



# STORMWATER MANAGEMENT PLAN (SWMP)

## SUMMERFIELD NORTH SUBDIVISION

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 26,  
TOWNSHIP 2 NORTH, RANGE 64 WEST OF THE 6<sup>TH</sup> P.M.  
TOWN OF KEENESBURG  
COUNTY OF WELD  
STATE OF COLORADO

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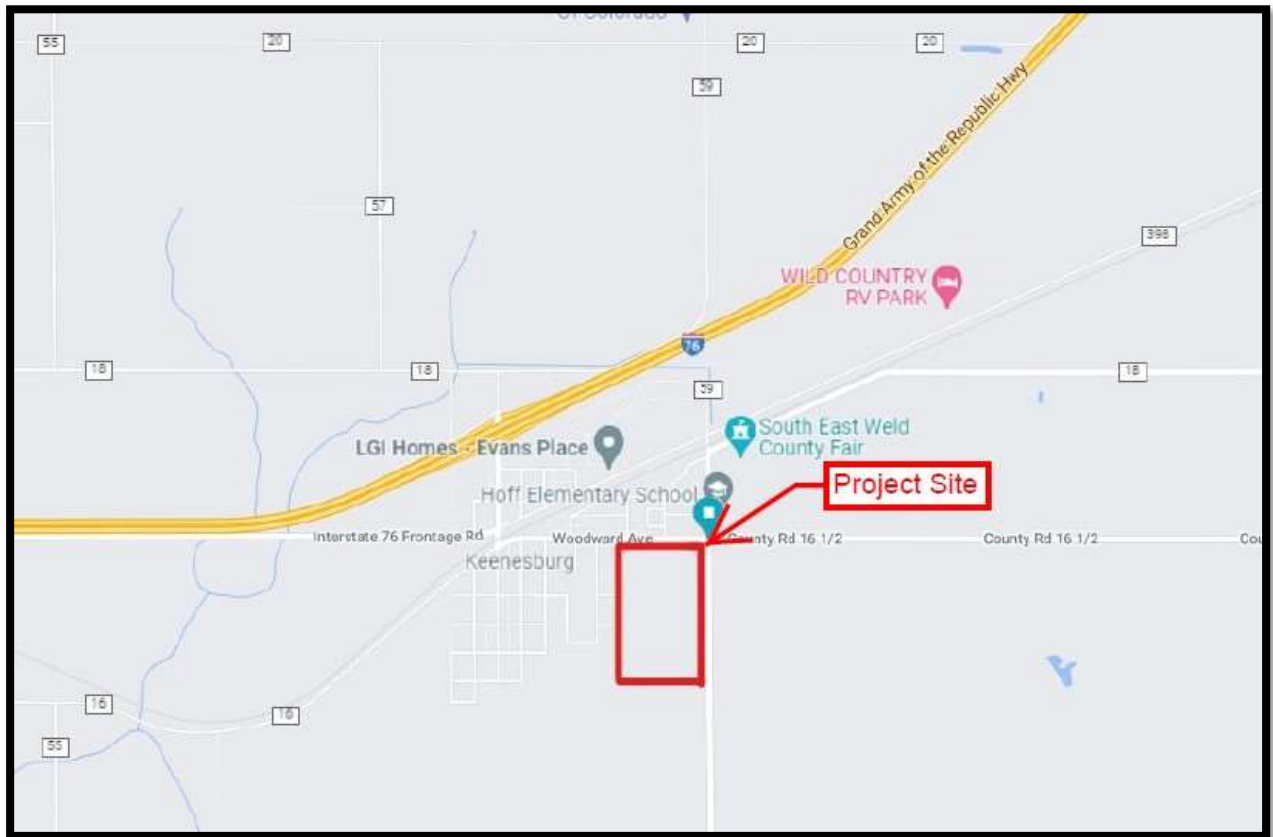
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Michael L. Lujan

January 21, 2022



Engineering · Planning · Surveying



**Vicinity Map**

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# I. Stormwater Management Plan (SWMP) General Requirements

The Federal Clean Water Act and the Colorado Water Quality Control Act require stormwater discharge permits during construction at development sites that disturb one or more acres of land.

## A. Colorado Department of Public Health and Environment (CDPHE) General Requirements

1. A stormwater management plan (SWMP) shall be developed for each construction site covered by the Construction Stormwater Permit prior to commencement of construction activities.
  - For public emergency related sites, a plan shall be created no later than days after the commencement of construction activities.
2. The SWMP shall be prepared in accordance with good engineering, hydrologic and pollution control practices.
  - The plan need not be prepared by a registered engineer.
3. **The permittee need only submit the SWMP to the CDPHE upon request, it is not required with the application for the Construction Stormwater Permit.**
4. The permittee must implement the provisions of the SWMP as written and updated, from commencement of construction activity until final stabilization is complete.
5. A copy of the SWMP must be retained onsite or be onsite when construction activities are occurring at the site unless the permittee specifies another location and obtains approval from the CDPHE.



## B. Signatory Requirements for Documents Submitted to the CDPHE

Documents required for submittal to the CDPHE in accordance with the Construction Stormwater Permit, including applications for permit coverage and other documents as requested by the CDPHE, must include signatures by both the owner and the operator, except for instances where the duties of the owner and operator are managed by the owner.

*"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

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Marcus Palkowitsh (Applicant/Owner)  
MSP Investment CO, LLP

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TBD (Operator)  
TBD

## C. Consistency with Other Plans

The permittee may incorporate, by reference, applicable portions of plans prepared for other purposes at their facility. Plans or portions of plans incorporated by reference must be available along with the SWMP, the Erosion Control Plans are located under **Appendix D**.

## D. Required SWMP Modifications

At nearly every site, the implemented control measures will have to be modified to adapt to changing site conditions, or to ensure that potential pollutants are consistently and properly managed. The pollutant sources and management practices at a site must be reviewed on an ongoing basis. When control measures or other site conditions change, the SWMP must be modified to accurately reflect the actual field conditions. Examples include, but are not limited to, removal of control measures, identification of new potential pollutant sources, addition of control measures, modification of control measure installation and implementation criteria or maintenance procedures, and changes in items included in the site map and/or description. The plan should be viewed as a living document that is continuously being reviewed and modified as part of the overall process of assessing and managing stormwater quality issues at the site. The SWMP must be amended when the following occurs:

- A change in design, construction, operation, or maintenance of the site requiring implementation of new or revised control measures;
- The plan proves ineffective in controlling pollutants in stormwater runoff in compliance with the permit conditions;
- Control measures identified in the SWMP are no longer necessary and are removed; and
- Corrective actions are taken onsite that result in a change to the SWMP.

For SWMP revisions made prior to or following a change(s) onsite, including revisions to sections addressing site conditions and control measures, a notation must be included in the plan that identifies:

- The date of the site change, the control measure removed, or modified,
- The location(s) of those control measures, and
- Any changes to the control measures(s).

The permittee must ensure the site changes are reflected in the SWMP. The permittee is noncompliant with the Construction Stormwater Permit until the plan revisions have been made.

## **II. Stormwater Management Plan Site Specific Requirements**

### **A. Qualified Stormwater Manager**

An individual knowledgeable in the principles and practices of erosion and sediment control and pollution prevention, and with the skills to assess conditions at construction sites that could impact stormwater quality and to assess the effectiveness of stormwater controls implemented to meet the requirements of this permit.

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TBD (Qualified Stormwater Manager)  
TBD

### **B. Spill Prevention and Response Plan**

#### **Procedures for preventing, responding to and reporting spills and leaks.**

1. Stored soils shall be kept in a designated area on the SWMP away from drainage areas.
  - Soil Storage area shall have a covered enclosure installed at the perimeter of the area.
2. Vehicle Tracking of Sediment
  - A vehicle tracking control pad shall be installed at all entrances to the staging areas.
3. Management of Contaminated soils
  - Contaminated soil shall be removed from the site and treated as required.
  - Soil shall be contained by earth dike during removal.
4. Loading and unloading operations
  - All loading and unloading activities shall be in the stabilized staging area as designated on the SWMP
5. Outdoor storage area
  - Chemical storage shall be in the area designated on the SWMP.
  - Storage area shall have a covered enclosure to protect area.
  - Any and all hazardous materials used will be contained in an area specified by the contractor, and Material Safety Data Sheets (MSDS) will be available for inspection at any point during construction.
6. On-site waste management

- All waste piles, dumpster, etc. shall be contained in the chemical storage area designated on the SWMP.
- 7. Concrete truck/equipment washing
  - A concrete washout area will be constructed at the staging area and constructed according to the Mile-High Flood District.
- 8. Vehicle Equipment
  - Fueling and vehicular maintenance will be performed on the jobsite as needed, but there will be limited storage of vehicles on site.
  - A secondary berm area shall be constructed to contain any spills that may occur.
- 9. Significant dust or particulate generating processes
  - Potable water shall be used to prevent airborne particulate matter.
- 10. Routine maintenance activities involving fertilizers, pesticides, detergents, fuel, solvents, oils, etc.
  - Routine maintenance activities shall be conducted in the Chemical storage area if possible
  - If conducted outside of the Chemical storage area, then care should be taken to minimize the potential pollutant with the use of ground cover over dirt areas, such as tarps.
- 11. Wastes from geo-technical testing
  - All testing waste shall be removed for the site and/or disposed of in appropriate waste disposal containers.
- 12. Non-industrial waste sources – worker trash, portable toilets, etc.
  - Worker trash shall be placed in appropriate trash receptacles.
  - Daily site inspection should be conducted to ensure site is free from trash.
  - All portable toilets shall be secured to the ground to insure against tip over.

**Should any spills occur, the SWMP administrator must take appropriate measures to assure complete, proper and legal cleanup.**

1. For non-hazardous materials such as gasoline, paint, or oil that may be spilled in small quantities, the following measures shall be implemented:
  - Personal safety is the primary importance
  - Use absorbent materials to contain spills and clean the area of residuals.
  - Dispose of the absorbent material, soil, and/or rotomill properly.
  - Do not hose down spill area with water.
2. For non-hazardous materials that qualify as a significant spill, the following measures shall be implemented:

- Contact the Colorado Department of Public Health and Environment (CDPHE) 24-hour Environmental Emergency Spill Reporting Line (1-877-518-5608) within 24 hours of the spill event. A written notification to CDPHE is necessary within 5 days.
  - Contact the County of Larimer Health Department Emergency Response (970-498-6739).
  - Contact the Qualified Stormwater Manager, TBD (XXX-XXX-XXXX).
  - Clean up spills immediately. Use absorbent materials if the spill is on an impermeable surface. Construct a slightly compacted earth dike to contain a spill on dirt areas. If rainfall is present at the time of the spill, cover the spill with a tarp to prevent contaminating runoff.
3. For spills involving hazardous materials, the following measures shall be implemented:
- Personal safety is the primary importance. Stay upwind and at a safe distance/secure the area from anyone being harmed.
  - Contact the local emergency response team by dialing 911.
  - Contact the Colorado Department of Public Health and Environment (CDPHE) 24-hour Environmental Emergency Spill Reporting Line (1-877-518-5608) within 24 hours of the spill event. A written notification to CDPHE is necessary within 5 days.
  - Contact Weld County Environmental Health Services (970)304-6415.
  - Contact the Qualified Stormwater Manager, TBD (XXX)XXX-XXXX.
  - A licensed contractor or a Hazmat team shall be used to properly clean up spills

## **C. Materials Handling**

Control measures implemented at the site to minimize impacts from handling significant materials that could contribute pollutants to runoff:

1. Concrete Washout Area with Masonry Mixing Station – designated bermed area appropriately labeled and maintained within Stabilized Staging Area.
2. Stockpile Management – designated stockpile locations surrounded by silt fence.
3. Stabilized Staging Area – clearly designated area on the south end of the site, where construction equipment and vehicles, and other materials are stored and temporary dedicated concrete or asphalt batch plants will be located (if needed).

## **D. Potential Sources of Pollution**

Potential pollutant sources for this site include the following:

1. All disturbed and stored soils – to be mitigated by the use of silt fence, temporary or permanent seeding, and erosion control blankets;
2. Vehicle tracking of sediments - to be mitigated by vehicle tracking control measures at the entrances to the site;
3. Management of contaminated soils – not anticipated for this site;
4. Loading and unloading operations – to be mitigated by use of a designated stabilized staging area;
5. Outdoor storage activities (building materials, fertilizers, chemicals, etc.) – to be mitigated by use of designated stabilized staging area;
6. Vehicle and equipment maintenance and fueling – to be mitigated by use of a designated stabilized staging area;
7. Significant dust or particulate generating processes – to be mitigated by road watering as needed;
8. Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc. – to be mitigated by limiting use and proper storage within the stabilized staging area;
9. On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.) – to be mitigated by having a designated location for waste;
10. Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment – to be mitigated by use of a concrete washout area located within the stabilized staging area;
11. Dedicated asphalt and concrete batch plants – to be mitigated by containing within the stabilized staging area;
12. Non-industrial waste sources such as worker trash and portable toilets – to be mitigated by having a designated location for each;
13. Other areas or procedures where potential spills can occur – to be mitigated by having a spill procedure in place and containment provided by silt fencing around the site.

## **E. Implementation of Control Measures**

1. Structural Practices for Erosion and Sediment Control:
  - a. Silt Fence (SF) – a sediment barrier designed to intercept sheet flow runoff from disturbed areas.
  - b. Construction Fence (CF) – restricts site access to designated entrances and exits, delineates construction site boundaries, and keep construction out of sensitive areas.
  - c. Culvert Inlet Protection and Inlet Protection (IP) – permeable barriers installed around an inlet to filter runoff and remove sediment prior to entering a storm drain system.

- d. Rock Socks (RS) – rock socks placed along roadways after construction in the curb and gutter systems to reduce sediment traveling downstream.
  - e. Temporary Sediment Basin (TSB) – a temporary pond built on a construction site to capture eroded or disturbed soil transported in storm runoff prior to discharge from the site.
  - f. Vehicle Tracking Control (VTC) – provides stabilized construction site access where vehicles exit the site onto paved public roads.
  - g. Stabilized Staging Area (SSA) – a clearly designated area where construction equipment and vehicles, stockpiles, waste bins, and other construction related materials are stored.
  - h. Concrete Washout Area (CWA) – a properly maintained area of the construction site designed to receive wash water from washing of tools, concrete mixer chutes, liquid concrete waste from dump trucks, mobile batch mixers, or pump trucks.
  - i. Diversion Ditch (DD) – used to reroute water from a stream or restrict flows to a designated portion of the stream channel to allow for construction activities to take place in the stream, along the banks or beneath the active channel.
2. Non-Structural Practices for Erosion and Sediment Control:
- a. Permanent Seeding (PS) – an erosion control method used to stabilize disturbed areas that will be inactive for an extended period or are at final grade and will not be otherwise stabilized.
  - b. Erosion Control Blanket (ECB) – manufactured products, made of biodegradable natural materials, designed to control erosion and enhance vegetation establishment and survivability on slopes.
3. Phased Implementation:
- a. Pre-disturbance and Site Access Phase (Initial Phase) includes installation of construction fencing, silt fencing, and vehicle tracking control at site entrances.
  - b. Site Clearing and Grubbing Phase (Initial Phase) includes the designation of stockpile locations with perimeter control, installation of stabilized staging areas, establishment of concrete washout areas with masonry mixing stations, grading temporary sediment basins, and diversion ditches.
  - c. Utility and Infrastructure Installation Phase (Interim Phase) includes inlet protection, slope protection, and rock sock.
  - d. Final Stabilization Phase (Final Phase) includes temporary or permanent seeding and removing all temporary control measures (VTC, SSA, CWA, SF, CF, TSB, IP, RS, DD) when site has reached final stabilization.
4. Vehicle Tracking Control will be implemented during the initial phase at the site entrance to help remove sediment from vehicles, reducing tracking onto paved surfaces.

5. Street Sweeping – will be implemented throughout construction to reduce and remove sediment on roadways.
6. Wind Erosion / Dust Control – site watering will be utilized throughout construction to keep soil particles from entering the air.
7. Groundwater and Stormwater Dewatering – not anticipated for this site.

## F. Site Description

- Site Acreage
  - Total Site Area = 50.99 acres
- Existing Site Conditions:

Historical ground cover for the site consists of native grasses which generally slope from the northwest corner of the site to the southeast corner with slopes ranging from 1.8% to 10%. The hydrologic soil group is type 'B' (Colby loam). A soil map for the entire drainage area, developed using the online NRCS Web Soil Survey mapping tool, can be found in **Appendix A (Reference 6)**. In historic conditions, all the flows are transmitted overland via sheet flow across the property. There is an existing wetland area to the south of the site.
- Proposed Development
  - The proposed improvements consist of 190 single-family residential homes, with lot sizes varying from 5,500 SF to 10,500 SF, as well as future multi-family townhomes on 8.33 acres at a maximum of 10 DU/acre. Additional improvements include the associated roadways, trail system, community park, open space, and several proposed detention ponds.
  - The area of disturbance is approximately 57.90 acres including the construction staging areas
  - Site Earthwork (adjusted)
    - Total estimated cut = 130,439 CY
    - Total estimated fill = 131,163 CY
    - Net (FILL) = +724 CY
  - The developed site will consist of single-family residences with piped roof drainage and associated private driveways, proposed roadways and right-of-way improvements, and the open space & trail network. The site will consist of public streets with curb & gutter, infrastructure, and open space tracts.
- Soil Characteristics

92.4% of the soil on-site is composed of a Colby Loam, 1% to 5% slope and 6.1% of the site is composed of a Haverson Loam 1% to 3% slopes. On-site hydraulic soil grouping is primarily type 'B' (Colby loam). Refer to **Appendix A** for the soil map.



## **G. Final Stabilization and Long-term Stormwater Management**

Final stabilization will include temporary or permanent seeding on all disturbed areas left unpaved. Final stabilization will be achieved once uniform vegetation of at least 70% has been established. During final stabilization, all temporary control measures will be removed. Long-term stormwater management will include maintenance of the subdivision sediment basin.

## **H. Site Inspection Reports**

Inspection and maintenance should be performed on all control measures periodically and after every significant storm event. The minimum inspection schedule of the stormwater management system must be performed and documented at least every 7 days, and within 24 hours of any precipitation or snowmelt event. If more frequent inspections are required to ensure that control measures are properly maintained and operated, the inspection schedule must be modified to meet this need. A Site Inspection Report must be completed for each inspection, this report is included in **Appendix C** of this report.

### III. References

1. *Urban Storm Drainage Criteria Manual, Volumes 1 & 2*; Urban Drainage and Flood Control District, Denver, CO. Updated March 2017, with updates on September 2017.
2. *Urban Storm Drainage Criteria Manual, Volumes 3*; Urban Drainage and Flood Control District, Denver, CO. November 2010, with updates on January 2021.
3. *Weld County Engineering and Construction Guidelines*; Weld County, CO. April 2012, with updates on July 2017.
4. *Stormwater Management Plan Preparation Guidance*, Colorado Department of Public Health and Environment, 2018.
5. *Town of Keenesburg Design Standards*, Town of Keenesburg, September 21, 2020.
6. *Natural Resources Conservation Center Web Soil Survey*, United States Department of Agriculture, site visited August 2021.

## **Appendix A**

*Site Map*

*Hydrologic Soils Group*

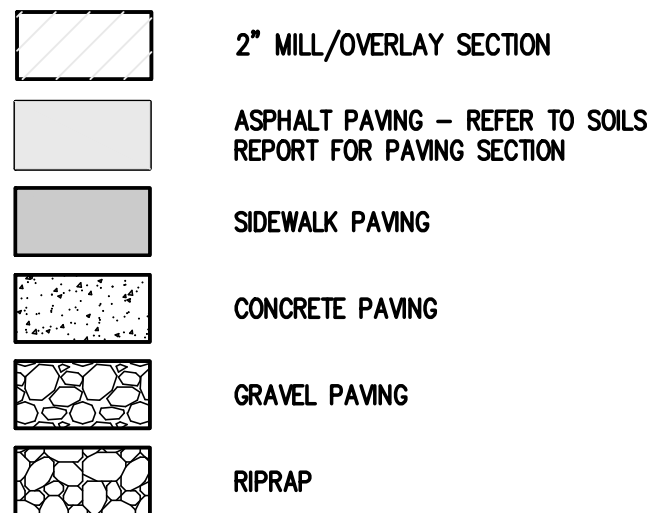
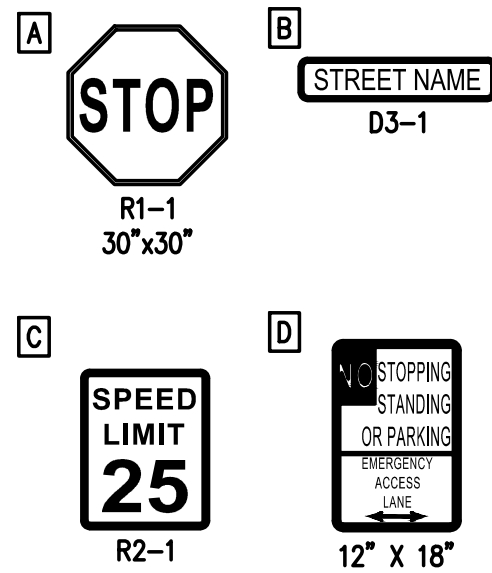
*Temporary Sediment Basin Calculations*





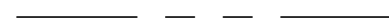


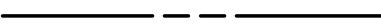
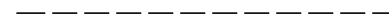
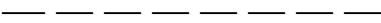
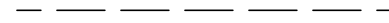



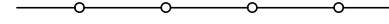

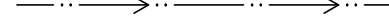
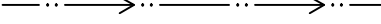




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





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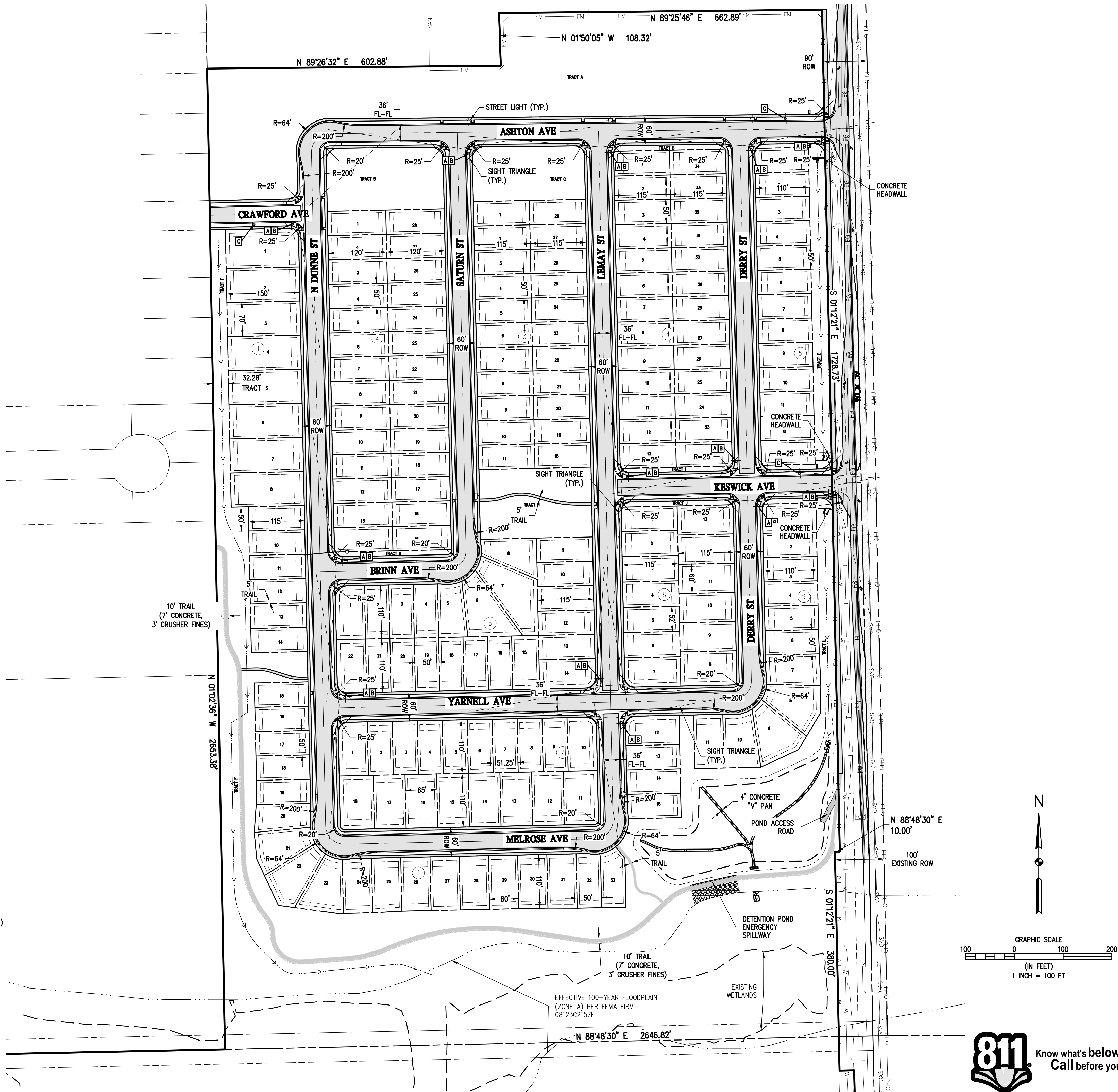
1. ALL TRAFFIC CONTROL SHALL CONFORM TO THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND THE COLORADO SUPPLEMENTAL MUTCD. FURTHER SPECIFICATIONS AND ILLUSTRATIONS ARE LOCATED IN THE COLORADO DIVISION OF HIGHWAYS M AND S STANDARDS.
2. A FIELD INSPECTION OF LOCATIONS AND INSTALLATION OF ALL SIGNS SHALL BE PERFORMED BY THE TOWN OF KEENESBURG. ALL DISCREPANCIES IDENTIFIED DURING THE FIELD INSPECTION MUST BE CORRECTED BEFORE THE TWO-YEAR WARRANTY PERIOD WILL BEGIN.
3. THE CONTRACTOR INSTALLING SIGNS IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES.
4. TYPE III BARRICADES SHALL BE SET AT ENDS OF ROADWAYS SEPARATING FINISHED AND UNFINISHED CONSTRUCTION AREAS.
5. SPECIAL CARE SHALL BE TAKEN IN SIGN LOCATION TO ENSURE AN UNOBSTRUCTED VIEW OF EACH SIGN.
6. A 7-FOOT MINIMUM POST LENGTH SHALL BE MAINTAINED FROM BOTTOM OF SIGN PANEL TO THE SIDEWALK FOR ALL SIGNS IN AREAS OF PEDESTRIAN TRAFFIC.
7. LATERAL OFFSET SHALL BE A MINIMUM OF 4 FEET FROM FLOWLINE OF LOCAL ROADWAYS
8. DELINEATION OF ROADWAYS SHALL BE AS SPECIFIED IN THE COLORADO M AND S MANUAL.
9. PAVEMENT MARKINGS IN FINAL ASPHALT LIFT SHALL BE INLAID TAPE (3M-5730 SERIES) OR EQUIVALENT.
10. REFER TO PHOTOMETRIC PLAN (BY OTHERS) FOR STREET LIGHTING DESIGN AND FINAL LOCATIONS.
11. ALL SIGNAGE SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH STATE MODEL TRAFFIC CODE.



LEGEND

EXISTING LINETYPES	PROPOSED LINETYPES	
		PROPERTY BOUNDARY
		RIGHT-OF-WAY
		LOT LINE
		EASEMENT
		BUILDING SETBACK
		CURB AND GUTTER (SPILL/CATCH)
		CHAINLINK FENCE
		DITCH FLOWLINE
		RETAINING WALL
		EDGE OF GRAVEL

EXISTING SYMBOLS	PROPOSED SYMBOLS	
		POWER POLE
		SIGN
		LIGHT POLE



DESIGNED BY	MLL
DRAWN BY	MBR
CHECKED BY	MBR

PREPARED BY	DATE
MLL	01/26/2022

REVISION	DESCRIPTION
TOWN COMMENTS	

MSP INVESTMENT CO. LLP	WELD COUNTY
SUMMERFIELD NORTH CONSTRUCTION DOCUMENTS	
OVERALL SITE PLAN & SIGNAGE PLAN	

TOWN OF KEENESBURG	
PREPARED UNDER THE DIRECT SUPERVISION OF	

**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

FOR AND ON BEHALF OF BASELINE CORPORATION	
INITIAL SUBMITTAL	10/19/2021
DRAWING SIZE	24" x 36"
SURVEY FIRM FLATIRON	SURVEY DATE 05/06/2021
JOB NO.	C03519
DRAWING NAME	3519-SITE PLAN.dwg
SHEET	4 OF 103
SP01	



Know what's below.  
Call before you dig.





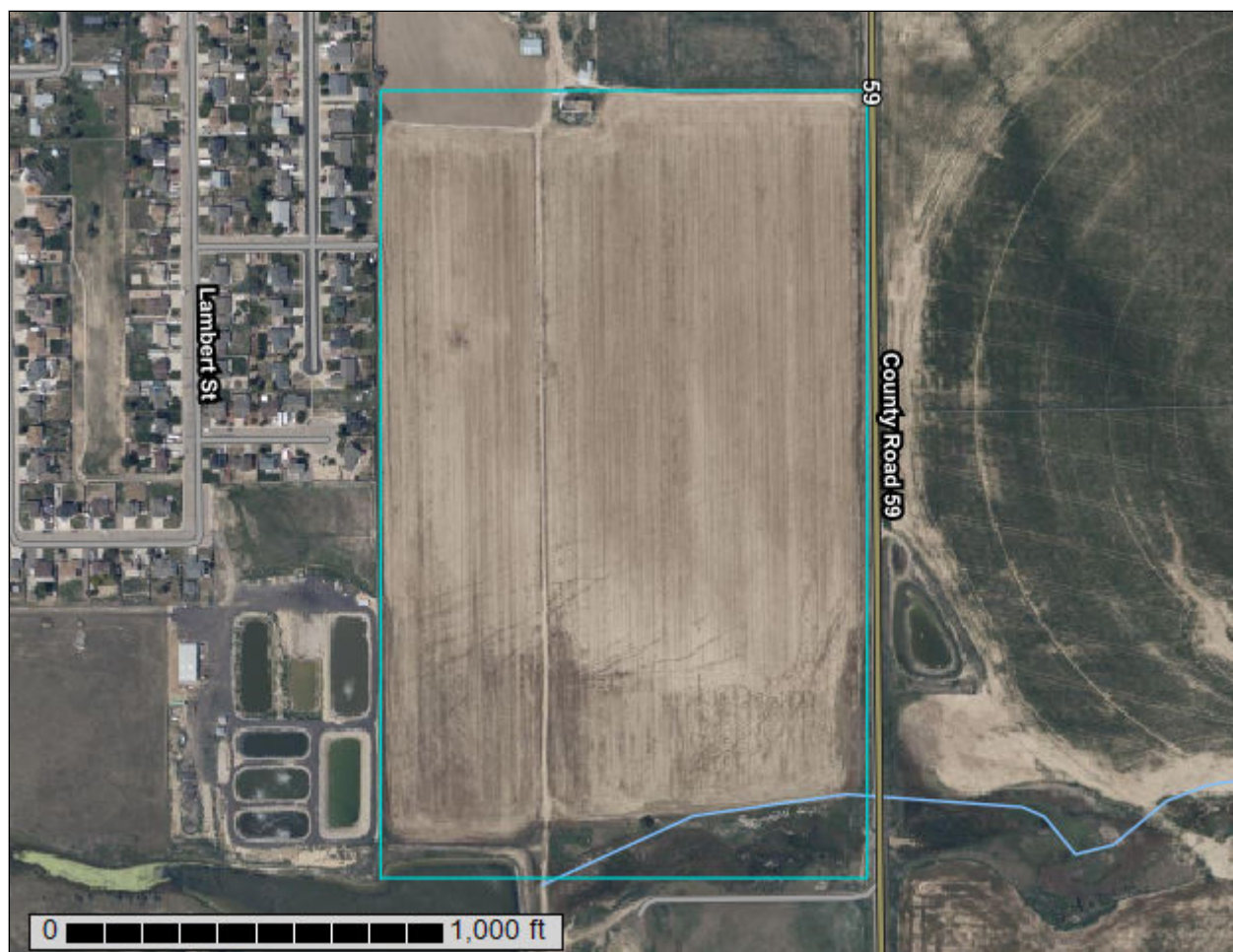
United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Weld County, Colorado, Southern Part**



August 16, 2021

# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

---

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map



# Custom Soil Resource Report


## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)


### Soils


 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot


 Closed Depression

 Gravel Pit


 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals

### Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Weld County, Colorado, Southern Part  
Survey Area Data: Version 19, Jun 5, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 19, 2018—Aug 10, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
15	Colby loam, 1 to 3 percent slopes	30.3	48.9%
16	Colby loam, 3 to 5 percent slopes	26.8	43.3%
18	Colby-Adena loams, 3 to 9 percent slopes	0.1	0.2%
26	Haverson loam, 1 to 3 percent slopes	3.8	6.1%
85	Water	0.9	1.4%
<b>Totals for Area of Interest</b>		<b>61.9</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

## Custom Soil Resource Report

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.



## Weld County, Colorado, Southern Part

### 15—Colby loam, 1 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* 361q  
*Elevation:* 4,850 to 5,050 feet  
*Mean annual precipitation:* 12 to 16 inches  
*Mean annual air temperature:* 48 to 50 degrees F  
*Frost-free period:* 135 to 155 days  
*Farmland classification:* Prime farmland if irrigated

#### Map Unit Composition

*Colby and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Colby

##### Setting

*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Calcareous eolian deposits

##### Typical profile

*H1 - 0 to 7 inches:* loam  
*H2 - 7 to 60 inches:* silt loam

##### Properties and qualities

*Slope:* 1 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 15 percent  
*Available water supply, 0 to 60 inches:* High (about 10.6 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* B  
*Ecological site:* R067BY002CO - Loamy Plains  
*Hydric soil rating:* No

#### Minor Components

##### Wiley

*Percent of map unit:* 9 percent  
*Hydric soil rating:* No

##### Keith

*Percent of map unit:* 6 percent

*Hydric soil rating:* No

## **16—Colby loam, 3 to 5 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 361r

*Elevation:* 4,850 to 5,050 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 48 to 50 degrees F

*Frost-free period:* 135 to 155 days

*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Colby and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Colby**

#### **Setting**

*Landform:* Ridges, hills

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Calcareous eolian deposits

#### **Typical profile**

*H1 - 0 to 7 inches:* loam

*H2 - 7 to 60 inches:* silt loam

#### **Properties and qualities**

*Slope:* 3 to 5 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 2.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 15 percent

*Available water supply, 0 to 60 inches:* High (about 10.6 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 3e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* B

*Ecological site:* R067BY002CO - Loamy Plains

*Hydric soil rating:* No

**Minor Components**

**Wiley**

*Percent of map unit:* 8 percent  
*Hydric soil rating:* No

**Keith**

*Percent of map unit:* 7 percent  
*Hydric soil rating:* No

**18—Colby-Adena loams, 3 to 9 percent slopes**

**Map Unit Setting**

*National map unit symbol:* 361t  
*Elevation:* 4,750 to 4,900 feet  
*Mean annual precipitation:* 12 to 16 inches  
*Mean annual air temperature:* 48 to 55 degrees F  
*Frost-free period:* 120 to 160 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Colby and similar soils:* 55 percent  
*Adena and similar soils:* 30 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Colby**

**Setting**

*Landform:* Ridges, hills, plains  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Calcareous eolian deposits

**Typical profile**

*H1 - 0 to 7 inches:* loam  
*H2 - 7 to 60 inches:* silt loam

**Properties and qualities**

*Slope:* 5 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 15 percent  
*Available water supply, 0 to 60 inches:* High (about 10.6 inches)

## Custom Soil Resource Report

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* B

*Ecological site:* R067BY008CO - Loamy Slopes

*Hydric soil rating:* No

### Description of Adena

#### Setting

*Landform:* Plains, ridges, hills

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Calcareous eolian deposits

#### Typical profile

*H1 - 0 to 6 inches:* loam

*H2 - 6 to 9 inches:* clay loam

*H3 - 9 to 60 inches:* silt loam

#### Properties and qualities

*Slope:* 3 to 7 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.60 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 15 percent

*Available water supply, 0 to 60 inches:* High (about 10.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* C

*Ecological site:* R067BY002CO - Loamy Plains

*Hydric soil rating:* No

### Minor Components

#### Kim

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### Keith

*Percent of map unit:* 4 percent

*Hydric soil rating:* No

#### Wiley

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

#### Weld

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

## 26—Haverson loam, 1 to 3 percent slopes

### Map Unit Setting

*National map unit symbol:* 2tlq0  
*Elevation:* 4,140 to 5,080 feet  
*Mean annual precipitation:* 13 to 17 inches  
*Mean annual air temperature:* 50 to 54 degrees F  
*Frost-free period:* 135 to 160 days  
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Haverson, rarely flooded, and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Haverson, Rarely Flooded

#### Setting

*Landform:* Terraces, flood plains  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Stratified alluvium derived from mixed sources

#### Typical profile

*Ap - 0 to 4 inches:* loam  
*A - 4 to 11 inches:* loam  
*C1 - 11 to 19 inches:* loam  
*C2 - 19 to 80 inches:* stratified sandy loam to loam

#### Properties and qualities

*Slope:* 1 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.20 to 6.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* Rare  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.1 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water supply, 0 to 60 inches:* Moderate (about 7.6 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 4c  
*Hydrologic Soil Group:* B

## Custom Soil Resource Report

*Ecological site:* R067BY036CO - Overflow

*Hydric soil rating:* No

### Minor Components

#### Bijou

*Percent of map unit:* 10 percent

*Landform:* Stream terraces

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Ecological site:* R067BY024CO - Sandy Plains

*Hydric soil rating:* No

## 85—Water

### Map Unit Composition

*Water:* 95 percent

*Minor components:* 5 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Minor Components

#### Aquolls

*Percent of map unit:* 5 percent

*Landform:* Marshes

*Hydric soil rating:* Yes

# References

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- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelpdb1043084>

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)



PROJECT : Summerfield North  
PROJECT NO. : 3519

PROJECT LOCATION: Keenseburg

DATE : 1/19/2022

BY : MLL

### Temporary Sediment Basin

#### Required Volume

Total	Tributary		TSB Vol (1)
Tributary Area (ac)	Un-Disturbed	Disturbed	(CF)
50.99	0.00	50.99	183564

50% TSB Volume 91,782 cu-ft 2.11 ac

100% TSB Volume 183564 cu-ft 4.21 ac

#### Provided Volume

Stage (ft)	Contour Elevation (ft)	Area (ft <sup>2</sup> )	1/3 (A1 + A2 + (A1A2) <sup>1/2</sup> ) D	Total Volume (ft <sup>3</sup> )	Total Volume (ac-ft)
0.0	4890.5	100		0	0.00
0.5	4891.0	6,024	1,150	1,150	0.03
1.0	4891.5	21,408	6,465	7,615	0.17
1.5	4892.0	39,088	14,904	22,519	0.52
2.0	4892.5	55,797	23,598	46,116	1.06
2.5	4893.0	58,000	28,447	74,564	1.71
3.0	4893.5	60,229	29,555	104,119	2.39
3.5	4894.0	62,482	30,676	134,795	3.09
4.0	4894.5	64,760	31,809	166,604	3.82
4.5	4895.0	67,064	32,954	199,558	4.58
5.0	4895.5	69,393	34,113	233,671	5.36
5.5	4896.0	71,747	35,283	268,954	6.17
6.0	4896.5	74,126	36,467	305,421	7.01
6.5	4897.0	76,530	37,662	343,083	7.88

	WSEL	Depth (ft)	Area (SF)
50% TSB =	4893.29	2.79	59298.55
100% TSB=	4894.76	4.26	65945.75
Pond Overflow Crest =	4896.00		

Reference:

1) TSB Volume Criteria:

Assumes 1800 CF/AC for undisturbed Area

Assumes 3600 CF/AC for disturbed Area

## **Appendix B**

*CDPS General Permit Stormwater Discharges Associated with Construction Activity*



# STATE OF COLORADO

## COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

### Water Quality Control Division

CDPS GENERAL PERMIT STORMWATER DISCHARGES ASSOCIATED WITH  
CONSTRUCTION ACTIVITY AUTHORIZATION TO DISCHARGE UNDER THE COLORADO DISCHARGE PERMIT SYSTEM (CDPS)  
**COR400000**

In compliance with the provisions of the Colorado Water Quality Control Act, (25-8-101 et seq., CRS, 1973 as amended) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act"), this permit authorizes the discharge of stormwater associated with construction activities (and specific allowable non-stormwater discharges in accordance with Part I.A.1. of the permit) certified under this permit, from those locations specified throughout the State of Colorado to specified waters of the State.

Such discharges shall be in accordance with the conditions of this permit. This permit specifically authorizes the facility listed on the certification to discharge in accordance with permit requirements and conditions set forth in Parts I and II hereof. All discharges authorized herein shall be consistent with the terms and conditions of this permit.

This permit becomes effective on April 1, 2019, and shall expire at midnight March 31, 2024.

Issued and signed this 28th day of January, 2021.

*Meg Parish*

Meg Parish, Permits Section Manager Water Quality Control Division

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

#### Permit History

Minor Modification Issued January 28, 2021 Effective February 1, 2021

Modification Issued December 31, 2020 Effective February 1, 2021

Originally signed and issued October 31, 2018; effective April 1, 2019

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## Part I

Note: At the first mention of terminology that has a specific connotation for the purposes of this permit, the terminology is electronically linked to the definitions section of the permit in Part I.E.

### A. COVERAGE UNDER THIS PERMIT

#### 1. Authorized Discharges

This general permit authorizes permittee(s) to discharge the following to state waters: stormwater associated with construction activity and specified non-stormwater associated with construction activity. The following types of stormwater and non-stormwater discharges are authorized under this permit:

##### a. Allowable Stormwater Discharges

- i. Stormwater discharges associated with construction activity.
- ii. Stormwater discharges associated with producing earthen materials, such as soils, sand, and gravel dedicated to providing material to a single contiguous site, or within ¼ mile of a construction site (e.g. borrow or fill areas).
- iii. Stormwater discharges associated with [dedicated asphalt](#), [concrete batch plants](#) and [masonry mixing stations](#) (Coverage under this permit is not required if alternative coverage has been obtained.)

##### b. Allowable Non-Stormwater Discharges

The following non-stormwater discharges are allowable under this permit if the discharges are identified in the stormwater management plan in accordance with [Part I.C](#) and if they have appropriate [control measures](#) in accordance with [Part I.B.1](#).

- i. Discharges from uncontaminated springs that do not originate from an area of land disturbance.
- ii. Discharges to the ground of concrete washout water associated with the washing of concrete tools and concrete mixer chutes. Discharges of concrete washout water must not leave the site as surface runoff or reach [receiving waters](#) as defined by this permit. Concrete on-site waste disposal is not authorized by this permit except in accordance with [Part I.B.1.a.ii\(b\)](#).
- iii. Discharges of landscape irrigation return flow.
- iv. Discharges from [diversions](#) of state waters within the permitted site.

##### c. Emergency Fire Fighting

Discharges resulting from emergency firefighting activities during the active emergency response are authorized by this permit.

#### 2. Limitations on Coverage

Discharges not authorized by this permit include, but are not limited to, the discharges and activities listed below. Permittees may seek individual or alternate general permit coverage for the discharges, as appropriate and available.

##### a. Discharges of Non-Stormwater

Discharges of non-stormwater, except the authorized non-stormwater discharges listed in Part

I.A.1.b., are not eligible for coverage under this permit.

- b. Discharges Currently Covered by another Individual or General Permit
- c. Discharges Currently Covered by a Water Quality Control Division (division) Low Risk Guidance Document

### 3. Permit Certification and Submittal Procedures

#### a. Duty to Apply

The following activities shall apply for coverage under this permit:

- i. Construction activity that will disturb one acre or more; or
- ii. Construction activity that is part of a [common plan of development or sale](#); or
- iii. Stormwater discharges that are designated by the division as needing a stormwater permit because the discharge:
  - (a) Contributes to a violation of a water quality standard; or
  - (b) Is a significant contributor of [pollutants](#) to state waters.

#### b. Application Requirements

To obtain authorization to discharge under this permit, applicants applying for coverage following the effective date of the renewal permit shall meet the following requirements:

- i. Owners and operators submitting an application for permit coverage will be co-permittees subject to the same benefits, duties, and obligations under this permit.
- ii. Signature requirements: Both the [owner](#) and [operator](#) (permittee) of the construction site, as defined in Part I.E., must agree to the terms and conditions of the permit and submit a completed application that includes the signature of both the owner and the operator. In cases where the duties of the owner and operator are managed by the owner, both application signatures may be completed by the owner. Both the owner and operator are responsible for ensuring compliance with all terms and conditions of the permit, including implementation of the stormwater management plan.
- iii. The applicant(s) must develop a stormwater management plan (SWMP) in accordance with the requirements of Part I.C. The applicant(s) must also certify that the SWMP is complete, or will be complete, prior to commencement of any construction activity.
- iv. In order to apply for certification under this general permit, the applicant(s) must submit a complete, accurate, and signed permit application form as provided by the division by electronic delivery at least 10 days prior to the commencement of construction activity, except those construction activities that are in response to a [public emergency related site](#); [public emergency related sites](#) shall apply for coverage no later than 14 days after the commencement of construction activities. The provisions of this part in no way remove a violation of the Colorado Water Quality Control Act if a [point source](#) discharge occurs prior to the issuance of a CDPS permit.
- v. The application in its entirety must be submitted via the division's online permitting system unless a waiver is granted by the division. If a waiver is granted, the application in its entirety, including signatures by both the owner and operator, must be submitted to:

Colorado Department of Public Health and Environment  
Water Quality Control Division  
Permits Section, WQCD-PS-B2  
4300 Cherry Creek Drive South  
Denver, CO 80246

- vi. The applicant(s) must receive written notification that the division granted permit coverage prior to conducting construction activities except for construction activities that are in response to a public emergency related site.

c. Division Review of Permit Application

Within 10 days of receipt of the application, and following review of the application, the division may:

- i. Issue a certification of coverage;
- ii. Request additional information necessary to evaluate the discharge;
- iii. Delay the authorization to discharge pending further review;
- iv. Notify the applicant that additional terms and conditions are necessary; or
- v. Deny the authorization to discharge under this general permit.

d. Alternative Permit Coverage

i. Division Required Alternative Permit Coverage:

The division may require an applicant or permittee to apply for an individual permit or an alternative general permit if it determines the discharge does not fall under the scope of this general permit, including if any additional terms and conditions are necessary in order to ensure that discharges authorized by this permit shall not cause, have the reasonable potential to cause, or measurably contribute to an exceedance of any applicable water quality standard, including narrative standards for water quality. In this case, the division will notify the applicant or permittee that an individual permit application is required.

ii. Permittee Request for Alternative Permit Coverage:

A permittee authorized to discharge stormwater under this permit may request to be excluded from coverage under this general permit by applying for an individual permit. In this case, the permittee must submit an individual application, with reasons supporting the request, to the division at least 180 days prior to any discharge. When an individual permit is issued, the permittee's authorization to discharge under this permit is terminated on the effective date of the individual permit.

e. Submittal Signature Requirements

Documents required for submittal to the division in accordance with this permit, including applications for permit coverage and other documents as requested by the division, must include signatures by **both** the owner and the operator, except for instances where the duties of the owner and operator are managed by the owner.

Signatures on all documents submitted to the division as required by this permit must meet the Standard Signatory Requirements in [Part II.K](#) of this permit in accordance with 40 C.F.R. 122.41(k).

i. Signature Certification

Any person(s) signing documents required for submittal to the division must make the following



certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

f. Compliance Document Signature Requirements

Documents which are required for compliance with the permit, but for which submittal to the division is not required unless specifically requested by the division, must be signed by the individual(s) designated as the [Qualified Stormwater Manager](#), as defined in Part I.E.

- i. Any person(s) signing inspection documents required for compliance with the permit per [Part I.D.5.c.xiii](#) must make the following statement and provide the date of the statement:

"I verify that, to the best of my knowledge and belief, that if any corrective action items were identified during the inspection, those corrective actions are complete, and the site is currently in compliance with the permit."

g. Field Wide Permit Coverage for Oil and Gas Construction

At the discretion of the division, a single permit certification may be issued to a single oil and gas permittee to cover construction activity related discharges from an oil and gas field at multiple locations that are not necessarily contiguous.

h. Permit Coverage without Application

**Qualifying Local Program:** When a small construction site is within the jurisdiction of a qualifying local program, the owner and operator of the construction activity are authorized to discharge stormwater associated with [small construction activity](#) under this general permit without the submittal of an application to the division. Sites covered by a qualifying local program are exempt from the following sections of this general permit: Part I.A.3.a.; Part I.A.3.b.; Part I.A.3.c.; Part I.A.3.d.; Part I.A.3.g.; Part I.A.3.i.; Part I.A.3.j.; Part I.A.3.k.

Sites covered by a qualifying local program are subject to the following requirements:

- i. **Local Agency Authority:** This permit does not pre-empt or supersede the authority of local agencies to prohibit, restrict, or control discharges of stormwater to storm drain systems or other water courses within their jurisdiction.
- ii. **Permit Coverage Termination:** When a site under a Qualifying Local Program is finally stabilized, coverage under this permit is automatically terminated.
- iii. **Compliance with Qualifying Local Program:** Qualifying Local Program requirements that are equivalent to the requirements of this permit are incorporated by reference. Permittees authorized to discharge under this permit, must comply with the equivalent requirements of the Qualifying Local Program that has jurisdiction over the site as a condition of this permit.
- iv. **Compliance with Remaining Permit Conditions.** Requirements of this permit that are in addition to or more stringent than the requirements of the Qualifying Local Program apply in addition to the requirements of the Qualifying Local Program.
- v. **Written Authorization of Coverage:** The division or local municipality may require any permittee within the jurisdiction of a Qualifying Local Program covered under this permit to

apply for, and obtain written authorization of coverage under this permit. The permittee must be notified in writing that an application for written authorization of coverage is required.

i. Permittee Initiated Permit Actions

Permittee initiated permit actions, including but not limited to modifications, contact changes, transfers, and terminations, shall be conducted following [Part II.L](#), division guidance and using appropriate division-provided forms.

j. Sale of Residence to Homeowner

**Residential construction sites only:** The permittee may remove residential lots from permit coverage once the lot meets the following criteria:

- i. The residential lot has been sold to the homeowner(s) for private residential use;
- ii. A certificate of occupancy, or equivalent, is maintained on-site and is available during division inspections;
- iii. The lot is less than one acre of disturbance;
- iv. All construction activity conducted on the lot by the permittee is complete;
- v. The permittee is not responsible for final stabilization of the lot; and
- vi. The SWMP was modified to indicate the lot is no longer part of the construction activity.

If the residential lot meets the criteria listed above then activities occurring on the lot are no longer considered to be construction activities with a duty to apply and maintain permit coverage. Therefore, the permittee is not required to meet the final stabilization requirements and may terminate permit coverage for the lot.

k. Permit Expiration and Continuation of Permit Coverage

Authorization to discharge under this general permit shall expire at midnight on March 31, 2024. While Regulation 61.4 requires a permittee to submit an application for continuing permit coverage 180 days before the permit expires, the division is requiring that permittees desiring continued coverage under this general permit must reapply at least 90 days in advance of this permit expiration. The division will determine if the permittee may continue to discharge stormwater under the terms of the general permit. An individual permit may be required for any facility not reauthorized to discharge under the reissued general permit.

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued and remain in force and effect. For permittees that have applied for continued permit coverage, discharges authorized under this permit prior to the expiration date will automatically remain covered by this permit until the earliest of:

- i. An authorization to discharge under a reissued permit, or a replacement of this permit, following the timely and appropriate submittal of a complete application requesting authorization to discharge under the new permit and compliance with the requirements of the new permit; or
- ii. The issuance and effect of a termination issued by the division; or
- iii. The issuance or denial of an individual permit for the facility's discharges; or
- iv. A formal permit decision by the division not to reissue this general permit, at which time the division will identify a reasonable time period for covered dischargers to seek coverage under

an alternative general permit or an individual permit. Coverage under this permit will cease when coverage under another permit is granted/authorized; or

- v. The division has informed the permittee that discharges previously authorized under this permit are no longer covered under this permit.

## B. EFFLUENT LIMITATIONS

### 1. Requirements for Control Measures Used to Meet Effluent Limitations

The permittee must implement control measures to [minimize](#) the discharge of pollutants from all potential pollutant sources at the site. Control measures must be installed prior to commencement of construction activities. Control measures must be selected, designed, installed and maintained in accordance with [good engineering, hydrologic and pollution control practices](#). Control measures implemented at the site must be designed to prevent pollution or degradation of state waters.

#### a. Stormwater Pollution Prevention

The permittee must implement structural and/or nonstructural control measures that effectively minimize erosion, sediment transport, and the release of other pollutants related to construction activity.

##### i. Control Measures for Erosion and Sediment Control

Control measures for erosion and sediment control may include, but are not limited to, wattles/sediment control logs, silt fences, earthen dikes, drainage swales, sediment traps, subsurface drains, pipe slope drains, inlet protection, outlet protection, gabions, sediment basins, temporary vegetation, permanent vegetation, mulching, geotextiles, sod stabilization, slope roughening, maintaining existing vegetation, protection of trees, and preservation of mature vegetation.

Specific control measures must meet the requirements listed below.

- (a) Structural and nonstructural vehicle tracking controls shall be implemented to minimize vehicle tracking of sediment from disturbed areas and may include tracking pads, minimizing site access, wash racks, graveled parking areas, maintaining vehicle traffic to paved areas, street sweeping and sediment control measures.
- (b) Stormwater runoff from all disturbed areas and soil storage areas must utilize or flow to one or more control measures to minimize erosion or sediment in the discharge. The control measure(s) must be selected, designed, installed and adequately sized in accordance with good engineering, hydrologic and pollution control practices for the intended application. The control measure(s) must contain or filter flows in order to prevent the [bypass](#) of flows without treatment and must be appropriate for stormwater runoff from disturbed areas and for the expected flow rate, duration, and flow conditions (e.g. sheet or concentrated flow).
- (c) Selection of control measures should prioritize the use of structural and nonstructural control measures that minimize the potential for erosion (i.e. covering materials). Selection should also prioritize phasing construction activities to minimize the amount of soil disturbance at any point in time throughout the duration of construction.
- (d) Outlets that withdraw water from or near the surface shall be installed when discharging from basins and impoundments, unless [infeasible](#).
- (e) Maintain pre-existing vegetation or equivalent control measures for areas within 50 horizontal feet of receiving waters as defined by this permit, unless infeasible.

- (f) Soil compaction must be minimized for areas where infiltration control measures will occur or where [final stabilization](#) will be achieved through vegetative cover.
- (g) Unless infeasible, topsoil shall be preserved for those areas of a site that will utilize vegetative final stabilization.
- (h) Minimize the amount of soil exposed during construction activity, including the disturbance of [steep slopes](#).
- (i) Diversion control measures must minimize soil transport and erosion within the entire diversion, minimize erosion during discharge, and minimize run-on into the diversion. The permittee must minimize the discharge of pollutants throughout the installation, implementation and removal of the diversion. Diversions must meet one or more of the following conditions:
  - (1) Lined or piped structures that result in no erosion in all flow conditions.
  - (2) Diversion channels, berms, and coffer dams must be lined or composed of a material that minimizes potential for soil loss in the entire wetted perimeter during anticipated flow conditions (e.g. vegetated swale, non-erosive soil substrate). The entire length of the diversion channel must be designed with all of the following considerations: maximum flow velocity for the type of material(s) exposed to the anticipated flows to ensure that the calculated maximum shear stress of flows in the channel is not expected to result in physical damage to the channel or liner and result in discharge of pollutants. Additionally, the conditions relied on to minimize soil loss must be maintained for the projected life of the diversion (i.e. a vegetated swale must be limited to a period of time that ensures vegetative growth, minimizes erosion and maintains stable conditions).
  - (3) An alternative diversion criteria, approved by the division prior to implementation. The diversion method must be designed to minimize the discharge of pollutants and to prevent the potential for pollution or degradation to state waters as a result of the diverted flow through the diversion structure. In addition, the alternative diversion method must minimize the discharge of pollutants throughout the installation, implementation and removal of the diversion.

ii. Practices for Other Common Pollutants

- (a) Bulk storage, individual containers of 55 gallons or greater, for petroleum products and other liquid chemicals must have secondary containment, or equivalent protection, in order to contain [spills](#) and to prevent spilled material from entering state waters.
- (b) Control measures designed for concrete washout waste must be implemented. This includes washout waste discharged to the ground as authorized under this permit and washout waste from concrete trucks and masonry operations contained on site. The permittee must ensure the washing activities do not contribute pollutants to stormwater runoff, or receiving waters in accordance [Part I.A.1.b.ii](#). Discharges that may reach groundwater must flow through soil that has buffering capacity prior to reaching groundwater, as necessary to meet the effluent limits in this permit, including [Part I.B.3.a](#). The concrete washout location must not be located in an area where shallow groundwater may be present and would result in buffering capacity not being adequate, such as near natural drainages, springs, or wetlands. This permit authorizes discharges to the ground of concrete washout waste, but does not authorize on-site waste disposal per [Part I.B.3.d](#).
- (c) In the event that water remains onsite and contains pollutants either from the

firefighting activities or picked up from the site (i.e. in a gutter, sediment basin, etc.) after active emergency response is complete, the permittee must ensure the remaining water containing pollutants is properly removed and disposed of in order to minimize pollutants from discharging from the site, unless infeasible.

iii. Stabilization Requirements

The following requirements must be implemented for each site.

- (a) Temporary stabilization must be implemented for earth disturbing activities on any portion of the site where ground disturbing construction activity has permanently ceased, or temporarily ceased for more than 14 calendar days. Temporary stabilization methods may include, but are not limited to, tarps, soil tackifier, and hydroseed. The permittee may exceed the 14-day schedule when either the function of the specific area of the site requires it to remain disturbed or physical characteristics of the terrain and climate prevent stabilization. The SWMP must document the constraints necessitating the alternative schedule, provide the alternate stabilization schedule, and identify all locations where the alternative schedule is applicable on the site map. Minimum inspection frequency and scope, as directed in Part I.D., must be followed for temporarily stabilized areas.
- (b) Final stabilization must be implemented for all construction sites covered under this permit. Final stabilization is reached when (1), (2), and (3) below are complete:
  - (1) All construction activities are complete.
  - (2) Permanent stabilization methods are complete. Permanent stabilization methods include, but are not limited to, permanent pavement or concrete, hardscape, xeriscape, stabilized driving surfaces, vegetative cover, or equivalent permanent alternative stabilization methods. The division may approve alternative final stabilization criteria for specific operations. Vegetative cover must meet the following criteria:
    - a. Evenly distributed perennial vegetation, and
    - b. Coverage, at a minimum, equal to 70 percent of what would have been provided by native vegetation in a local, undisturbed area or adequate reference site, and
  - (3) The permittee must ensure all temporary control measures are removed from the construction site once final stabilization is achieved, except when the control measure specifications allow the control measure to be left in place (i.e. bio-degradable control measures).
- (c) Final stabilization must be designed and installed as a permanent feature. Final stabilization measures for obtaining a vegetative cover or alternative stabilization methods include, but are not limited to, the following as appropriate:
  - (1) Seed mix selection and application methods;
  - (2) Soil preparation and amendments;
  - (3) Soil stabilization methods to provide adequate protection to minimize erosion (e.g. crimped straw, hydro mulch or rolled erosion control products);
  - (4) Appropriate sediment control measures as needed until final stabilization is achieved;

(5) Permanent pavement, hardscape, xeriscape, stabilized driving surfaces;

(d) Other alternative stabilization practices as applicable.

b. Maintenance

The permittee must ensure that all control measures remain in effective operating condition and are protected from activities that would reduce their effectiveness. Control measures must be maintained in accordance with good engineering, hydrologic and pollution control practices. Observations leading to the required maintenance of control measures can be made during a site inspection, or during general observations of site conditions. The necessary repairs or modifications to a [control measure requiring routine maintenance](#), as defined in Part I.E., must be conducted to maintain an effective operating condition. This section is not subject to the requirements in [Part I.B.1.c](#) below.

c. Corrective Actions

The permittee must assess the adequacy of control measures at the site, and the need for changes to those control measures, to ensure continued effective performance.

When an [inadequate control measure](#), as defined in Part I.E., is identified (i.e., new or replacement control measures become necessary), the following corrective action requirements apply. The permittee is in noncompliance with the permit until the inadequate control measure is replaced or corrected and returned to effective operating condition in compliance with [Part I.B.1](#) and the general requirements in [Part I.B.3](#). If the inadequate control measure results in noncompliance that meets the conditions of Part II.L., the permittee must also meet the requirements of that section.

- i. The permittee must take all necessary steps to minimize or prevent the discharge of pollutants from the permitted area and manage any stormwater run-on onto the site until a control measure is implemented and made operational and/or an inadequate control measure is replaced or corrected and returned to effective operating condition. If it is infeasible to install or repair the control measure immediately after discovering the deficiency, the following must be documented in the SWMP in [Part I.D.5.c](#) and kept on record in accordance with the recordkeeping requirements in Part II.

(a) Describe why it is infeasible to initiate the installation or repair immediately; and

(b) Provide a schedule for installing or repairing the control measure and returning it to an effective operating condition as soon as possible.

- ii. If applicable, the permittee must remove and properly dispose of any unauthorized release or discharge within and from the permitted area (e.g., discharge of non-stormwater, untreated stormwater containing pollutants, spill, or leak not authorized by this permit.) The permittee must also clean up any contaminated surfaces, if feasible, to minimize discharges of the material in subsequent storm events, including water remaining from the response that contains pollutants after active emergency firefighting response is complete.

2. Discharges to an Impaired Waterbody

a. [Total Maximum Daily Load](#) (TMDL)

If the discharge from the site of permit coverage flows to or could reasonably be expected to flow to any water body for which a TMDL has been approved, and stormwater discharges associated with construction activity were assigned a pollutant-specific Wasteload Allocation (WLA) under the TMDL, the division may:

- i. Ensure the WLA is implemented properly through alternative local requirements, such as by a

municipal stormwater permit; or

- ii. Notify the permittee of the WLA and amend the permittee's certification to add specific effluent limits and other requirements, as appropriate. The permittee may be required to do the following:
  - (a) Under the permittee's SWMP, implement specific control measures based on requirements of the WLA, and evaluate whether the requirements are met through implementation of existing stormwater control measures or if additional control measures are necessary. Document the calculations or other evidence demonstrating that the requirements are expected to be met; and
  - (b) If the evaluation shows that additional or modified control measures are necessary, describe the type and schedule for the control measure additions or modifications.
- iii. Discharge monitoring may also be required. The permittee may maintain coverage under the general permit provided they comply with the applicable requirements outlined above. The division reserves the right to require individual or alternate general permit coverage.

### 3. General Requirements

- a. Discharges authorized by this permit shall not cause, have the reasonable potential to cause, or measurably contribute to an exceedance of any applicable water quality standard, including narrative standards for water quality.
- b. The division may require sampling and testing, on a case-by-case basis, in the event that there is reason to suspect that the SWMP is not adequately minimizing pollutants in stormwater or in order to measure the effectiveness of the control measures in removing pollutants in the effluent. Such monitoring may include Whole Effluent Toxicity testing.
- c. The permittee must comply with the lawful requirements of federal agencies, municipalities, counties, drainage districts and other local agencies including applicable requirements in [Municipal Stormwater Management Programs](#) developed to comply with CDPS permits. The permittee must comply with local stormwater management requirements, policies and guidelines including those for erosion and sediment control.
- d. All construction site wastes must be properly managed to prevent potential pollution of state waters. This permit does not authorize on-site waste disposal.
- e. This permit does not relieve the permittee of the reporting requirements in 40 CFR 110, 40 CFR 117 or 40 CFR 302. Any discharge of hazardous material must be handled in accordance with the division's Noncompliance Notification Requirements (see [Part II.L](#) of the permit).

## C. STORMWATER MANAGEMENT PLAN (SWMP) REQUIREMENTS

### 1. SWMP General Requirements

- a. A SWMP shall be developed for each construction site listed under [Part I.A.3.a](#), including but not limited to, construction activity that will disturb one acre or more and/or are part of a common plan of development or sale covered by this permit. The SWMP must be prepared in accordance with good engineering, hydrologic and pollution control practices.
  - i. For public emergency related sites, a SWMP shall be created no later than 14 days after the commencement of construction activities.
- b. The permittee must implement the provisions of the SWMP as written and updated, from commencement of construction activity until final stabilization is complete. The division may review the SWMP.



- c. A copy of the SWMP must be retained onsite or be onsite when construction activities are occurring at the site unless the permittee specifies another location and obtains approval from the division.

## 2. SWMP Content

- a. The SWMP, at a minimum, must include the following elements.
  - i. Qualified Stormwater Manager. The SWMP must list individual(s) by title and name who are designated as responsible for implementing the SWMP in its entirety and meet the definition of a Qualified Stormwater Manager. This role may be filled by more than one individual.
  - ii. Spill Prevention and Response Plan. The SWMP must have a spill prevention and response plan. The plan may incorporate by reference any part of a Spill Prevention Control and Countermeasure (SPCC) plan under section 311 of the Clean Water Act (CWA) or a Spill Prevention Plan required by a separate CDPS permit. The relevant sections of any referenced plans must be available as part of the SWMP consistent with [Part I.C.4](#).
  - iii. Other CDPS Permits. The SWMP must list the applicable CDPS permits associated with the permitted site and the activities occurring on the permitted site (e.g. a CDPS Dewatering Permit).
  - iv. Materials Handling. The SWMP must describe handling procedures of all control measures implemented at the site to minimize impacts from handling [significant materials](#) that could contribute pollutants to runoff. These handling procedures can include control measures for pollutants and activities such as, exposed storage of building materials, paints and solvents, landscape materials, fertilizers or chemicals, sanitary waste material, trash and equipment maintenance or fueling procedures.
  - v. Potential Sources of Pollution. The SWMP must list all potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction activity from the site. This may include, but is not limited to, the following pollutant sources:
    - (a) Disturbed and stored soils;
    - (b) Vehicle tracking of sediments;
    - (c) Management of contaminated soils, if known to be present, or if contaminated soils are found during construction;
    - (d) Loading and unloading operations;
    - (e) Outdoor storage activities (erodible building materials, fertilizers, chemicals, etc.);
    - (f) Vehicle and equipment maintenance and fueling;
    - (g) Significant dust or particulate generating processes (e.g., saw cutting material, including dust);
    - (h) Routine maintenance activities involving fertilizers, pesticides, herbicides, detergents, fuels, solvents, oils, etc.;
    - (i) On-site waste management practices (waste piles, liquid wastes, dumpsters);
    - (j) Concrete truck/equipment washing, including washing of the concrete truck chute and associated fixtures and equipment;
    - (k) Dedicated asphalt, concrete batch plants and masonry mixing stations;



(l) Non-industrial waste sources such as worker trash and portable toilets.

- vi. Implementation of Control Measures. The SWMP must include design specifications that contain information on the implementation of all the structural and nonstructural control measures in use on the site in accordance with good engineering, hydrologic and pollution control practices; including, as applicable, drawings, dimensions, installation information, materials, implementation processes, control measure-specific inspection expectations, and maintenance requirements.

The SWMP must include a documented use agreement between the permittee and the owner or operator of any control measures located outside of the permitted area, that are utilized by the permittee's construction site for compliance with this permit, but not under the direct control of the permittee. The permittee is responsible for ensuring that all control measures located outside of their permitted area, that are being utilized by the permittee's construction site, are properly maintained and in compliance with all terms and conditions of the permit. The SWMP must include all information required of and relevant to any such control measures located outside the permitted area, including location, installation specifications, design specifications and maintenance requirements.

- vii. Site Description. The SWMP must include a site description which includes, at a minimum, the following:

- (a) The nature of the construction activity at the site;
- (b) The proposed schedule for the sequence for major construction activities and the planned implementation of control measures for each phase. (e.g. clearing, grading, utilities, vertical, etc.);
- (c) Estimates of the total acreage of the site, and the acreage expected to be disturbed by clearing, excavation, grading, or any other construction activities;
- (d) A summary of any existing data and sources used in the development of the construction site plans or SWMP that describe the soil types found in the permitted area and the erodibility of the identified soil types;
- (e) A description of the percent cover of native vegetation on the site if the site is undisturbed, or the percent cover of native vegetation in a similar, local undisturbed area or adequate reference area if the site is disturbed. Include the source or methodology for determining the percentage. If a percent cover is not appropriate for the site location (i.e. arid), describe the technique and justification for the identified cover of native vegetation;
- (f) A description of any allowable non-stormwater discharges at the site, including those being discharged under a separate CDPS permit or a division low risk discharge guidance policy, and applicable control measures installed;
- (g) A description of the drainage patterns from the site, including a description of the immediate source receiving the discharge and the receiving water(s) of the discharge, if different than the immediate source. If the stormwater discharge is to a [municipal separate storm sewer system](#), include the name of the entity owning that system, the location(s) of the stormwater discharge, and the receiving water(s);
- (h) A description of all stream crossings located within the construction site boundary; and
- (i) A description of the alternate temporary stabilization schedule, if applicable ([Part I.B.1.a.iii\(a\)](#)).

- (j) A description of the alternative diversion criteria as approved by the division, if applicable ([Part I.B.1.a.i\(i\)\(3\)](#)).

viii. Site Map. The SWMP must include a site map which includes, at a minimum, the following:

- (a) Construction site boundaries;
- (b) Flow arrows that depict stormwater flow directions on-site and runoff direction;
- (c) All areas of ground disturbance including areas of borrow and fill;
- (d) Areas used for storage of soil;
- (e) Locations of all waste accumulation areas, including areas for liquid, concrete, masonry, and asphalt;
- (f) Locations of dedicated asphalt, concrete batch plants and masonry mixing stations;
- (g) Locations of all structural control measures;
- (h) Locations of all non-structural control measures (e.g. temporary stabilization);
- (i) Locations of springs, streams, wetlands, diversions and other state waters, including areas that require pre-existing vegetation be maintained within 50 feet of a receiving water, where determined feasible in accordance with [Part I.B.1.a.i\(e\)](#);
- (j) Locations of all stream crossings located within the construction site boundary; and
- (k) Locations where alternative temporary stabilization schedules apply.

ix. Temporary Stabilization, Final Stabilization and Long Term Stormwater Management.

- (a) The SWMP must document the constraints necessitating an alternative temporary stabilization schedule, as referenced in [Part I.B.1.a.iii\(a\)](#), provide the alternate stabilization schedule, and identify all locations where the alternative schedule is applicable on the site map.
- (b) The SWMP must describe and locate the methods used to achieve final stabilization of all disturbed areas at the site, as listed in [Part I.B.1.a.iii\(b\)](#).
- (c) The SWMP must describe the measures used to establish final stabilization through vegetative cover or alternative stabilization method, as referenced in [Part I.B.1.a.iii\(c\)](#), and describe and locate any temporary control measures in place during the process of final stabilization.
- (d) The SWMP must describe and locate any planned permanent control measures to control pollutants in stormwater discharges that will occur after construction operations are completed, including but not limited to, detention/retention ponds, rain gardens, stormwater vaults, etc.

x. Inspection Reports. The SWMP must include documented inspection reports in accordance with [Part I.D.5.c](#).

### 3. SWMP Review and Revisions

Permittees must keep a record of SWMP changes made that includes the date and identification of the changes. The SWMP must be amended when the following occurs:

- a. A change in design, construction, operation, or maintenance of the site requiring implementation

of new or revised control measures;

- b. The SWMP proves ineffective in controlling pollutants in stormwater runoff in compliance with the permit conditions;
- c. Control measures identified in the SWMP are no longer necessary and are removed; and
- d. Corrective actions are taken onsite that result in a change to the SWMP.
- e. The site or areas of the site qualifying for reduced frequency inspections under [Part I.D.4](#).

For SWMP revisions made prior to or following a change(s) onsite, including revisions to sections addressing site conditions and control measures, a notation must be included in the SWMP that identifies the date of the site change, the control measure removed, or modified, the location(s) of those control measures, and any changes to the control measure(s). The permittee must ensure the site changes are reflected in the SWMP. The permittee is noncompliant with the permit until the SWMP revisions have been made.

#### 4. SWMP Availability

A copy of the SWMP must be provided upon request to the division, EPA, and any local agency with authority for approving sediment and erosion plans, grading plans or stormwater management plans within the time frame specified in the request. If the SWMP is required to be submitted to any of these entities, the submission must include a signed certification in accordance with [Part I.A.3.e](#), certifying that the SWMP is complete and compliant with all terms and conditions of the permit.

All SWMPs required under this permit are considered reports that must be available to the public under Section 308(b) of the CWA and Section 61.5(4) of the CDPS regulations. The permittee must make plans available to members of the public upon request. However, the permittee may claim any portion of a SWMP as confidential in accordance with 40 CFR Part 2.

### D. SITE INSPECTIONS

Site inspections must be conducted in accordance with the following requirements. The required inspection schedules are a minimum frequency and do not affect the permittee's responsibility to implement control measures in effective operating condition as prescribed in the SWMP, [Part I.C.2.a.vi](#), as proper maintenance of control measures may require more frequent inspections. Site inspections shall start within 7 calendar days of the commencement of construction activities on site.

#### 1. Person Responsible for Conducting Inspections

The person(s) inspecting the site may be on the permittee's staff or a third party hired to conduct stormwater inspections under the direction of the permittee(s). The permittee is responsible for ensuring that the inspector meets the definition of a Qualified Stormwater Manager. The inspector may be different than the individual(s) listed in [Part I.C.2.a.i](#).

#### 2. Inspection Frequency

Permittees must conduct site inspections in accordance with on the following minimum frequencies, unless the site meets the requirements of [Part I.D.3](#). All inspections must be recorded per [Part I.D.5.c](#).

- a. At least one inspection every 7 calendar days; or
- b. At least one inspection every 14 calendar days, if post-storm event inspections are conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. Post-storm inspections may be used to fulfill the 14-day routine inspection requirement.
- c. When site conditions make the schedule required in this section impractical, the permittee may

petition the division to grant an alternate inspection schedule. The alternative inspection schedule must not be implemented prior to written approval by the division and incorporation into the SWMP.

### 3. Inspection Frequency for Discharges to Outstanding Waters

Permittees must conduct site inspections at least once every 7 calendar days for sites that discharge to a water body designated as an Outstanding Water by the Water Quality Control Commission.

### 4. Reduced Inspection Frequency

The permittee may perform site inspections at the following reduced frequencies when one of the following conditions exists:

#### a. Post-Storm Inspections at Temporarily Idle Sites

For permittees choosing an inspection frequency pursuant to [Part I.D.2.b](#) and if no construction activities will occur following a storm event, post-storm event inspections must be conducted prior to re-commencing construction activities, and no later than 72 hours following the storm event. If the post-storm event inspection qualifies under this section, the inspection delay must be documented in the inspection record per [Part I.D.5.c](#). Routine inspections must still be conducted at least every 14 calendar days.

#### b. Inspections at Completed Sites/Areas

When the site, or portions of a site, are awaiting establishment of a vegetative ground cover and final stabilization, the permittee must conduct a thorough inspection of the stormwater management system at least once every 30 days. Post-storm event inspections are not required under this schedule. This reduced inspection schedule is allowed if all of the following criteria are met:

- i. All construction activities resulting in ground disturbance are complete;
- ii. All activities required for final stabilization, in accordance with [Part I.B.1.a.iii\(b\) & \(c\)](#) and with the SWMP, have been completed, with the exception of the application of seed that has not occurred due to seasonal conditions or the necessity for additional seed application to augment previous efforts; and
- iii. The SWMP has been amended to locate those areas to be inspected in accordance with the reduced schedule allowed for in this paragraph.

#### c. Winter Conditions Inspections Exclusion

Inspections are not required for sites that meet all of the following conditions: construction activities are temporarily halted, snow cover exists over the entire site for an extended period, and melting conditions posing a risk of surface erosion do not exist. This inspection exception is applicable only during the period where melting conditions do not exist, and applies to the routine 7-day, 14-day and monthly inspections, as well as the post-storm-event inspections. When this inspection exclusion is implemented, the following information must be documented in accordance with the requirements in [Part I.C.3](#) and [Part I.D.5.c](#):

- i. Dates when snow cover existed;
- ii. Date when construction activities ceased; and
- iii. Date melting conditions began.

### 5. Inspection Scope

a. Areas to Be Inspected

When conducting a site inspection the following areas, if applicable, must be inspected for evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system or discharging to state waters:

- i. Construction site perimeter;
- ii. All disturbed areas;
- iii. Locations of installed control measures;
- iv. Designated haul routes;
- v. Material and waste storage areas exposed to precipitation;
- vi. Locations where stormwater has the potential to discharge offsite; and
- vii. Locations where vehicles exit the site.

b. Inspection Requirements

- i. Visually verify whether all implemented control measures are in effective operational condition and are working as designed in their specifications to minimize pollutant discharges.
- ii. Determine if there are new potential sources of pollutants.
- iii. Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges.
- iv. Identify all areas of non-compliance with the permit requirements and, if necessary, implement corrective action(s) in accordance with [Part I.B.1.c.](#)

c. Inspection Reports

The permittee must keep a record of all inspections conducted for each permitted site. Inspection reports must identify any incidents of noncompliance with the terms and conditions of this permit. All inspection reports must be signed and dated in accordance with [Part I.A.3.f.](#) Inspection records must be retained in accordance with [Part II.O.](#) At a minimum, the inspection report must include:

- i. The inspection date;
- ii. Name(s) and title(s) of personnel conducting the inspection;
- iii. Weather conditions at the time of inspection;
- iv. Phase of construction at the time of inspection;
- v. Estimated acreage of disturbance at the time of inspection;
- vi. Location(s) and identification of control measures requiring routine maintenance;
- vii. Location(s) and identification of discharges of sediment or other pollutants from the site;
- viii. Location(s) and identification of inadequate control measures;
- ix. Location(s) and identification of additional control measures needed that were not in place at the time of inspection;

- x. Description of corrective action(s) for items vii, viii, ix, above, dates corrective action(s) were completed, including requisite changes to the SWMP, as necessary;
- xi. Description of the minimum inspection frequency (either in accordance with [Part I.D.2](#), [Part I.D.3](#) or [Part I.D.4](#).) utilized when conducting each inspection.
- xii. Deviations from the minimum inspection schedule as required in [Part I.D.2](#). This would include documentation of division approval for an alternate inspection schedule outlined in [Part I.D.2.c](#);
- xiii. After adequate corrective action(s) have been taken, or where a report does not identify any incidents requiring corrective action, the report shall contain a statement as required in [Part I.A.3.f](#).

#### E. DEFINITIONS

For the purposes of this permit:

- (1) Bypass the intentional diversion of waste streams from any portion of a treatment facility in accordance with 40 CFR 122.41(m)(1)(i) and Regulation 61.2(12).
- (2) Common Plan of Development or Sale - A contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules, but remain related. The division has determined that "contiguous" means construction activities located in close proximity to each other (within ¼ mile). Construction activities are considered to be "related" if they share the same development plan, builder or contractor, equipment, storage areas, etc. "Common plan of development or sale" includes construction activities that are associated with the construction of field wide oil and gas permits for facilities that are related.
- (3) Construction Activity - Ground surface disturbing and associated activities (land disturbance), which include, but are not limited to, clearing, grading, excavation, demolition, installation of new or improved haul roads and access roads, staging areas, stockpiling of fill materials, and borrow areas. Construction does not include routine maintenance to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. Activities to conduct repairs that are not part of routine maintenance or for replacement are construction activities and are not routine maintenance. Repaving activities where underlying and/or surrounding soil is exposed as part of the repaving operation are considered construction activities. Construction activity is from initial ground breaking to final stabilization regardless of ownership of the construction activities.
- (4) Control Measure - Any best management practice or other method used to prevent or reduce the discharge of pollutants to state waters. Control measures include, but are not limited to, best management practices. Control measures can include other methods such as the installation, operation, and maintenance of structural controls and treatment devices.
- (5) Control Measure Requiring Routine Maintenance - Any control measure that is still operating in accordance with its design and the requirements of this permit, but requires maintenance to prevent a breach of the control measure. See also inadequate control measure.
- (6) Dedicated Asphalt, Concrete Batch Plants and Masonry Mixing Stations - Are batch plants or mixing stations located on, or within ¼ mile of, a construction site and that provide materials only to that specific construction site.
- (7) Diversion - Discharges of state waters that are temporarily routed through channels or structures (e.g. in-stream, uncontaminated springs, non-pumped groundwater, temporary rerouting of surface waters).
- (8) Final Stabilization - The condition reached when construction activities at the site have been

- completed, permanent stabilization methods are complete, and temporary control measures are removed. Areas being stabilized with a vegetative cover must have evenly distributed perennial vegetation. The vegetation coverage must be, at a minimum, equal to 70 percent of what would have been provided by native vegetation in a local, undisturbed area or adequate reference site.
- (9) Good Engineering, Hydrologic and Pollution Control Practices: are methods, procedures, and practices that:
- a. Are based on basic scientific fact(s).
  - b. Reflect best industry practices and standards.
  - c. Are appropriate for the conditions and pollutant sources.
  - d. Provide appropriate solutions to meet the associated permit requirements, including practice based effluent limits.
- (10) Inadequate Control Measure - Any control measure that is not designed or implemented in accordance with the requirements of the permit and/or any control measure that is not implemented to operate in accordance with its design. See also Control Measure Requiring Routine Maintenance.
- (11) Infeasible - Not technologically possible, or not economically practicable and achievable in light of best industry practices.
- (12) Minimize - reduce or eliminate to the extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice.
- (13) Municipality - A city, town, county, district, association, or other public body created by, or under, State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or a designated and approved management agency under section 208 of CWA (1987).
- (14) Municipal Separate Storm Sewer System (MS4) - A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):
- a. Owned or operated by a State, city, town, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to state waters;
    - i. Designed or used for collecting or conveying stormwater;
    - ii. Are not a combined sewer; and
    - iii. Are not part of a Publicly Owned Treatment Works (POTW). See 5 CCR 1002-61.2(62).
- (15) Municipal Stormwater Management Program - A stormwater program operated by a municipality, typically to meet the requirements of the municipalities MS4 discharge certification.
- (16) Operator - The party that has operational control over day-to-day activities at a project site which are necessary to ensure compliance with the permit. This party is authorized to direct individuals at a site to carry out activities required by the permit (i.e. the general contractor).

- (17) Outstanding Waters - Waters designated as outstanding waters pursuant to Regulation 31, Section 31.8(2)(a). The highest level of water quality protection applies to certain waters that constitute an outstanding state or national resource.
- (18) Owner - The party that has overall control of the activities and that has funded the implementation of the construction plans and specifications. This is the party that may have ownership of, a long term lease of, or easements on the property on which the construction activity is occurring (e.g. the developer).
- (19) Permittee(s) - The owner and operator named in the discharge certification issued under this permit for the construction site specified in the certification.
- (20) Point Source - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. Point source does not include irrigation return flow. See 5 CCR 102-61.2(75).
- (21) Pollutant - Dredged spoil, dirt, slurry, solid waste, incinerator residue, sewage, sewage sludge, garbage, trash, chemical waste, biological nutrient, biological material, radioactive material, heat, wrecked or discarded equipment, rock, sand, or any industrial, municipal or agricultural waste. See 5 CCR 1002-61.2(76).
- (22) Presentation of credentials - a government issued form of identification, if in person; or (ii) providing name, position and purpose of inspection if request to enter is made via telephone, email or other form of electronic communication. A Permittee's non-response to a request to enter upon presentation of credentials constitutes a denial to such request, and may result in violation of the Permit.
- (23) Process Water - Any water which, during manufacturing or processing, comes into contact with or results from the production of any raw material, intermediate product, finished product, by product or waste product.
- (24) Public Emergency Related Site - a project initiated in response to an unanticipated emergency (e.g., mud slides, earthquake, extreme flooding conditions, disruption in essential public services), for which the related work requires immediate authorization to avoid imminent endangerment to human health or the environment, or to reestablish essential public services.
- (25) Qualified Stormwater Manager - An individual knowledgeable in the principles and practices of erosion and sediment control and pollution prevention, and with the skills to assess conditions at construction sites that could impact stormwater quality and to assess the effectiveness of stormwater controls implemented to meet the requirements of this permit.
- (26) Qualifying Local Program - A municipal program for stormwater discharges associated with small construction activity that was formally approved by the division as a qualifying local program.
- (27) Receiving Water - Any classified or unclassified surface water segment (including tributaries) in the State of Colorado into which stormwater associated with construction activities discharges. This definition includes all water courses, even if they are usually dry, such as borrow ditches, arroyos, and other unnamed waterways.
- (28) Severe Property Damage - substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. See 40 CFR 122.41(m)(1)(ii).
- (29) Significant Materials - Include, but not limited to, raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in



- food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the permittee is required to report under section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.
- (30) Small Construction Activity - The discharge of stormwater from construction activities that result in land disturbance of equal to, or greater than, one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan ultimately disturbs equal to, or greater than, one acre and less than five acres.
  - (31) Spill - An unintentional release of solid or liquid material which may pollute state waters.
  - (32) State Waters - means any and all surface and subsurface waters which are contained in or flow in or through this state, but does not include waters in sewage systems, waters in treatment works of disposal systems, waters in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed.
  - (33) Steep Slopes: where a local government, or industry technical manual (e.g. stormwater BMP manual) has defined what is to be considered a "steep slope", this permit's definition automatically adopts that definition. Where no such definition exists, steep slopes are automatically defined as those that are 3:1 or greater.
  - (34) Stormwater - Precipitation runoff, snow melt runoff, and surface runoff and drainage. See 5 CCR 1002-61.2(103).
  - (35) Total Maximum Daily Loads (TMDLs) -The sum of the individual wasteload allocations (WLA) for point sources and load allocations (LA) for nonpoint sources and natural background. For the purposes of this permit, a TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes WLAs, LAs, and must include a margin of safety (MOS), and account for seasonal variations. See section 303(d) of the CWA and 40 C.F.R. 130.2 and 130.7.
  - (36) Upset - an exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation in accordance with 40 CFR 122.41(n) and Regulation 61.2(114).

#### F. MONITORING

The division may require sampling and testing, on a case-by-case basis. If the division requires sampling and testing, the division will send a notification to the permittee. Reporting procedures for any monitoring data collected will be included in the notification.

If monitoring is required, the following applies:

1. The thirty (30) day average must be determined by the arithmetic mean of all samples collected during a thirty (30) consecutive-day period; and
2. A grab sample, for monitoring requirements, is a single "dip and take" sample.

#### G. OIL AND GAS CONSTRUCTION

Stormwater discharges associated with construction activities directly related to oil and gas exploration, production, processing, and treatment operations or transmission facilities are regulated under the Colorado Discharge Permit System Regulations (5 CCR 1002-61), and require coverage under this permit in accordance with that regulation. However, references in this permit to specific authority under the CWA do not apply to

stormwater discharges associated with these oil and gas related construction activities, to the extent that the references are limited by the federal Energy Policy Act of 2005.

## Part II: Standard Permit Conditions

### A. DUTY TO COMPLY

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Water Quality Control Act and is grounds for:

1. Enforcement action;
2. Permit termination, revocation and reissuance, or modification; or
3. Denial of a permit renewal application.

### B. DUTY TO REAPPLY

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain authorization as required by Part I.A.3.k. of the permit.

### C. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

### D. DUTY TO MITIGATE

A permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

### E. PROPER OPERATION AND MAINTENANCE

A permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit. This requirement can be met by meeting the requirements for Part I.B., I.C., and I.D. above. See also 40 C.F.R. § 122.41(e).

### F. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause. The permittee request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. Any request for modification, revocation, reissuance, or termination under this permit must comply with all terms and conditions of Regulation 61.8(8).

### G. PROPERTY RIGHTS

In accordance with 40 CFR 122.41(g) and 5 CCR 1002-61, 61.8(9):

1. The issuance of a permit does not convey any property or water rights in either real or personal property, or stream flows or any exclusive privilege.
2. The issuance of a permit does not authorize any injury to person or property or any invasion of personal rights, nor does it authorize the infringement of federal, state, or local laws or regulations.
3. Except for any toxic effluent standard or prohibition imposed under Section 307 of the Federal act or any standard for sewage sludge use or disposal under Section 405(d) of the Federal act, compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Sections 301,

302, 306, 318, 403, and 405(a) and (b) of the Federal act. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in Section 61.8(8) of the Colorado Discharge Permit System Regulations.

#### H. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the division, within a reasonable time, any information which the division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the division, upon request, copies of records required to be kept by this permit in accordance with 40 CFR 122.41(h) and/or Regulation 61.8(3)(q).

#### I. INSPECTION AND ENTRY

The permittee shall allow the division and the authorized representative, upon the [presentation of credentials](#) as required by law, to allow for inspections to be conducted in accordance with 40 CFR 122.41(i), Regulation 61.8(3), and Regulation 61.8(4):

1. To enter upon the permittee's premises where a regulated facility or activity is located or in which any records are required to be kept under the terms and conditions of this permit;
2. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit;
3. At reasonable times, inspect any monitoring equipment or monitoring method required in the permit; and
4. To enter upon the permittee's premises in a reasonable manner and at a reasonable time to inspect or investigate, any actual, suspected, or potential source of water pollution, or any violation of the Colorado Water Quality Control Act. The investigation may include: sampling of any discharges, stormwater or [process water](#), taking of photographs, interviewing site staff on alleged violations and other matters related to the permit, and assessing any and all facilities or areas within the site that may affect discharges, the permit, or an alleged violation.

The permittee shall provide access to the division or other authorized representatives upon presentation of proper credentials. A permittee's non-response to a request to enter upon presentation of credentials constitutes a denial of such request, and may result in a violation of the permit.

#### J. MONITORING AND RECORDS

1. Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity.
2. The permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date the permit expires or the date the permittee's authorization is terminated. This period may be extended by request of the division at any time.
3. Records of monitoring information must include:
  - a. The date, exact place, and time of sampling or measurements;
  - b. The individual(s) who performed the sampling or measurements;
  - c. The date(s) analyses were performed

- d. The individual(s) who performed the analyses;
  - e. The analytical techniques or methods used; and
  - f. The results of such analyses.
4. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.

#### K. SIGNATORY REQUIREMENTS

##### 1. Authorization to Sign:

All documents required to be submitted to the division by the permit must be signed in accordance with the following criteria:

- a. For a corporation: by a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means:
  - i. A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
  - ii. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
- c. For a [municipality](#), state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a federal agency includes
  - i. The chief executive officer of the agency, or
  - ii. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency. (e.g. Regional Administrator of EPA)

##### 2. Electronic Signatures

For persons signing applications for coverage under this permit electronically, in addition to meeting other applicable requirements stated above, such signatures must meet the same signature, authentication, and identity-proofing standards set forth at 40 CFR § 3.2000(b) for electronic reports (including robust second-factor authentication). Compliance with this requirement can be achieved by submitting the application using the Colorado Environmental Online Service (CEOS) system.

##### 3. Change in Authorization to Sign

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the division, prior to the re-authorization, or together with any reports, information, or applications to be signed by an authorized representative.

## L. REPORTING REQUIREMENTS

### 1. Planned Changes

The permittee shall give advance notice to the division, in writing, of any planned physical alterations or additions to the permitted facility in accordance with 40 CFR 122.41(l) and Regulation 61.8(5)(a). Notice is required only when:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
- b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.41(a)(1).

### 2. Anticipated Non-Compliance

The permittee shall give advance notice to the division, in writing, of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements. The timing of notification requirements differs based on the type of non-compliance as described in subparagraphs 5, 6, 7, and 8 below.

### 3. Transfer of Ownership or Control

The permittee shall notify the division, in writing, ten (10) calendar days in advance of a proposed transfer of the permit. This permit is not transferable to any person except after notice is given to the division.

- a. Where a facility wants to change the name of the permittee, the original permittee (the first owner or operators) must submit a Notice of Termination.
- b. The new owner or operator must submit an application. See also signature requirements in Part II.K, above.
- c. A permit may be automatically transferred to a new permittee if:
  - i. The current permittee notifies the division in writing 30 calendar days in advance of the proposed transfer date; and
  - ii. The notice includes a written agreement between the existing and new permittee(s) containing a specific date for transfer of permit responsibility, coverage and liability between them; and
  - iii. The division does not notify the existing permittee and the proposed new permittee of its intent to modify, or revoke and reissue the permit.
  - iv. Fee requirements of the Colorado Discharge Permit System Regulations, Section 61.15, have been met.

### 4. Monitoring reports

Monitoring results must be reported at the intervals specified in this permit per the requirements of 40 CFR 122.41(l)(4).

### 5. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule in the permit, shall be submitted on the date listed

in the compliance schedule section. The fourteen (14) calendar day provision in Regulation 61.8(4)(n)(i) has been incorporated into the due date.

6. Twenty-four Hour Reporting

In addition to the reports required elsewhere in this permit, the permittee shall report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall mail to the division a written report containing the information requested within five (5) working days after becoming aware of the following circumstances:

- a. Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident;
- b. Circumstances leading to any unanticipated bypass which exceeds any effluent limitations in the permit;
- c. Circumstances leading to any upset which causes an exceedance of any effluent limitation in the permit;
- d. Daily maximum violations for any of the pollutants limited by Part I of this permit. This includes any toxic pollutant or hazardous substance or any pollutant specifically identified as the method to control any toxic pollutant or hazardous substance.
- e. The division may waive the written report required under subparagraph 6 of this section if the oral report has been received within 24 hours.

7. Other Non-Compliance

A permittee must report all instances of noncompliance at the time monitoring reports are due. If no monitoring reports are required, these reports are due at least annually in accordance with Regulation 61.8(4)(p). The annual report must contain all instances of non-compliance required under either subparagraph 5 or subparagraph 6 of this subsection.

8. Other Information

Where a permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Permitting Authority, it has a duty to promptly submit such facts or information.

M. BYPASS

1. Bypass Not Exceeding Limitations

The permittees may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Part II.M.2 of this permit. See 40 CFR 122.41(m)(2).

2. Notice of Bypass

- a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, the permittee must submit prior notice, if possible at least ten days before the date of the bypass. See 40 CFR §122.41(m)(3)(i) and/or Regulation 61.9(5)(c).
- b. Unanticipated bypass. The permittee must submit notice of an unanticipated bypass in accordance with Part II.L.6. See 40 CFR §122.41(m)(3)(ii).

3. Prohibition of Bypass

Bypasses are prohibited and the division may take enforcement action against the permittee for bypass, unless:

- a. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;
- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- c. Proper notices were submitted to the division.

#### N. UPSET

##### 1. Effect of an upset

An upset constitutes an affirmative defense to an action brought for noncompliance with permit effluent limitations if the requirements of Part II.N.2. of this permit are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review in accordance with Regulation 61.8(3)(j).

##### 2. Conditions Necessary for Demonstration of an Upset

A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed contemporaneous operating logs, or other relevant evidence that:

- a. An upset occurred and the permittee can identify the specific cause(s) of the upset;
- b. The permitted facility was at the time being properly operated and maintained; and
- c. The permittee submitted proper notice of the upset as required in Part II.L.6.(24- hour notice); and
- d. The permittee complied with any remedial measure necessary to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition to the demonstration required above, a permittee who wishes to establish the affirmative defense of upset for a violation of effluent limitations based upon water quality standards shall also demonstrate through monitoring, modeling or other methods that the relevant standards were achieved in the receiving water.

##### 3. Burden of Proof

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

#### O. RETENTION OF RECORDS

##### 1. Post-Expiration or Termination Retention

Copies of documentation required by this permit, including records of all data used to complete the application for permit coverage to be covered by this permit, must be retained for at least three years from the date that permit coverage expires or is terminated. This period may be extended by request of EPA at any time.

##### 2. On-site Retention

The permittee must retain an electronic version or hardcopy of the SWMP at the construction site from



the date of the initiation of construction activities to the date of expiration or inactivation of permit coverage; unless another location, specified by the permittee, is approved by the division.

#### P. REOPENER CLAUSE

##### 1. Procedures for Modification or Revocation

Permit modification or revocation of this permit or coverage under this permit will be conducted according to Regulation 61.8(8).

##### 2. Water Quality Protection

If there is evidence indicating that the stormwater discharges authorized by this permit cause, have the reasonable potential to cause or contribute to an excursion above any applicable water quality standard, the permittee may be required to obtain an individual permit, or the permit may be modified to include different limitations and/or requirements.

#### Q. SEVERABILITY

The provisions of this permit are severable. If any provisions or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances and the application of the remainder of this permit shall not be affected.

#### R. NOTIFICATION REQUIREMENTS

##### 1. Notification to Parties

All notification requirements, excluding information submitted using the CEOS portal, shall be directed as follows:

- a. Oral Notifications, during normal business hours shall be to:  
Clean Water Compliance Section  
Water Quality Control Division  
Telephone: (303) 692-3500
- b. Written notification shall be to:  
Clean Water Compliance Section  
Water Quality Control Division  
Colorado Department of Public Health and Environment  
WQCD-WQP-B2  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530

#### S. RESPONSIBILITIES

##### 1. Reduction, Loss, or Failure of Treatment Facility

The permittee has the duty to halt or reduce any activity if necessary to maintain compliance with the effluent limitations of the permit. It shall not be a defense for a permittee in an enforcement action that it would be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

#### T. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 (Oil and Hazardous Substance Liability) of the CWA.

#### U. EMERGENCY POWERS

Nothing in this permit shall be construed to prevent or limit application of any emergency power of the division.

#### V. CONFIDENTIALITY

Any information relating to any secret process, method of manufacture or production, or sales or marketing data which has been declared confidential by the permittee, and which may be acquired, ascertained, or discovered, whether in any sampling investigation, emergency investigation, or otherwise, shall not be publicly disclosed by any member, officer, or employee of the Water Quality Control Commission or the division, but shall be kept confidential. Any person seeking to invoke the protection of this section shall bear the burden of proving its applicability. This section shall never be interpreted as preventing full disclosure of effluent data.

#### W. FEES

The permittee is required to submit payment of an annual fee as set forth in the 2016 amendments to the Water Quality Control Act. Section 25-8-502 (1.1) (b), and the Colorado Discharge Permit System Regulations 5 CCR 1002-61, Section 61.15 as amended. Failure to submit the required fee when due and payable is a violation of the permit and will result in enforcement action pursuant to Section 25-8-601 et. seq., C.R.S.1973 as amended.

#### X. DURATION OF PERMIT

The duration of a permit shall be for a fixed term and shall not exceed five (5) years. If the permittee desires to continue to discharge, a permit renewal application shall be submitted at least ninety (90) calendar days before this permit expires. Filing of a timely and complete application shall cause the expired permit to continue in force to the effective date of the new permit. The permit's duration may be extended only through administrative extensions and not through interim modifications. If the permittee anticipates there will be no discharge after the expiration date of this permit, the division should be promptly notified so that it can terminate the permit in accordance with Part I.A.3.i.

#### Y. SECTION 307 TOXICS

If a toxic effluent standard or prohibition, including any applicable schedule of compliance specified, is established by regulation pursuant to Section 307 of the Federal Act for a toxic pollutant which is present in the permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in the discharge permit, the division shall institute proceedings to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition

## **Appendix C**

### *Site Inspection Reports*

# CONSTRUCTION STORMWATER SITE INSPECTION REPORT

Facility Name		Permittee					
Date of Inspection		Weather Conditions					
Permit Certification #		Disturbed Acreage					
Phase of Construction		Inspector Title					
Inspector Name							
Is the above inspector a qualified stormwater manager? (permittee is responsible for ensuring that the inspector is a qualified stormwater manager)			<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	YES	NO	<input type="checkbox"/>	<input type="checkbox"/>
YES	NO						
<input type="checkbox"/>	<input type="checkbox"/>						

INSPECTION FREQUENCY					
Check the box that describes the minimum inspection frequency utilized when conducting each inspection					
At least one inspection every 7 calendar days	<input type="checkbox"/>				
At least one inspection every 14 calendar days, with post-storm event inspections conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosions	<input type="checkbox"/>				
<ul style="list-style-type: none"> <li>This is this a post-storm event inspection. Event Date: _____</li> </ul>	<input type="checkbox"/>				
Reduced inspection frequency - Include site conditions that warrant reduced inspection frequency	<input type="checkbox"/>				
<ul style="list-style-type: none"> <li>Post-storm inspections at temporarily idle sites</li> </ul>	<input type="checkbox"/>				
<ul style="list-style-type: none"> <li>Inspections at completed sites/area</li> </ul>	<input type="checkbox"/>				
<ul style="list-style-type: none"> <li>Winter conditions exclusion</li> </ul>	<input type="checkbox"/>				
Have there been any deviations from the minimum inspection schedule? If yes, describe below.	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	YES	NO	<input type="checkbox"/>	<input type="checkbox"/>
YES	NO				
<input type="checkbox"/>	<input type="checkbox"/>				

INSPECTION REQUIREMENTS*
i. Visually verify all implemented control measures are in effective operational condition and are working as designed in the specifications
ii. Determine if there are new potential sources of pollutants
iii. Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges
iv. Identify all areas of non-compliance with the permit requirements, and if necessary, implement corrective action
*Use the attached <b>Control Measures Requiring Routine Maintenance</b> and <b>Inadequate Control Measures Requiring Corrective Action</b> forms to document results of this assessment that trigger either maintenance or corrective actions

AREAS TO BE INSPECTED			
Is there evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system or discharging to state waters at the following locations?			
	NO	YES	If "YES" describe discharge or potential for discharge below. Document related maintenance, inadequate control measures and corrective actions <b>Inadequate Control Measures Requiring Corrective Action</b> form
Construction site perimeter	<input type="checkbox"/>	<input type="checkbox"/>	
All disturbed areas	<input type="checkbox"/>	<input type="checkbox"/>	
Designated haul routes	<input type="checkbox"/>	<input type="checkbox"/>	
Material and waste storage areas exposed to precipitation	<input type="checkbox"/>	<input type="checkbox"/>	
Locations where stormwater has the potential to discharge offsite	<input type="checkbox"/>	<input type="checkbox"/>	
Locations where vehicles exit the site	<input type="checkbox"/>	<input type="checkbox"/>	
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	

### CONTROL MEASURES REQUIRING ROUTINE MAINTENANCE

Definition: Any control measure that is still operating in accordance with its design and the requirements of the permit, but requires maintenance to prevent a breach of the control measure. These items are not subject to the corrective action requirements as specified in Part I.B.1.c of the permit.

Are there control measures requiring maintenance?	NO	YES	
	<input type="checkbox"/>	<input type="checkbox"/>	If "YES" document below

[illegible]

## INADEQUATE CONTROL MEASURES REQUIRING CORRECTIVE ACTION

Definition: Any control measure that is not designed or implemented in accordance with the requirements of the permit and/or any control measure that is not implemented to operate in accordance with its design. This includes control measures that have not been implemented for pollutant sources. If it is infeasible to install or repair the control measure immediately after discovering the deficiency the reason must be documented and a schedule included to return the control measure to effective operating condition as possible.

Are there inadequate control measures requiring corrective action?	NO	YES	
	<input type="checkbox"/>	<input type="checkbox"/>	If "YES" document below

Are there additional control measures needed that were not in place at the time of inspection?	NO	YES	
	<input type="checkbox"/>	<input type="checkbox"/>	If "YES" document below

[illegible]

## REPORTING REQUIREMENTS

The permittee shall report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall mail to the division a written report containing the information requested within five (5) working days after becoming aware of the following circumstances. The division may waive the written report required if the oral report has been received within 24 hours.

<b>All Noncompliance Requiring 24-Hour Notification per Part II.L.6 of the Permit</b>			
<b>a. Endangerment to Health or the Environment</b> Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident (See Part II.L.6.a of the Permit) <i>This category would primarily result from the discharge of pollutants in violation of the permit</i>			
<b>b. Numeric Effluent Limit Violations</b> <ul style="list-style-type: none"><li>○ Circumstances leading to any unanticipated bypass which exceeds any effluent limitations (See Part II.L.6.b of the Permit)</li><li>○ Circumstances leading to any upset which causes an exceedance of any effluent limitation (See Part II.L.6.c of the Permit)</li><li>○ Daily maximum violations (See Part II.L.6.d of the Permit)</li></ul> <i>Numeric effluent limits are very uncommon in certifications under the COR400000 general permit. This category of noncompliance only applies if numeric effluent limits are included in a permit certification.</i>			

Has there been an incident of noncompliance requiring 24-hour notification?	NO	YES	
	<input type="checkbox"/>	<input type="checkbox"/>	If "YES" document below

Date and Time of Incident	Location	Description of Noncompliance	Description of Corrective Action	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification *

\*Attach copy of 5 day written notification to report. Indicate if written notification was waived, including the name of the division personnel who granted waiver.

After adequate corrective action(s) and maintenance have been taken, or where a report does not identify any incidents requiring corrective action or maintenance, the individual(s) designated as the Qualified Stormwater Manager, shall sign and certify the below statement:

“I verify that, to the best of my knowledge and belief, all corrective action and maintenance items identified during the inspection are complete, and the site is currently in compliance with the permit.”

\_\_\_\_\_  
Name of Qualified Stormwater Manager

\_\_\_\_\_  
Title of Qualified Stormwater Manager

\_\_\_\_\_  
Signature of Qualified Stormwater Manager

\_\_\_\_\_  
Date

Notes/Comments



### Description

Describe the control measure and what pollutant sources it will provide effective treatment for (part I.C.2.a.iv of the permit). Include the mechanism used for treatment of the pollutant source.

### Implementation

Describe how the control measure will be implemented in accordance with good engineering, hydrologic and pollution control practices. Include the phase(s) of construction the control measure will be implemented for.

### Installation Procedures

Describe the process required to install the control measure and have it adequately treat the intended pollutant source. Include specific depths, lengths, materials, and any other applicable information necessary to properly install the control measure.

### Inspection Expectations

Describe how often the control measure will be inspected and what key features should be checked during each inspection (is the silt fence tail entrenched, are the straw wattles staked ever 4 feet, etc.)

Maintenance Requirements

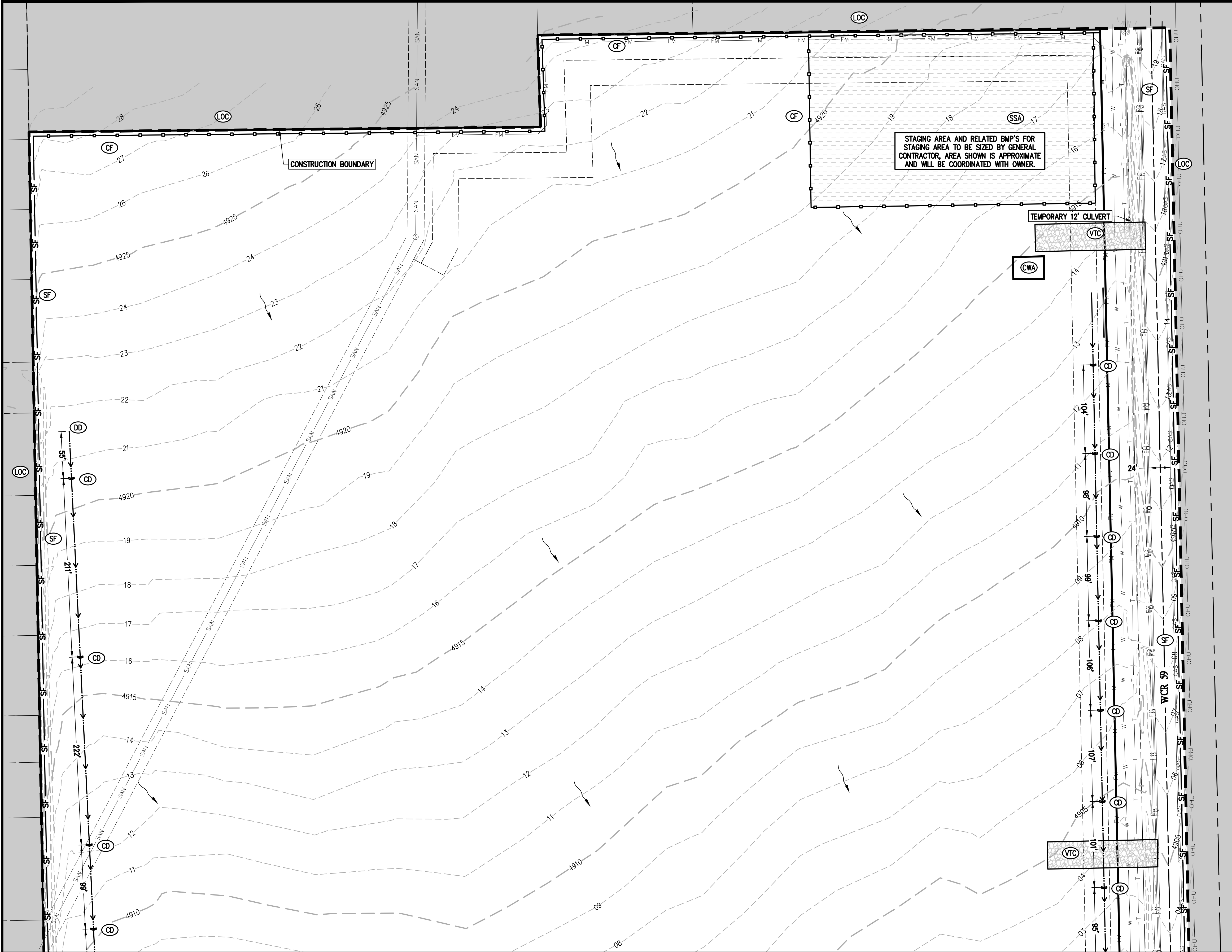
Describe maintenance requirements, such as how to repair damaged sections, what qualifies as a failed control measure and when it needs to be replaced. Also include criteria that would trigger maintenance (i.e. 50% capacity of the control measure has been reached).

Control Measure Diagram

## **Appendix D**

### *Erosion Control Plans*

N:\c03519 - Summerfield Keenesburg East\Drawings\Construction Documents\Erosion Control\3519 GSEC Initial Interim\_Final.dwg, 1/26/2022 1:43:16 PM, Matthew Ryan



**GRADING, EROSION AND SEDIMENT CONTROL NOTE:**

- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO OBTAIN PERMITS FROM THE LOCAL AND STATE AGENCIES PRIOR TO THE START OF CONSTRUCTION.
- ALL BMPs SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS HEREIN AND THE LOCAL AGENCIES STANDARDS AND DETAILS. IF THE LOCAL AGENCY STANDARDS DO NOT INCLUDE A REQUIRED BMP ON THESE PLANS, REFERENCE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT STANDARD DETAILS.
- THESE PLANS DO NOT REFLECT ALL BMPs THAT MAY BE NEEDED FOR SITE EROSION AND SEDIMENT CONTROL DUE TO FIELD CHANGES NOT ANTICIPATED IN THE DESIGN OF THE PLAN. CONTRACTOR SHALL INSTALL ADDITIONAL BMPs AS NEEDED TO MAINTAIN SITE STABILIZATION AND MITIGATE ANY SEDIMENT TRANSPORT OFF SITE OR ONTO ADJACENT PROPERTY.
- ALTERNATE BMPs MAY BE USED FROM THOSE SHOWN HEREON. CONTACT ENGINEER AND LOCAL AGENCY INSPECTOR WITH PROPOSED CHANGES.
- GUIDELINES WITH THE LOCAL AGENCY PERMIT AND STANDARDS AND SPECIFICATIONS SHALL BE FOLLOWED AND MAINTAINED.
- AN APPROVED COPY OF THE EROSION AND SEDIMENT CONTROL PLAN AND STORMWATER MANAGEMENT PLAN SHALL BE KEPT ON SITE AT ALL TIMES.
- LOCATION OF BMPs MAY VARY BASED ON THESE PLANS DUE TO PROGRESS AND PHASING OF CONSTRUCTION ACTIVITIES.
- SITE BMPs SHALL BE MAINTAINED AND REPAIRED IF DAMAGED IMMEDIATELY. SITE INSPECTIONS SHALL OCCUR EVERY 7-DAYS, AND WITHIN 24-HOURS OF ANY PRECIPITATION EVENT.
- REFER TO STORMWATER MANAGEMENT PLAN (SWMP) FOR EROSION AND SEDIMENT CONTROL REQUIREMENTS.
- INSTALL CHECK DAMS AS NOTED ON PLANS. SEE DETAIL EC-12 ON SHEET DT01
- REMOVE TEMPORARY RISER PIPE ONCE THE DETENTION POND OUTLET STRUCTURE IS CONSTRUCTED.

**GRADING, EROSION AND SEDIMENT CONTROL NOTE:**

MATCHLINE SEE SHEET EC02

**LEGEND**

EXISTING LINETYPES	PROPOSED LINETYPES	
81	81	MINOR CONTOUR (1' INTERVAL)
5280	5280	MAJOR CONTOUR (5' INTERVAL)
		RIGHT-OF-WAY
		LOT LINE
		EASEMENT
		DITCH FLOWLINE

**EROSION AND SEDIMENT CONTROL LEGEND**

(LOC)	LIMITS OF CONSTRUCTION	
(CF)	CONSTRUCTION FENCE	
(SF)	SILT FENCE	
(IP)	INLET PROTECTION	
(OP)	OUTLET PROTECTION	
(SSA)	STABILIZED STAGING AREA	
(CWA)	CONCRETE WASHOUT AREA	
(VTC)	VEHICLE TRACKING CONTROL	
(DD)	DRAINAGE DITCH	
(CD)	CHECK DAMS	
(RS)	ROCK SOCKS	
(TSB)	TEMPORARY SEDIMENT BASIN	
	EXISTING FLOW DIRECTION	
	PROPOSED FLOW DIRECTION	
(ECB)	EROSION CONTROL BLANKET	
(PS)	PERMANENT SEEDING	
(SM)	SEEDING AND MULCHING AREA	
(TS)	TEMPORARY SEEDING	

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DESIGNED BY	DATE	PREPARED BY	REVISION	DESCRIPTION
MLL	01/26/2022	MLL		TOWN COMMENTS
MBR				
MBR				
MBR				

**MSP INVESTMENT CO. LLP**  
TOWN OF KEENESBURG  
SUMMERFIELD NORTH  
CONSTRUCTION DOCUMENTS  
INITIAL EROSION CONTROL

WELD COUNTY

PREPARED UNDER THE DIRECT SUPERVISION OF

**PRELIMINARY NOT FOR CONSTRUCTION**

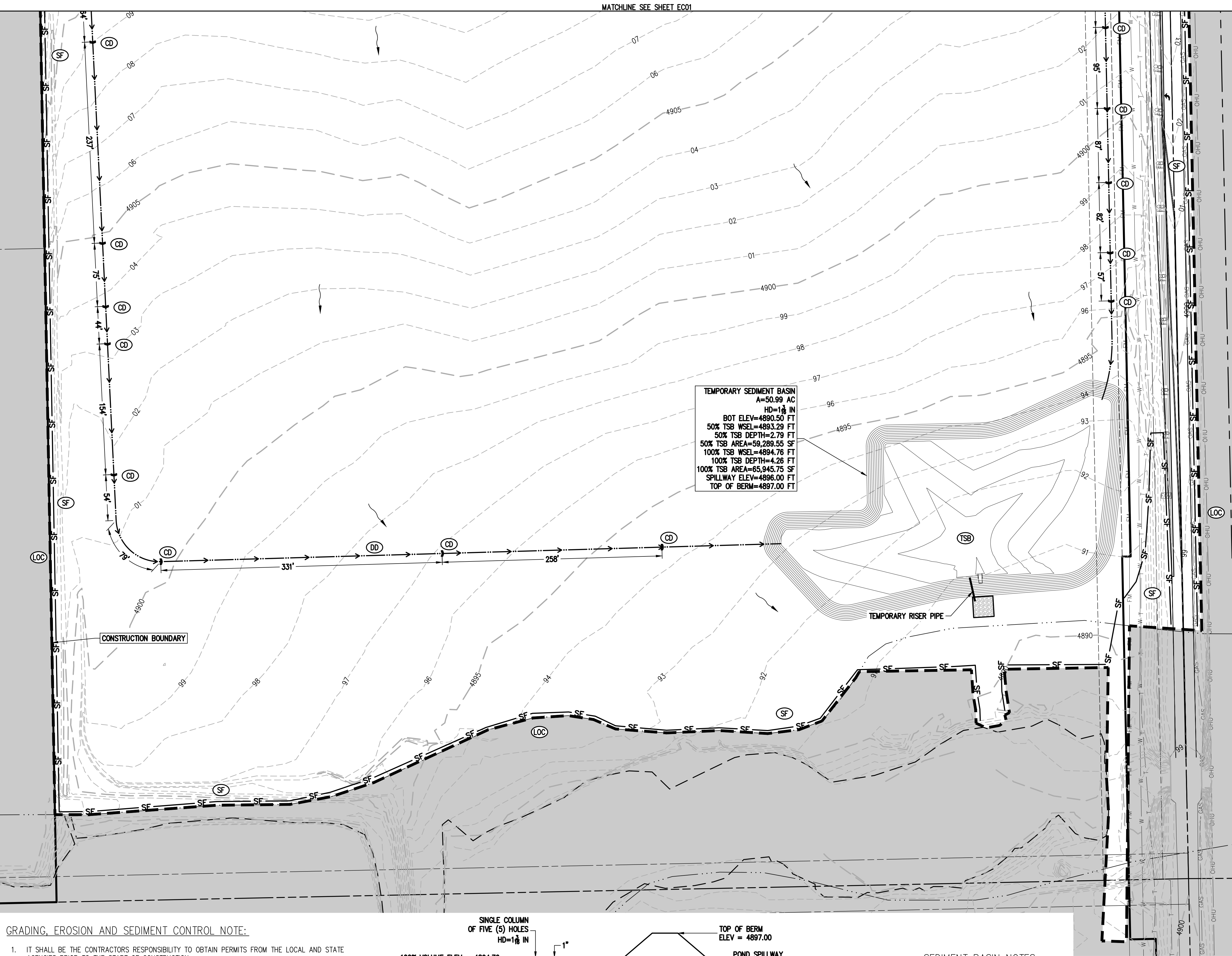
FOR AND ON BEHALF OF  
BASELINE CORPORATION

INITIAL SUBMITTAL	10/19/2021
DRAWING SIZE	24" X 36"
SURVEY FIRM	FLATIRON
SURVEY DATE	05/06/2021
JOB NO.	C03519
DRAWING NAME	3519 GSEC Initial Interim_Final.dwg
SHEET	6 OF 105

EC01



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#### GRADING, EROSION AND SEDIMENT CONTROL NOTE:

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- INSTALL CHECK DAMS AS NOTED ON PLANS. SEE DETAIL EC-12 ON SHEET DT01
- REMOVE TEMPORARY RISER PIPE ONCE THE DETENTION POND OUTLET STRUCTURE IS CONSTRUCTED.

#### SEDIMENT BASIN NOTES:

TEMPORARY SEDIMENT BASINS HAVE BEEN IDENTIFIED IN THIS PLAN SET. HOWEVER, IF THE PHASING OF THE OVERALL PROJECT ALLOWS FOR CONSTRUCTION OF THE EXTENDED DETENTION BASINS PRIOR TO LAND DISTURBANCE ACTIVITIES IN THE ASSOCIATED TEMPORARY SEDIMENT BASIN AREA, THE EXTENDED DETENTION BASIN MAY BE USED AS THE ASSOCIATED TEMPORARY SEDIMENT BASIN.

IN LIEU OF THE TRASH RACK, PACK UNIFORMLY SIZED 1 1/2 TO 2-INCH GRAVEL IN FRONT OF THE ORIFICE PLATE. THIS GRAVEL WILL NEED TO BE CLEANED OUT FREQUENTLY DURING THE CONSTRUCTION PERIOD AS SEDIMENT ACCUMULATES WITHIN IT. THE GRAVEL PACK WILL NEED TO BE REMOVED AND DISPOSED OF FOLLOWING CONSTRUCTION TO RECLAIM THE SEDIMENT BASIN FOR USE AS AN EXTENDED DETENTION BASIN.

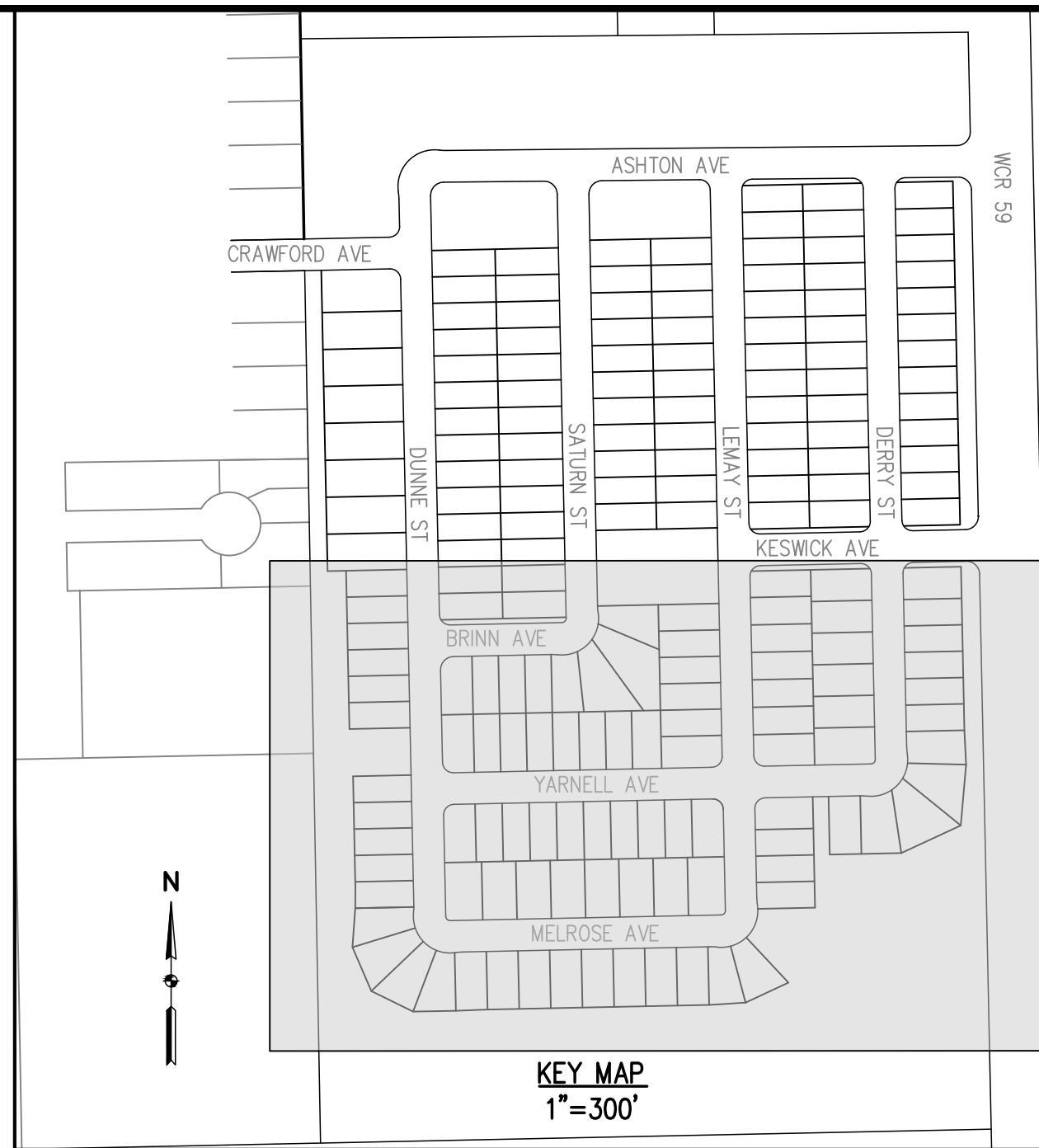
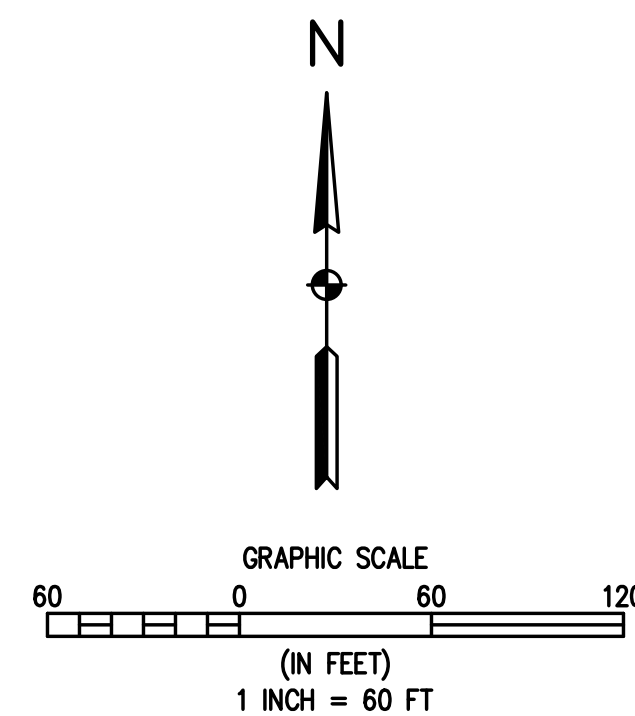
WHEN THE BASIN IS TO BE USED AS AN EXTENDED DETENTION BASIN FOR THE SITE, A TRASH RACK WILL NEED TO BE INSTALLED, ONCE CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED AND THE GRAVEL PACK AND ACCUMULATED SEDIMENT HAVE BEEN REMOVED. (SEE UDFCD VOL. 3 SC-7 FOR REFERENCE). REFER TO SHEETS PD01 AND PD02 FOR PERMANENT OUTLET STRUCTURE DESIGN.

#### LEGEND

EXISTING LINETYPES	PROPOSED LINETYPES	
81	81	MINOR CONTOUR (1' INTERVAL)
5280	5280	MAJOR CONTOUR (5' INTERVAL)
		RIGHT-OF-WAY
		LOT LINE
		EASEMENT
		DITCH FLOWLINE

#### EROSION AND SEDIMENT CONTROL LEGEND

LOC	LIMITS OF CONSTRUCTION	---
CF	CONSTRUCTION FENCE	---o---
SF	SILT FENCE	---SF---
IP	INLET PROTECTION	IP
OP	OUTLET PROTECTION	OP
SSA	STABILIZED STAGING AREA	SSA
CWA	CONCRETE WASHOUT AREA	CWA
VTC	VEHICLE TRACKING CONTROL	VTC
DD	DRAINAGE DITCH	DD
CD	CHECK DAMS	CD
RS	ROCK SOCKS	RS
TSB	TEMPORARY SEDIMENT BASIN	TSB
	EXISTING FLOW DIRECTION	---
	PROPOSED FLOW DIRECTION	---
ECB	EROSION CONTROL BLANKET	ECB
PS	PERMANENT SEEDING	PS
SM	SEEDING AND MULCHING AREA	SM
TS	TEMPORARY SEEDING	TS



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		TOWN COMMENTS	

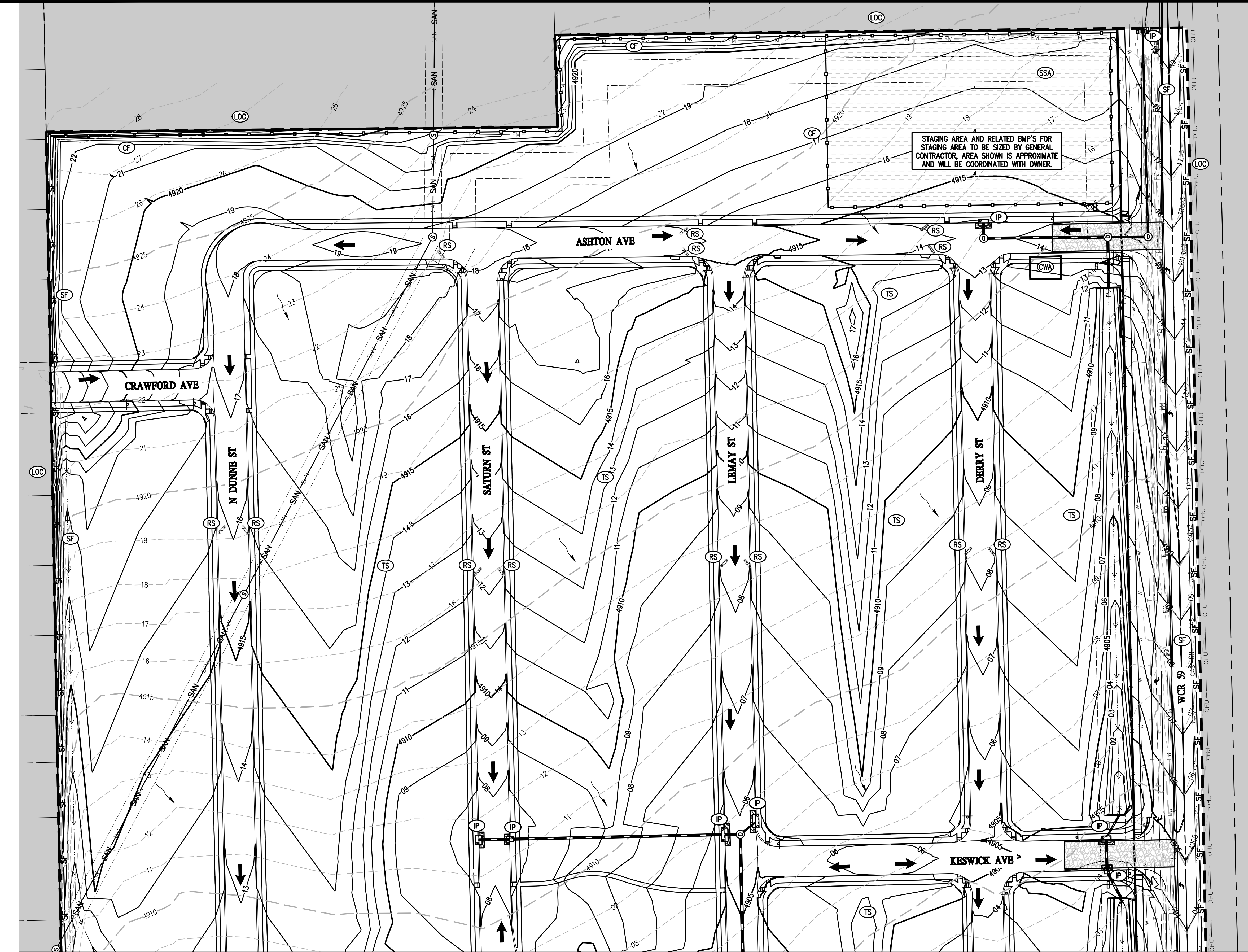
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CONSTRUCTION DOCUMENTS  
INITIAL EROSION CONTROL

FOR AND ON BEHALF OF  
BASELINE CORPORATION  
INITIAL SUBMITTAL 10/19/2021  
DRAWING SIZE 24" x 36"  
SURVEY FIRM FLATIRON SURVEY DATE 05/06/2021  
JOB NO. C03519  
DRAWING NAME 3519 GSEC Initial Interum\_Final.dwg  
SHEET 7 OF 105  
EC02

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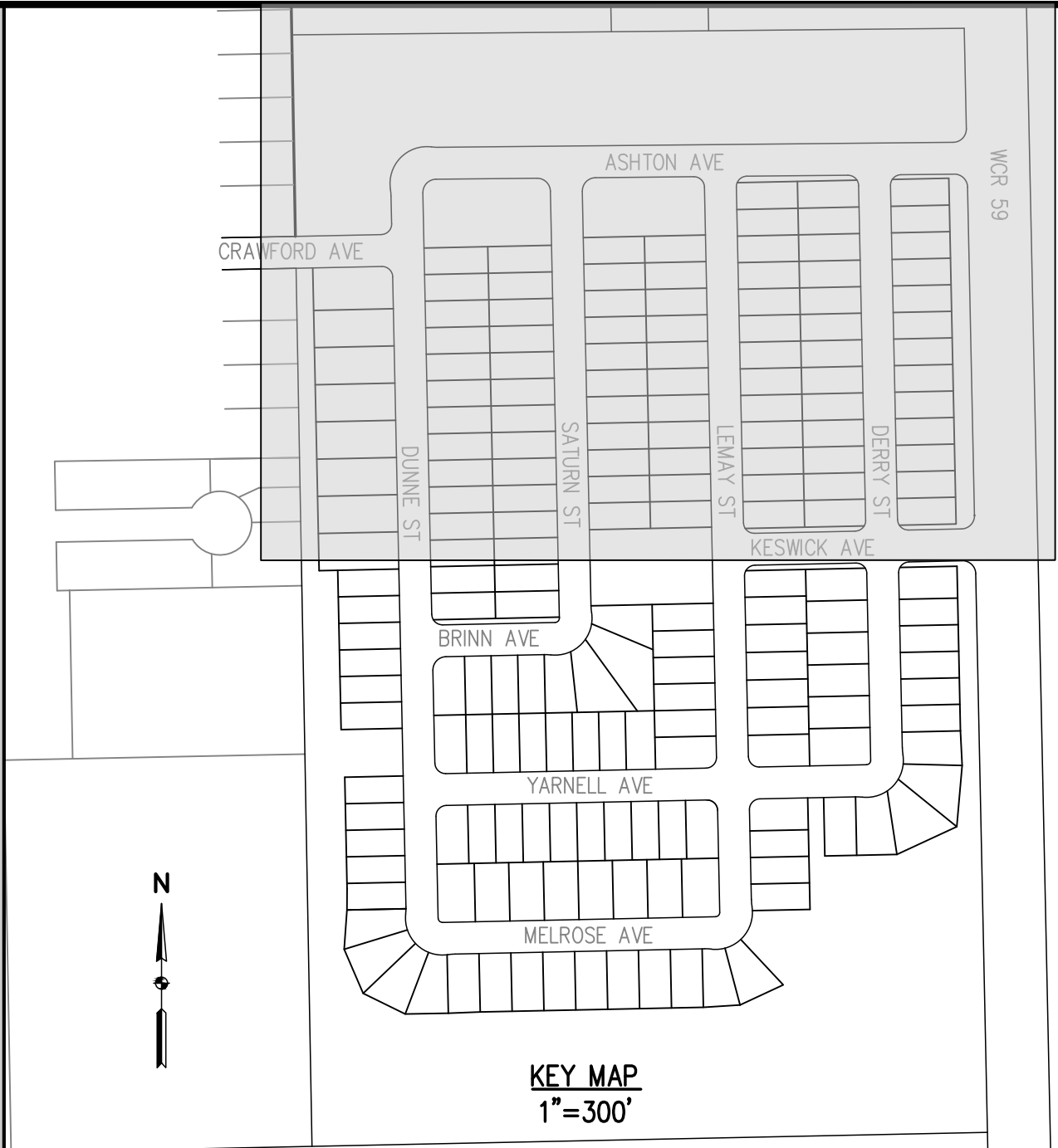
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MATCHLINE SEE SHEET EC04

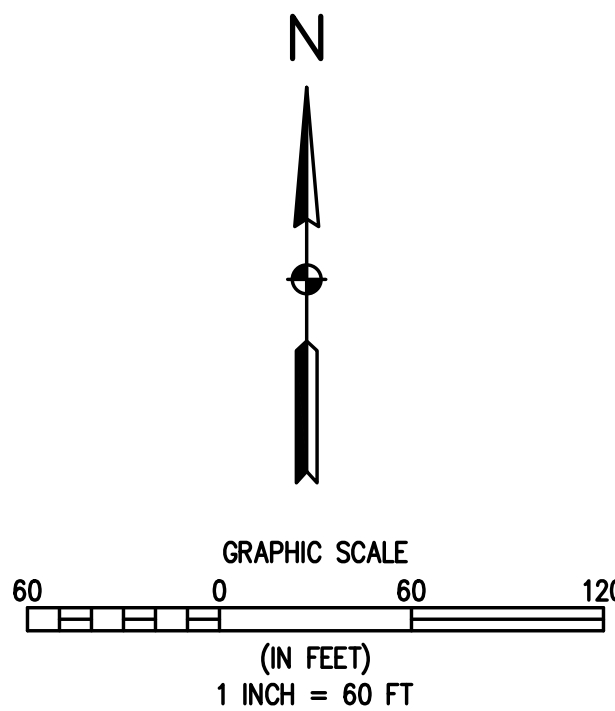


LEGEND

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81	81	MINOR CONTOUR (1' INTERVAL)
5280	5280	MAJOR CONTOUR (5' INTERVAL)
		RIGHT-OF-WAY
		LOT LINE
		EASEMENT
		DITCH FLOWLINE

EROSION AND SEDIMENT CONTROL LEGEND

LOC	LIMITS OF CONSTRUCTION	---
CF	CONSTRUCTION FENCE	---o---
SF	SILT FENCE	---SF---
P	INLET PROTECTION	P
OP	OUTLET PROTECTION	OP
SSA	STABILIZED STAGING AREA	SSA
CWA	CONCRETE WASHOUT AREA	CWA
VTC	VEHICLE TRACKING CONTROL	VTC
DD	DRAINAGE DITCH	DD
CD	CHECK DAMS	CD
RS	ROCK SOCKS	RS
TSB	TEMPORARY SEDIMENT BASIN	TSB
	EXISTING FLOW DIRECTION	---
	PROPOSED FLOW DIRECTION	---
ECB	EROSION CONTROL BLANKET	ECB
PS	PERMANENT SEEDING	PS
SM	SEEDING AND MULCHING AREA	SM
TS	TEMPORARY SEEDING	TS



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FOR AND ON BEHALF OF  
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INITIAL SUBMITTAL 10/19/2021

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SURVEY FIRM SURVEY DATE  
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EC03

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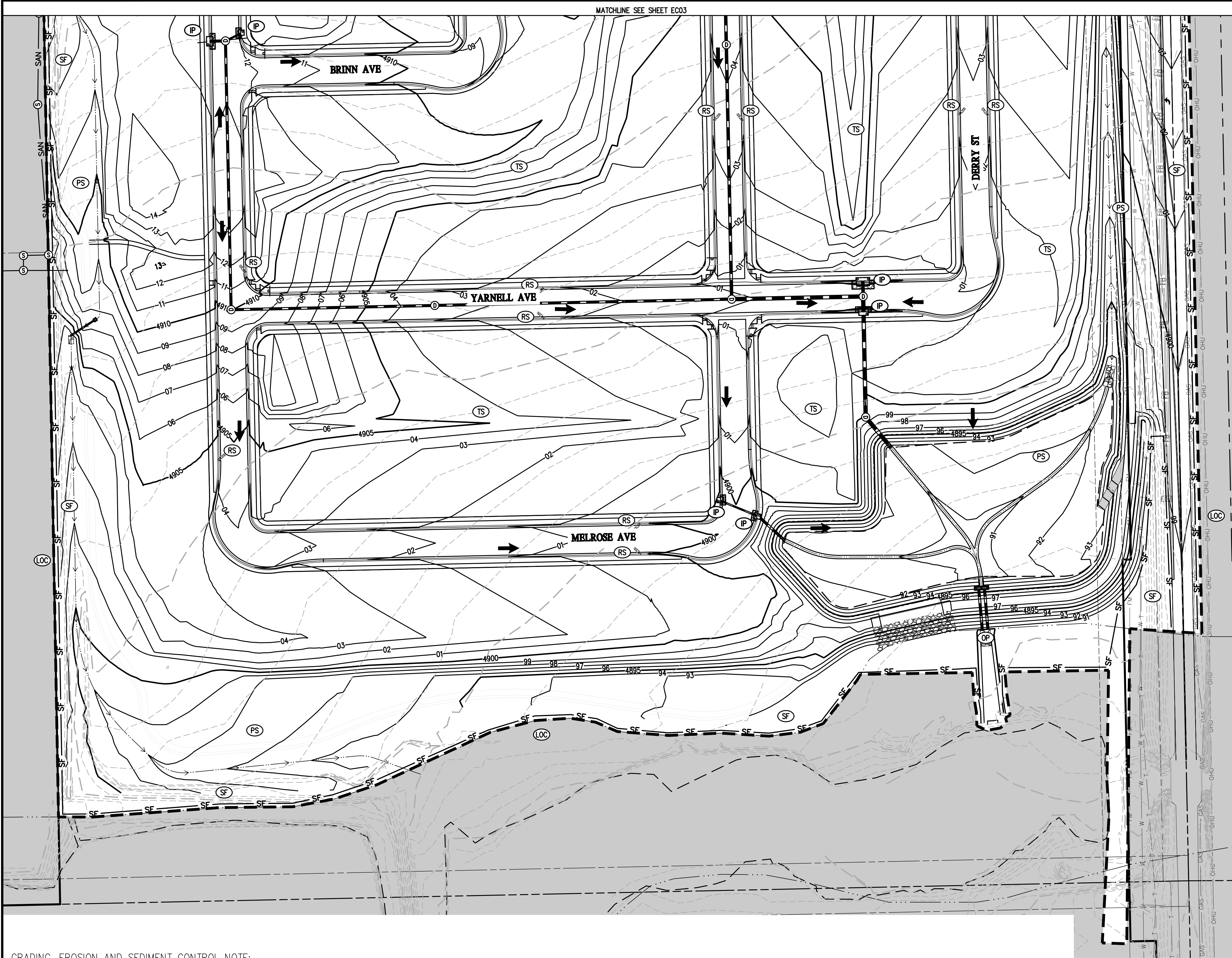
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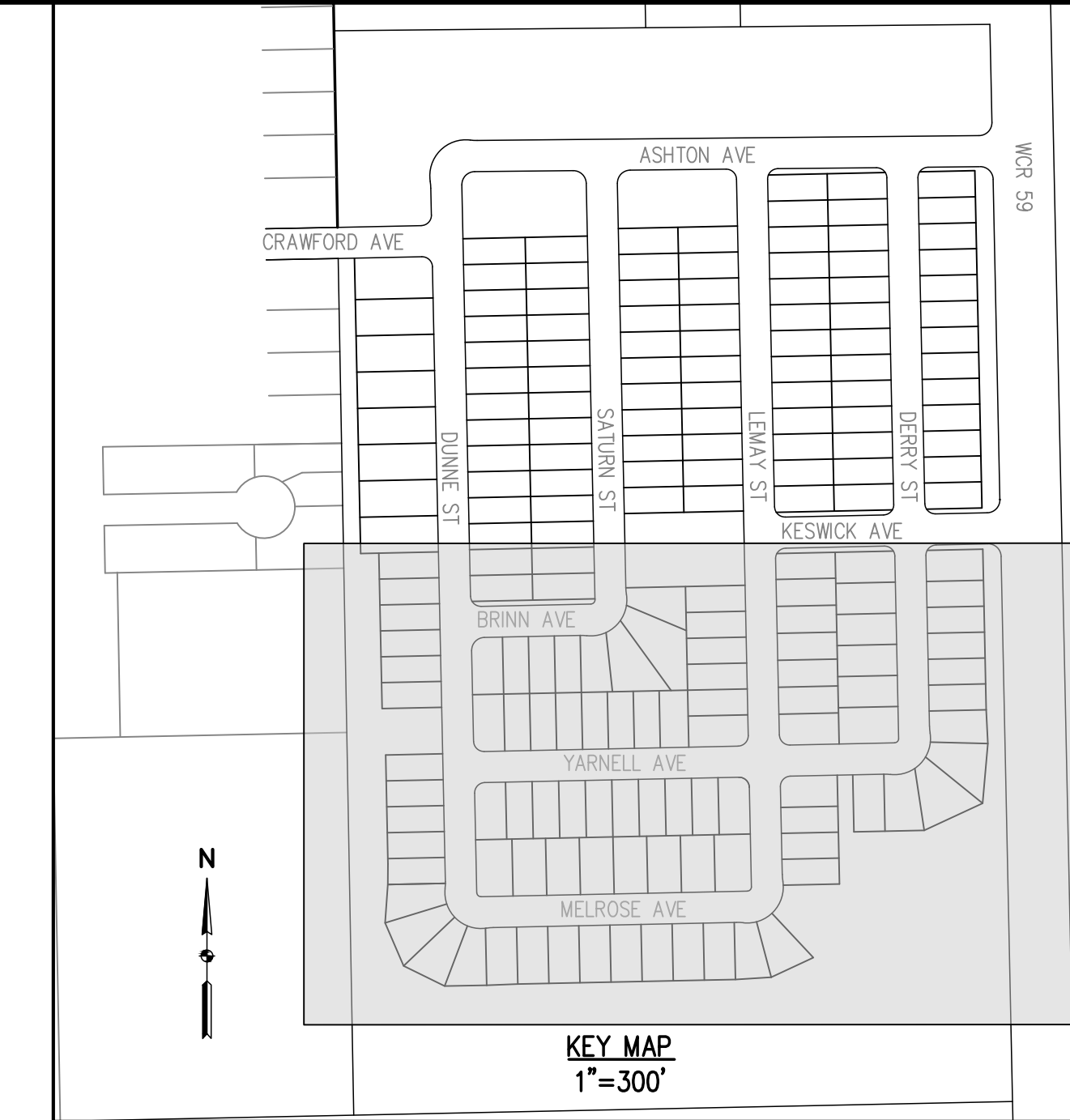


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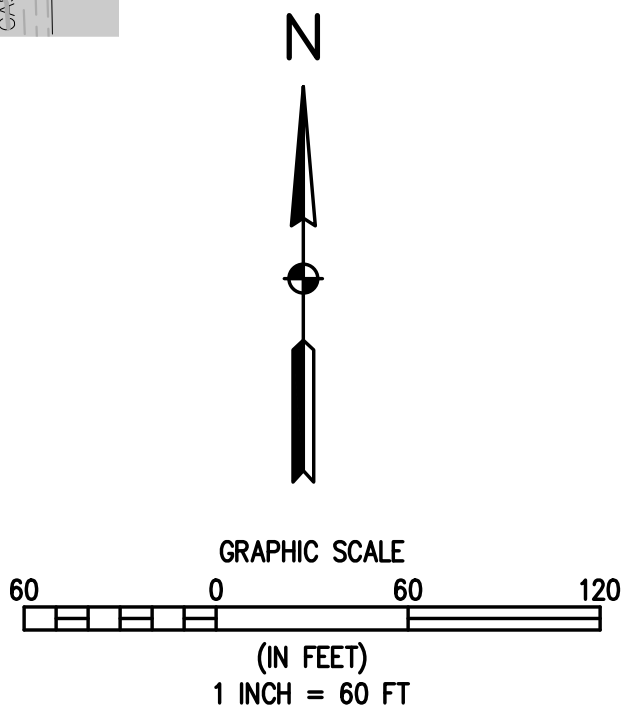


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EROSION AND SEDIMENT CONTROL LEGEND

(LOC)	LIMITS OF CONSTRUCTION	---
(CF)	CONSTRUCTION FENCE	—○—○—○—
(SF)	SILT FENCE	—SF—
(IP)	INLET PROTECTION	—E—
(OP)	OUTLET PROTECTION	—E—
(SSA)	STABILIZED STAGING AREA	—[ ]—
(CWA)	CONCRETE WASHOUT AREA	—[ ]—
(VTC)	VEHICLE TRACKING CONTROL	—[ ]—
(DD)	DRAINAGE DITCH	—[ ]—
(CD)	CHECK DAMS	—[ ]—
(RS)	ROCK SOCKS	—[ ]—
(TSB)	TEMPORARY SEDIMENT BASIN	—[ ]—
	EXISTING FLOW DIRECTION	→
	PROPOSED FLOW DIRECTION	→
(ECB)	EROSION CONTROL BLANKET	—[ ]—
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EC04

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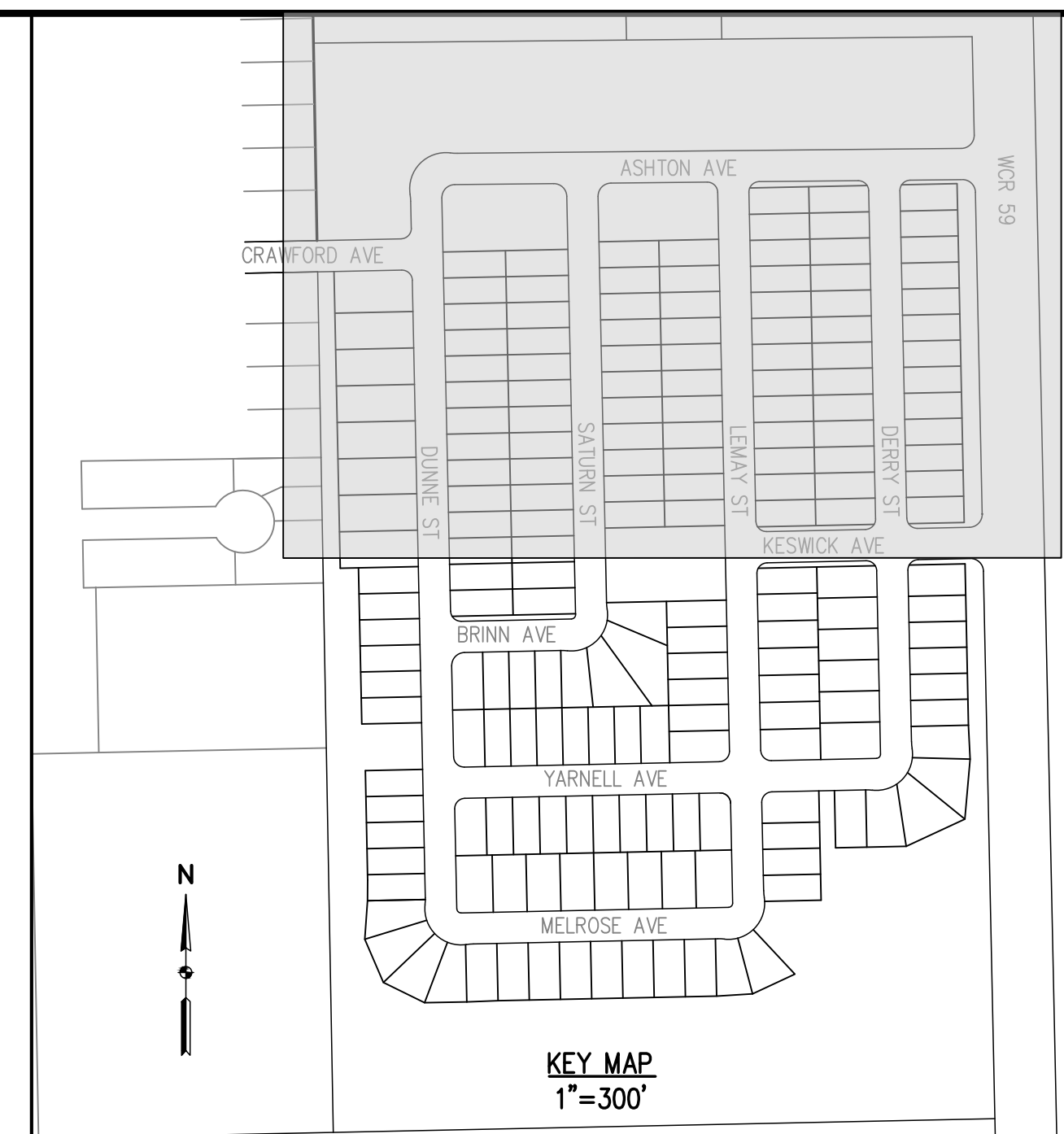


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LANDSCAPING NOTE:

1. SEE LANDSCAPING PLANS BY CONSILIUM DESIGN FOR LANDSCAPE DESIGN IN AREAS OF PERMANENT SEEDING.

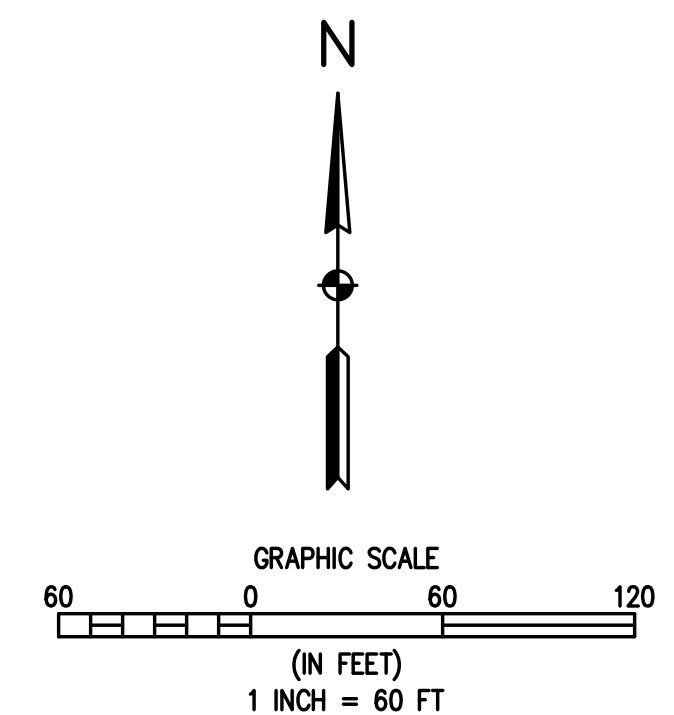


### LEGEND

EXISTING LINETYPES	PROPOSED LINETYPES	
-----81-----	=====81=====	MINOR CONTOUR (1' INTERVAL)
-----5280-----	=====5280=====	MAJOR CONTOUR (5' INTERVAL)
-----	-----	RIGHT-OF-WAY
-----	-----	LOT LINE
-----	-----	EASEMENT
--->--->--->--->---	--->--->--->--->---	DITCH FLOWLINE

### EROSION AND SEDIMENT CONTROL LEGEND

(LOC)	LIMITS OF CONSTRUCTION	
(CF)	CONSTRUCTION FENCE	
(SF)	SILT FENCE	
(IP)	INLET PROTECTION	
(OP)	OUTLET PROTECTION	
(SSA)	STABILIZED STAGING AREA	
(CWA)	CONCRETE WASHOUT AREA	
(VTC)	VEHICLE TRACKING CONTROL	
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(TSB)	TEMPORARY SEDIMENT BASIN	
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(ECB)	EROSION CONTROL BLANKET	
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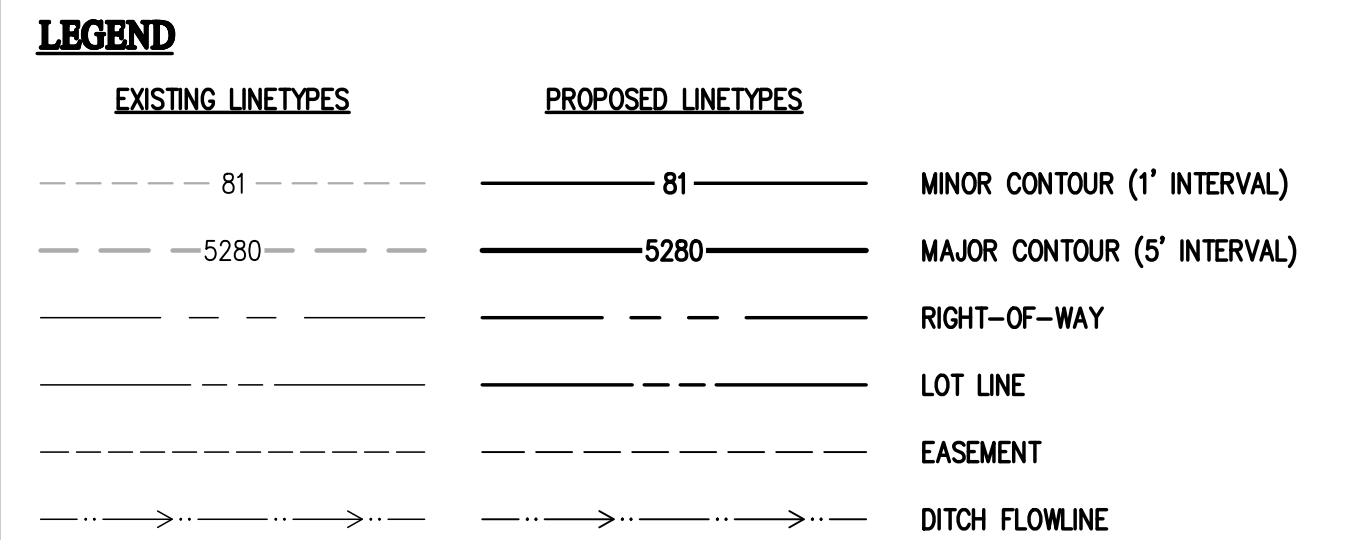
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