

STATE OF
COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

Lyons Quarry M-1977-141 Technical Revision 4 Addendum

Snyder, Travis <Travis.Snyder@hdrinc.com>

Wed, Feb 9, 2022 at 4:33 PM

To: "Eschberger - DNR, Amy" <amy.eschberger@state.co.us>

Cc: Wyatt Webster <wyatt.webster@lafargeholcim.com>

Hello Amy,

Please see the attached request for addendum to M-1977-141 Technical Revision 4 regarding revisions to the floodplain reclamation plan and drawings. Additional documents included with this request include:

- Lyons Quarry Reclamation Plan Drawings – Revision 3 (dated 2/4/2022)
- Engineer stamped letter to Boulder County Floodplain Manager, Virginia Gazzetti, confirming the hydraulic modeling developed for the FDP application is still valid
- Approval from BCPOS (dated 2/9/2022) for revisions made to the floodplain reclamation plan and drawings

Let us know if you have any questions. Thank you.

Travis Snyder

Project Manager

HDR

[369 Inverness Parkway, Suite 325](#)

Englewood, CO 80112

M 720.838.6065 **D** 303.643.6715

Travis.Snyder@hdrinc.com

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4 attachments

**TR4 Addendum Request Memo.pdf**

114K

**220209 BCPOS Approval for Revisions to Floodplain Design.pdf**

256K

**220202 Lyons Quarry Floodplain Design Update.pdf**

117K

**Lyons Quarry Rev 3 _Updated_2-4-22_reduced.pdf**

20052K

Memo

Date: Wednesday, February 09, 2022

Project: Lyons Quarry Reclamation – Phase II Floodplain

To: Amy Eschberger, DRMS Environmental Protection Specialist

From: Travis Snyder, HDR Project Manager

Subject: Addendum to Technical Revision 4 for Permit M-1977-141 Lyons Quarry Reclamation Plan

Dear Ms. Eschberger,

The following represents documentation for revisions to the Lyons Quarry Reclamation Plan detailed under Technical Revision 4 of permit M-1977-141 based on discussions held in January 2022 with Boulder County Parks and Open Space (BCPOS) in obtaining a Floodplain Development Permit (FDP) for the work covered under Technical Revision 4 (approved by DRMS December 14, 2020). Boulder County has requested minor modifications to the proposed reclamation plan for the floodplain as they plan for their own restoration of South St. Vrain Creek following the 2013 flood event. Aggregate Industries proposes the following changes to the project design plans as shown in the accompanying drawing package.

- Sheet C-02
 - Removed the floodplain fill quantity and updated total. The previous floodplain cut quantity did not include the over excavation for the soil riprap.
- Sheet C-05
 - Updated detail number callouts
- Sheet C-06
 - Added proposed scour toe profile based on the Boulder County South St. Vrain 30% design concept grades and minor detail revision. The new profile will result in additional cut along the scour berm. Scour berm now to be constructed using soil riprap with material sourced onsite.
- Sheet C-08
 - Removed coir matting detail and added the scour berm foundation detail
- Sheet C-09
 - Revised hatching and updated area table

Aggregate requests the following documents be added to the M-1977-141 permit file for Technical Revision 4:

- Lyons Quarry Reclamation Plan Drawings – Revision 3 (dated 2/4/2022)
- Engineer stamped letter to Boulder County Floodplain Manager, Virginia Gazzetti, confirming the hydraulic modeling developed for the FDP application is still valid
- Approval from BCPOS (dated 2/9/2022) for revisions made to the floodplain reclamation plan and drawings

If you have any questions comments or require additional information, please contact me at 720.838.6065 (C) or email me at travis.snyder@hdrinc.com.

Snyder, Travis

From: Atherton-Wood, Justin <jatherton-wood@bouldercounty.org>
Sent: Wednesday, February 9, 2022 4:11 PM
To: Snyder, Travis; McAnally, Jonathan; Strenge, Ernst; Wyatt Webster
Cc: Kc, Prashant; Hirt, David; Spaulding, Susan; Wheeler, Brent
Subject: RE: Lyons Quarry - Floodplain Reclamation Plan

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Travis-

I'm responding on behalf Parks & Open Space. We very much appreciate HDR and Aggregate incorporating our comments and concerns into the revised drawings! The revisions look great to us. I will also let Virginia know that BCPOS supports approval of the floodplain development permit.

When it comes time to implementing the section of the scour berm with the boulder toe, we request that our engineer (Prashant) be included in observing field conditions. Based on observed conditions, we may request just a bit more depth to the toe using onsite material than is shown in the detail just to ensure a connection with the shallow bedrock. Our desire is to create long term stability of the berm and the planned creek alignment in the area where the planned alignment comes closest to the berm (i.e., in the vicinity of STA 109+00). Would you all be amenable to that?

We really appreciate your commitment to supporting the long term vision for this open space property. And, we sincerely appreciate your on-going communication and collaboration!

Thanks,
Justin

Justin Atherton-Wood | Senior Planner

Boulder County Parks and Open Space
5201 St. Vrain Road, Longmont, CO 80503
(o) 303-678-6273 | (f) 303-678-6179
jatherton-wood@bouldercounty.org
www.BoulderCountyOpenSpace.org
CELL NO. 720-601-9511

From: Snyder, Travis <Travis.Snyder@hdrinc.com>
Sent: Monday, February 07, 2022 4:27 PM
To: McAnally, Jonathan <Jonathan.McAnally@hdrinc.com>; Strenge, Ernst <estrenge@bouldercounty.org>; Wyatt Webster <wyatt.webster@lafargeholcim.com>
Cc: Atherton-Wood, Justin <jatherton-wood@bouldercounty.org>; Kc, Prashant <pkc@bouldercounty.org>; Hirt, David <dhirt@bouldercounty.org>; Spaulding, Susan <sspaulding@bouldercounty.org>; Wheeler, Brent <bwheeler@bouldercounty.org>
Subject: [EXTERNAL] RE: Lyons Quarry - Floodplain Reclamation Plan

Hi all,

Please review the attached revisions to the Lyons Quarry floodplain design based on our January 18, 2022 conversation. Revisions to the plan set include:

- C-02 Removed the floodplain fill quantity and updated total. The previous floodplain cut quantity we had did not include the over excavation for the soil riprap so that value was unchanged.
- C-05 Updated detail number callouts
- C-06 Added proposed scour toe profile based on Matrix 30% grades and minor detail revision. The new profile will result in additional cut along the scour berm.
- C-08 Removed coir matting detail and added the scour berm foundation detail
- C-09 Revised hatching and updated area table

Please let us know if you have any comments before we submit these changes to Virginia Gazzetti at the floodplain office to finalize the floodplain development permit.

Travis Snyder

M 720.838.6065 D 303.643.6715

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From: McAnally, Jonathan <Jonathan.McAnally@hdrinc.com>

Sent: Monday, January 17, 2022 3:09 PM

To: Snyder, Travis <Travis.Snyder@hdrinc.com>; Strenge, Ernst <estrenge@bouldercounty.org>; Wyatt Webster <wyatt.webster@lafargeholcim.com>

Cc: Atherton-Wood, Justin <jatherton-wood@bouldercounty.org>; Kc, Prashant <pkc@bouldercounty.org>; Hirt, David <dhirt@bouldercounty.org>; Spaulding, Susan <sspaulding@bouldercounty.org>; Wheeler, Brent <bwheeler@bouldercounty.org>

Subject: RE: Lyons Quarry - Floodplain Reclamation Plan

All, I have attached cross sections comparing the existing grade, the proposed quarry reclamation grade, and the 30% stream restoration grade along with the floodplain workmap (page 6) for reference.

The proposed reclamation grade within the floodplain is approximate and based on the anticipated amount of material to be removed and the standard section for the scour berm but is generally at or above the 30% design grade.

The closest the scour berm gets to the proposed channel is ~30 feet from the right bank. The berm was designed to be self-launching meaning it would back fill any scour that may occur. This was done to allow riprap to be placed at existing grade. Rock was sized to the 100-yr event and the volume of rock is based on the potential depth of scour with a 150% multiplier to provide a factor of safety. We can discuss the need for additional armoring at the pinch point tomorrow.

Thanks,

Jon McAnally, PE, CFM

D 303.524.8362

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From: Snyder, Travis <Travis.Snyder@hdrinc.com>

Sent: Monday, January 17, 2022 11:32 AM

To: Strenge, Ernst <estrenge@bouldercounty.org>; Wyatt Webster <wyatt.webster@lafargeholcim.com>; McAnally, Jonathan <Jonathan.McAnally@hdrinc.com>

Cc: Atherton-Wood, Justin <jatherton-wood@bouldercounty.org>; Kc, Prashant <pkc@bouldercounty.org>; Hirt, David <dhirt@bouldercounty.org>; Spaulding, Susan <sspaulding@bouldercounty.org>; Wheeler, Brent



February 2nd, 2022

Virginia,

HDR met with Prashant, Ernst, and a few others from Parks and Open Space on Tuesday January 18th regarding comments they had on the design. Based on our discussion we have incorporated the following minor edits to the plans:

- Revised specifications to use existing alluvium material as fill instead of importing riprap. Type L angular riprap will still be used along streambanks.
- Detailed use of largest boulders (3-4' diameter) to be installed approximately Sta. 109+00 of the scour berm to provide a step foundation.
- Revised scour berm to include soil mix for filling gaps and to allow for topsoil placement over scour berm
- Revised the total amount of excavation volume assuming no over-excavation is needed now that alluvium is replacing riprap as fill
 - This may or may not be offset by the presence of organic material that may be available below the crusher fines. If available, the topsoil will be reclaimed/stockpiled for future use.

Let this letter serve as verification that the hydraulic modeling developed in support of our Floodplain Development Permit Application submitted on December 2nd, 2021, is still valid since these updates will not change the proposed grades within the floodplain and the soil riprap previously specified was assumed to have the same roughness as the existing alluvium which will now be utilized.

Please

Sincerely,

Jonathan McAnally, P.E., CFM

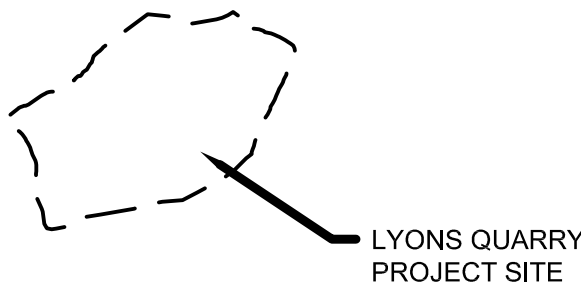


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AGGREGATE INDUSTRIES

LYONS QUARRY

RECLAMATION PROJECT



PROJECT VICINITY
SCALE: NTS

INDEX OF DRAWINGS

GENERAL

00G-01	COVER & DRAWING INDEX
00G-02	GENERAL NOTES & LEGEND
00G-03	PLAN OF EXISTING CONDITIONS & SURVEY CONTROL

CIVIL

01C-01	SITE ACCESS & STAGING AREAS
01C-02	FLOODPLAIN SOIL REMOVAL AND SITE GRADING PLAN
01C-03	FINAL GRADING PROFILE, SECTION, & DETAILS
01C-04	ROCK REINFORCEMENT DETAILS
01C-05	DRAINAGE & EROSION CONTROL PLAN
01C-06	SCOUR BERM SECTION & DETAILS
01C-07	DRAINAGE & EROSION CONTROL DETAILS
01C-08	DRAINAGE & EROSION CONTROL DETAILS
01C-09	OVERALL RECLAMATION PLAN & DETAILS



ISSUE	DATE	DESCRIPTION
REV 3	02/04/2022	FINAL DESIGN
REV 2	11/04/2022	FINAL DESIGN
REV 1	6/29/2021	FINAL DESIGN
100%	4/16/2021	FINAL DESIGN
90%	2/12/2021	PRE-FINAL DESIGN
60%	1/22/2021	INTERMEDIATE DESIGN PACKAGE

PROJECT MANAGER		TRAVIS SNYDER
DRAWN BY		R. NALLEY
PROJECT NUMBER		10092468

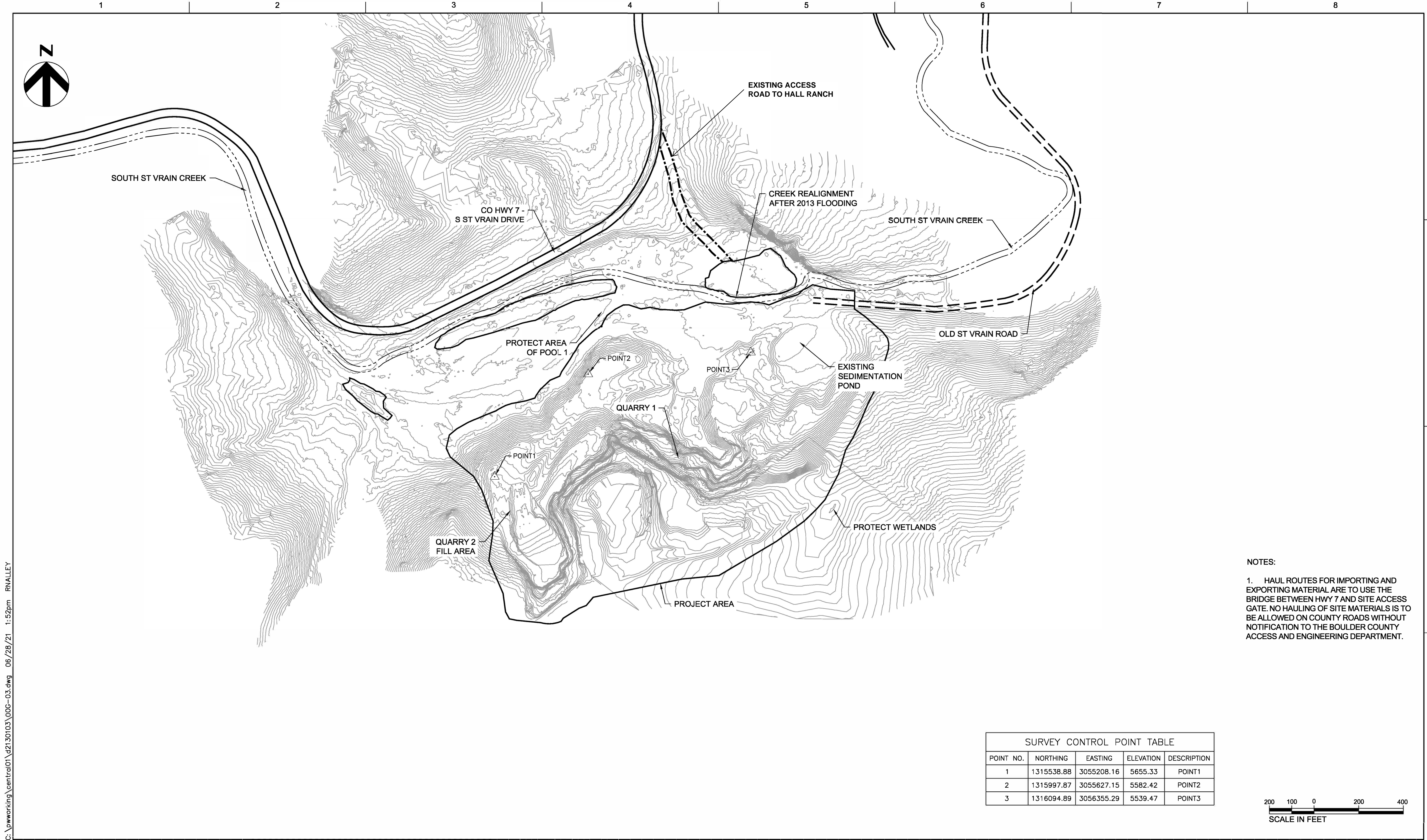


AGGREGATE INDUSTRIES
LYONS QUARRY
RECLAMATION PROJECT

GENERAL COVER & DRAWING INDEX

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SCALE | AS NOTED

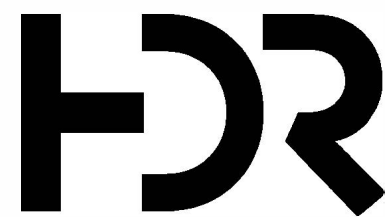
SHEET
00G-01



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- NOTES:
- HAUL ROUTES FOR IMPORTING AND EXPORTING MATERIAL ARE TO USE THE BRIDGE BETWEEN HWY 7 AND SITE ACCESS GATE. NO HAULING OF SITE MATERIALS IS TO BE ALLOWED ON COUNTY ROADS WITHOUT NOTIFICATION TO THE BOULDER COUNTY ACCESS AND ENGINEERING DEPARTMENT.

SURVEY CONTROL POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1315538.88	3055208.16	5655.33	POINT1
2	1315997.87	3055627.15	5582.42	POINT2
3	1316094.89	3056355.29	5539.47	POINT3



ISSUE	DATE	DESCRIPTION
100%	4/16/2021	FINAL DESIGN
90%	2/12/2021	PRE-FINAL DESIGN
60%	1/22/2021	INTERMEDIATE DESIGN PACKAGE

PROJECT MANAGER		TRAVIS SNYDER
DRAWN BY		R. NALLEY
PROJECT NUMBER		10092468

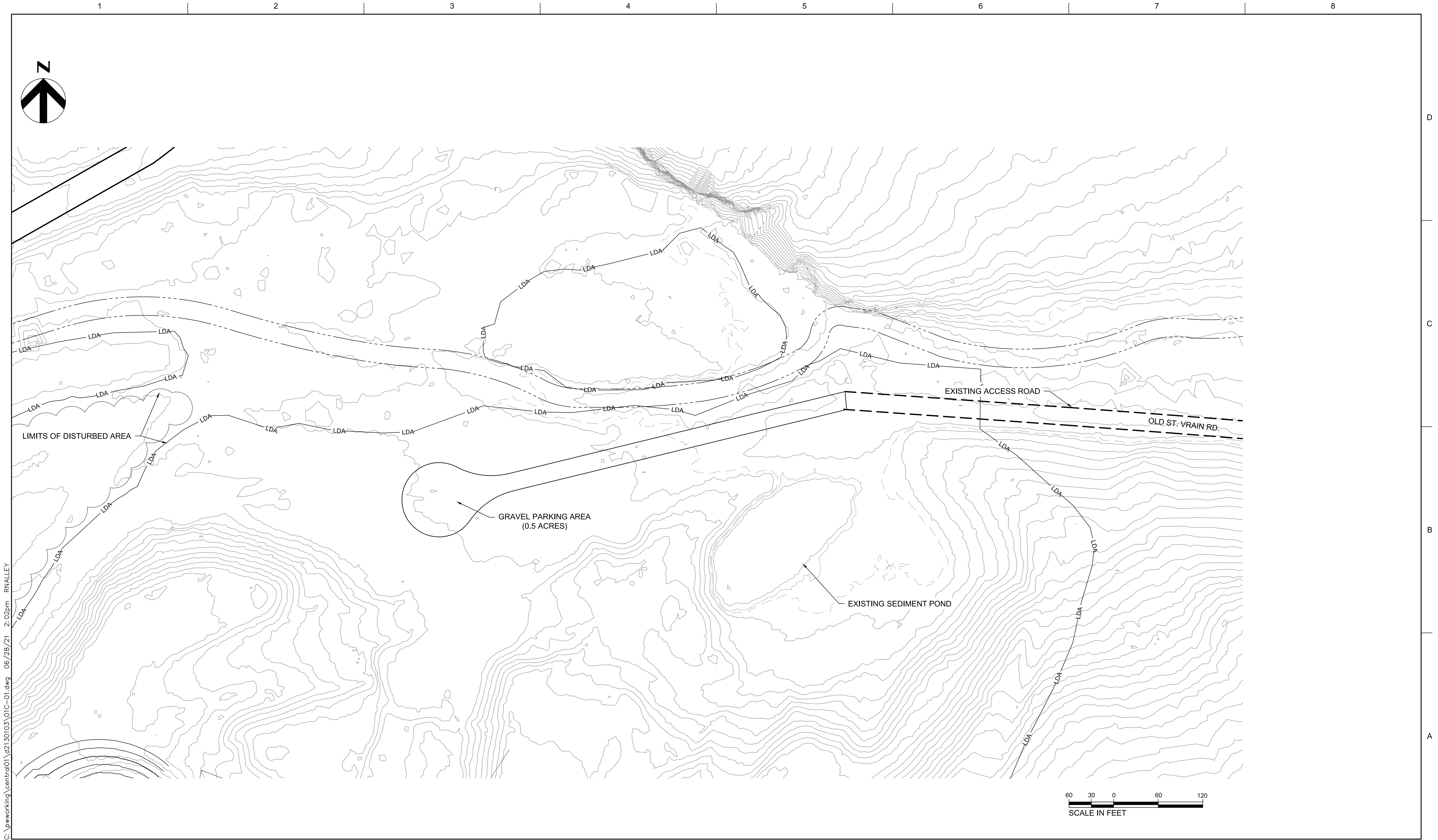


AGGREGATE INDUSTRIES
LYONS QUARRY
RECLAMATION PROJECT

GENERAL
PLAN OF EXISTING CONDITIONS
& SURVEY CONTROL

FILENAME | 00G-03.dwg
SCALE | AS NOTED

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00G-03



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PROJECT MANAGER		TRAVIS SNYDER
DRAWN BY		R. NALLEY
PROJECT NUMBER		10092468

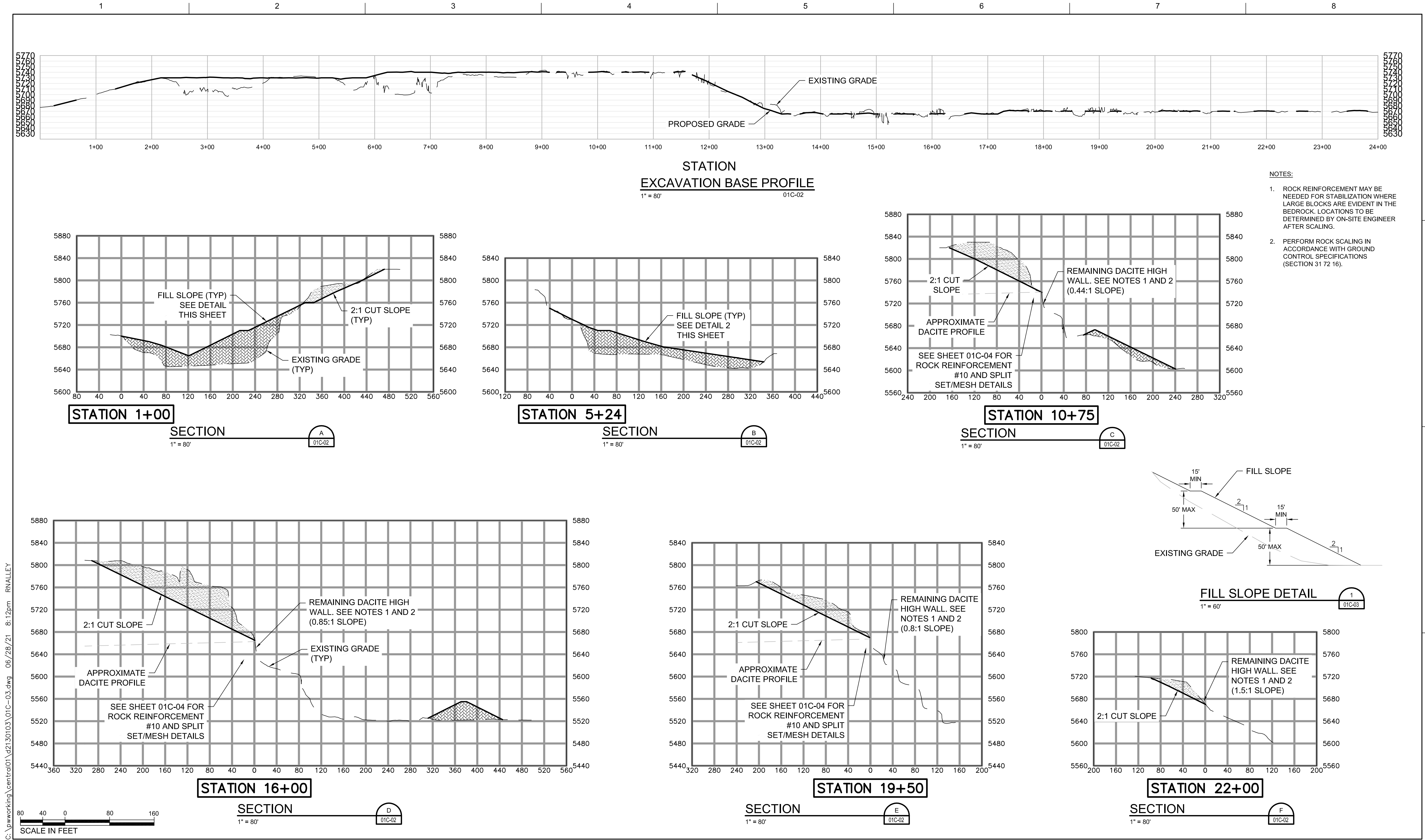


AGGREGATE INDUSTRIES
LYONS QUARRY
RECLAMATION PROJECT

CIVIL
SITE ACCESS &
STAGING AREAS

FILENAME	01C-01.dwg
SCALE	AS NOTED

SHEET
01C-01



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DRAWN BY	R. NALLEY
PROJECT NUMBER	10092468



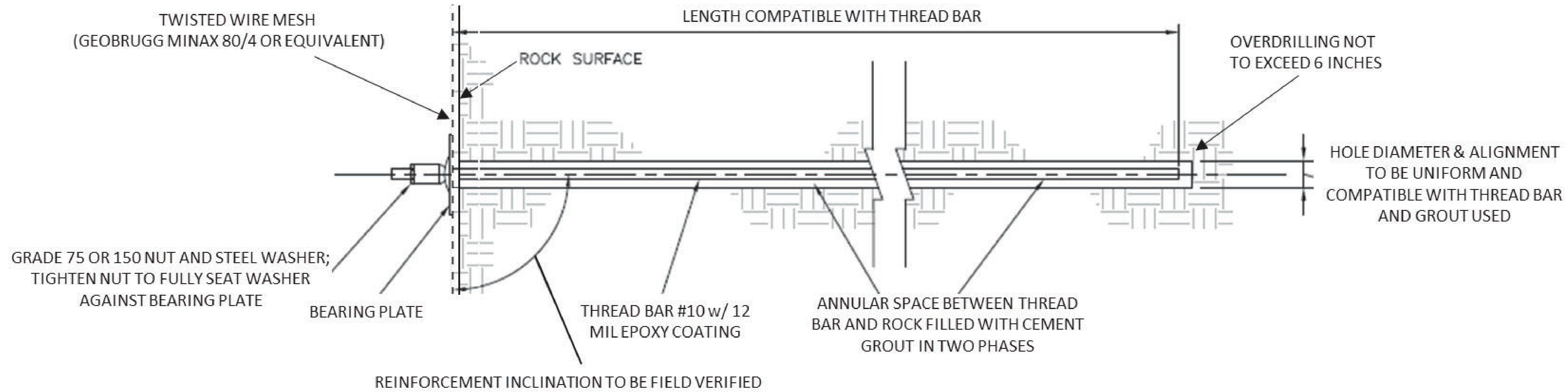
AGGREGATE INDUSTRIES
LYONS QUARRY
RECLAMATION PROJECT

CIVIL
FINAL GRADING PROFILE,
SECTION, & DETAILS

FILENAME 01C-03.dwg
SCALE AS NOTED

SHEET
01C-03

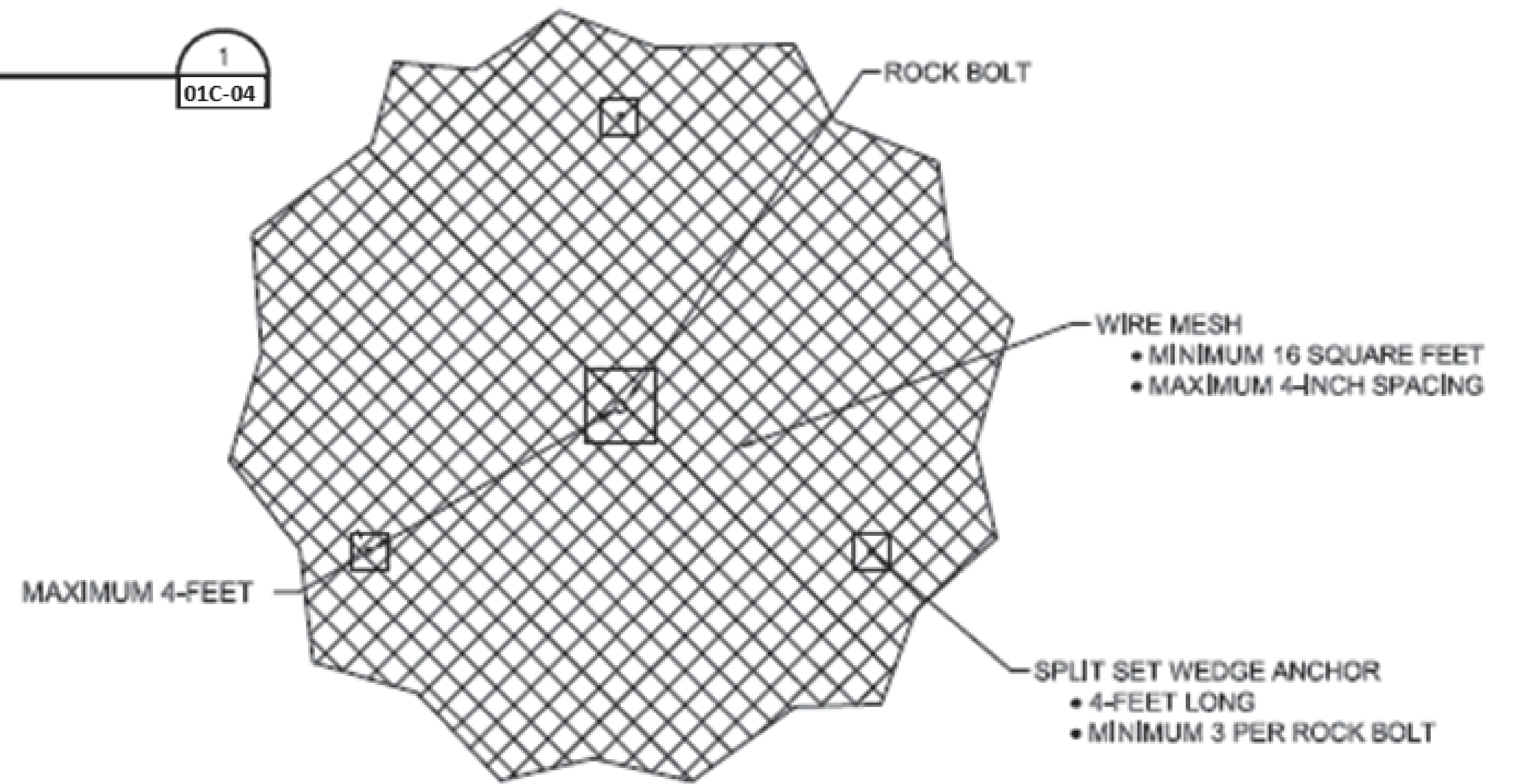
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DETAIL

TYPICAL ROCK REINFORCEMENT (NUMBER 10) DETAIL

1
01C-04



DETAIL

TYPICAL ROCK DOWEL DETAIL

2
01C-04



REV 1	06/29/2021	FINAL DESIGN
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	TRAVIS SNYDER
DRAWN BY	R. NALLEY
PROJECT NUMBER	10092468



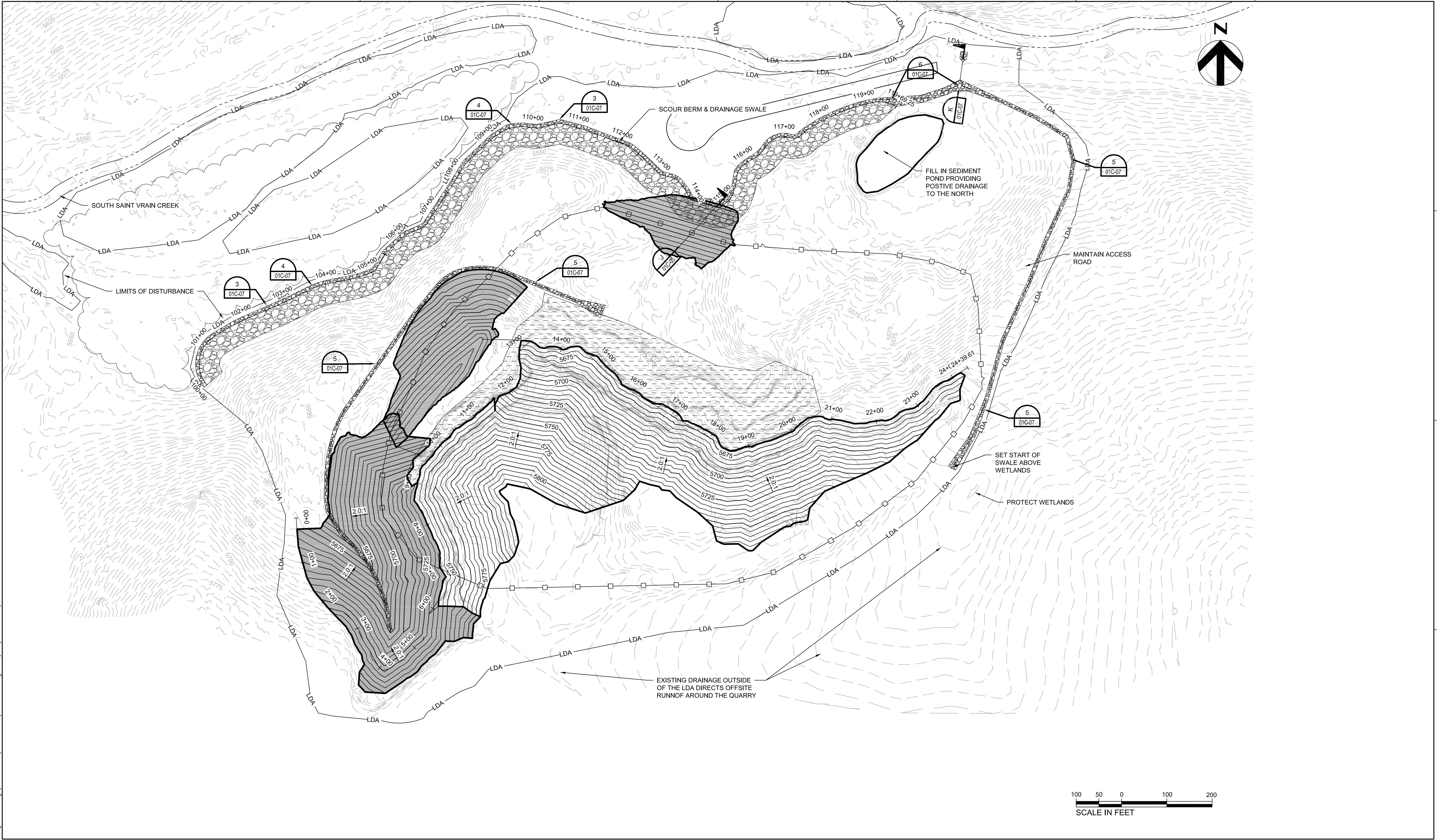
AGGREGATE INDUSTRIES
LYONS QUARRY
RECLAMATION PROJECT

CIVIL
ROCK REINFORCEMENT DETAILS

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SHEET
01C-04

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ISSUE	DATE	DESCRIPTION
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REV 2	11/04/2022	FINAL DESIGN
REV 1	06/29/2021	FINAL DESIGN
100%	4/16/2021	FINAL DESIGN
90%	2/12/2021	PRE-FINAL DESIGN
60%	01/22/2021	INTERMEDIATE DESIGN PACKAGE

PROJECT MANAGER	TRAVIS SNYDER
DRAWN BY	R. NALLEY
PROJECT NUMBER	10092468

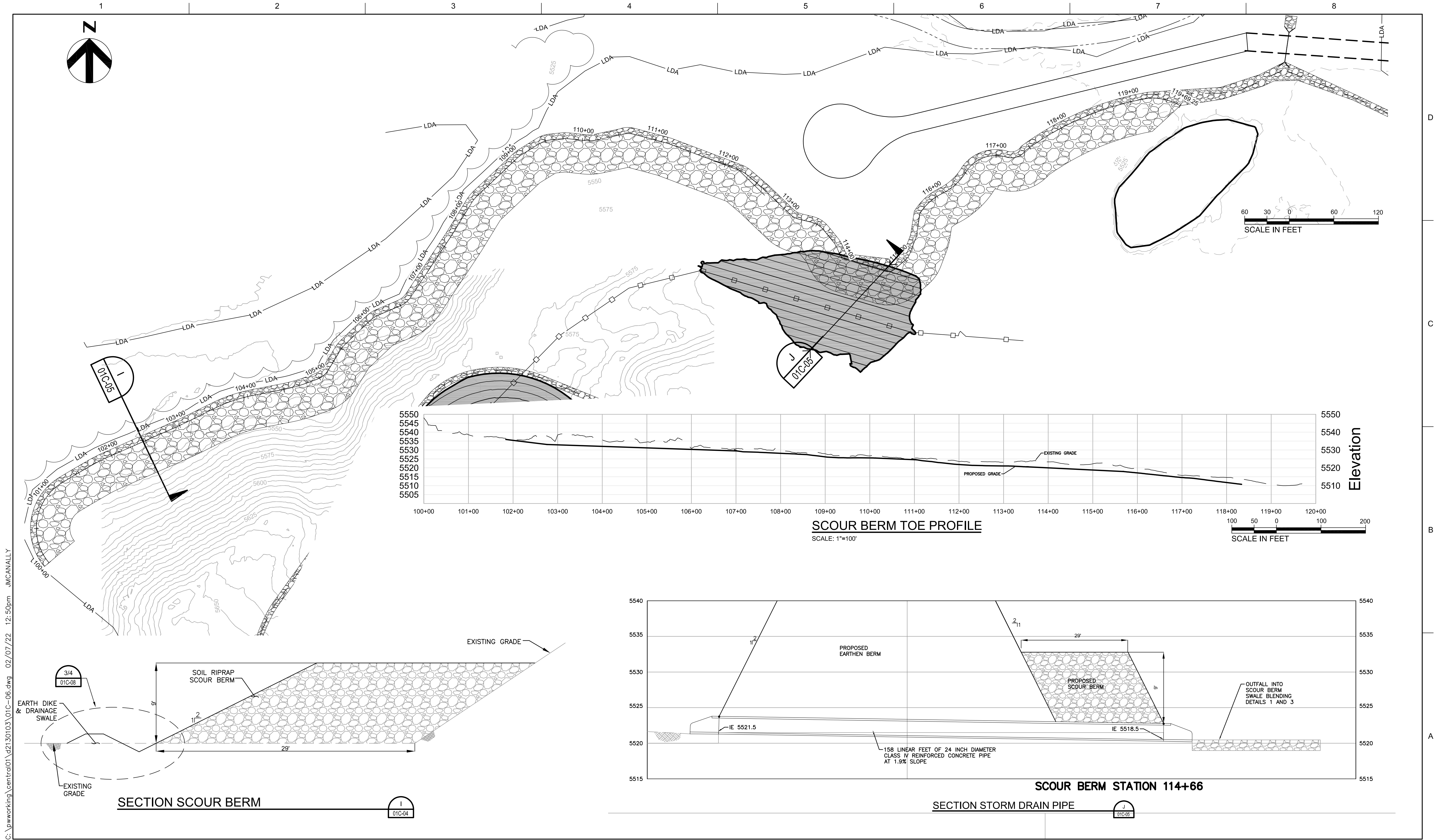


AGGREGATE INDUSTRIES
LYONS QUARRY
RECLAMATION PROJECT

CIVIL
DRAINAGE & EROSION
CONTROL PLAN

FILENAME 01C-05.dwg
SCALE AS NOTED

SHEET
01C-05



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ISSUE	DATE	DESCRIPTION
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REV 2	11/04/2022	FINAL DESIGN
REV 1	06/29/2021	FINAL DESIGN
100%	4/16/2021	FINAL DESIGN
90%	2/12/2021	PRE-FINAL DESIGN
60%	01/22/2021	INTERMEDIATE DESIGN PACKAGE

PROJECT MANAGER	TRAVIS SNYDER
DRAWN BY	R. NALLEY
PROJECT NUMBER	10092468



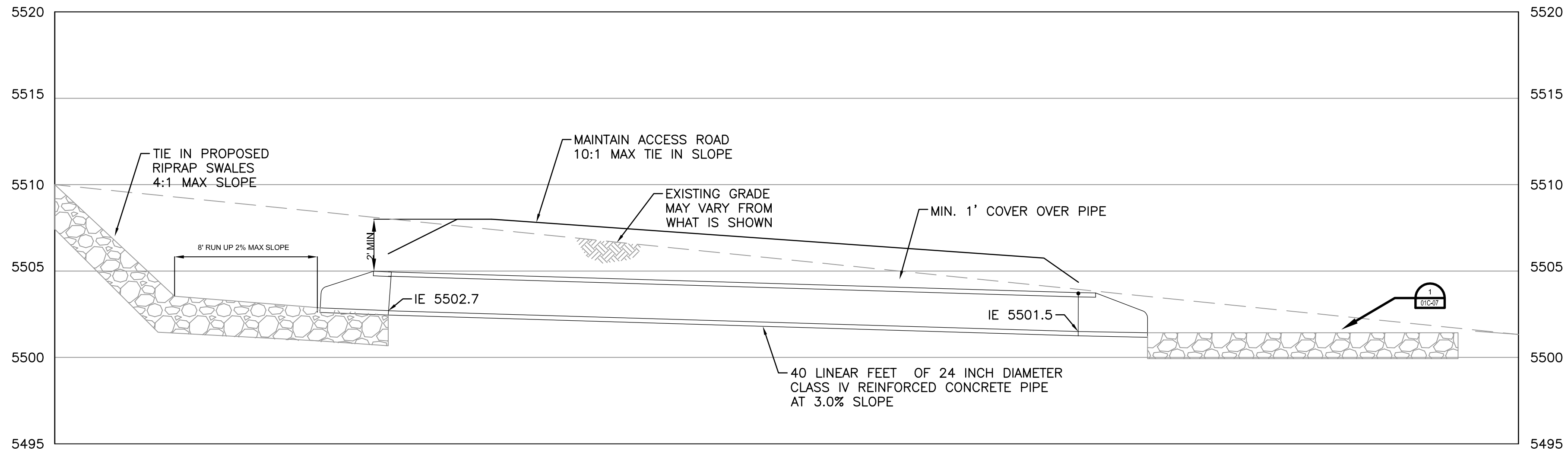
AGGREGATE INDUSTRIES
LYONS QUARRY
RECLAMATION PROJECT

CIVIL
SCOUR BERM
SECTION & DETAILS

FILENAME 01C-06.dwg
SCALE AS NOTED

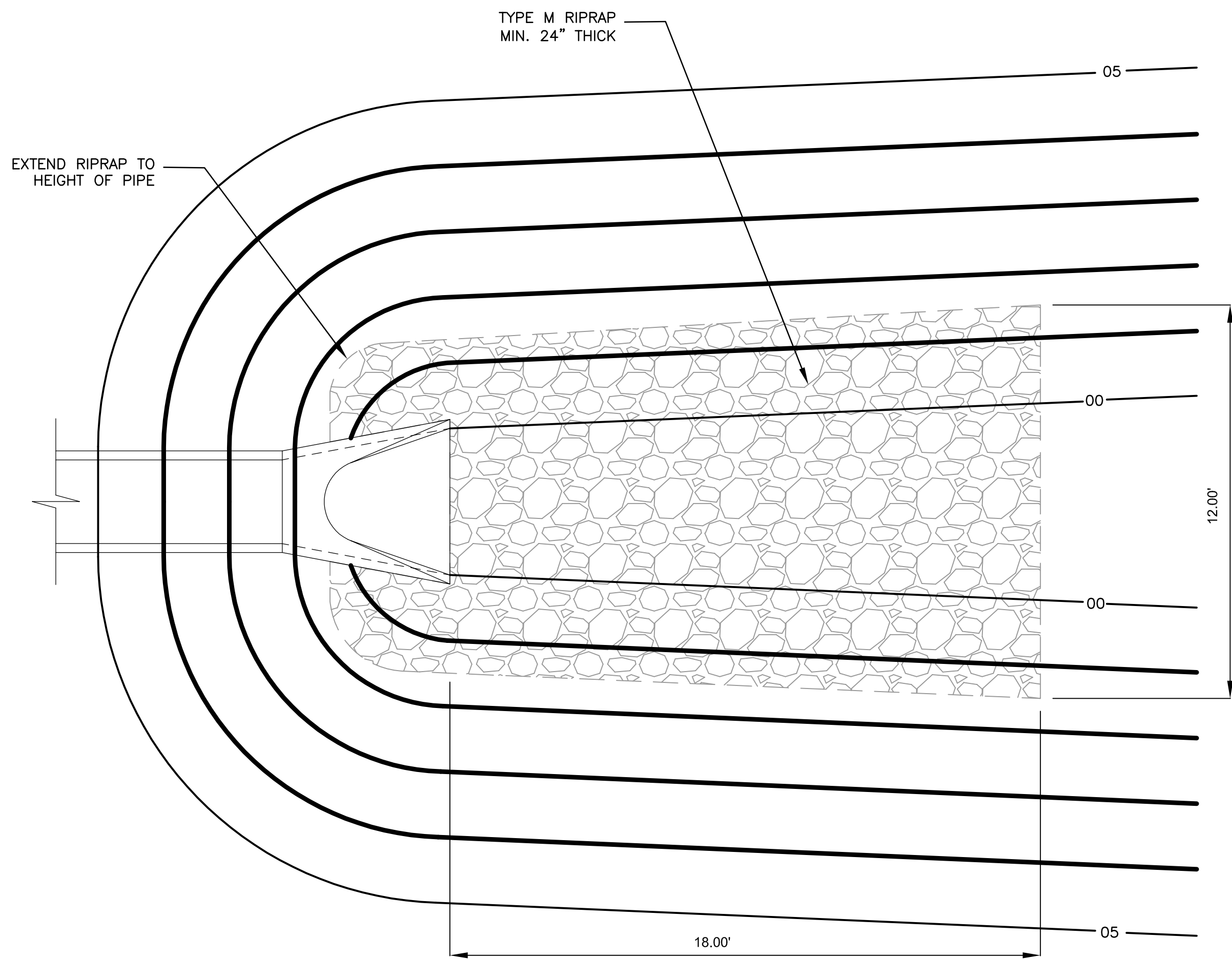
SHEET
01C-06

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SECTION STORM DRAIN PIPE

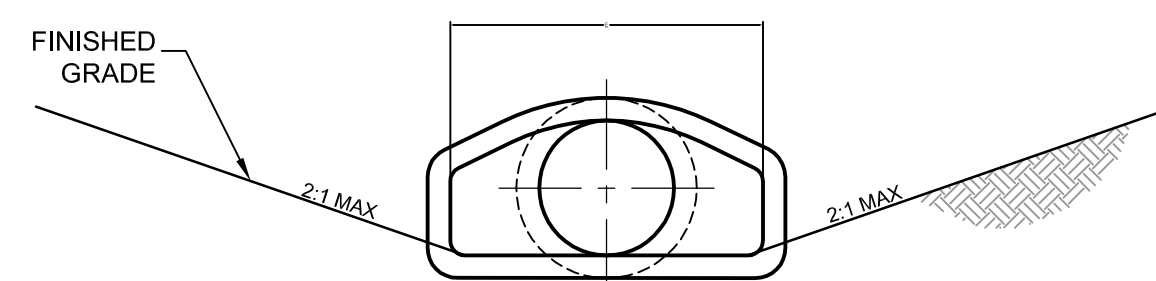
K
01C-06



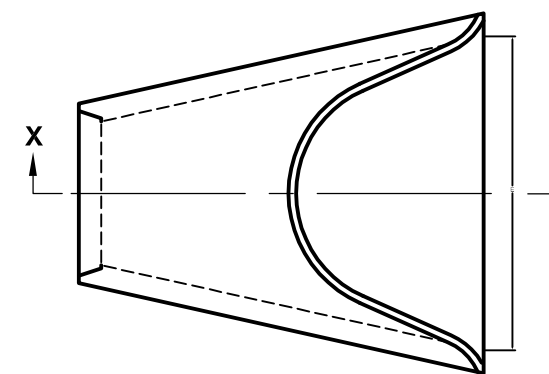
DETAIL

1
01C-05/07

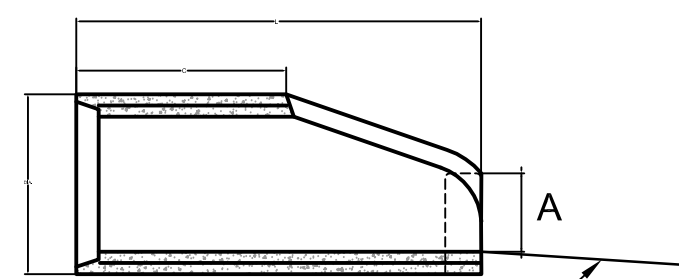
STORM DRAIN OUTFALL PROTECTION



END VIEW



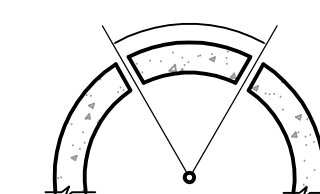
PLAN



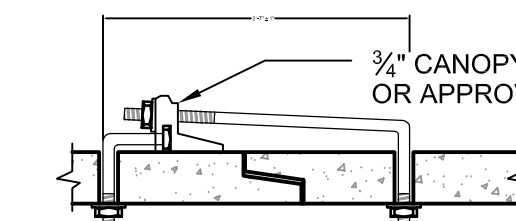
DOWNSTREAM SCOUR
PROTECTION NOT SHOWN

SECTION X-X

60° MAX. 30° MIN.



3/4" GALVANIZED ANCHOR BOLTS,
NUTS, AND WASHERS, MILD
STEEL, ASTM A 307.
ROD LUG SHALL BE GALVANIZED
OR APPROVED EQUAL.



PIPE DIAMETER	F
INCHES	
18 - 30	5
36 - 42	6
48 - 60	7
72 - 84	9

CONCRETE JOINT FASTENER
(TWO PER JOINT)
NTS

GENERAL NOTES:

- DIMENSIONS OF END SECTIONS MAY VARY SLIGHTLY FROM THOSE SHOWN ON THE TABLES DUE TO DIFFERENT MANUFACTURERS' CONFIGURATIONS.
- CONCRETE END SECTIONS SHALL BE FURNISHED WITH TONGUE OR GROOVE AS REQUIRED.
- THE INSIDE CONFIGURATION AND THE JOINT OF CONCRETE END SECTION AND PIPE SHALL MATCH.
- CONCRETE PIPE JOINT FASTENERS SHALL BE INSTALLED SO THAT A MINIMUM OF 20 LINEAR FEET OF THE OUTLET END OF THE PIPE ARE MECHANICALLY LOCKED TOGETHER. END SECTION LENGTHS WHEN USED, SHALL BE INCLUDED IN THE 20 LF REQUIREMENT.
- PLASTIC END SECTIONS SHALL NOT BE USED.

DETAIL

2
01C-05/07

REINFORCED CONCRETE PIPE END SECTION
NOT TO SCALE



REV	DATE	DESCRIPTION
REV 1	06/29/2021	FINAL DESIGN
100%	4/16/2021	FINAL DESIGN
90%	2/12/2021	PRE-FINAL DESIGN
60%	01/22/2021	INTERMEDIATE DESIGN PACKAGE
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER TRAVIS SNYDER

DRAWN BY J. MCANALLY
PROJECT NUMBER 10092468



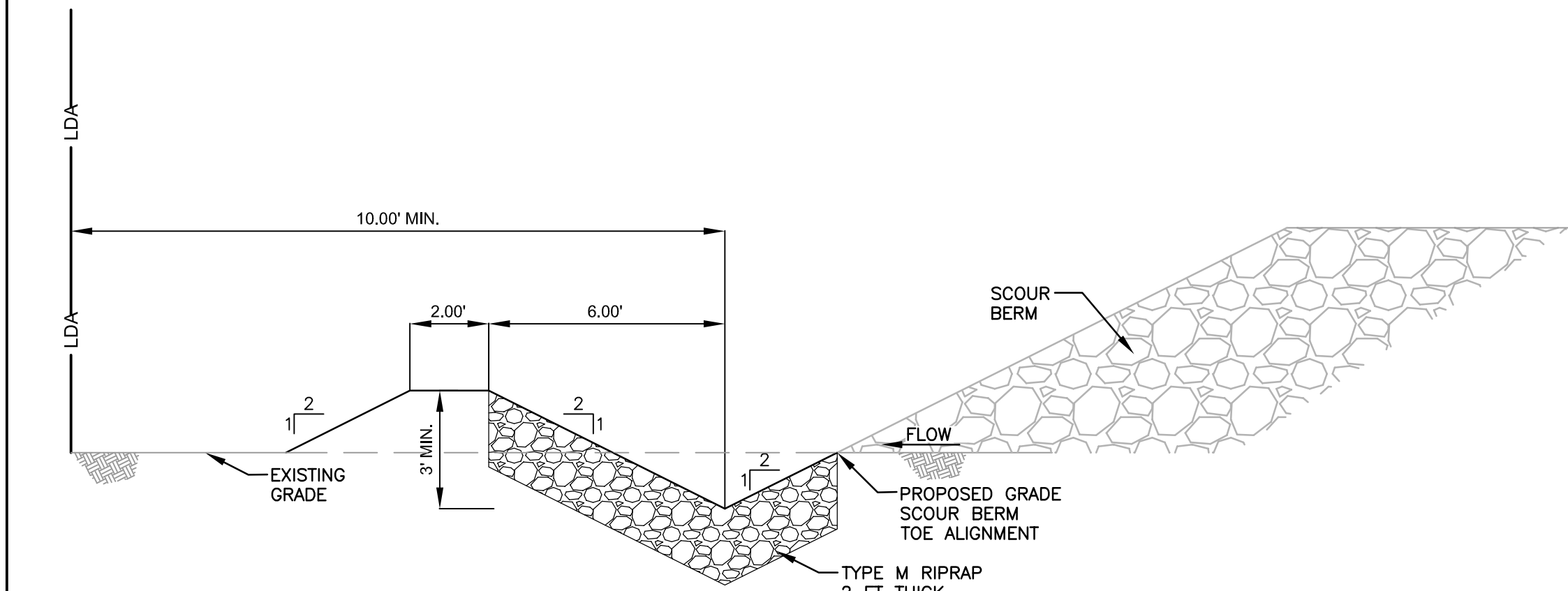
AGGREGATE INDUSTRIES
LYONS QUARRY
RECLAMATION PROJECT

CIVIL
DRAINAGE & EROSION
CONTROL DETAILS

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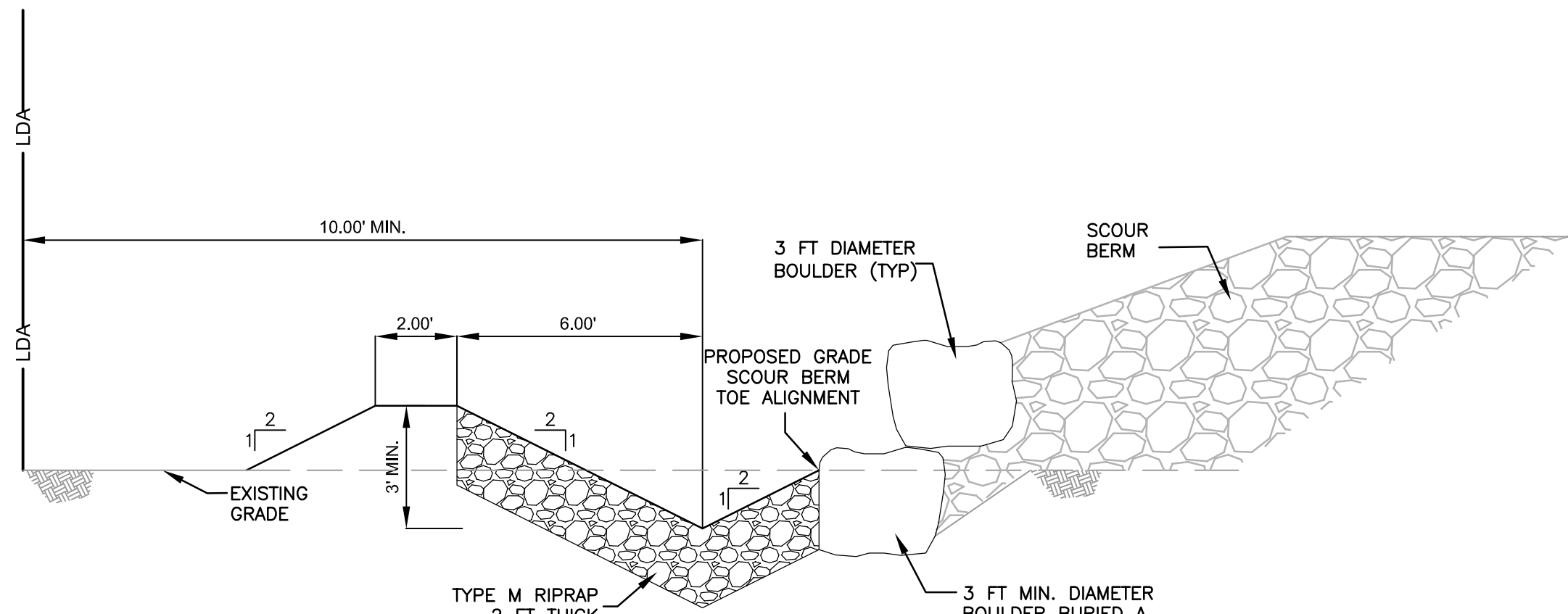
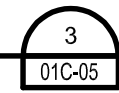
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01C-07

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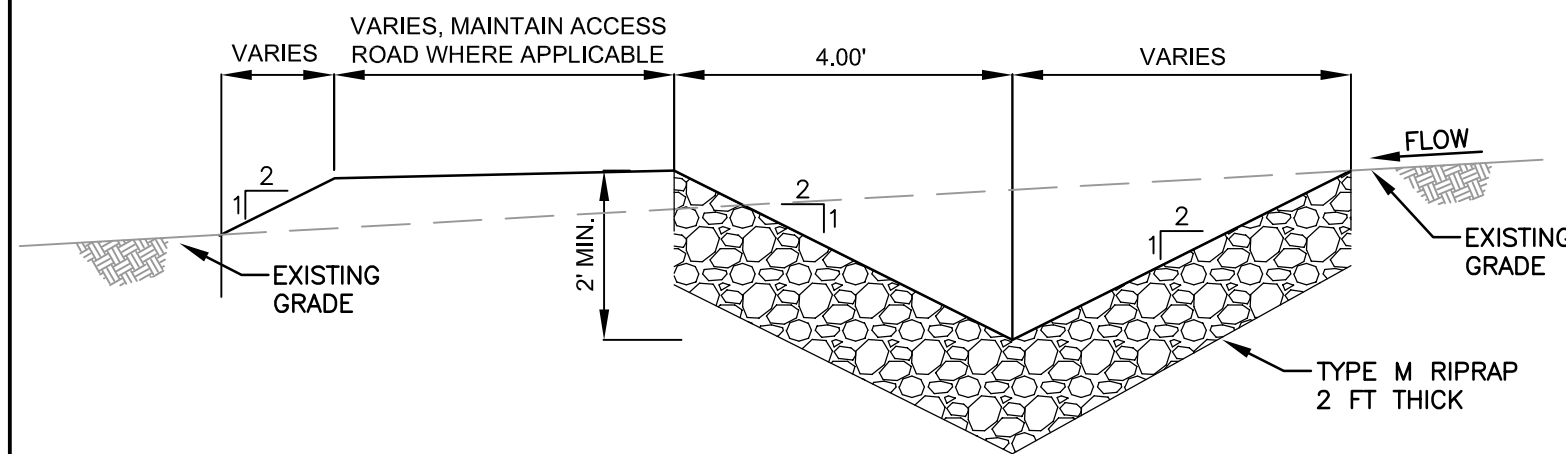
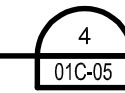
DETAIL

EARTH DIKE & DRAINAGE SWALE
STA 100+00 TO STA 103+00
AND STA 110+00 TO STA 119+69



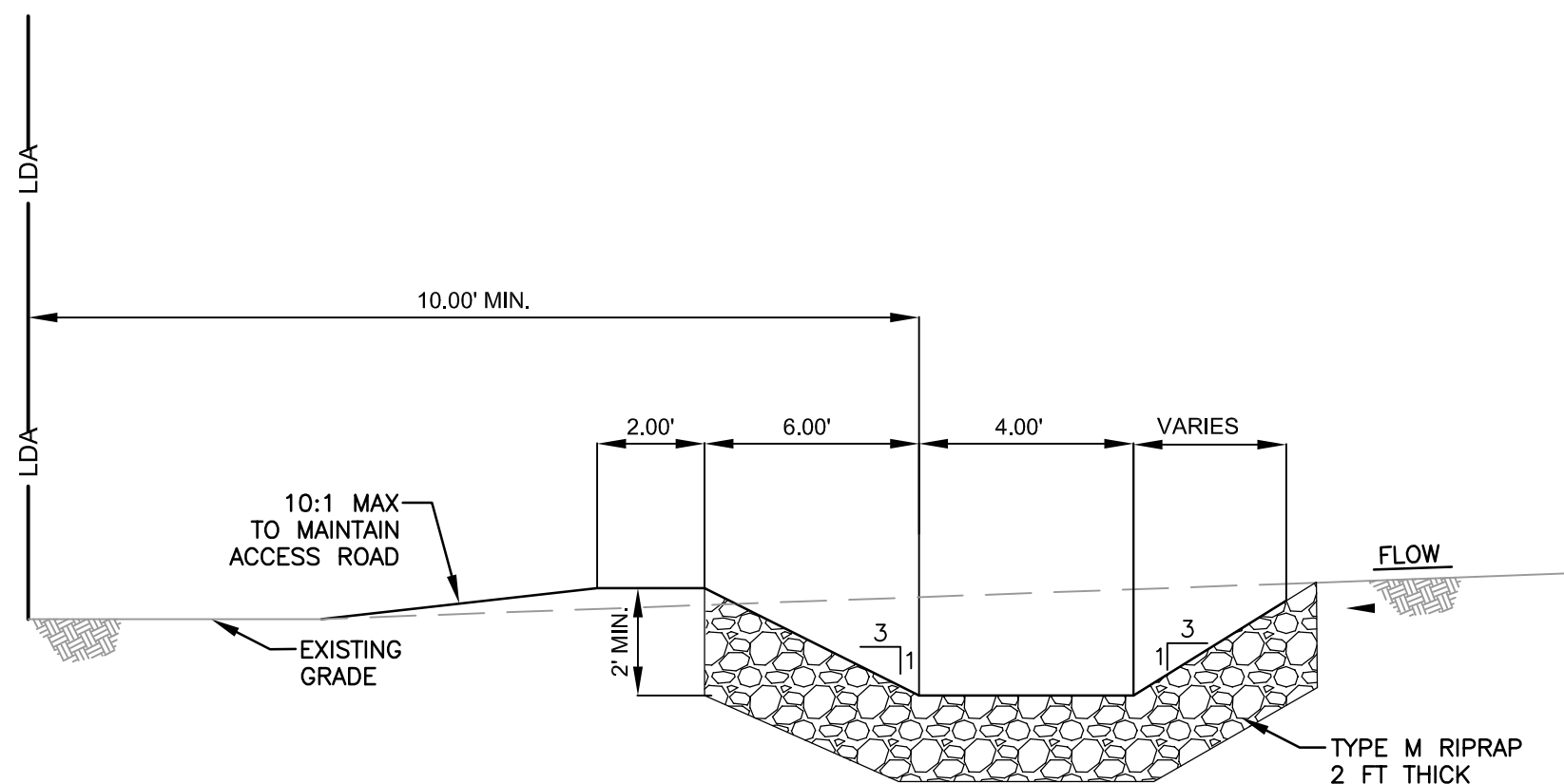
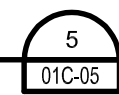
DETAIL

EARTH DIKE & DRAINAGE SWALE
STA 103+00 TO STA 110+00



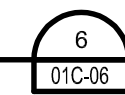
DETAIL

EARTH DIKE & DRAINAGE SWALE
(DIVERSION AROUND DISTURBED AREAS)



DETAIL

EARTH DIKE & DRAINAGE SWALE
BETWEEN SCOUR BERM AND CULVERT



REV 3	02/04/2022	FINAL DESIGN
REV 2	11/04/2022	FINAL DESIGN
REV 1	06/29/2021	FINAL DESIGN
100%	4/16/2021	FINAL DESIGN
90%	2/12/2021	PRE-FINAL DESIGN
60%	01/22/2021	INTERMEDIATE DESIGN PACKAGE

ISSUE	DATE	DESCRIPTION
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PROJECT MANAGER TRAVIS SNYDER

DRAWN BY	J. MCANALLY
PROJECT NUMBER	10092468



AGGREGATE INDUSTRIES
LYONS QUARRY
RECLAMATION PROJECT

CIVIL
DRAINAGE & EROSION
CONTROL DETAILS

FILENAME	01C-08.dwg
SCALE	NTS

SHEET
01C-08



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REV 3	02/04/2022	FINAL DESIGN
REV 2	11/04/2022	FINAL DESIGN
REV 1	06/29/2021	FINAL DESIGN
100%	4/16/2021	FINAL DESIGN
90%	2/12/2021	PRE-FINAL DESIGN
60%	01/22/2021	INTERMEDIATE DESIGN PACKAGE
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	TRAVIS SNYDER
DRAWN BY	R. NALLEY
PROJECT NUMBER	10092468



AGGREGATE INDUSTRIES
LYONS QUARRY
RECLAMATION PROJECT

CIVIL
OVERALL RECLAMATION
PLAN & DETAILS

FILENAME 01C-09.dwg
SCALE AS NOTED

SHEET
01C-09