SOIL ANGLE = 30 deg. FOR MEDIUM EONG PERMEABLE SOIL
- Y = 5' FOR FOULNFEO RESISTANCE

CONTACT THE ENGINEER IF THE FLASHING BEACON WILL NOT BE INSTALLED WITHIN THE ROADWAY PRISM OR IF ANY OF THE FOLLOWING SOIL CONDITIONS ARE ENCOUNTERED DURING DRILLING:

- CEMENTED SAND OR CLAY
- THE FOUNDATION SOILS ARE NON-HOMOGENEOUS
- THE PERIODICITY IS ENCOURAGED
- THE FOUNDATION BASE IS ENCAPSULATED
- LARGE ENCAPSULATED

FOOTING DESIGN IS BASED ON 100 MPH WIND LOAD ON A 48 IN. X 48 IN. DIAMOND SIGN PANEL MOUNTED 9 FT. ABOVE THE GROUND, WITH A 24 IN. X 24 IN. RECTANGULAR PLATE UNDERNEATH THE FLASHING BEACON. IF A SIGN CONFIGURATION IS DESIGNED THAT EXCEEDS THESE DIMENSIONS, THE FOOTING DESIGN MUST BE ENGINEERED AND SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF COLORADO.

FOOTING NOTES

1. EXH 1/21/83
2. SQUARE HOLE
3. LIKE HOLE SHALL BE PROVIDED
4. EN. WILL BE NON-ROBUST
5. SCHEDULE 40 PVC (2 IN. MIN. DEPTH)
6. INSTALL ANCHOR DUTY (FURNISHED WITH PILE) PER MANUFACTURER'S TEMPLATE PRINT (FURNISHED WITH TRUSS)
7. CONCRETE OVERLAY OF 12 IN
8. 5/16 IN. CLEARNAGE FOR HOOPS
9. STANDARD PULL BOX, TYPE ??

CASSIDY DESIGN REQUIRE THAT THE CASSIDY BE REFINED IN COMPACT SAND, CLAY OR SANDY CLAY. IF OR VISUAL INSPECTION OF THE HILL, OTHER MATERIAL IS PRESENT, THE CASSIDY DESIGN SHALL BE MODIFIED AS DETERMINED BY THE ENGINEER.
<table>
<thead>
<tr>
<th>INDEX</th>
<th>CONTRACT ITEM NO</th>
<th>CONTRACT ITEM</th>
<th>UNIT</th>
<th>ROADWAY</th>
<th>PROJECT TOTALS</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PLAN</td>
<td>AS CONST.</td>
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<tr>
<td>208-00002</td>
<td>Erosion Log Type 1 (12 inch)</td>
<td>LF</td>
<td>150</td>
<td></td>
<td>150</td>
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<tr>
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<td>Aggregate Bag</td>
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<td>60</td>
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<td>60</td>
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<tr>
<td>208-00046</td>
<td>Pre-fabricated Concrete Washout Structure (Type 1)</td>
<td>EA</td>
<td>1</td>
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<td>1</td>
</tr>
<tr>
<td>208-00105</td>
<td>Sweeping (Sediment Removal)</td>
<td>HR</td>
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<td></td>
<td>10</td>
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<tr>
<td>212-00700</td>
<td>Organic Fertilizer</td>
<td>LBS</td>
<td>5</td>
<td></td>
<td>5</td>
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<tr>
<td>212-00708</td>
<td>Seeding (Native) Broadcast</td>
<td>ACRE</td>
<td>0.01</td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td>213-00012</td>
<td>Spray-on Mulch Blanket</td>
<td>ACRE</td>
<td>0.01</td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td>607-11526</td>
<td>Fence (Plastic)</td>
<td>LF</td>
<td>50</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>614-00003</td>
<td>Solar Rapid Rectangular Flashing Beacon</td>
<td>EA</td>
<td>12</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>626-00000</td>
<td>Mobilization &amp; Demobilization</td>
<td>LS</td>
<td>7</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>627-00002</td>
<td>Preformed Thermoplastic Pavement Marking (Bike Lane)</td>
<td>SF</td>
<td>4,896</td>
<td></td>
<td>4,896</td>
</tr>
<tr>
<td>627-00004</td>
<td>Epoxy Pavement Marking (4&quot;)</td>
<td>LF</td>
<td>133,950</td>
<td></td>
<td>133,950</td>
</tr>
<tr>
<td>630-80341</td>
<td>Construction Traffic Sign</td>
<td>EA</td>
<td>48</td>
<td></td>
<td>48</td>
</tr>
<tr>
<td>630-80380</td>
<td>Traffic Cone</td>
<td>EA</td>
<td>450</td>
<td></td>
<td>450</td>
</tr>
</tbody>
</table>
### 9. TABULATION OF STORMWATER QUANTITIES

**1.** Control Measures for sediment removal and disposal shall be performed as follows: 208 Removal and Disposal of Sediment (equipment) and 209 Removal and Disposal of Sediment (laboral). All other control measures shall be included in the cost of the control measures.

The following pay items can be used for interim stabilization as defined in section 208, 04E(2)(2): 213-00003, 213-00004, 213-00007, 213-00102, 213-00103, 213-00001, 213-00105, 213-00150.


<table>
<thead>
<tr>
<th>Pay Spec.</th>
<th>Description</th>
<th>Quantity</th>
<th>Initial</th>
<th>Interim</th>
<th>Permanent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>229-00002</td>
<td>Balcon Log Type 1 (12&quot; Inch)</td>
<td>LF</td>
<td>100</td>
<td>50</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>229-00034</td>
<td>Aggregate Bag</td>
<td>LF</td>
<td>30</td>
<td>30</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>229-00046</td>
<td>Pre-fabricated Concrete (Washout Structure (Type 1))</td>
<td>Each</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>229-00113</td>
<td>Sweeping (Sediment Removal)</td>
<td>Hour</td>
<td>10</td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>212-00730</td>
<td>Organic Fertilizer</td>
<td>Pounds</td>
<td>5</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>212-00731</td>
<td>Seeding (Native) Broadcast</td>
<td>Acre</td>
<td>0.01</td>
<td></td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td>213-00012</td>
<td>Sod on Mulch Blanket</td>
<td>Acre</td>
<td>0.01</td>
<td></td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td>637-11255</td>
<td>Fence (Plastic)</td>
<td>LF</td>
<td>50</td>
<td></td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

*It is anticipated that additional control measures and control measure quantities not shown on the SWMP Site Plans shall be required or the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsections 208.03 and 208.04. Quantities for all control measures shown above are estimated, and have been increased for unforeseen conditions and normal control measure life expectancy. Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.**

**F/A refers to CDB's Force Account Pay Items.**

### 10. BIOLOGICAL IMPACTS and DEWATERING

**A. ENVIRONMENTAL IMPACTS:**
- Wetland Impacts: NO
- Stream Impacts: NO
- Threatened and Endangered Species: No species are anticipated to be impacted by the project.

**B. DEWATERING:**

(Not covered under the CDB guidance document Low Risk Discharge Guidance Discharges of Uncertified Groundwater to Land)


Dewatering: Refer to other environmental permits in accordance with subsection 107.02 and the permits contained in Parts 18 and 20 of the SWMP. If groundwater does not meet water quality standards for receiving water or separate CDPs, Dewatering Permit shall be obtained from CDHPE in accordance with subsections 197.02 and 197.23.
**NON-STRUCTURAL Control Measures** that may be potentially used on the project for erosion and sediment control practices may include, but are not limited to: Erosion control devices are used to limit the amount of soil loss on site. Sediment control devices are designed to capture sediment on the project site.

<table>
<thead>
<tr>
<th>APPLICATION, CONTROL MEASURE</th>
<th>NARRATIVE</th>
<th>M-STANDARD or *For NON-STANDARD</th>
<th>INUSE OF SITE</th>
<th>INITIAL ACTIVITY</th>
<th>INTERIM ACTIVITIES</th>
<th>PERMANENT STABILIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEGETATIVE BUFFER STRIPE</td>
<td>Finishing component for filling sediment-laden runoff from disturbance area, Area within CDOT ROW or temporary easement to be identified on SWMP prior to construction starting</td>
<td>M-206</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>GRADE APPUCTION (LANDFORM)</td>
<td>Existing or created landform may be used as a control measure if they prevent sediment from entering or leaving the disturbance area. If a landform directs flow to water to a concentrated outfall point, the outfall point shall be protected to prevent erosion. Area to be identified on SWMP prior to construction starting</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TOPSOIL MANAGEMENT</td>
<td>STAKE/EVAPE/SALVAGE Stockpile</td>
<td>Prior to any site disturbance work commencing, existing topsoil shall be stripped to a depth of four inches or as specified, and placed in stockpiles or windows. Upon completion of final grading, topsoil shall be evenly distributed over earthen embankment to a depth of four inches or as specified.</td>
<td>M-206</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SURFACE ROUGHNESS / GRADING TECHNIQUE</td>
<td>Temporary stabilization of disturbance and to minimize wind and erosion.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEEDING (TEMPORARY)</td>
<td>Temporary stabilization used for overwintering of disturbance or used to control erosion for areas anticipated to change construction.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BONDED FIBER MATRIX / MULCHING (HYDRAULIC)</td>
<td>Not to be used in areas of concentrated flows, i.e., ditch lines. To be for either interim or permanent stabilization placed as a surface cover for erosion control. May be used as surface cover when work is temporarily halted and as approved by the engineer.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interim or Permanent Stabilization placed as a surface cover for erosion control and as seedinng. To be installed as interim stabilization as a surface cover when work is temporarily halted and as approved by the engineer.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interim or Permanent Stabilization placed as a surface cover for erosion control and as seedinng. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEEDING PERMANENT (NATIVE)</td>
<td>Permanently Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sweeping</td>
<td>Source control, used to remove sediment tracked onto paved surfaces and to prevent sediment from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be permitted.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

OTHER

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**Sheet Revisions**

**As Constructed**

**CONNECT Northglenn SWMP**

**Project No.**

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**File Name:** SWMP

**Drawing Number:** 2

**Sheet Number:** 14

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12971 County O,
Northglenn, CO 80401
Ph: (303) 455-4833

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**As Revisions:**

**Date:**

**Comments:**

**Init:**
### 6. NARRATIVES:

Below are the CQD narratives covered in CQD’s Standard Specifications and N Standard Plans. Proposed non-standard control measures during design should be added to the matrix. Place an “X” in the column for M-206 Standard or “X” for Non-Standard and provide a narrative. The narrative shall include what, where, and why the control measure is being used. Also place an “X” in the appropriate implementation column(s). During design, place a “5” in the Initial Activities Column for any control measures that should be installed before construction activity starts.

#### Control Measure Matrix During Construction:

1. Control measure narrative has been included for the CQD Standard Specifications and Standard Plan M-206 and M-216 along with any non-standard control measures approved during the design process. A Non-Standard Control Measure not included in the SWMP is not proposed and approved by the Engineer and SWMP Administrator for Construction shall do the following: Place an “X” in the column for non-standard and complete a Non-Standard Control Measure Specification and Narrative covering the what, when, where and why the control measure is being used shall be added to the SWMP. The appropriate “X” shall also be added to the implementation phase(s).

2. The SWMP Administrator for Construction shall place an “X” in the column in Use On Site when the control measure has been installed.

3. A “5” in the Initial Activities Column indicates that the control measure shall be installed before construction activity starts. Locations and quantities will be discussed during the Environmental Pre-Construction Conference with the Regional Water Pollution Control Manager.

#### STRUCTURAL Control Measures that may be potentially used on the project for erosion and sediment control practices may include, but are not limited to:

<table>
<thead>
<tr>
<th>APPLICATION</th>
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</thead>
<tbody>
<tr>
<td>CONTROL MEASURE</td>
</tr>
<tr>
<td>NARRATIVE</td>
</tr>
<tr>
<td>M- 206 STANDARD or “X” for NON-STANDARD</td>
</tr>
<tr>
<td>INUSE ON SITE</td>
</tr>
<tr>
<td>INITIAL ACTIVITIES</td>
</tr>
<tr>
<td>INTERM ACTIVITIES</td>
</tr>
<tr>
<td>PERMANENT STABILIZATION</td>
</tr>
<tr>
<td>M- 206 STANDARD or “X” for NON-STANDARD</td>
</tr>
</tbody>
</table>

- PROTECTION OF EXISTING WETLANDS
  - Fence (plastic) shall be placed in combination with erosion logs to prevent encroachment of construction traffic and sediment. Erosion logs shall be placed adjacent to the wetlands; erosion logs shall be placed between the plastic fence and disturbances. Logs shall be placed to direct flows away from or filter water running into wetlands from disturbance areas.

- PROTECTION OF EXISTING TREES/LANDSCAPING
  - Fence (plastic) shall be used in areas indicated in the plans to prevent encroachment of construction traffic and sediment for the protection of mature trees and existing landscaping prior to start of construction disturbances.

- STOCKPILE PROTECTION
  - Temporary berm, erosion logs, aggregate bags
  - Placed within specified distance in accordance with subsection 206.05, from toe to contain sediment around stockpiles. Aggregate bags are easily moved and replaced for access during the workday. Placed prior to start of stockpile, increase control as stockpile increase.

- TOE OF FILL PROTECTION
  - Erosion logs, temporary berm, silt fence, tarp over window
  - Place prior to slope/embankment work to capture sediment and prevent and delineate undisturbed areas. Can be used to stockpile topsoil for salvage.

- PERMEABLE CONTROL
  - Silt fence, erosion logs, temporary berm, tarp over window
  - Place prior to construction commencing to address potential runoff from site, and to divert around disturbed areas. Can be used to stockpile topsoil for salvage.

- SLOPE CONTROL
  - Silt fence, erosion logs
  - Placed on the contour of a slope to contain and slow down construction runoff. Place prior to start of construction disturbances.

- CONCRETE WASHOUT
  - Source control, placed to prevent tracking of sediment from disturbed areas to affect surface. Place prior to start of construction disturbances.

- DEWATERING
  - (Contractor responsible for obtaining a permit from Colorado Department of Health and Environment)
  - Shall be done in such a manner to prevent potential pollutants from entering state waters.

- OTHER

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**NOTES:**

- Date: 7/20/2022
- File Name: SWP190
- Project: SWP
- Design: KM
- Drawing: No. 3
- Sheet: 15
- Sheet No.: 1 of 2
- Project No.: STU M95-007, 24362
- Designer: KM
- Title: NORTHGLEN SWP
- Street: 12291 County O
- City: NORTHGLEN, CO 80641
- Phone: (303) 605-4833

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F. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION
Prior to partial acceptance:
1. All seeded areas shall be reviewed by the SWMP Administrator for Construction and/or Engineer for bare soils caused by surface or wind erosion, bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.
2. The Contractor shall maintain seeding/mulch/tacitifier, mower to control weeds or apply herbicide to control weed in the seeded areas until Partial Acceptance of the stormwater construction work.

7 PRIOR TO PROJECT FINAL ACCEPTANCE
1. When directed by the Engineer, removal and disposal of temporary control measures shall be included in the cost of work.
2. Refer to Specification 208.10 for items to be completed prior to requesting partial acceptance of water quality work.
C. PERMANENT STABILIZATION SUBJECT MATTER EXPERT

This qualified individual will be either a Regional Environmental Staff member, or an Independent Contractor/Consultant (Independent Assurance Program). This expert is a project team leader responsible for ensuring project adherence to requirements of the 207 and 211 Specifications as follows and will be available for questions regarding permanent stabilization requirements.

1. Review the Site Management Plan and the Permanent Stabilization Site Plans.
2. Attend the Environmental Pre-construction Conference.
3. Coordinate the Site Pre-vegetation Conference.
4. Review and recommend approval of products.
5. Review and recommend approval of the Geotextile Verification Requirements.
6. Attends the Partial Landscape Completion Walkthrough.
7. Attends the Final Landscape Completion Walkthrough.

4. DURING CONSTRUCTION

The SWMP SHOULD be considered a “living document” that is continuously reviewed and modified. During construction, the following items shall be added, updated, or amended as needed by the Contractor in accordance with Section 208.

A. MATERIALS HANDLING AND SPILL PREVENTION

Prior to construction commencing, the Contractor shall submit a Spill Prevention Control and Countermeasure Plan, see subsection 208.06. Materials handling shall be in accordance with subsection 208.06.

B. OTHER COPS PERMITS

None.

C. STOCKPILE MANAGEMENT

Shall be done in accordance with subsections 167.25 and 208.07.

D. CONCRETE WASHOUT

Concrete washout water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.

E. SAW CUTTING

Shall be done in accordance with subsections 167.25, 208.04, and 208.05.

F. STREET SWEEPING

Shall be done in accordance with subsection 208.04.

5. CONTROL MEASURE MAINTENANCE

Maintenances shall be done in accordance with subsection 208.04 (1).

6. INTERIM AND PERMANENT STABILIZATION

The Contractor shall comply with all interim stabilization and permanent stabilization requirements in accordance with subsection 208.04(e).

A. SEEDING PLAN

The following seed mix(es) and rates are for drill seeding method as shown on the Permanent Stabilization Site Maps shown in 6.0.0.

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>BOTANICAL NAME</th>
<th>LBS. PCI PER ACRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>blue grama grass</td>
<td>Bouteloua gracilis</td>
<td>3.0</td>
</tr>
<tr>
<td>sand grama</td>
<td>Bouteloua eriopoda</td>
<td>3.0</td>
</tr>
<tr>
<td>little bluestem (Pastura Balsamerea)</td>
<td>Schizachyrium scoparium</td>
<td>2.8</td>
</tr>
<tr>
<td>sand dropseed</td>
<td>Sporobolus spicatus</td>
<td>1.1</td>
</tr>
<tr>
<td>sand lovegrass</td>
<td>Nebraskinis 27</td>
<td>1.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>11.0</td>
</tr>
</tbody>
</table>

B. SEEDING APPLICATION

The following seeding methods shall be used for all areas which are not surfaced and as shown on the Permanent Stabilization Site Maps. Soil compaction shall be minimized for areas where permanent stabilization will be achieved through vegetative cover. In small areas not accessible to a drill, hand broadcast shall double the PCI rate per acre and add 0.5 inch to the till per Section 212 of CDP0 Standards and Specifications.

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Seeding Method (Subsection 212.60)</th>
<th>Acres</th>
<th>LBS. PCI Per Acre</th>
<th>PCI Per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>212-0076</td>
<td>Seeding (Native)</td>
<td>0.01</td>
<td>212-0076</td>
<td>0.01</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>0.01</td>
<td></td>
<td>0.01</td>
</tr>
</tbody>
</table>

The Contractor shall provide the location of where seed is stored and access to fossil seed locations to the Contractor. Seeding to be performed by the Contractor for ten days, no days to be rejected.

C. MULCHING APPLICATION

Apply a minimum of 10 linear ft of mulch per section. Any area with new tree seedlings per acre and in accordance with Section 213, and mechanically clip it into the soil in combination with an organically mulch bed. Prior to winter shutdown or the summer seeding window closure, Uncompleted areas shall be pulled with 1/2 to 1/2 of mulch, weed seed per acre, mechanically clipped to a topsoil that will in combination with an organic mulch bed in accordance with Sections 206 and 213.

D. SPECIAL REQUIREMENTS

Seed amendments, weed control, and permanent stabilization mulching shall be accomplished within four working days of placing the topsoil on the re-compacted civil subgrades. A placed topsoil is not considered permanent stabilization until within four working days. The Contractor shall complete interim stabilization methods in subsection 208.04(e) at no additional cost to the Contractor. Permanent stabilization mulching shall be accomplished within 24 hours of hydraulic application of native seed.

The Contractor shall submit a written proposal for permanent stabilization protection for the Engineer for approval showing how the SWMP Permanent Stabilization Plans will be implemented to minimize damage to seedling areas.

E. SOL AMENDMENT REQUIREMENTS

Minimum amendment material requirements for all disturbances to receive seeding (native).

| Pay Item | Description | Amount/Acre | PCI
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>212-0070</td>
<td>Organic Fertilizer High N</td>
<td>435</td>
<td>5</td>
</tr>
<tr>
<td>212-0071</td>
<td>Compost (Mechanically Applied)</td>
<td>0</td>
<td>CY 0</td>
</tr>
<tr>
<td>212-0072</td>
<td>Humata</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>212-0073</td>
<td>Mycomelia</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>212-0074</td>
<td>Elemental sulfur</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Total Acres of Seeding (Native) Broadcast with "Topsoil Generated from Topsoil (Ornamental)"
STORMWATER MANAGEMENT PLAN: NORTHGLENN SAFER STREETS

1. SITE DESCRIPTION
   The Contractor shall comply with all of City of Northglenn M64 requirements. The SWMP Administrator for Construction shall update to reflect current project site conditions.

   A. PROJECT SITE LOCATION:
      Location or address of construction office:
      This project is located throughout the City of Northglenn, Colorado. Pavement markings will be placed throughout the city's roadways. RFFs (rectangular fall-flap hinging boxes) will be placed at the following intersections: 140 feet West of Williams Way & Tucla Dr., Phillips Dr. & Wyco Dr., E 110th Ave, and Wyco Dr., 235 feet East of Craves Ct. & High St., 950 feet East of Irma Dr., E 12th Pl., Lassen St., and Leroy Dr., 250 feet North of Lassen Dr. & E 110th Pl., Leroy & Irma Dr., 325 feet North of 104th Run Power & 104th Pl., S. render east of Bonito Pl. & Acorn St., Hulan St. & Niver Canal. 10 feet South of Malody Dr. & Mentor Ave., Malody Dr. & W 104th Pl.
      Location or address of construction office:

   B. PROJECT SITE DESCRIPTION:
      This project includes increased safety designs to roadways and intersections throughout Northglenn. Roadway safety designs will consist of the implementation of pavement markings throughout roadways within the city. In addition, RFFs will be placed on intersections to facilitate pedestrian safety.

   C. PROPOSED SEQUENCING FOR MAJOR CONSTRUCTION ACTIVITIES:
      Construction activities include initiation of installation measures, cleaning, installation of RFFs, and seeding. Stylistic areas that are not paved or landscaped through establishment of vegetation cover.

   D. ACRES OF DISTURBANCE:
      1. Total number of round trips on site (TNR): 0.01 acres
      2. Total area of proposed disturbance (LDA): 0.03 acres
      3. Total area of existing vegetation (SLO): 0.31 acres

   E. EXISTING VEGETATION:
      The majority of the areas on this site are composed of hydrologic soil group A. This group consists of soils with a slow infiltration rate which typically are wet. These soils can be described as having a moderate fine to fine texture. The group can also be described as having a slow rate of water transmission and having a low potential for runoff. The soils on the site consist of hydrologic soil group A2. This hydrologic soil group is primarily composed of clay. Therefore, it has a high runoff and infiltration rate. It is also classified as having a very slow infiltration rate and a very slow rate of water transmission.
      Date Source(1): https://www.colorado.gov.gov/APP/Programs/Stormwater

   F. EXISTING VEGETATION, INCLUDING PERCENT OF VEGETATIVE COVER:
      During design, the SWMP Administrator for Construction will consult with the Engineer to determine if the SWMP Administrator for Design or the SWMP Administrator for Construction will conduct the Vegetation Tract Assessment. If the site is disturbed, an Adequate Reference Sheet (ARS) may be utilized, refer to the permit. The SWMP Administrator for Design or the SWMP Administrator for Construction is to conduct a survey including general description of existing vegetation prior to any ground disturbance on the project. The SWMP Administrator shall perform the vegetation survey (VHS) and include photo documentation.

      Description of existing vegetation:

2. STORMWATER MANAGEMENT CONTROLS FOR FIRST CONSTRUCTION ACTIVITIES
   The Contractor shall perform the following:

   A. POTENTIAL POLLUTANT SOURCES:
      Refer to Potential Pollutant Sources in SWMP Section 4A. Evaluate, identify, and classify all potential sources of pollutants at the site in accordance with subsection 107.25 and place any Control Measures required to contain potential pollutants.

   B. OFFSET DRAINAGE RUN ON WATER:
      Place Control Measures to address run-on water in accordance with subsection 108.00.

   C. CONSTRUCTION DEWATERING:
      Obtain a CDPR SHEETING Permit from CDPR based on the conditions of the Low-Risk Guidance for Discharges of Uncontaminated Construction Runoff from Land to water from the Colorado Department of Public Health and Environment, https://www.colorado.gov.gov/Programs/Stormwater.

   D. VEHICLE TRACKING CONTROL:
      Control Measures shall be implemented in accordance with subsection 106.04.

   E. PERIMETER CONTROL:
      Parameters shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters.

   F. PERIMETER CONTROL:
      Parameters shall consist of berm, all fence, Mason logs, existing landowner, or any other approved as necessary.

3. QUALIFIED STORMWATER MANAGERS:
   A. SWMP ADMINISTRATOR FOR DESIGN:
      COOT Certified individual responsible for directing SWMP Plans Sheets during the design phase.

      Name/Title: Lauren Gable/Environmental Manager
      Contact Information: 720-373-1672
      Certification #: 33(D65)1A

   B. SWMP ADMINISTRATOR FOR CONSTRUCTION:
      As defined in Section 3E(2) The Contractor shall designate a SWMP Administrator for Construction. The SWMP Administrator for Construction shall be responsible for implementing, maintaining, and revising SWMP, including the title and contact information. The activities and responsibilities of the SWMP Administrator for Construction shall address all aspects of the project’s management. Update the information below for each new SWMP Administrator for Construction. (Copy of TSCS Certification must also be included in SWMP.

   C. Sheet Revisions:
      Date: Comments: Init:

   Project No.: 750-007, 24582
      Designed By: M. Structure
      Drafted By: M. Nunn
      Valid: 04/01/2019
      Sheet: 18
      Sheet: 1 of 2