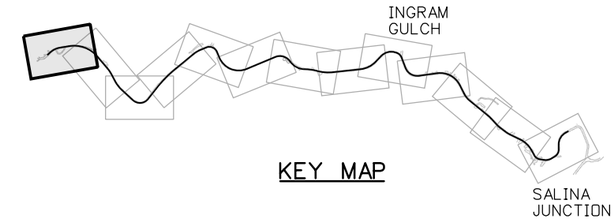

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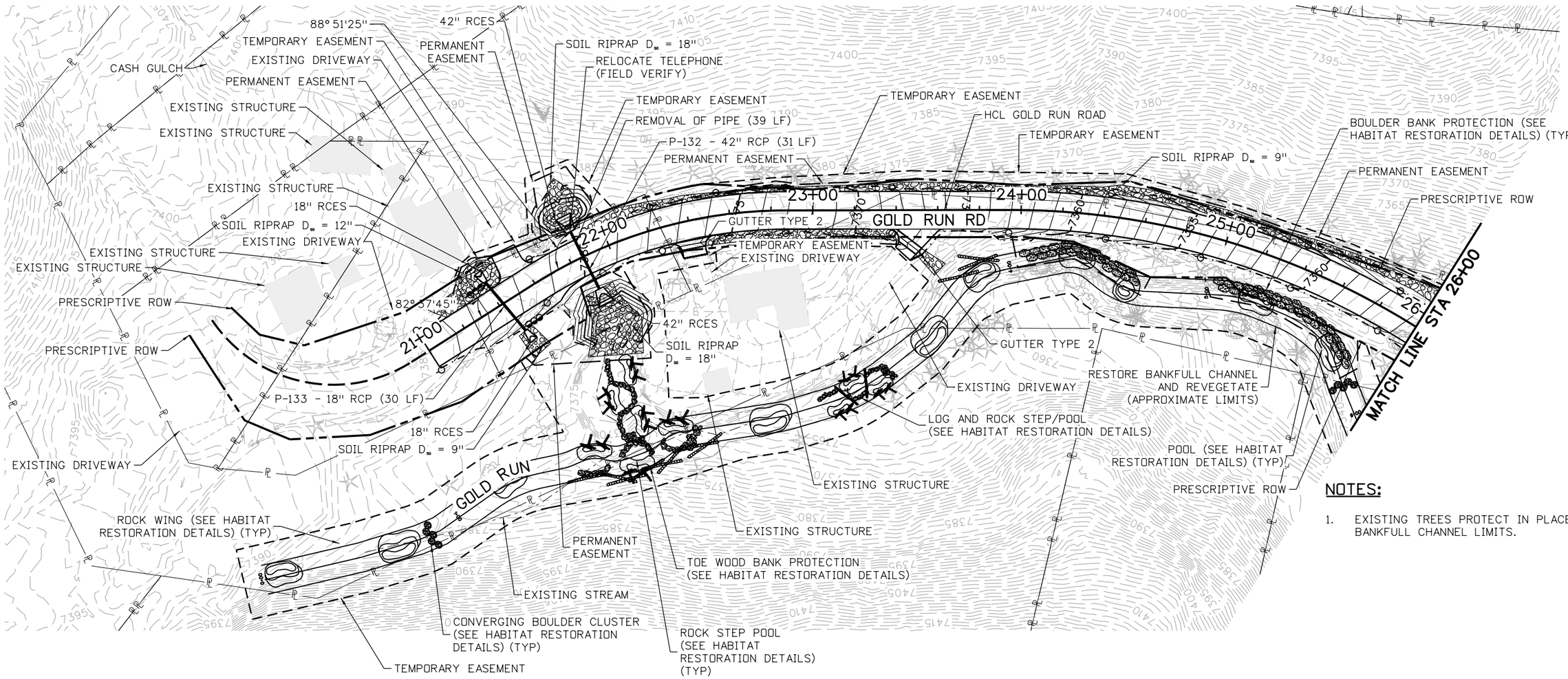

NOTES:

1. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN
(1 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 114

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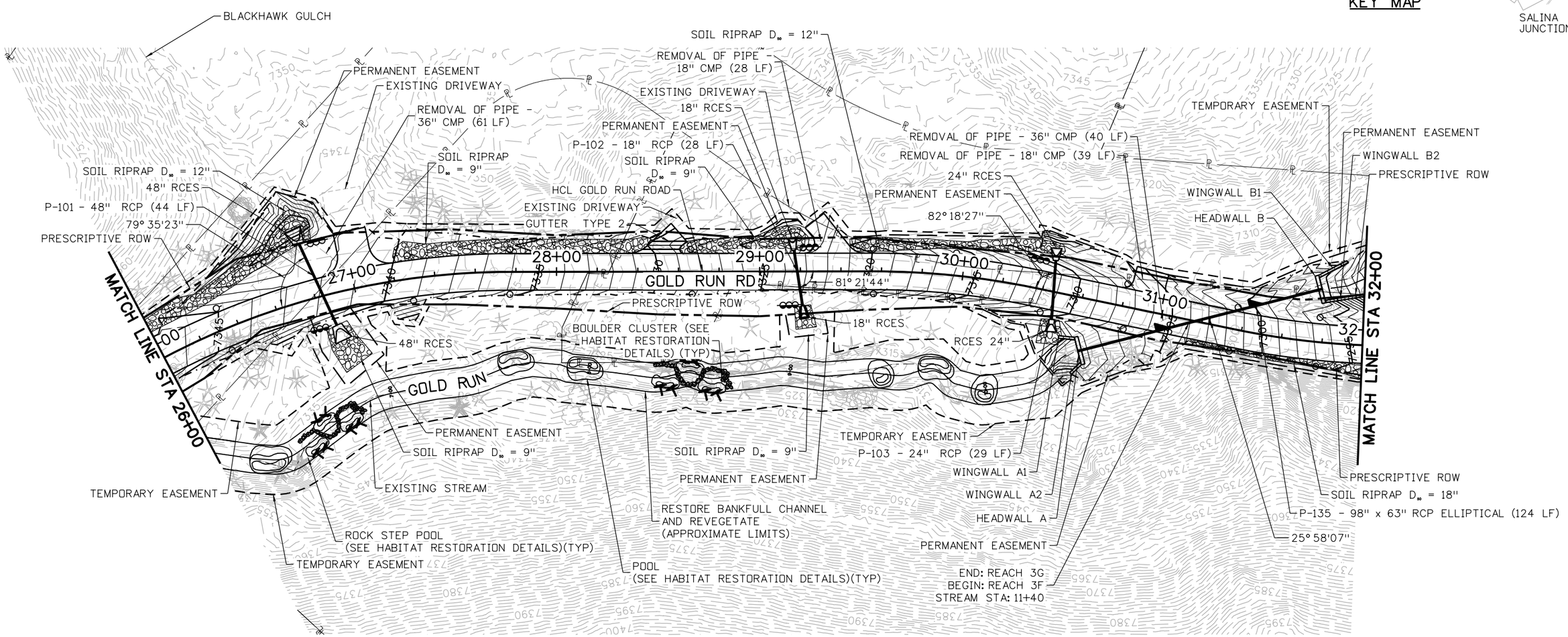

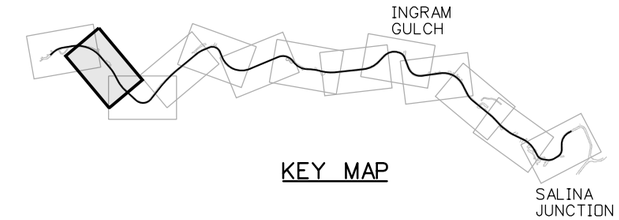

KEY MAP

NOTES:

1. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN
(2 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 115

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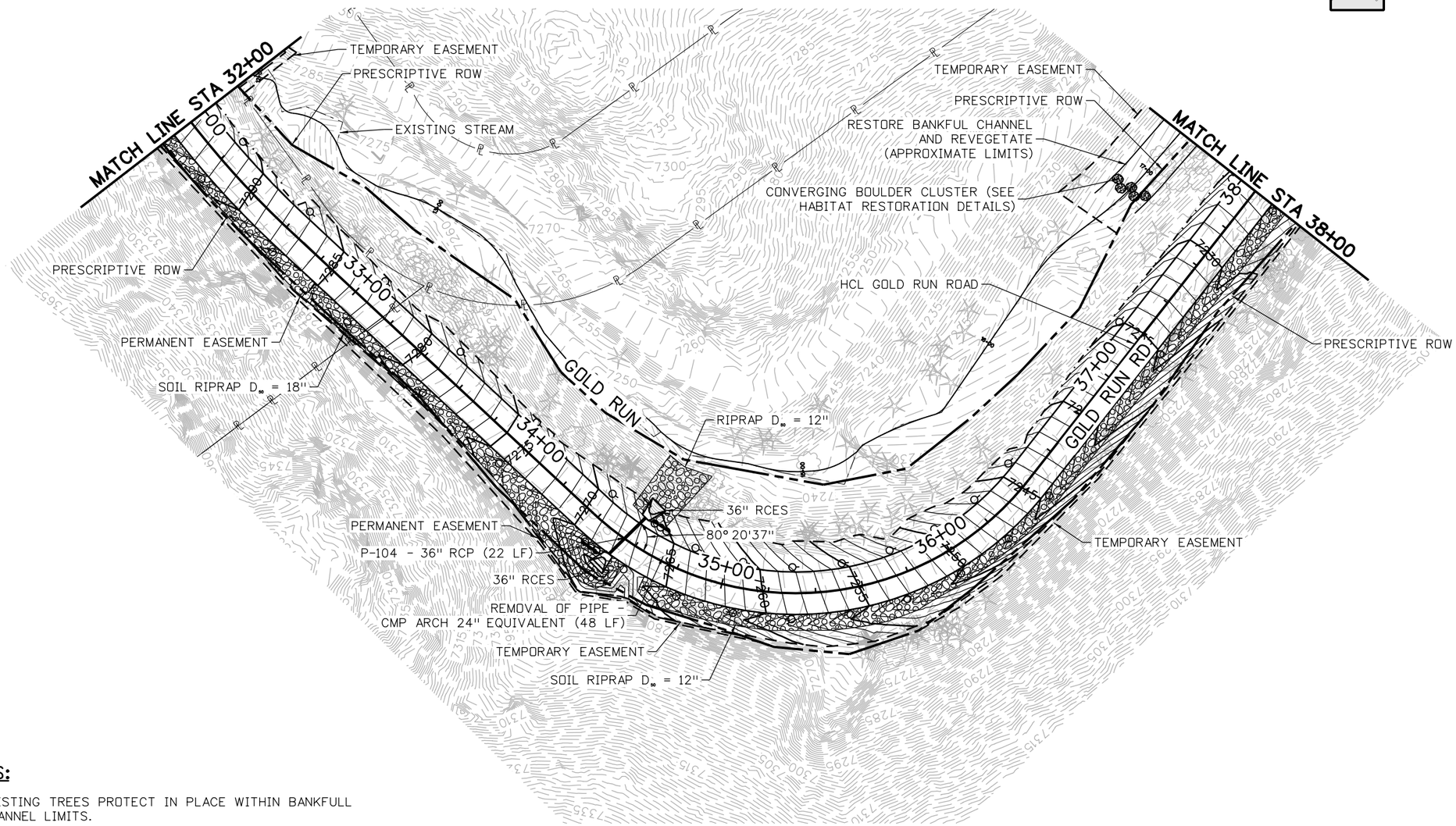

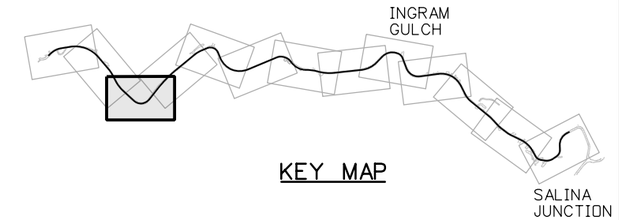

NOTES:

1. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN
(3 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 116

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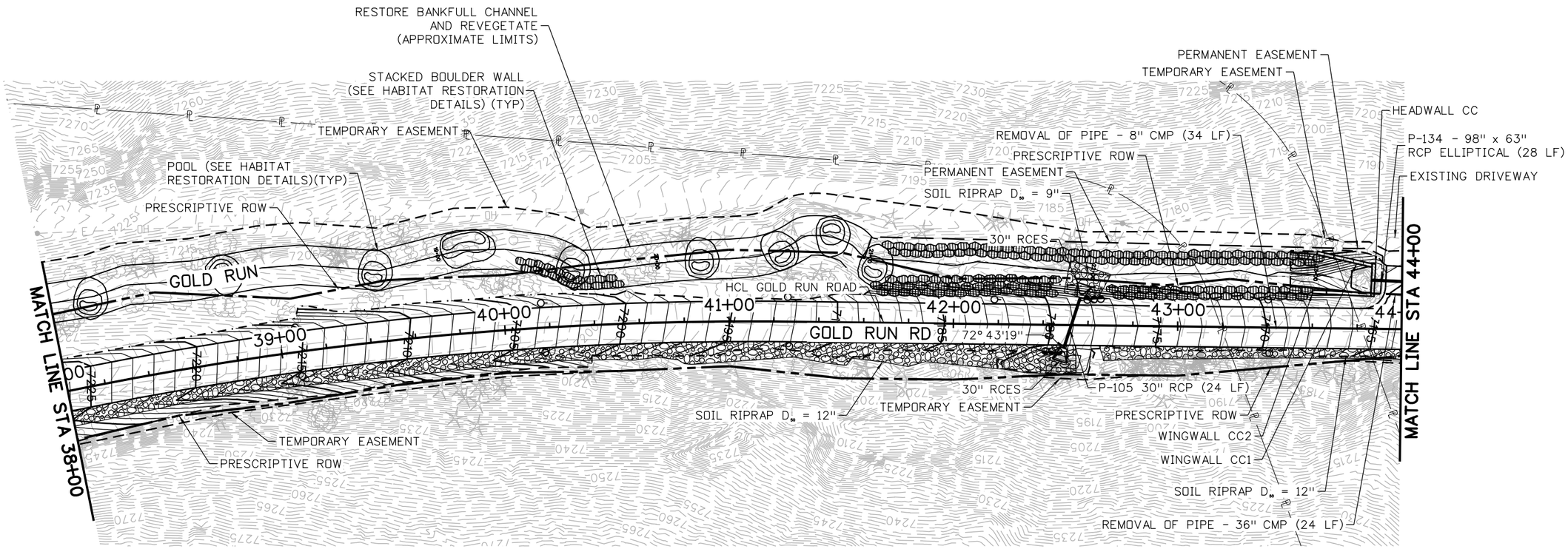

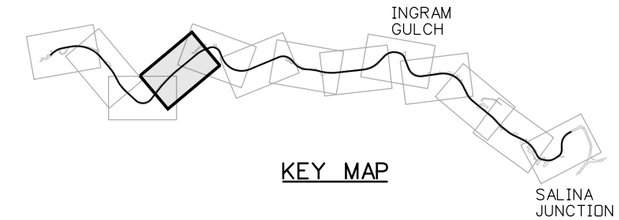

KEY MAP

NOTES:

1. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
Boulder County
Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN
(4 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 117

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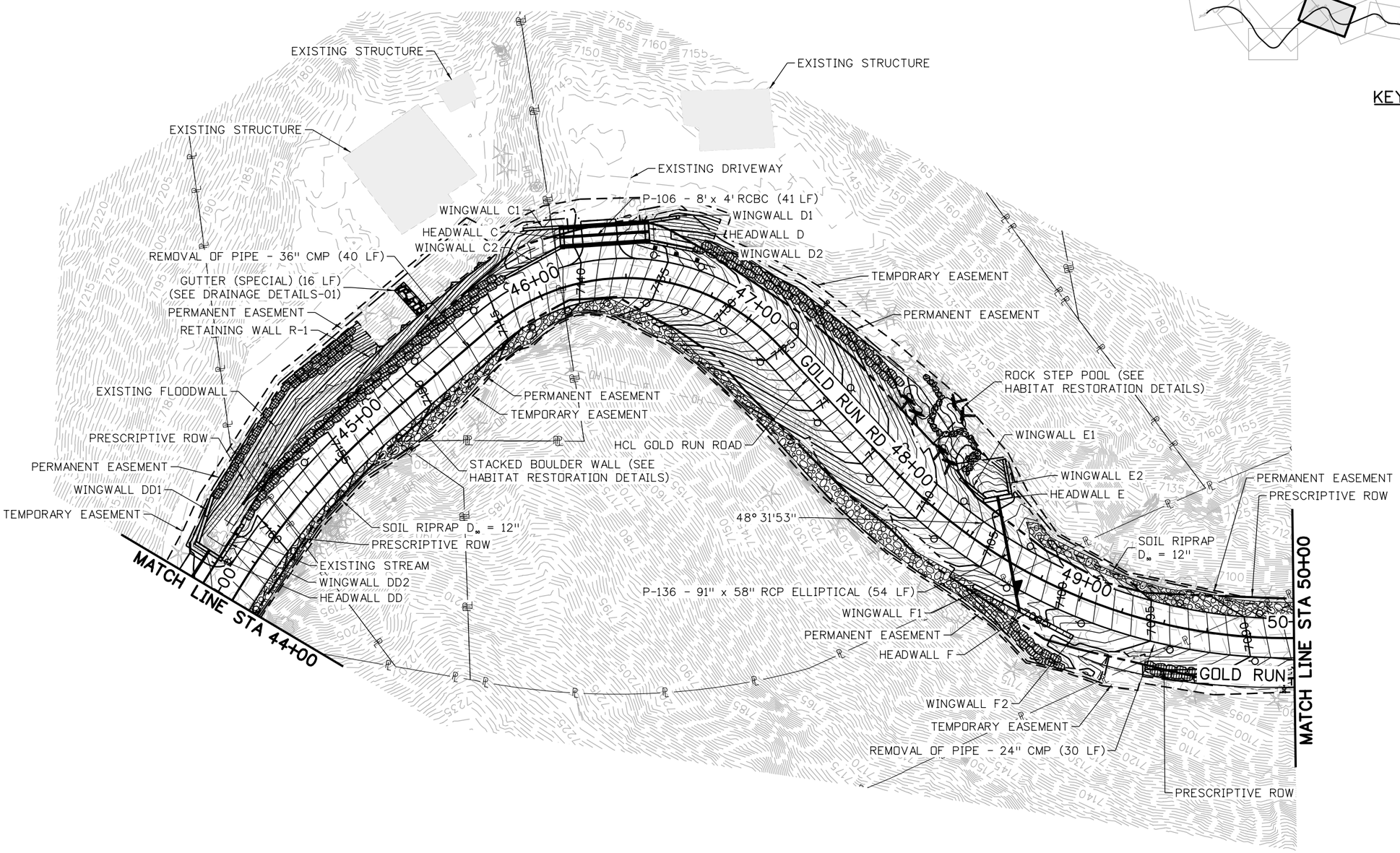

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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ENGINEERING DIVISION

Michael Baker INTERNATIONAL

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GOLD RUN ROAD
DRAINAGE PLAN
(5 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 118

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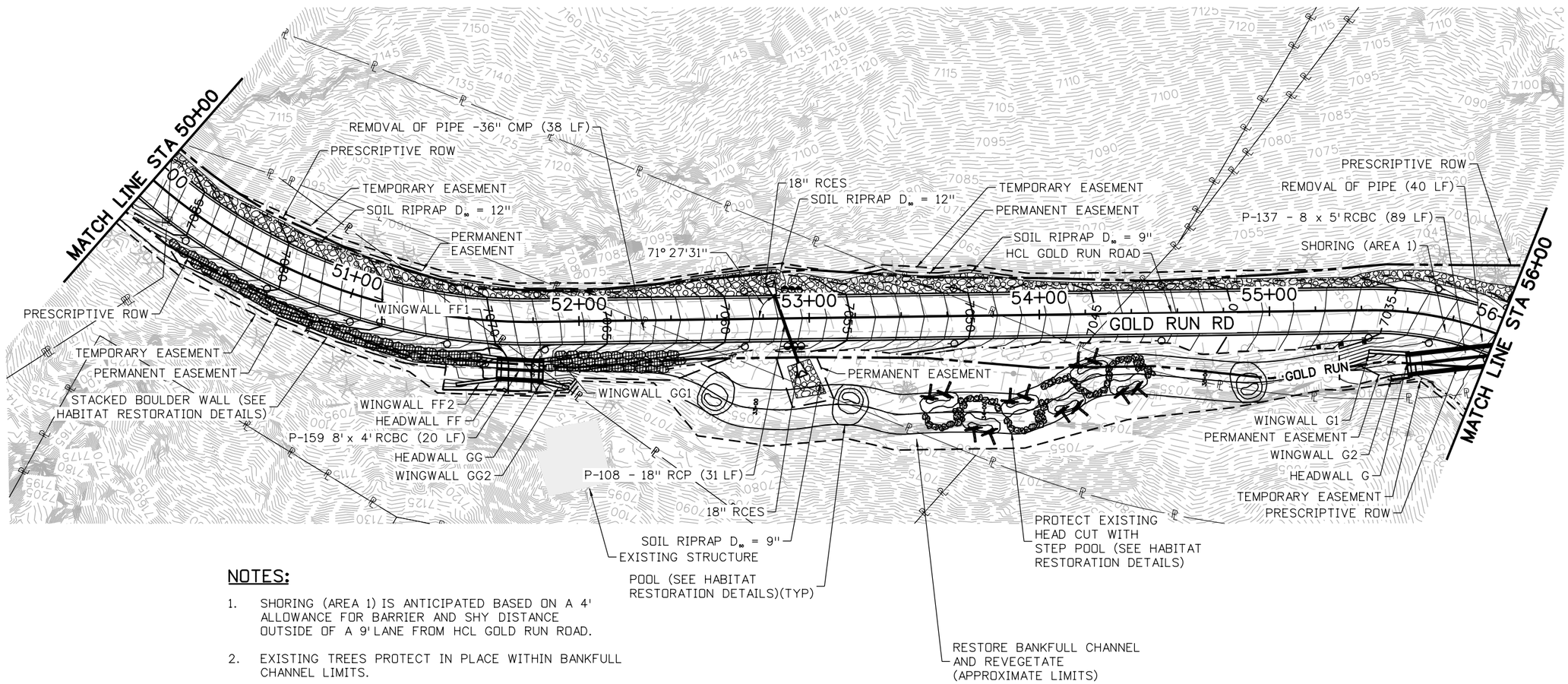

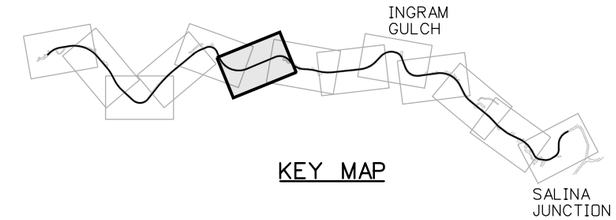

KEY MAP

NOTES:

1. SHORING (AREA 1) IS ANTICIPATED BASED ON A 4' ALLOWANCE FOR BARRIER AND SHY DISTANCE OUTSIDE OF A 9' LANE FROM HCL GOLD RUN ROAD.
2. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
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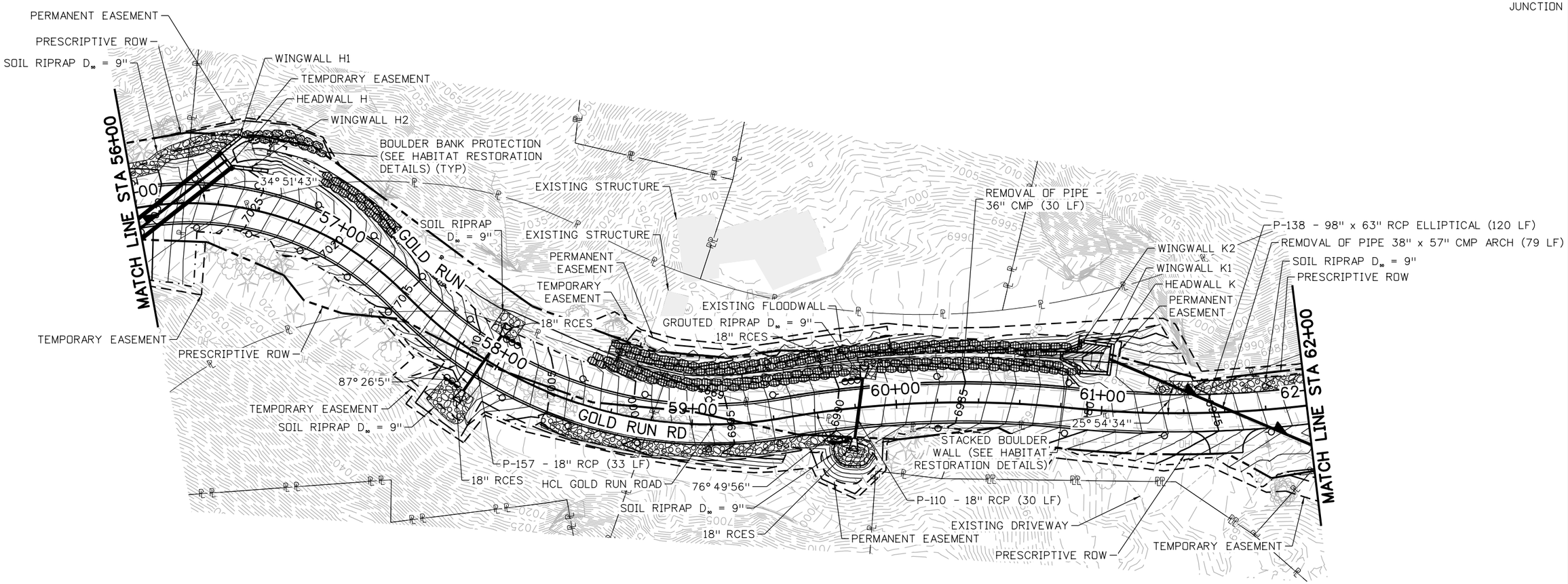
BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

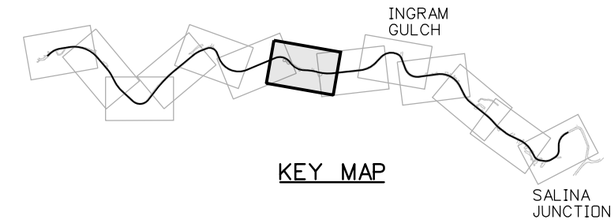
DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN
(6 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 119

jessica.wray 12:25:27 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DR-06.dgn





KEY MAP

NOTES:

1. SHORING (AREA 2) IS ANTICIPATED BASED ON A 4' ALLOWANCE FOR BARRIER AND SHY DISTANCE OUTSIDE OF A 9' LANE FROM HCL GOLD RUN ROAD.
2. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
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REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

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Michael Baker INTERNATIONAL

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN
(7 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 120

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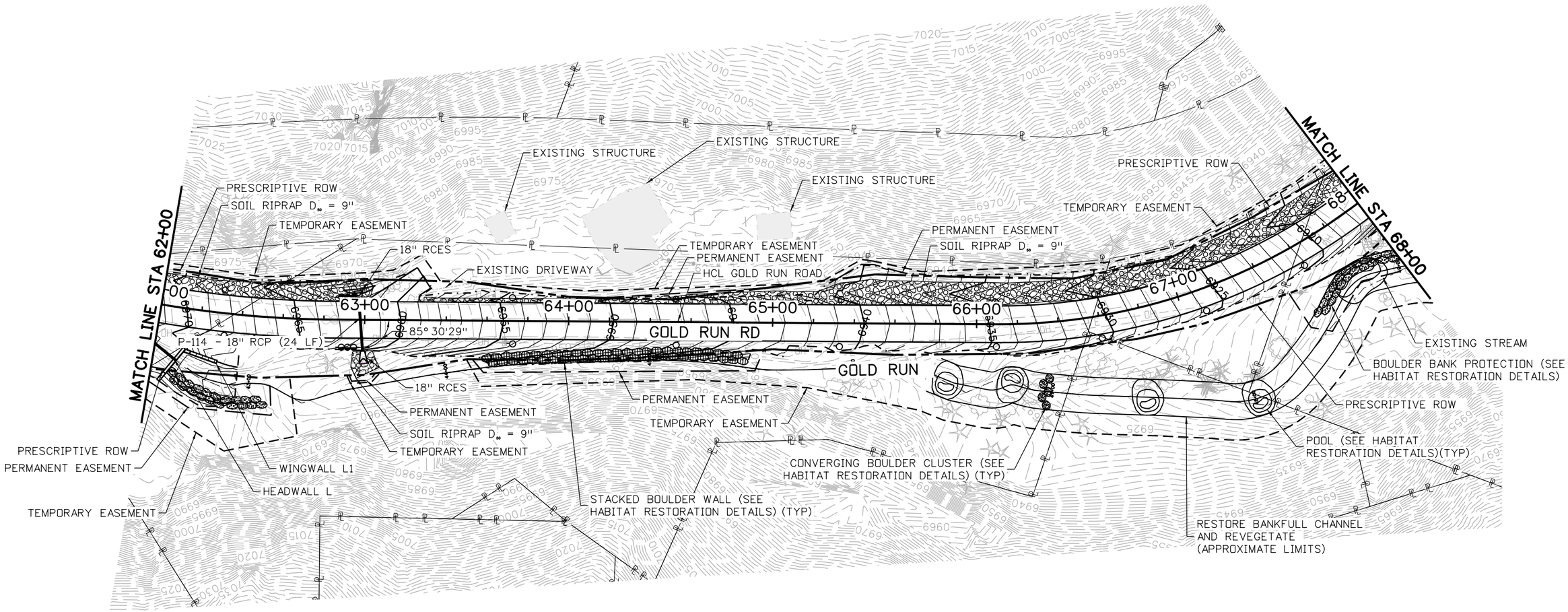

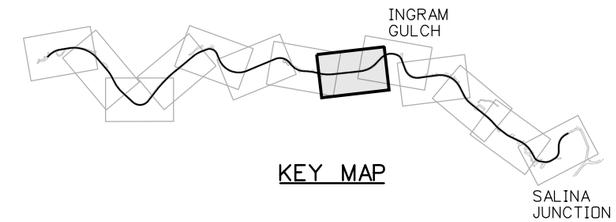

KEY MAP

NOTES:

1. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
Boulder County
Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN (8 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 121

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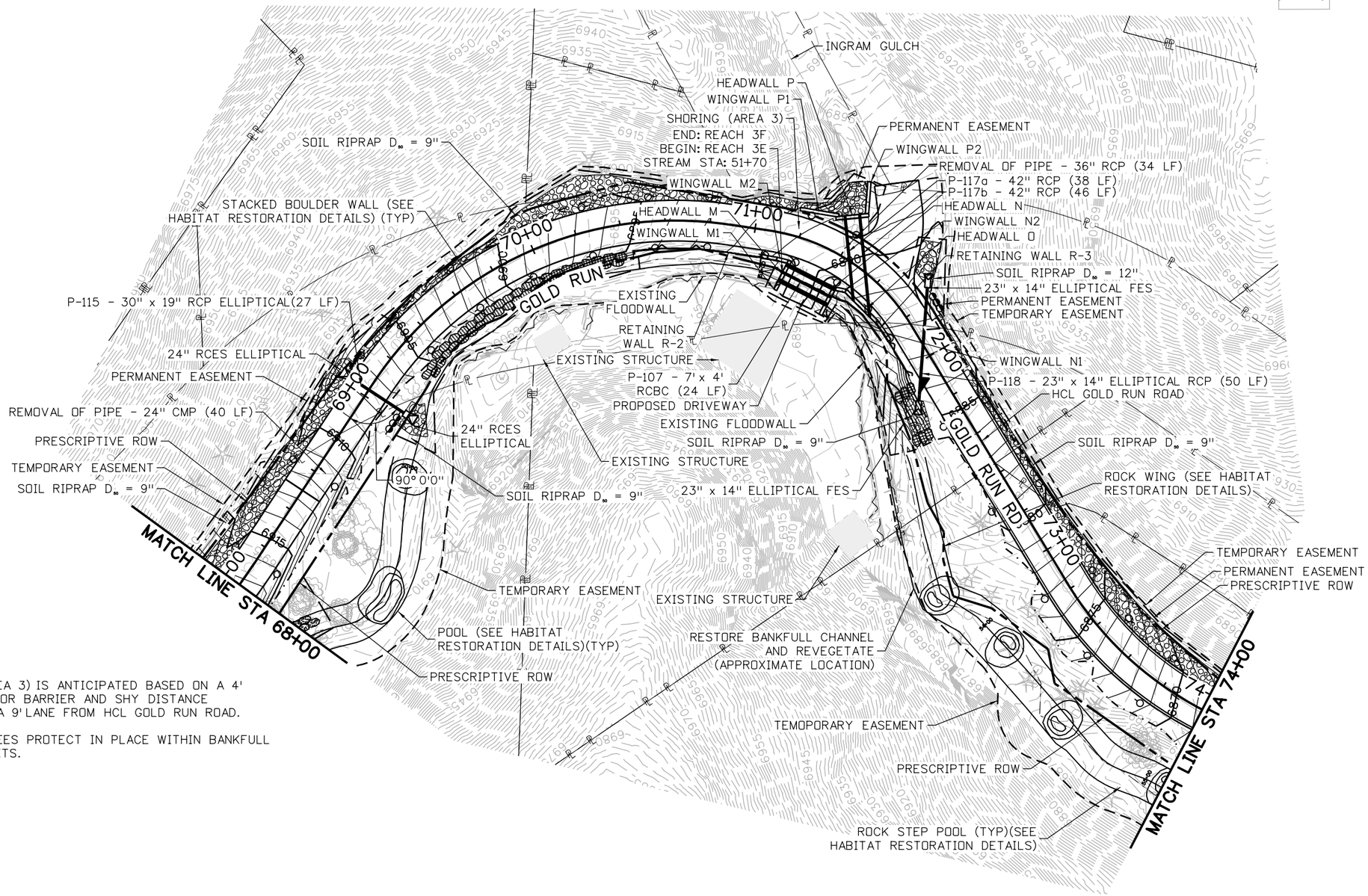

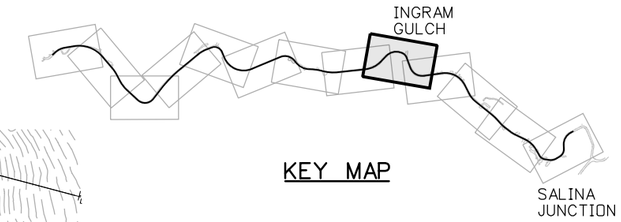

KEY MAP

NOTES:

1. SHORING (AREA 3) IS ANTICIPATED BASED ON A 4' ALLOWANCE FOR BARRIER AND SHY DISTANCE OUTSIDE OF A 9' LANE FROM HCL GOLD RUN ROAD.

3. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

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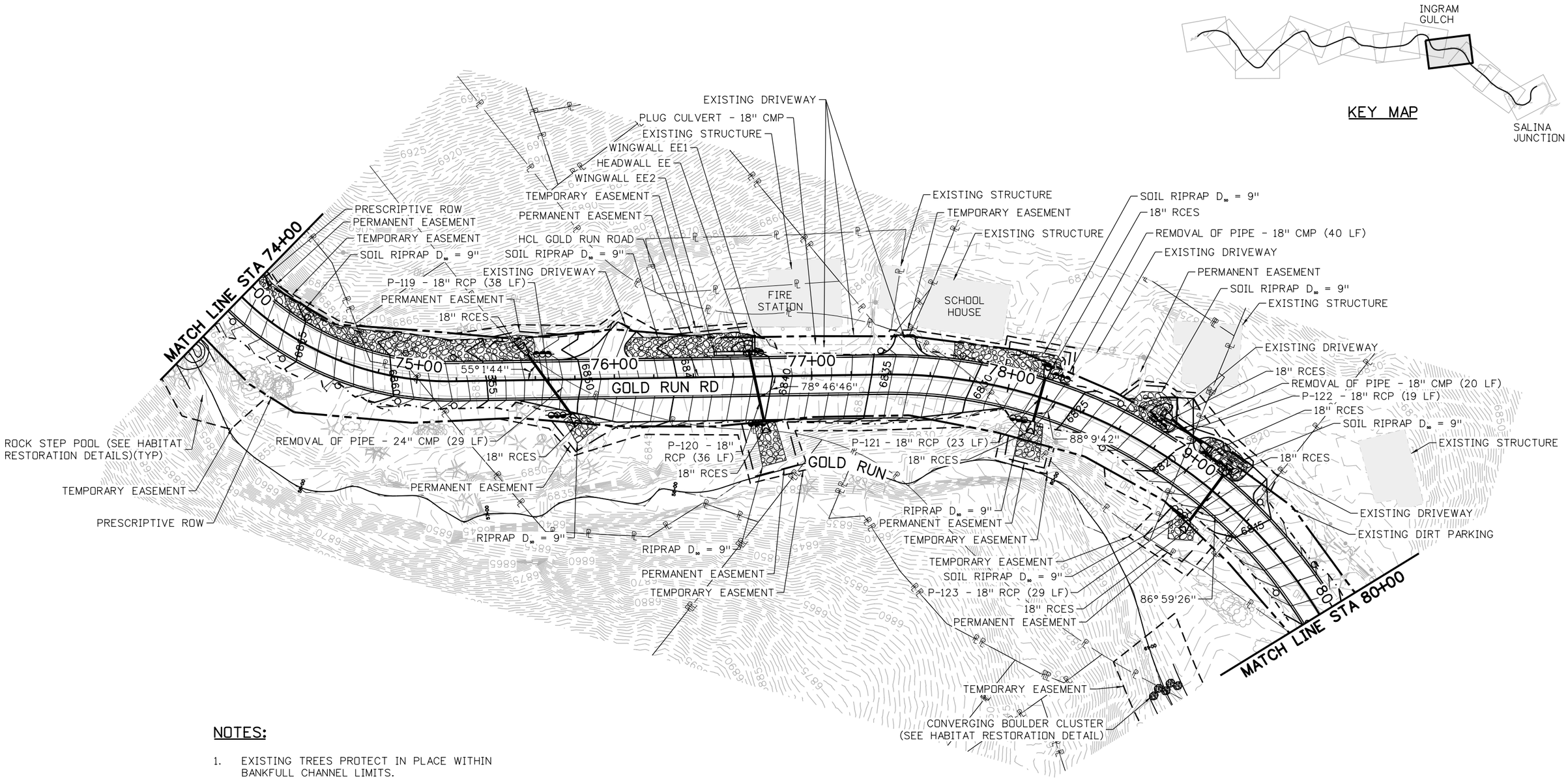
Boulder County
Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN
(9 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 122

jessica.wray 12:25:48 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DR-09.dgn



NOTES:

1. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

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JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN
(10 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 123

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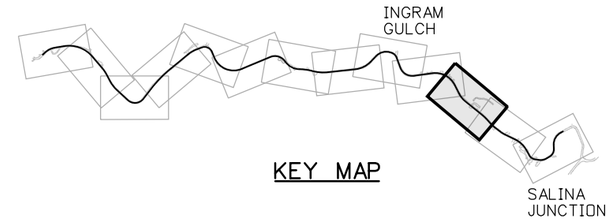
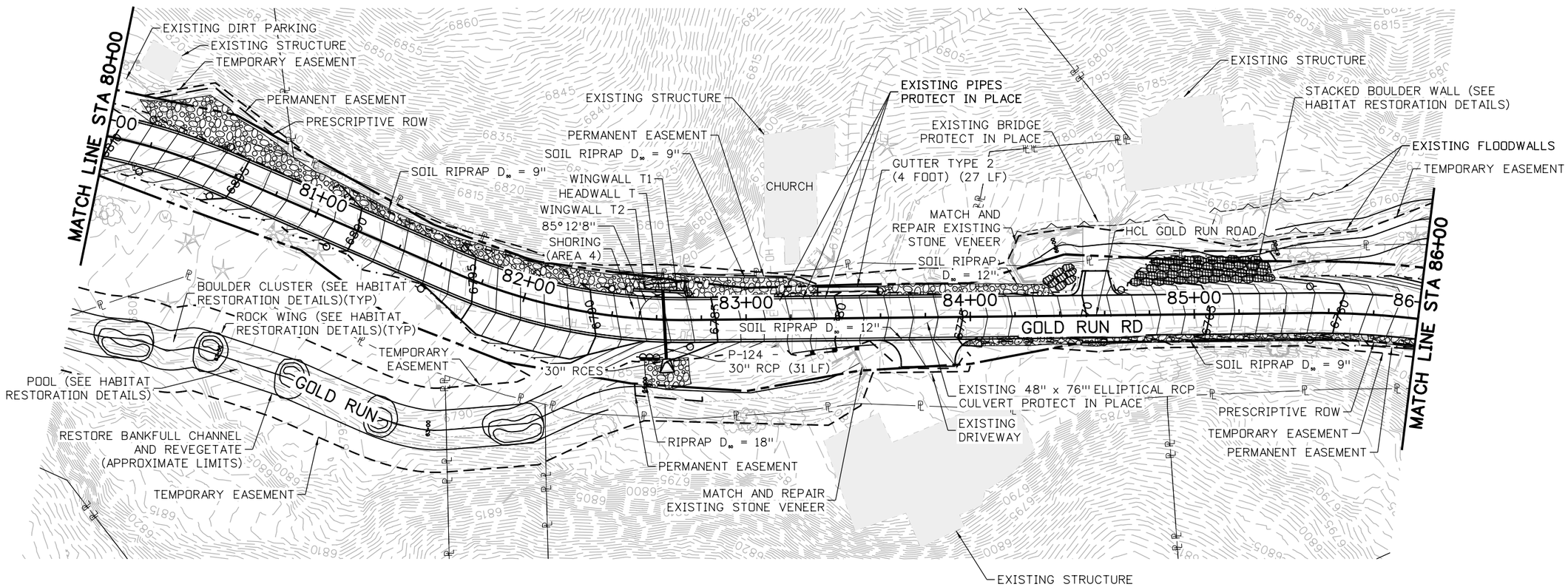


KEY MAP



NOTES:

1. SHORING (AREA 4) IS ANTICIPATED BASED ON A 4' ALLOWANCE FOR BARRIER AND SHY DISTANCE OUTSIDE OF A 9' LANE FROM HCL GOLD RUN ROAD.

3. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

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ENGINEERING DIVISION
Boulder County
Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN
(11 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 124

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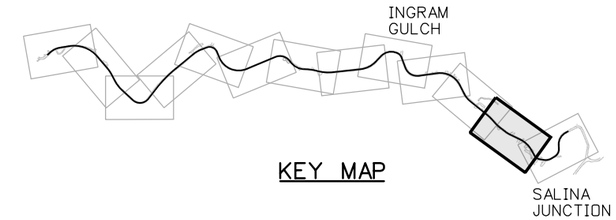
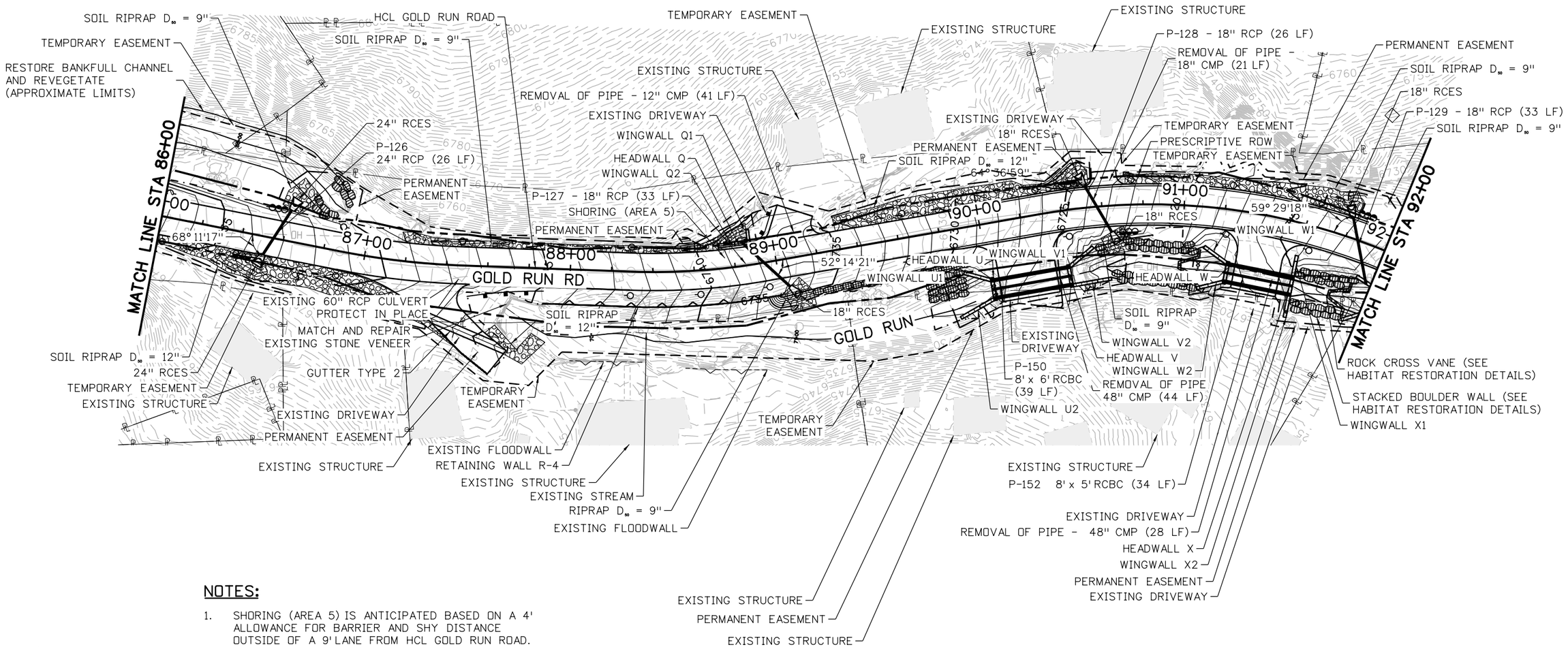


KEY MAP



NOTES:

1. SHORING (AREA 5) IS ANTICIPATED BASED ON A 4' ALLOWANCE FOR BARRIER AND SHY DISTANCE OUTSIDE OF A 9' LANE FROM HCL GOLD RUN ROAD.

3. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

N

25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

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ENGINEERING DIVISION

Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
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GOLD RUN ROAD
DRAINAGE PLAN
(12 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 125

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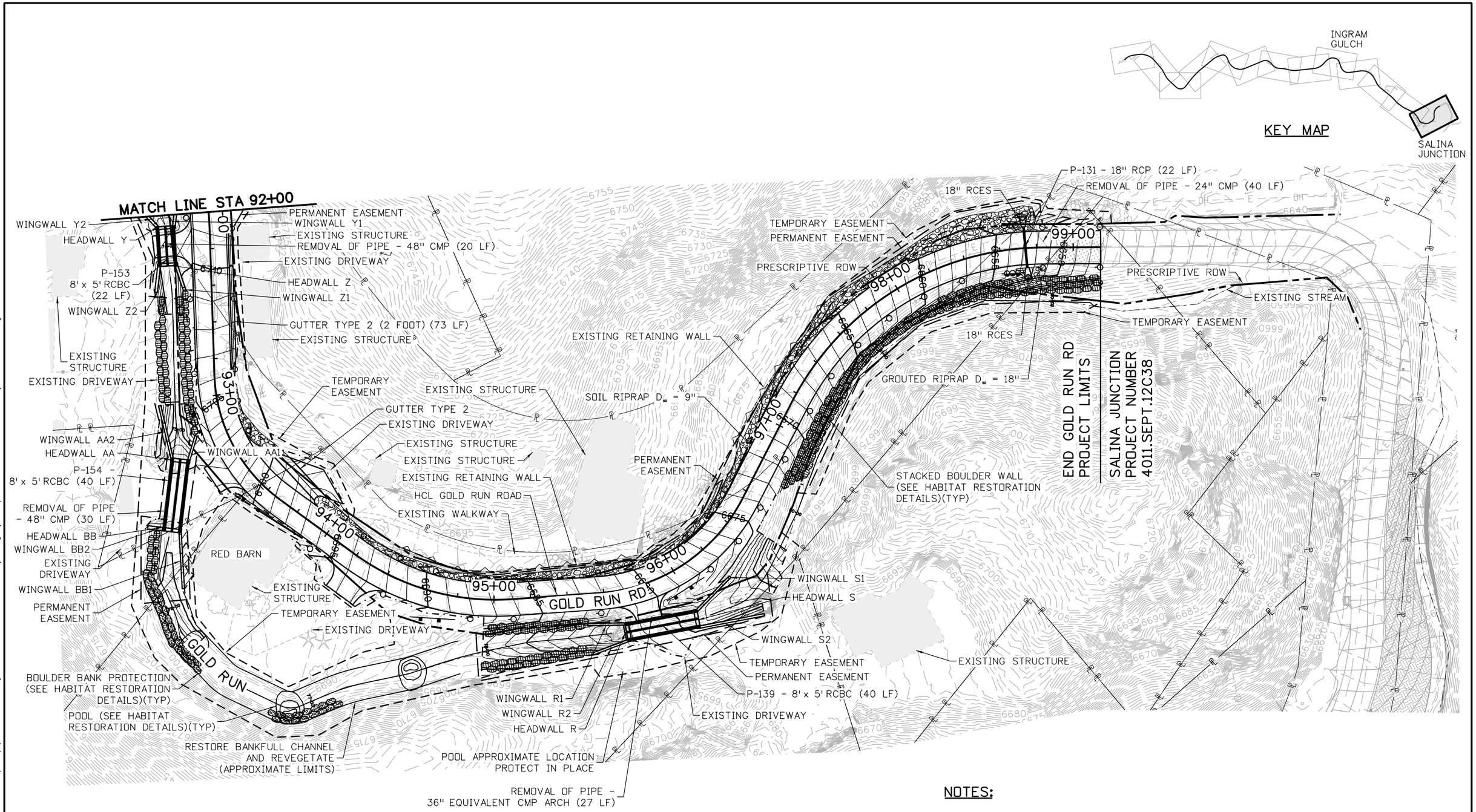

NOTES:

1. EXISTING TREES PROTECT IN PLACE WITHIN BANKFULL CHANNEL LIMITS.

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

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GOLD RUN ROAD
DRAINAGE PLAN
(13 OF 13)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 126

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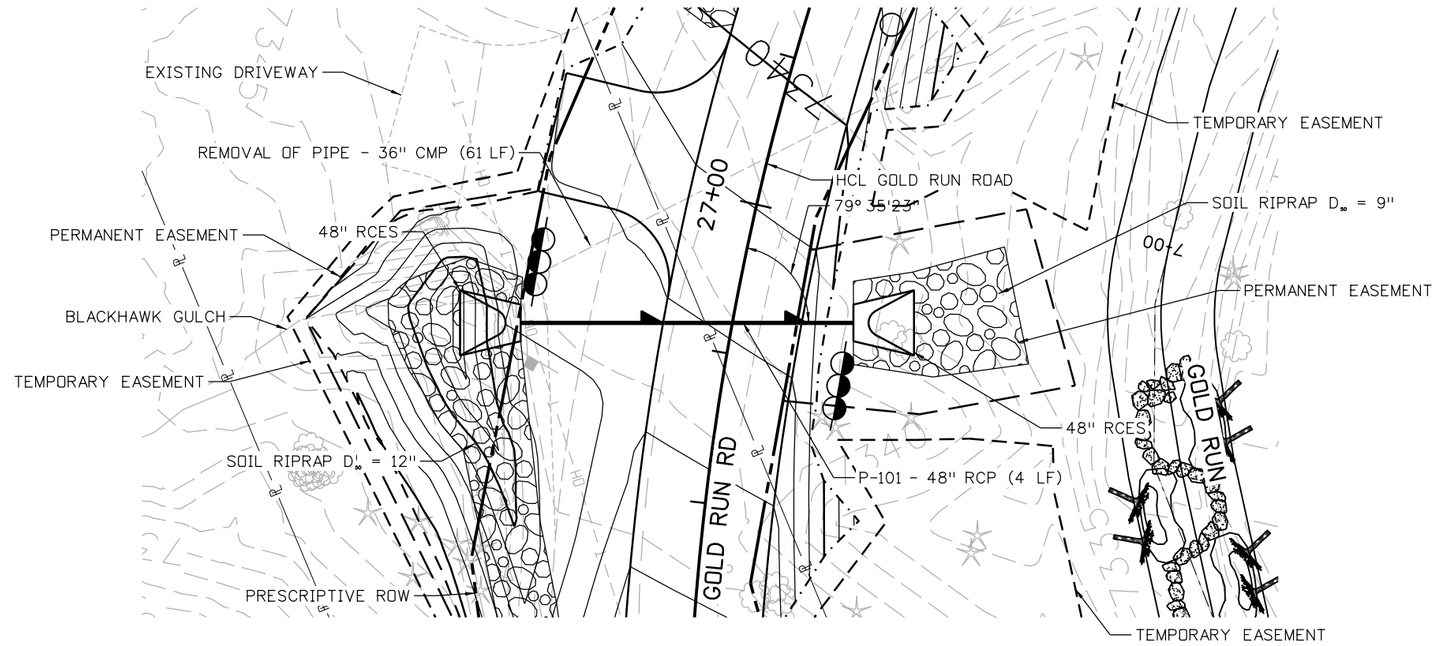
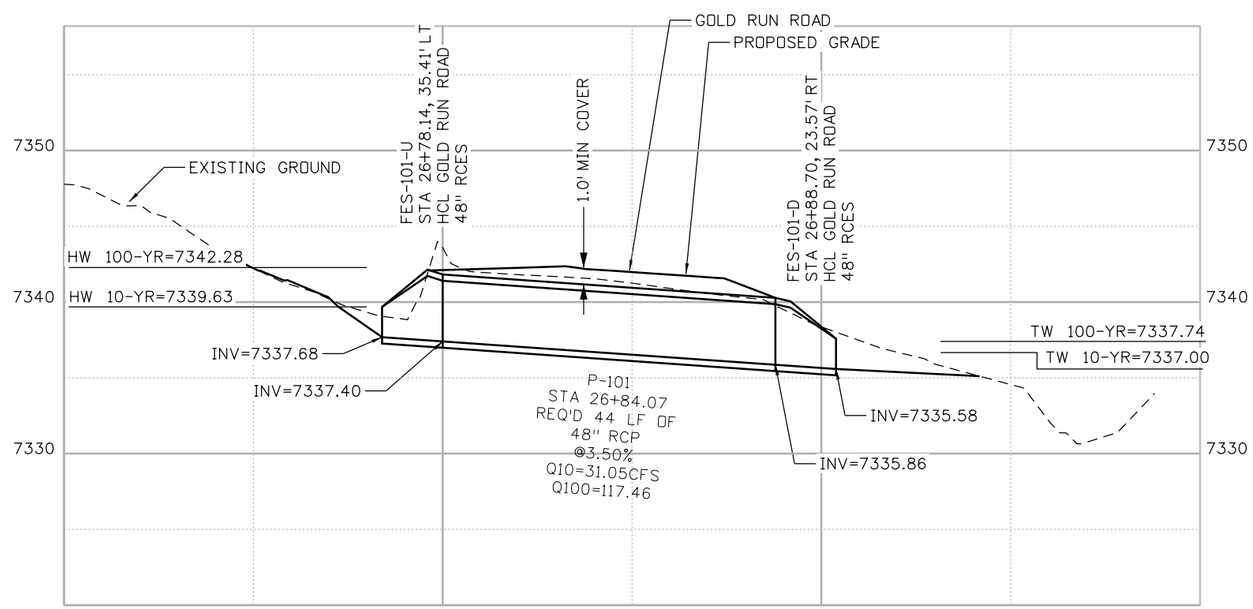
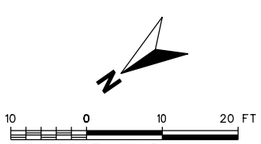


P-101





90% SET

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811
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ENGINEERING DIVISION

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JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
P-101

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 127

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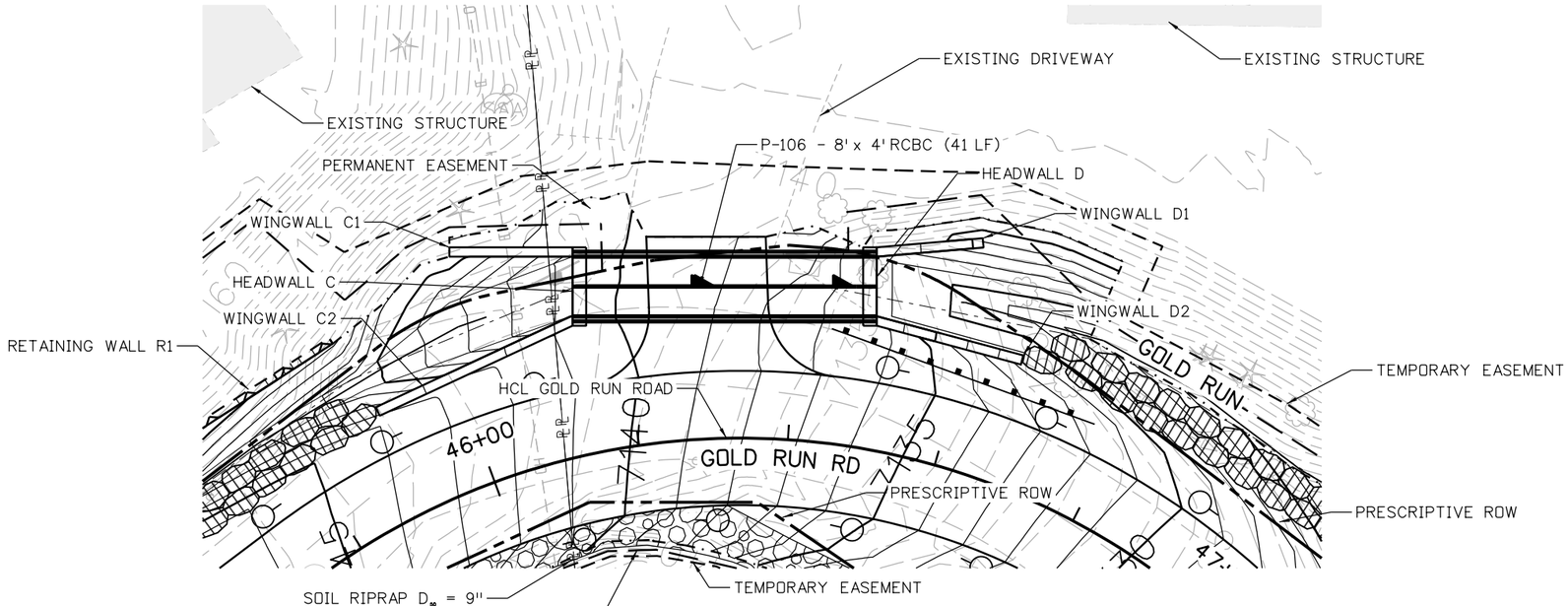

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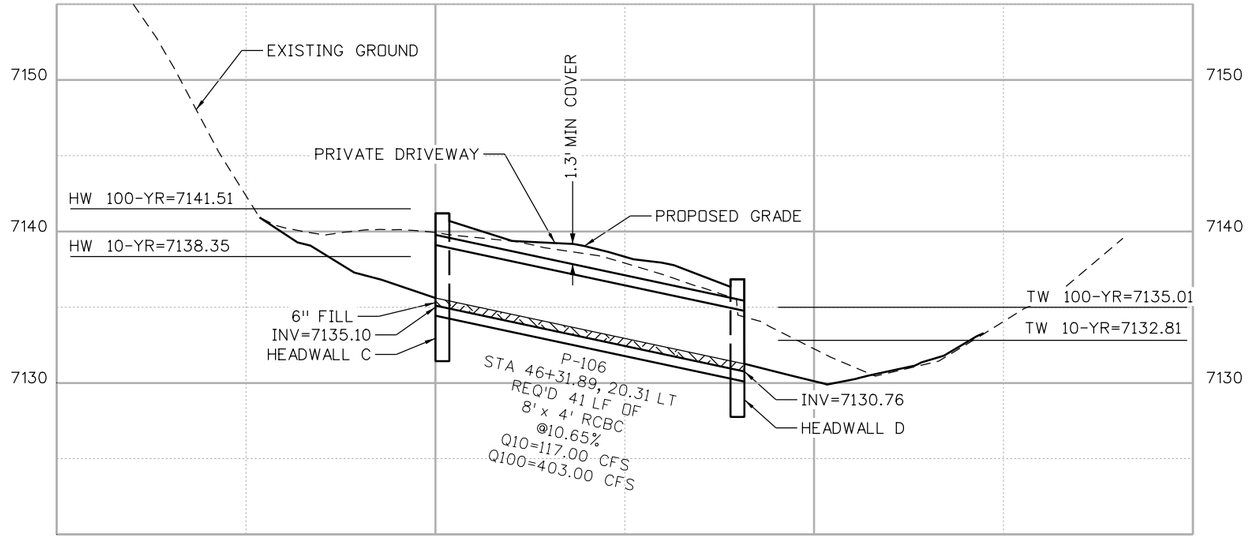

N

10 0 10 20 FT

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

Michael Baker INTERNATIONAL

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
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PROJECT NO: 4043.SEPT12C38 | SHEET NO: 128

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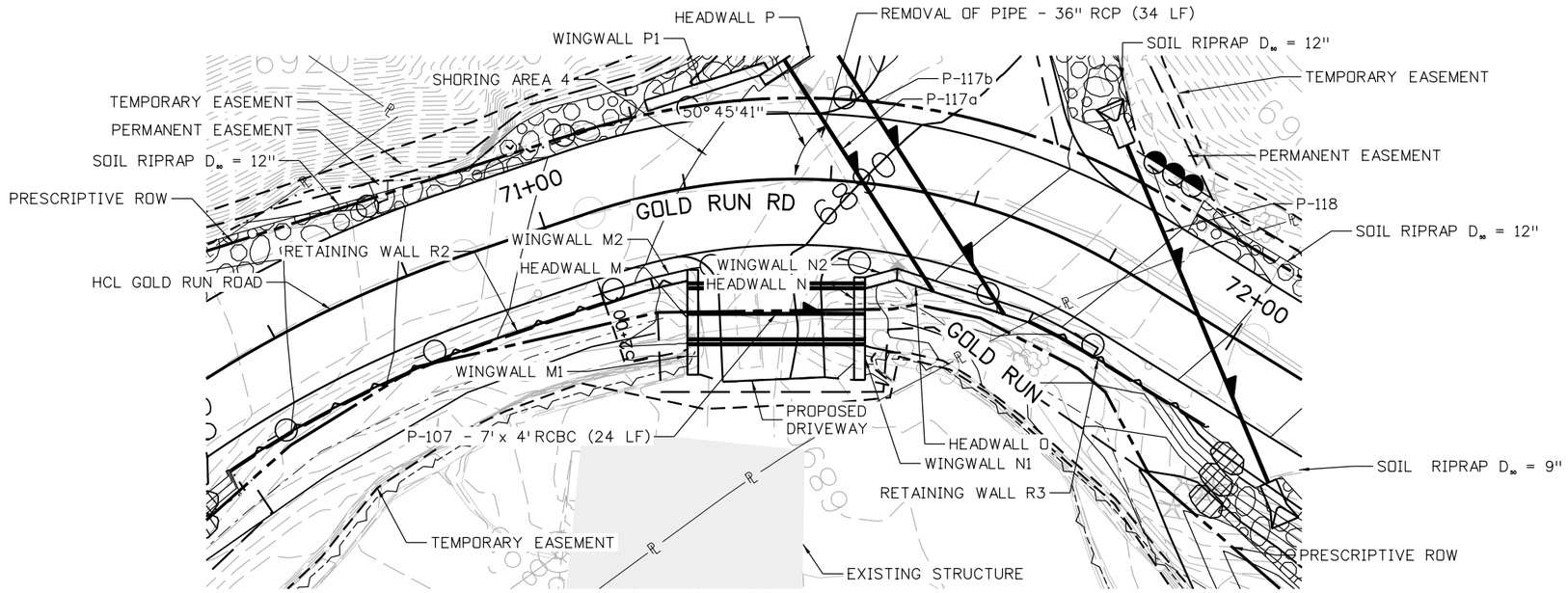

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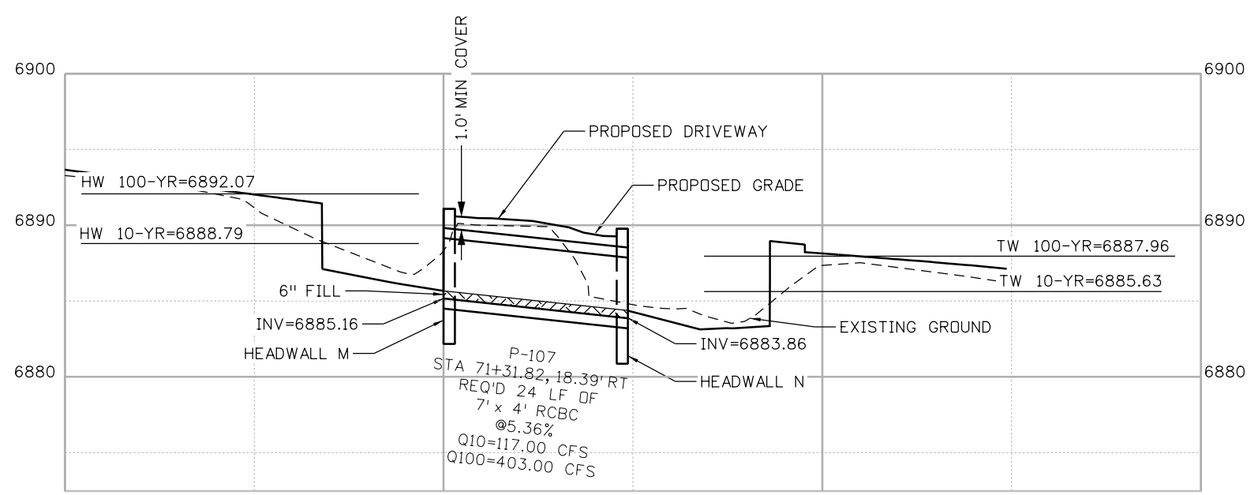

N

10 0 10 20 FT
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
Boulder County
Michael Baker INTERNATIONAL

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JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
P-107

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 129

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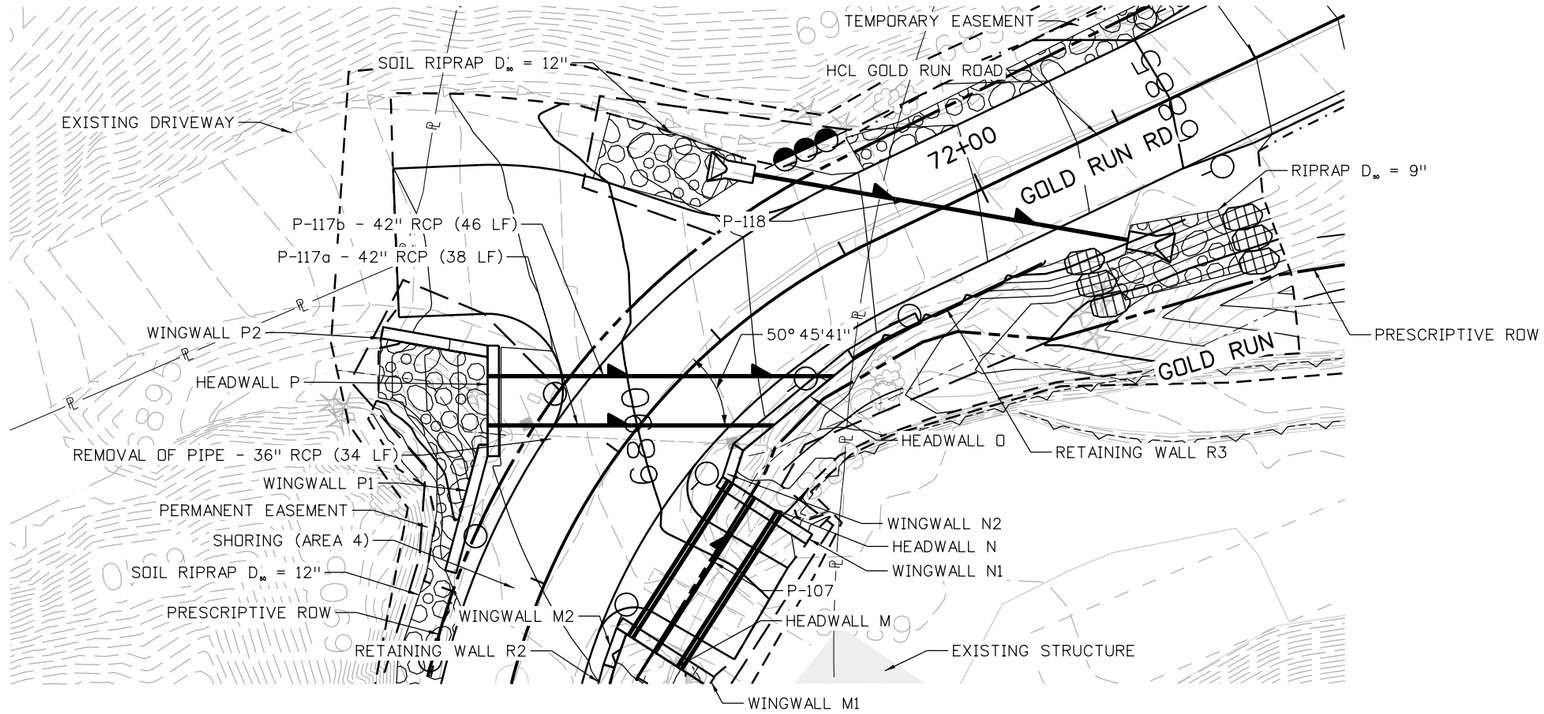

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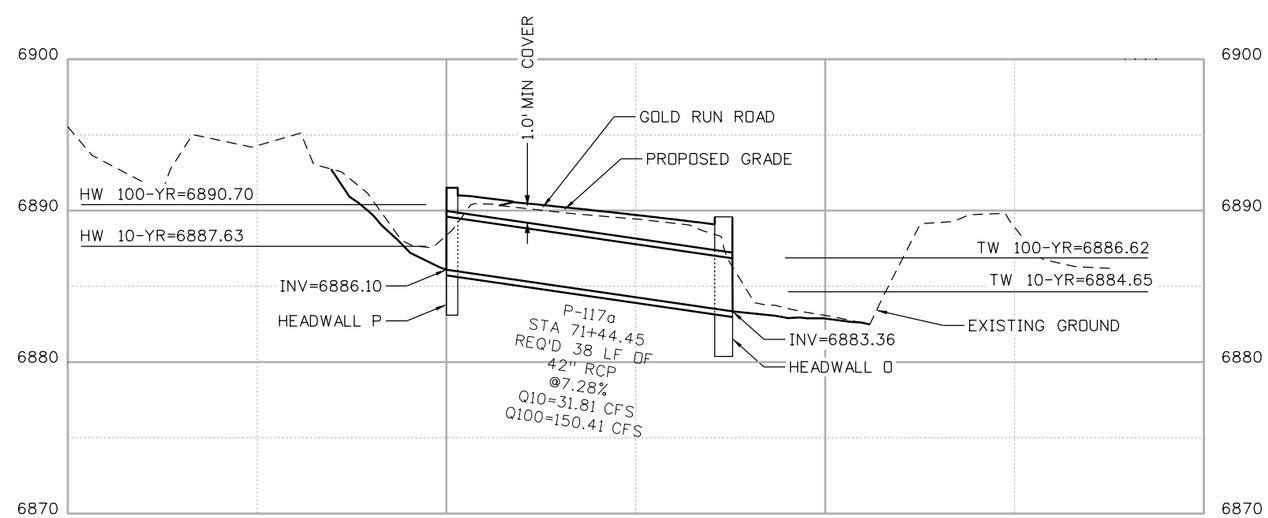

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VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
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ENGINEERING DIVISION
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DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
P-117a

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 130

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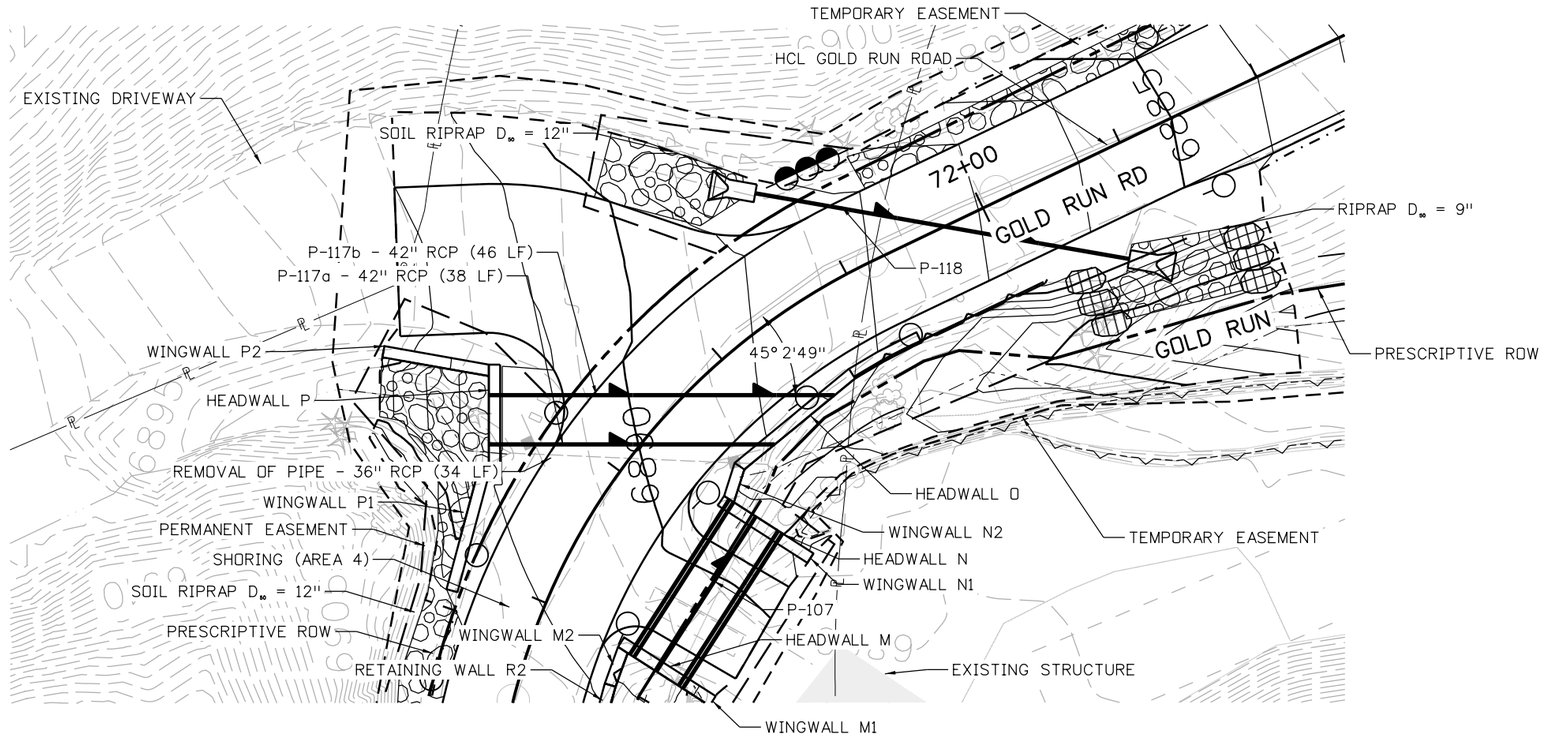

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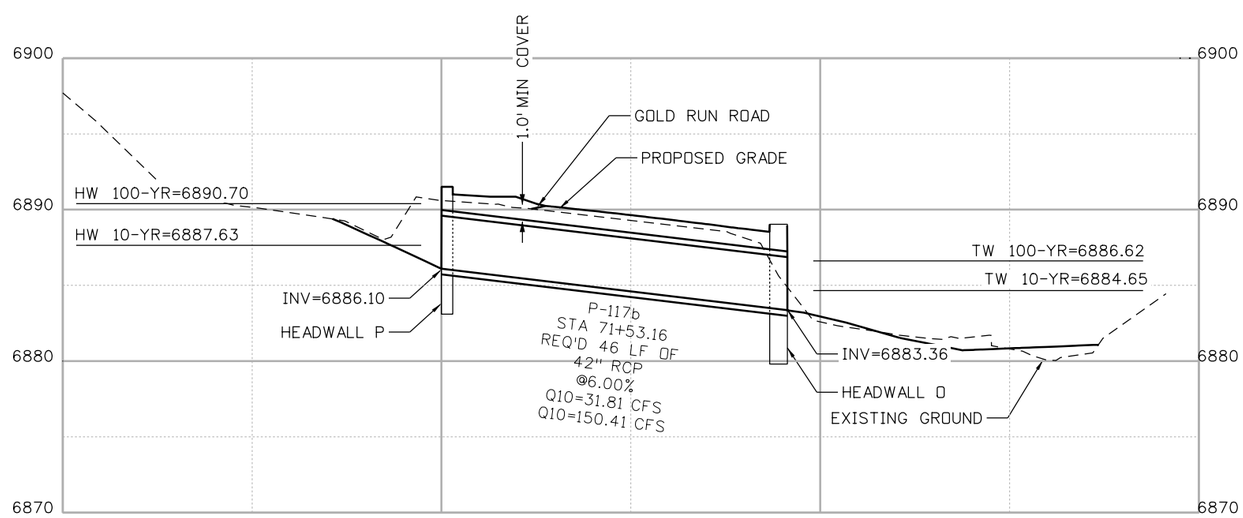

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VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
P-117b

PROJECT NO: 4043.SEPT12C38 SHEET NO: 131

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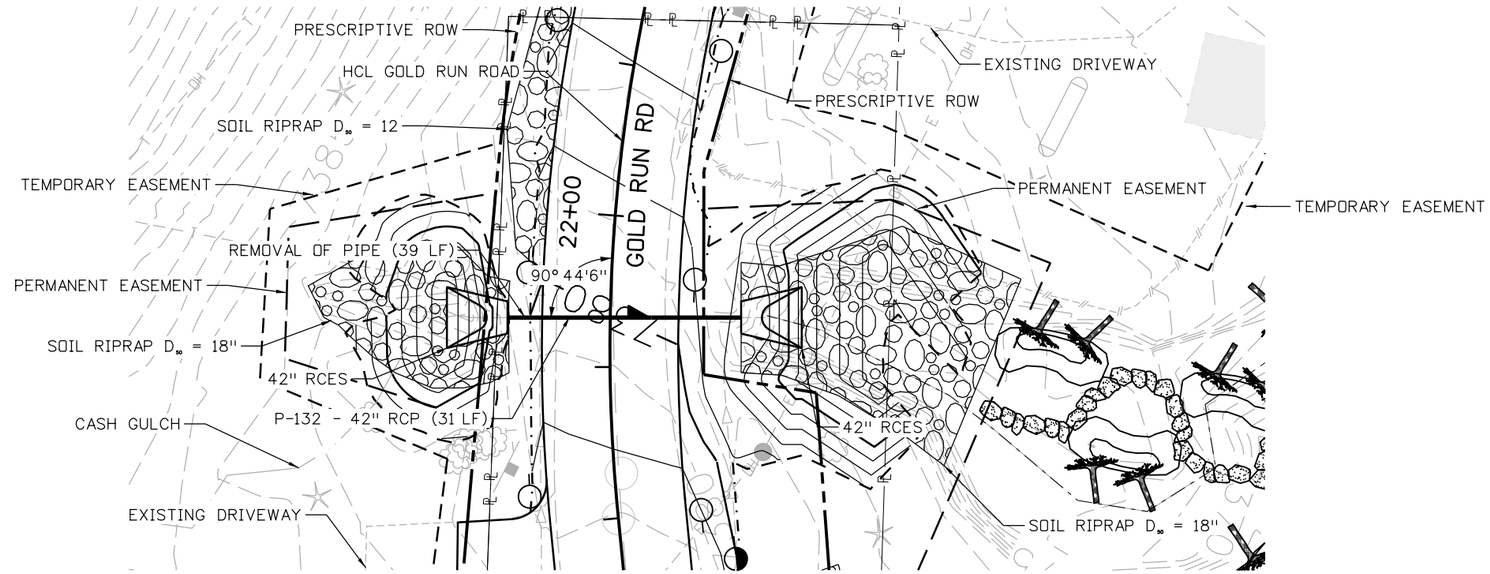

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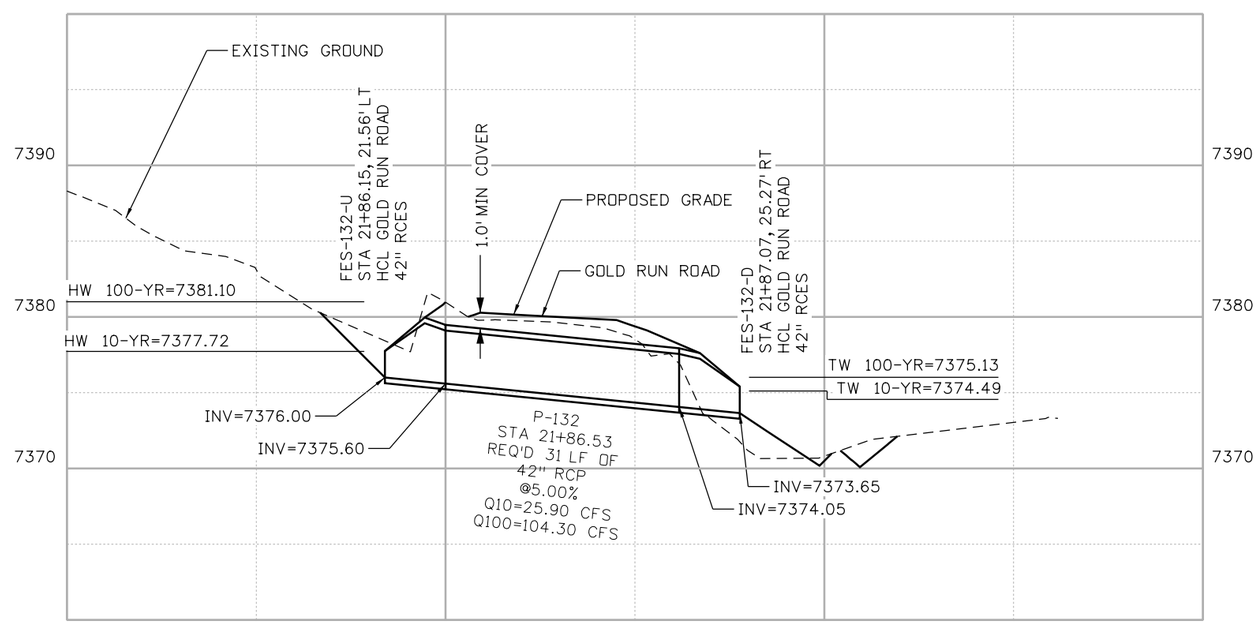

N

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HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
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GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
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PROJECT NO: 4043.SEPT12C38 | SHEET NO: 132

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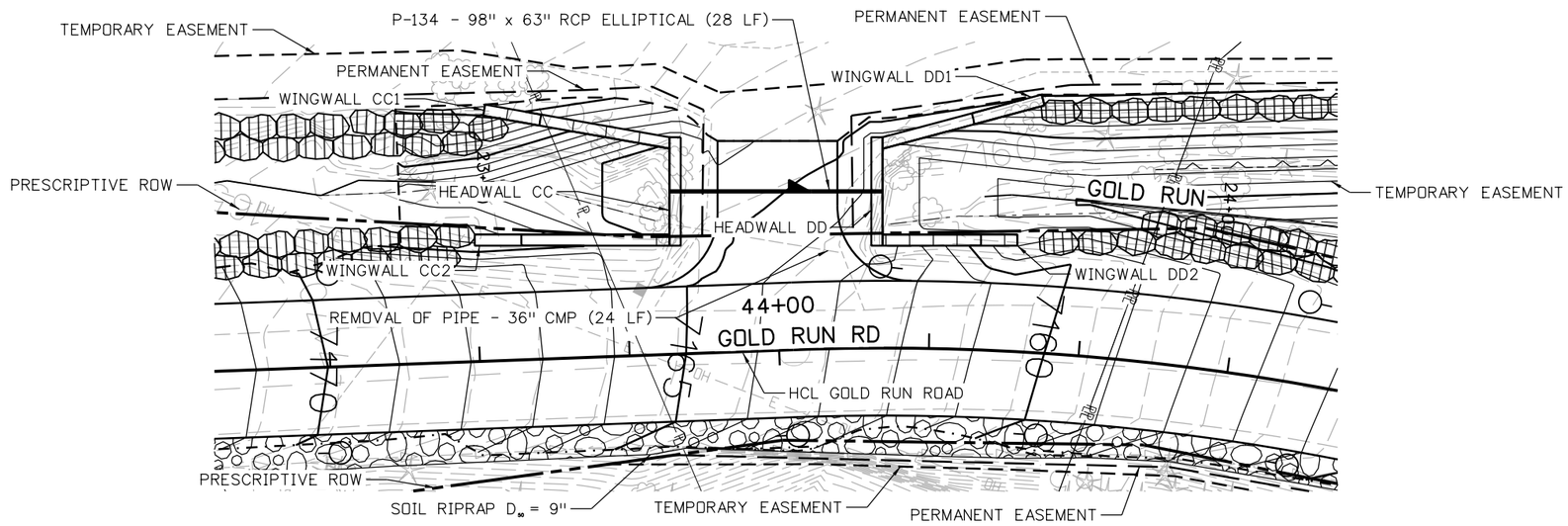

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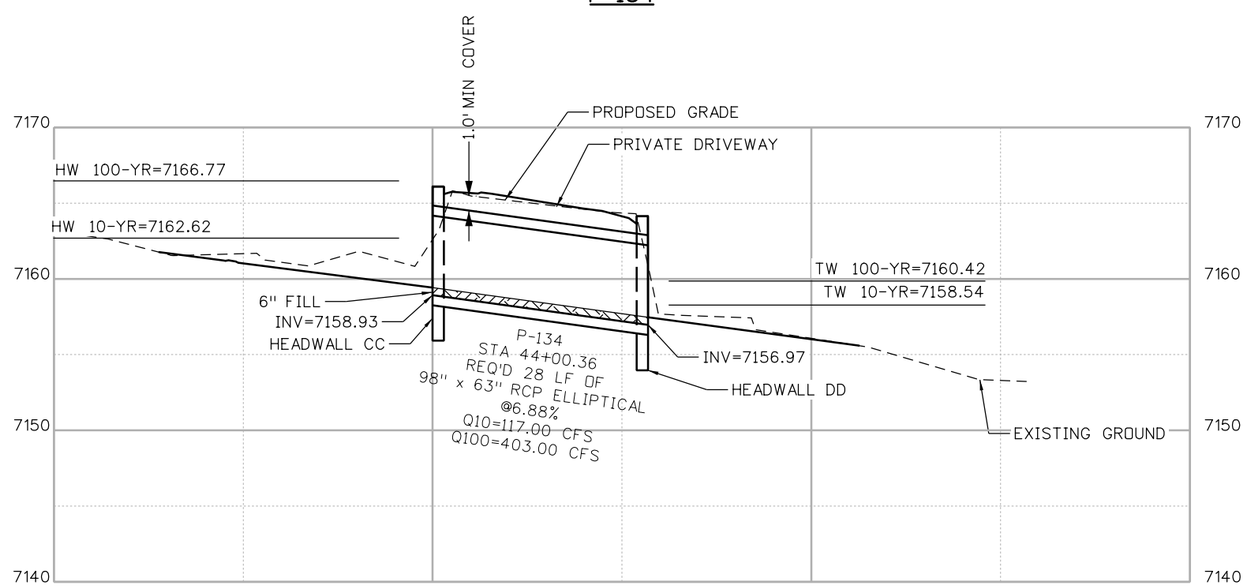

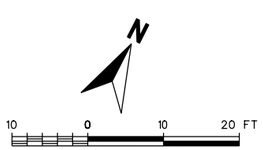

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GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
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PROJECT NO: 4043.SEPT12C38 | SHEET NO: 133

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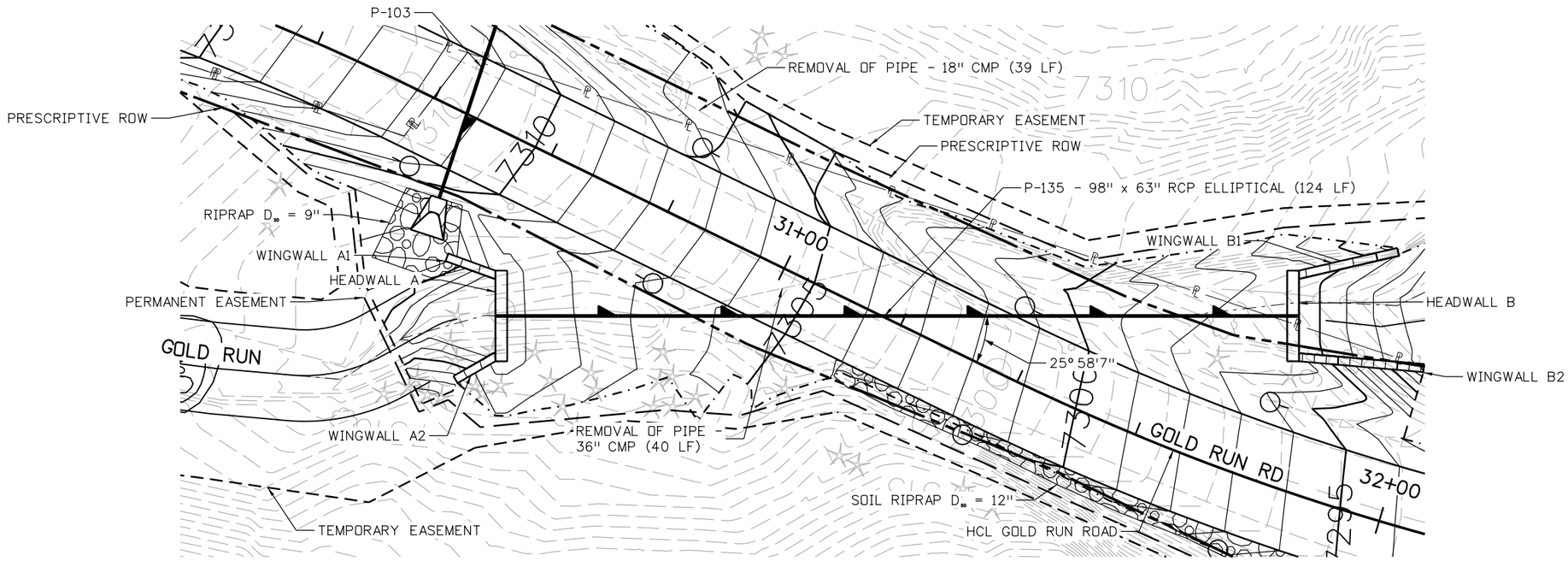

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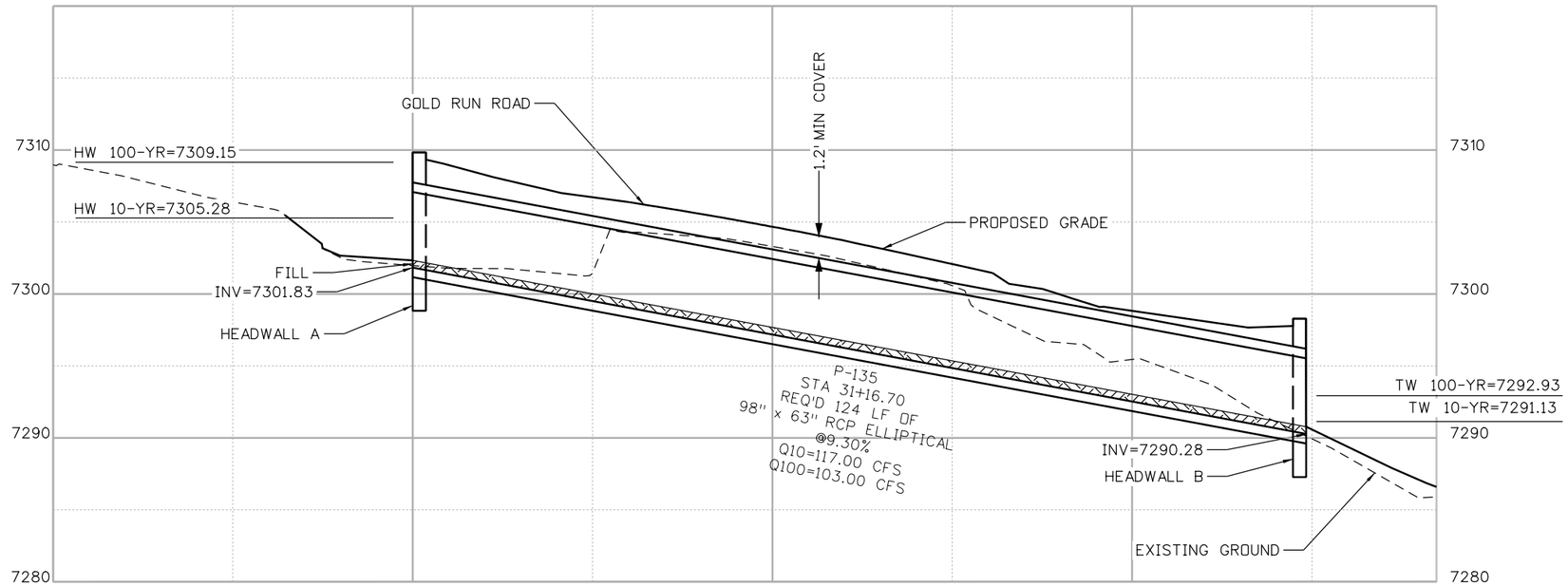

N

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HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

90% SET

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GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
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PROJECT NO: 4043.SEPT12C38 | SHEET NO: 134

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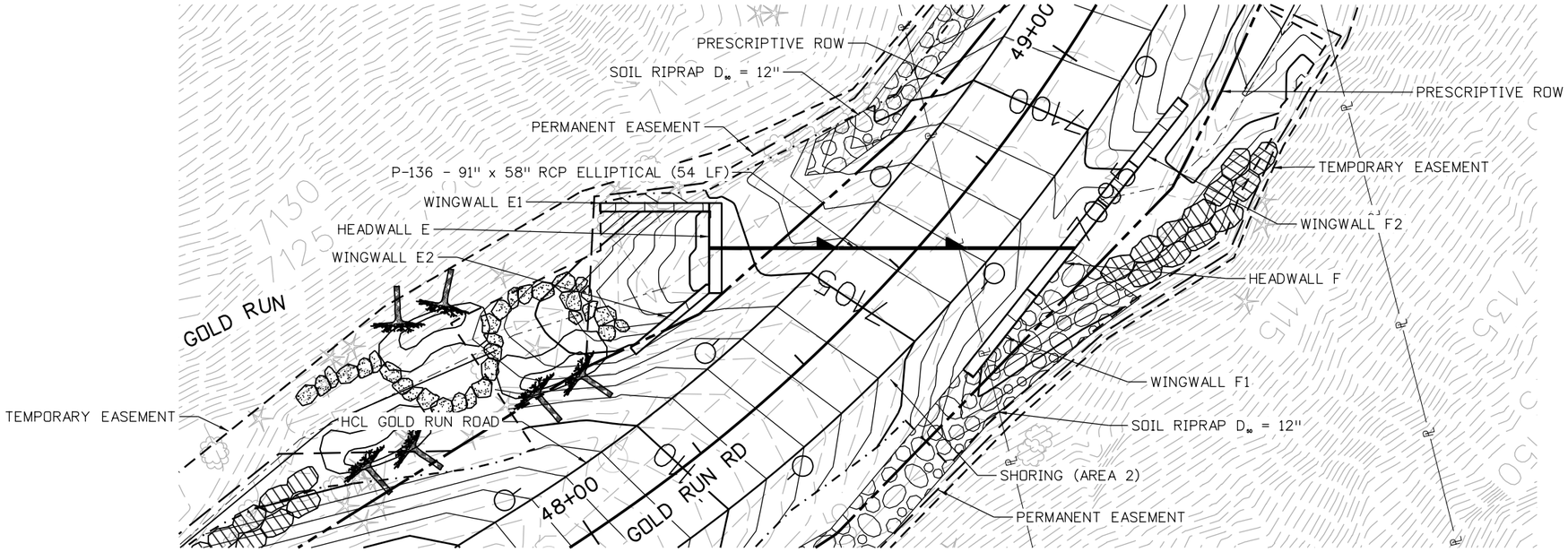

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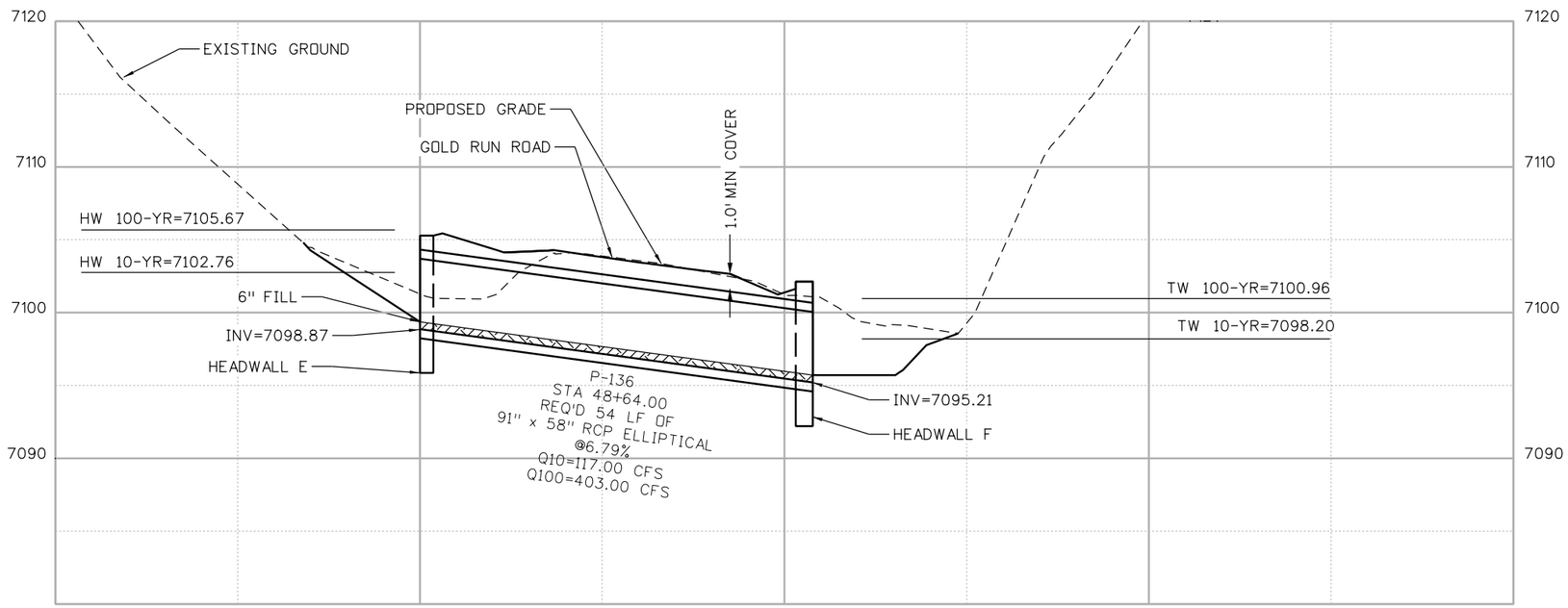

N

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HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

90% SET

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ENGINEERING DIVISION

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DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
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PROJECT NO: 4043.SEPT12C38 | SHEET NO: 135

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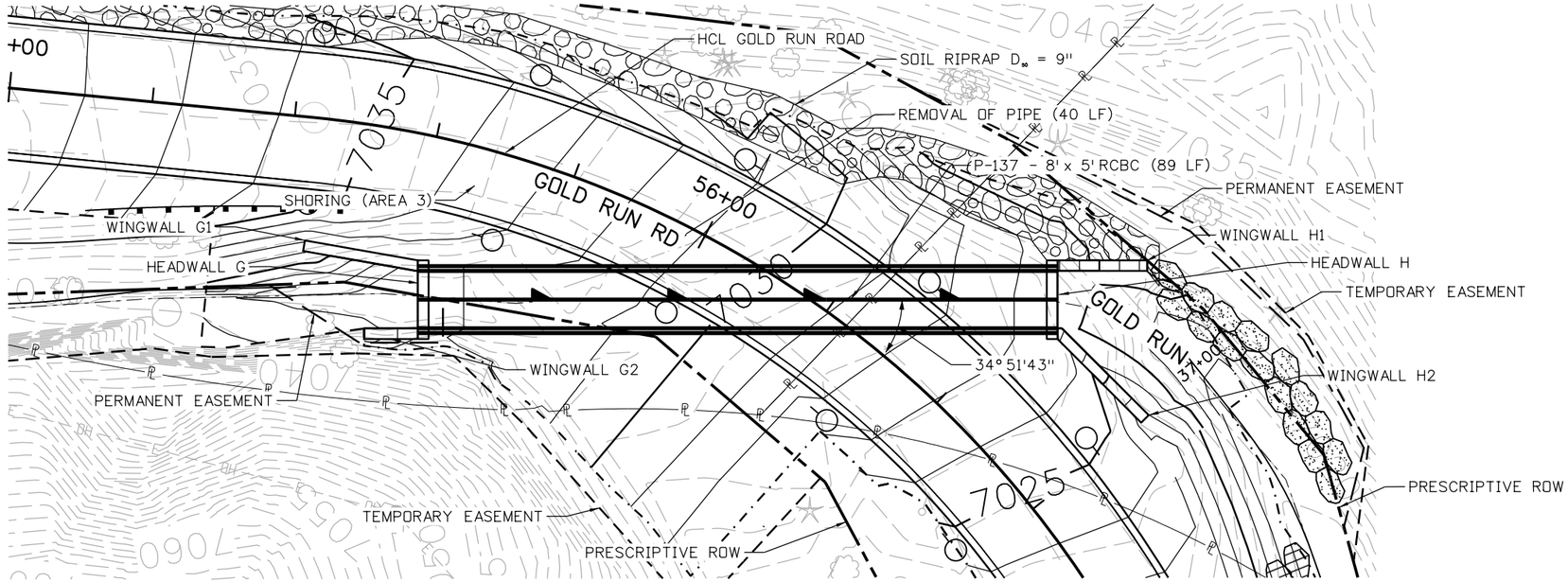

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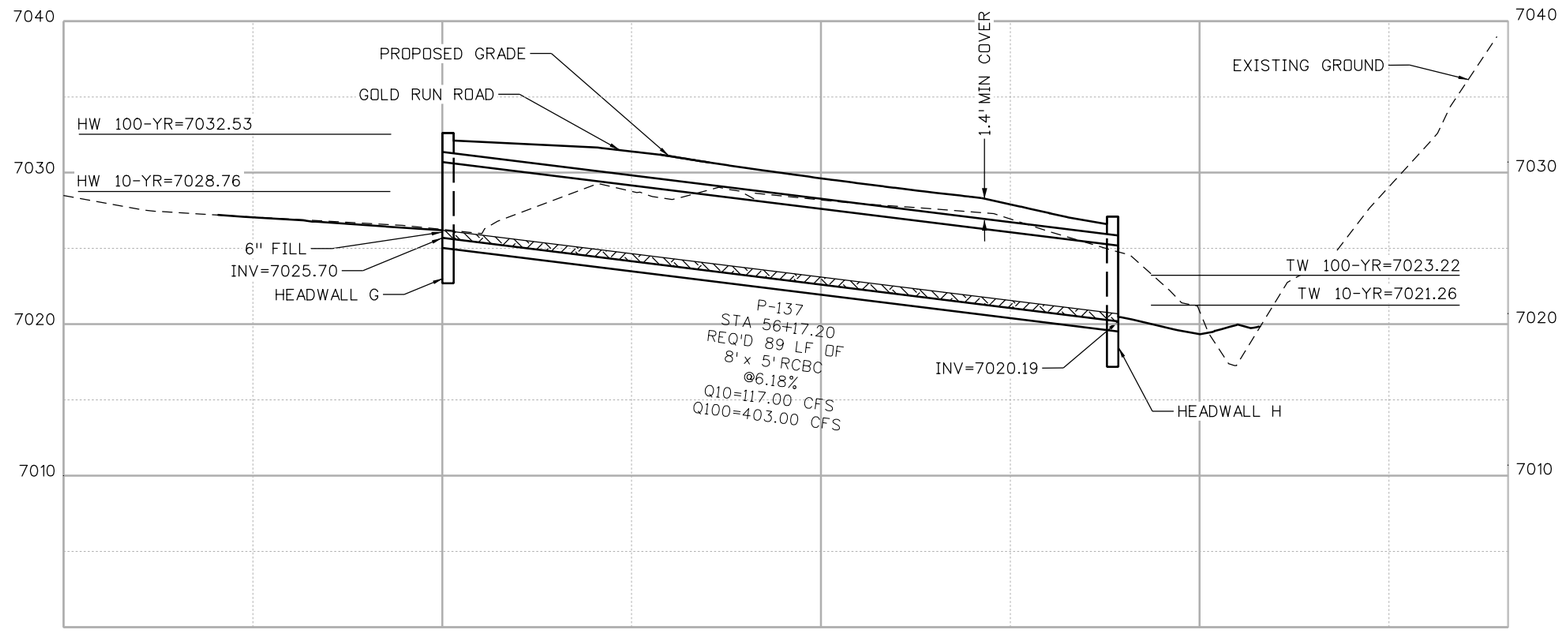

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VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
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ENGINEERING DIVISION

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JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
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PROJECT NO: 4043.SEPT12C38 | SHEET NO: 136

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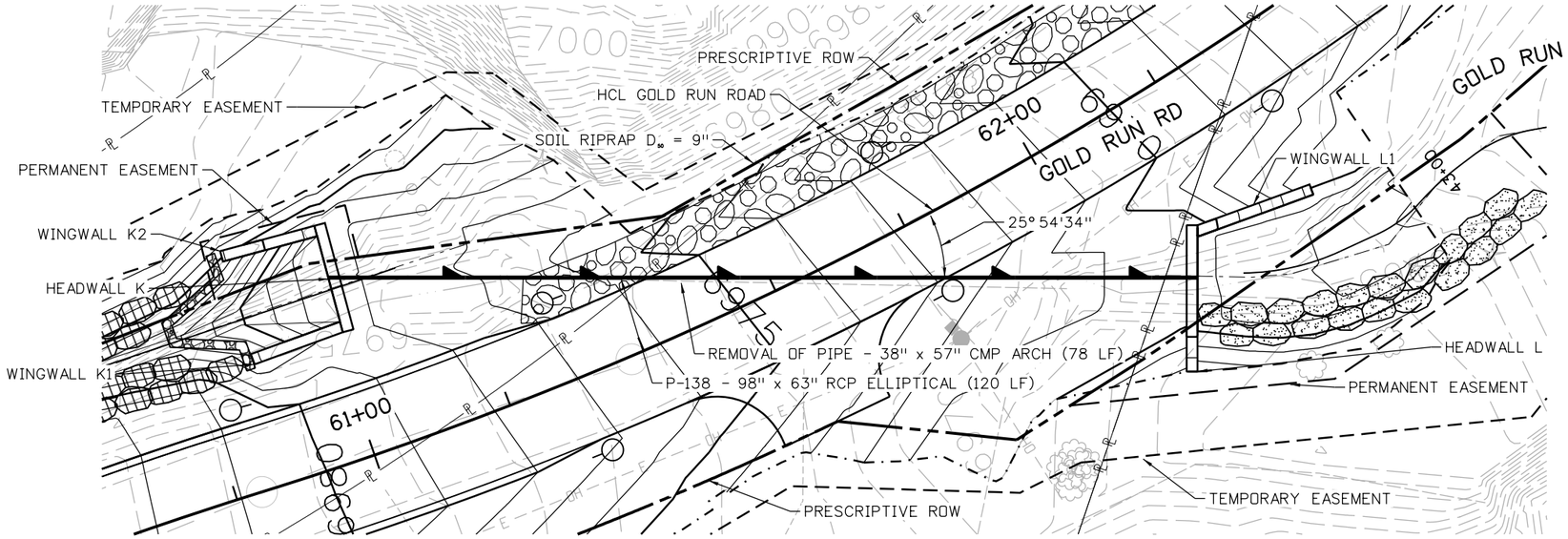

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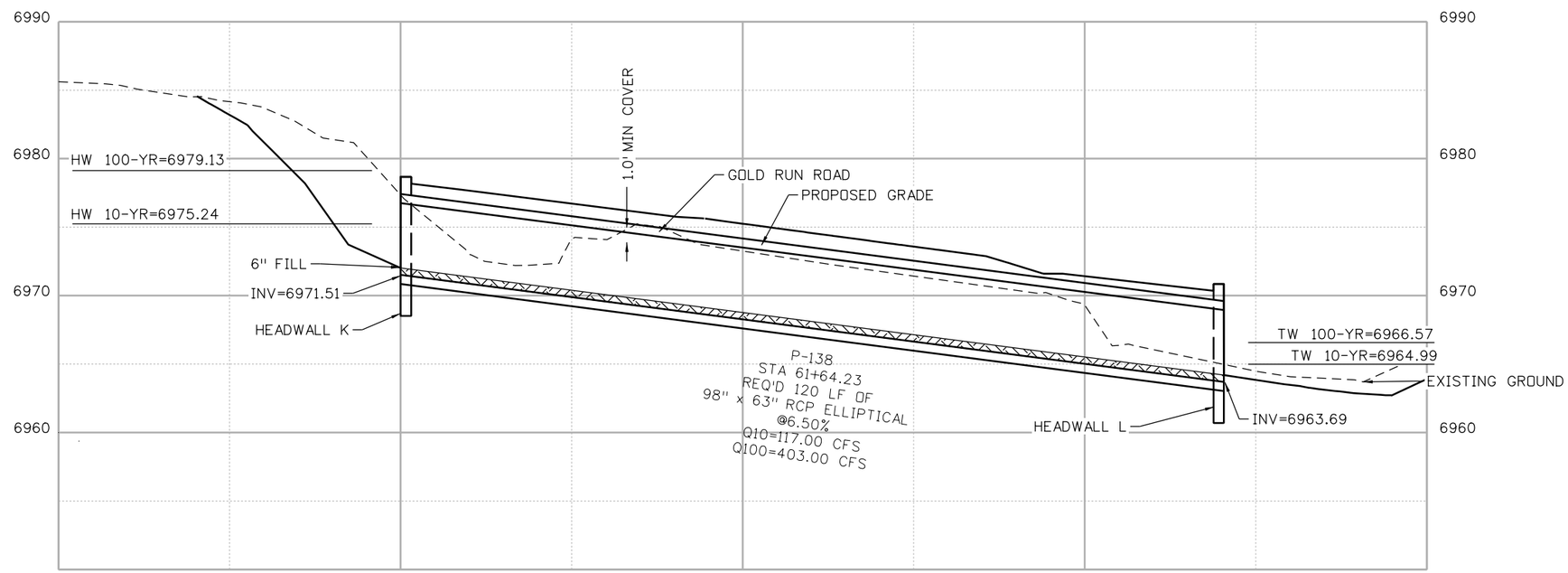

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VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
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BOULDER COUNTY TRANSPORTATION DEPARTMENT
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Michael Baker INTERNATIONAL

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JLW	EMR	JLW	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
P-138

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 137

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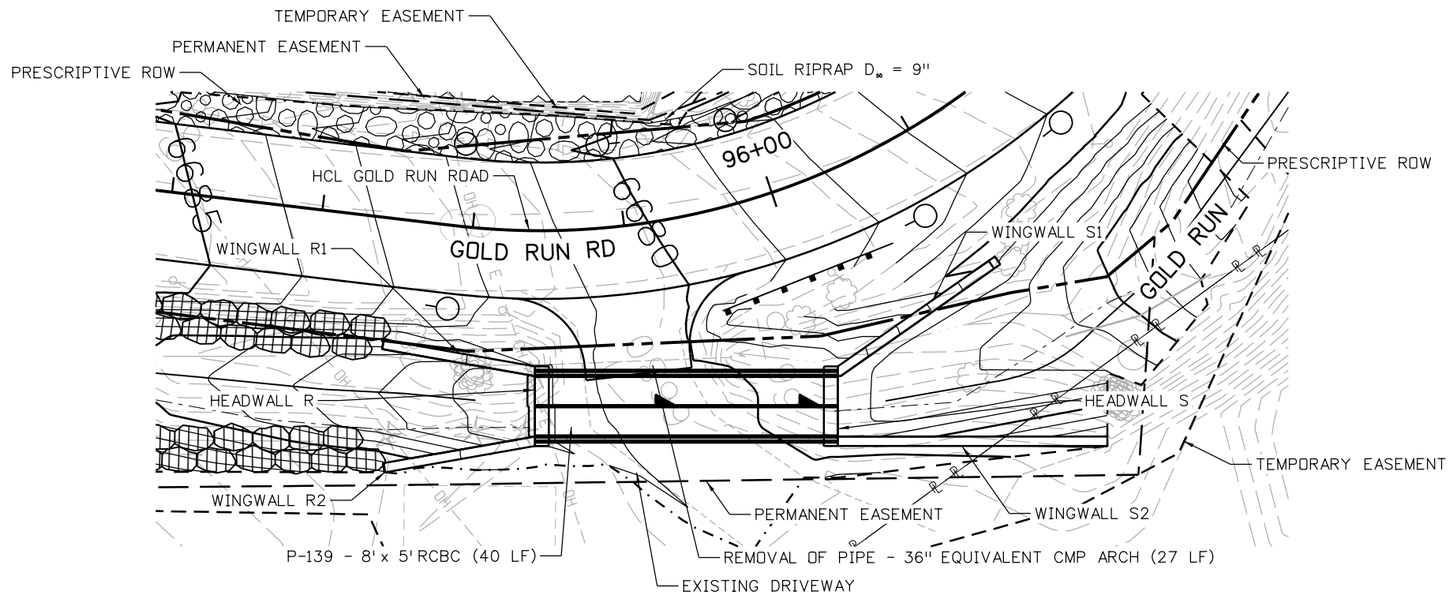

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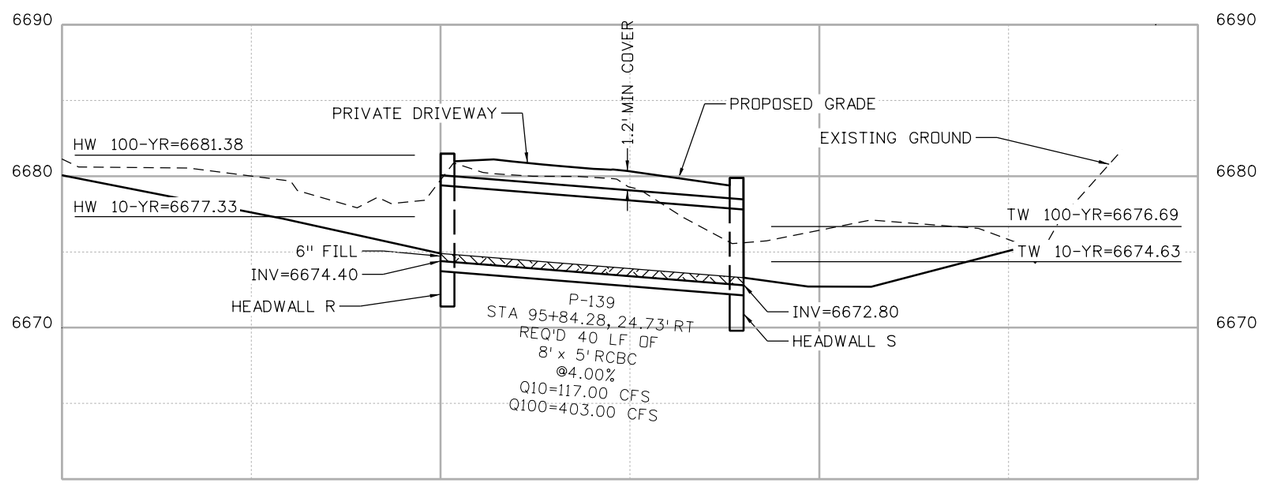

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VERTICAL SCALE: 1"=10'

90% SET

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JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
P-139

PROJECT NO: 4043.SEPT12C38 SHEET NO: 138

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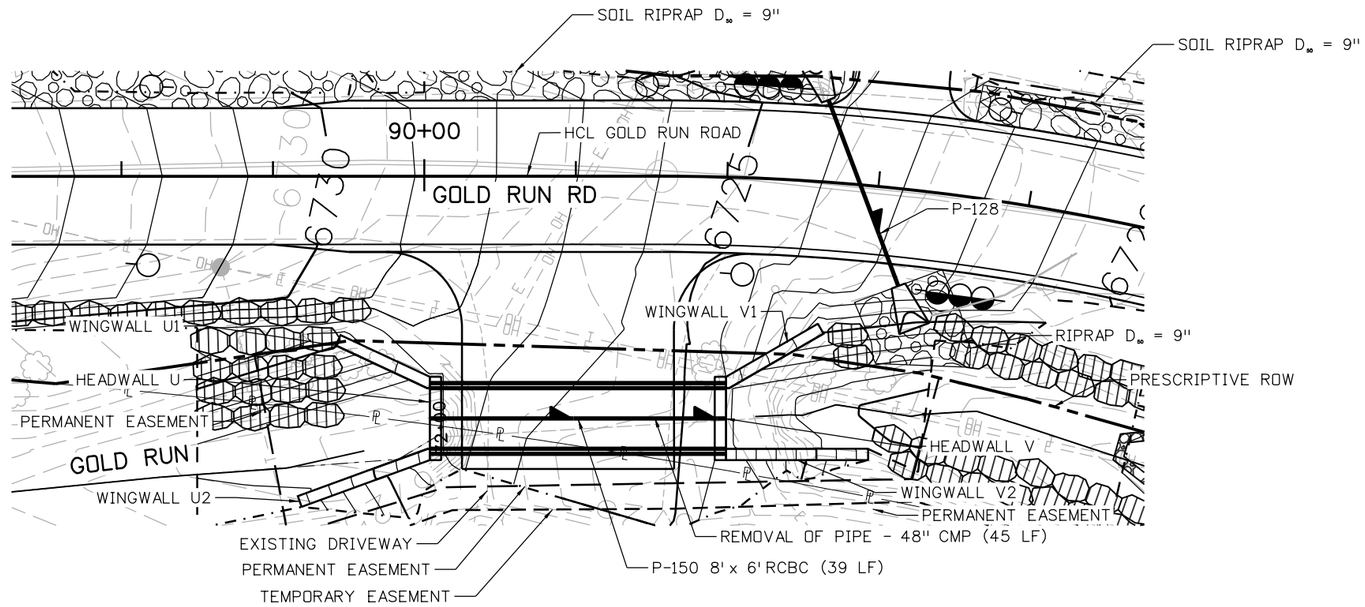

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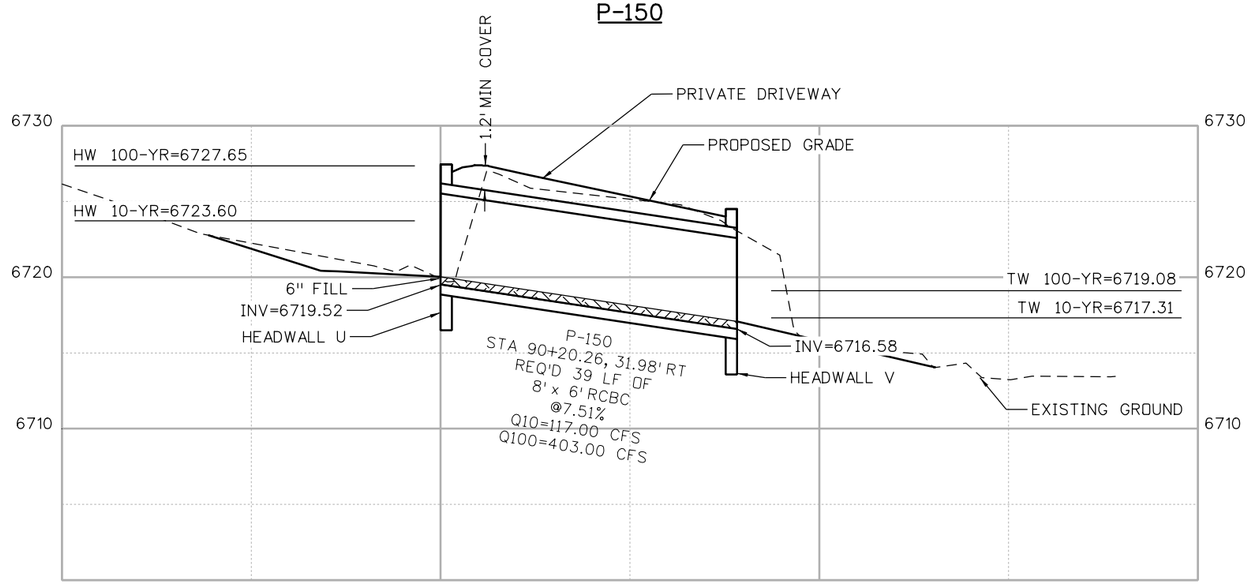

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JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
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PROJECT NO: 4043.SEPT12C38 SHEET NO: 139

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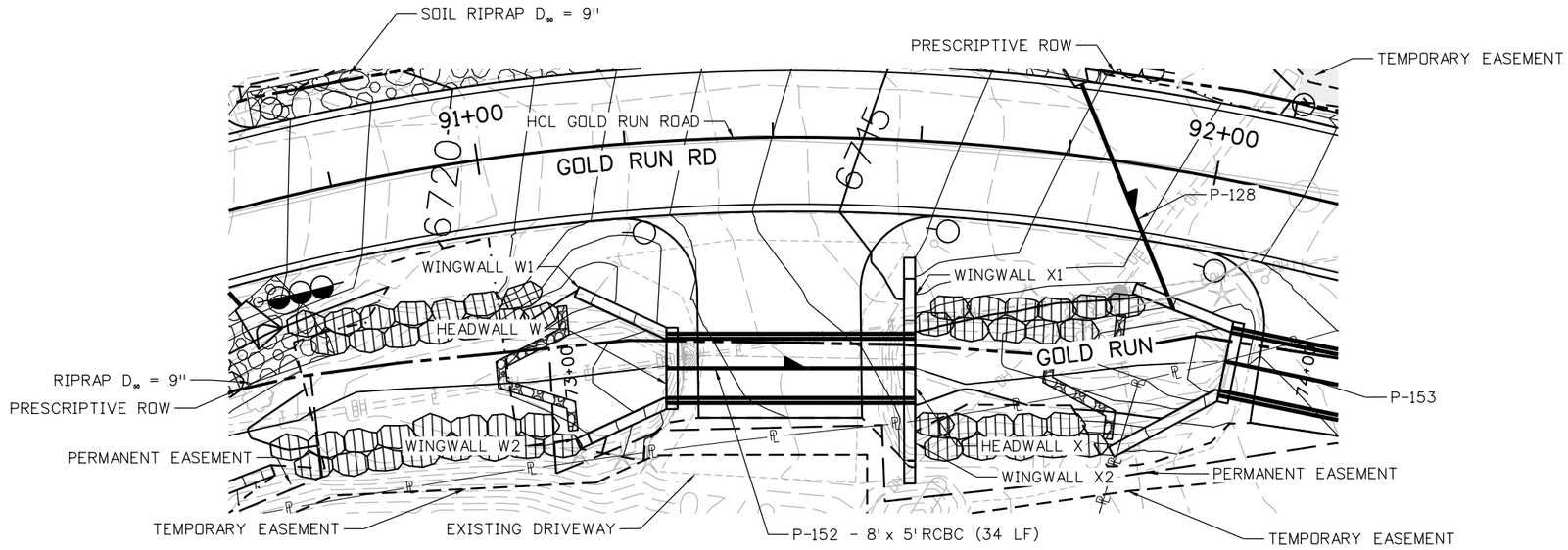

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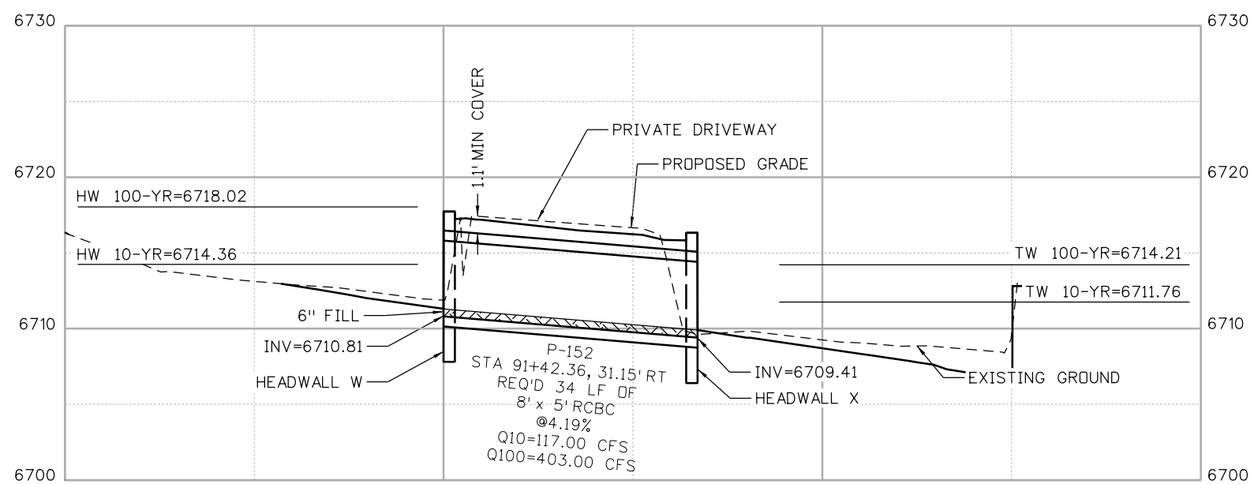

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VERTICAL SCALE: 1"=10'

90% SET

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JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
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PROJECT NO: 4043.SEPT12C38 | SHEET NO: 140

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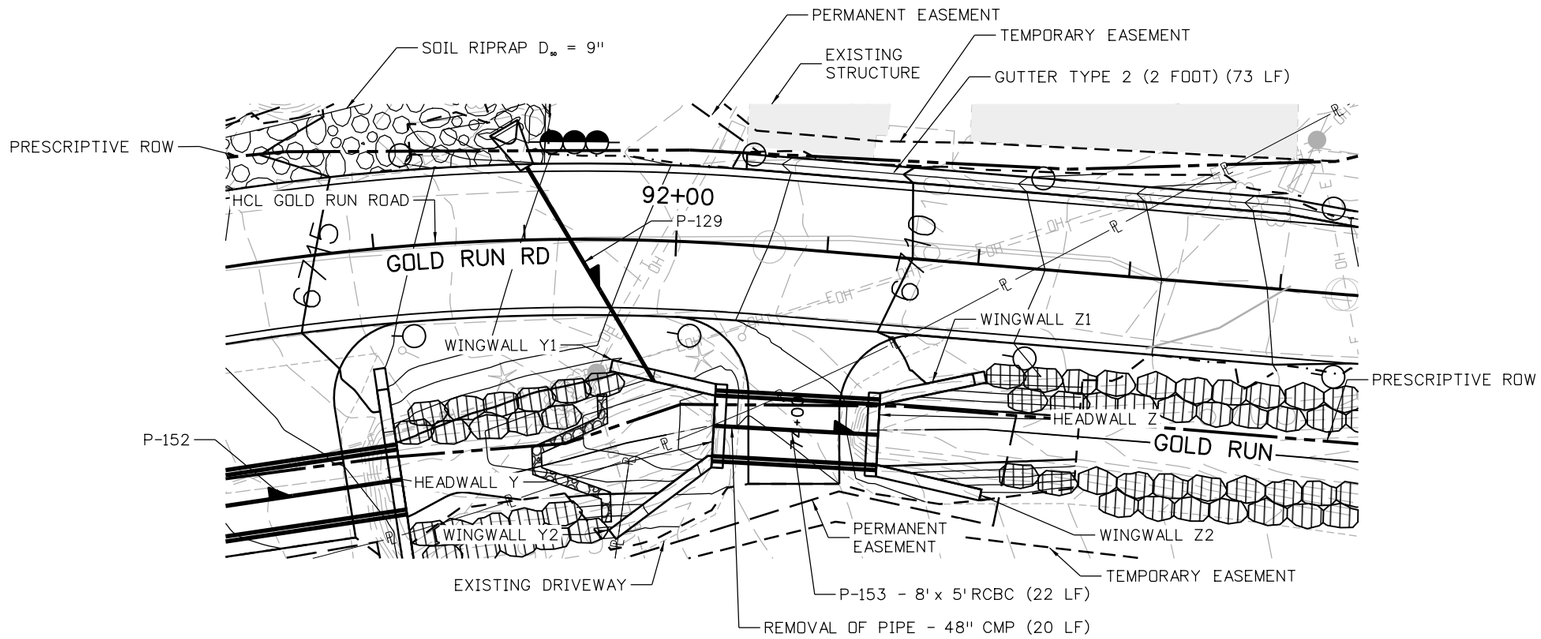

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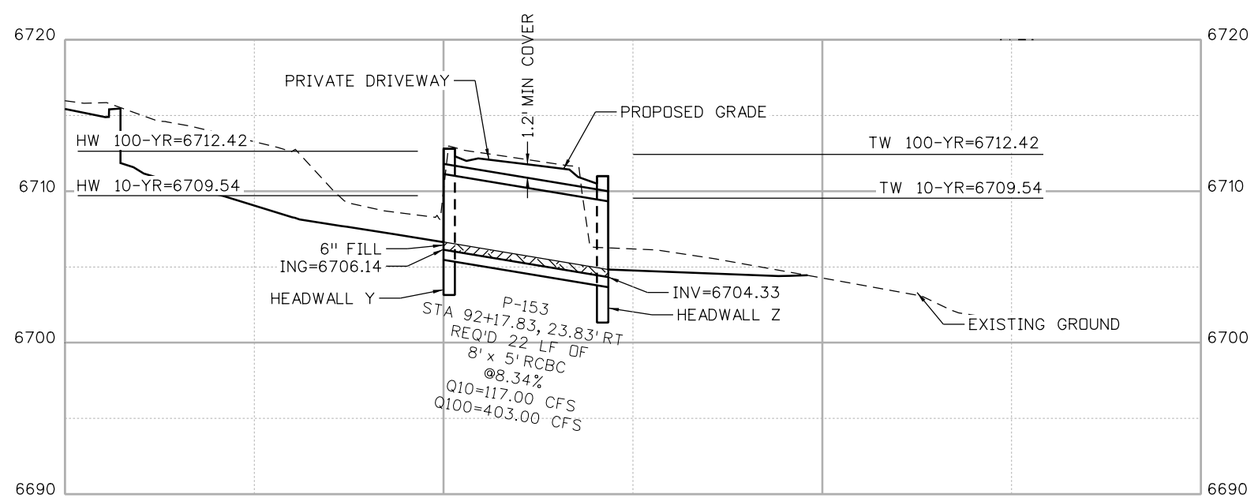

N

10 0 10 20 FT
HORIZONTAL SCALE: 1"=20'
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GOLD RUN ROAD
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PROJECT NO: 4043.SEPT12C38 SHEET NO: 141

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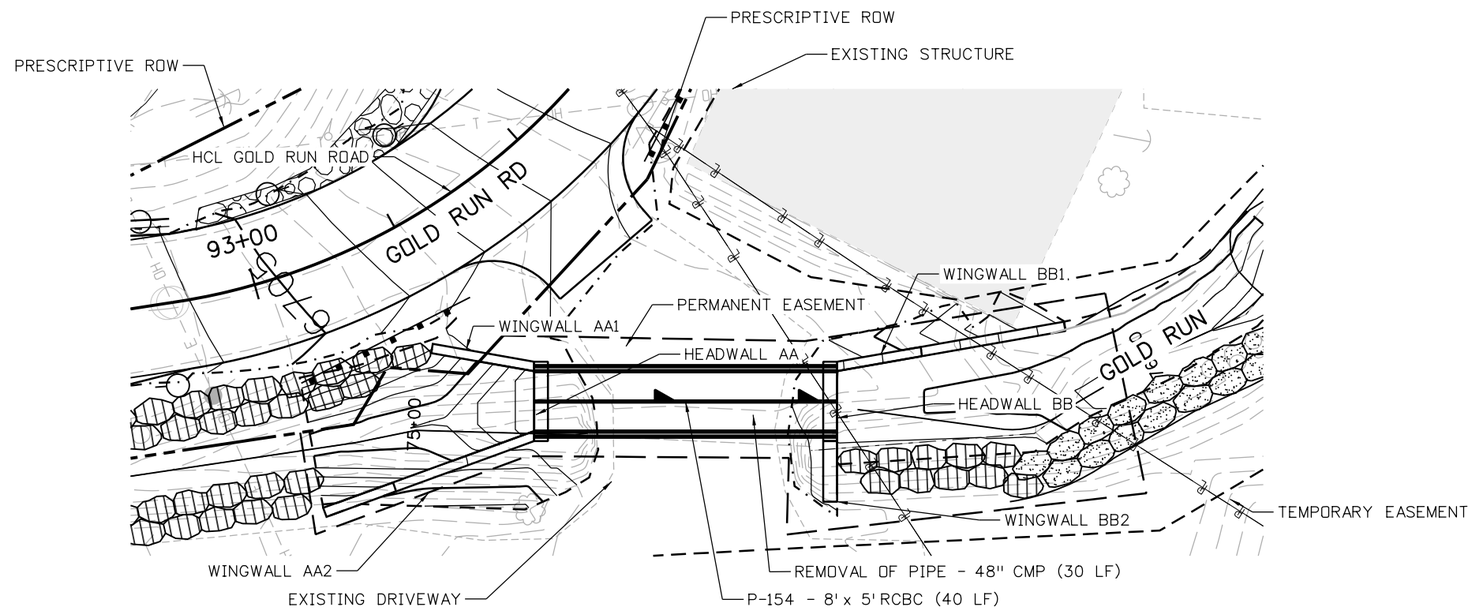
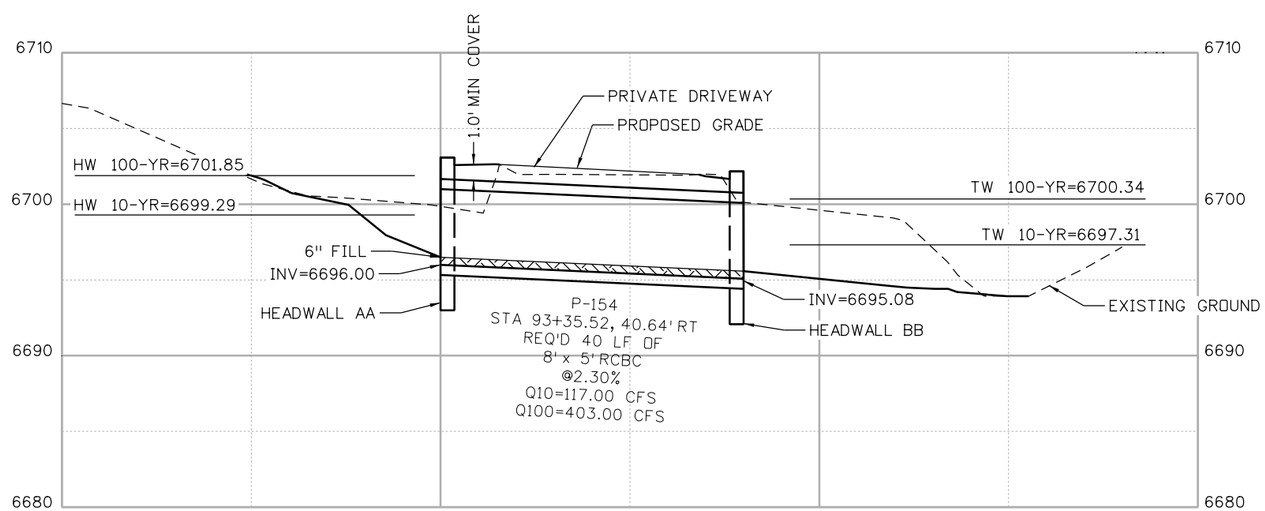


P-154



N

10 0 10 20 FT
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County
Michael Baker INTERNATIONAL

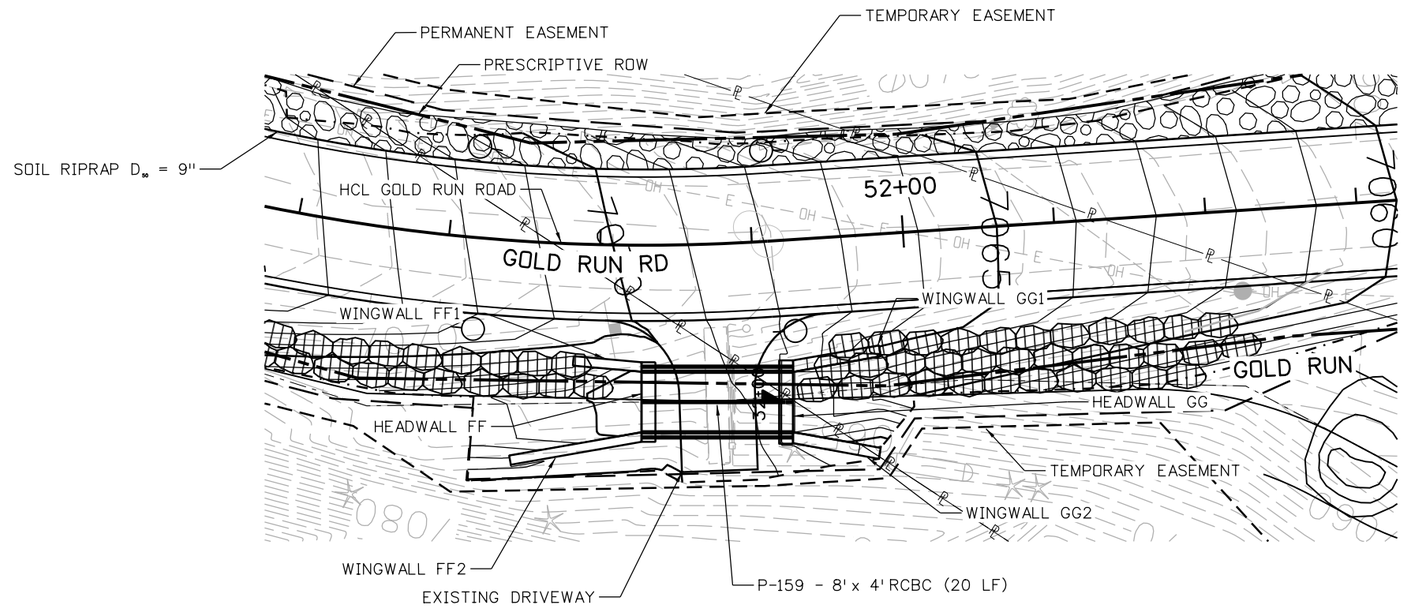
BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	JLW	04/15/16

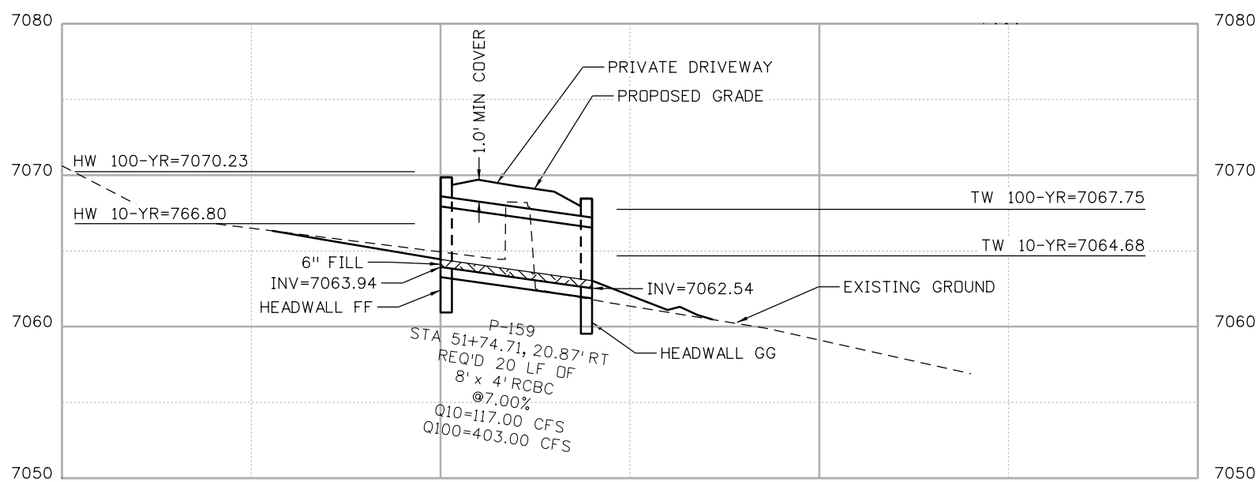
GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
P-154

PROJECT NO: 4043.SEPT12C38 SHEET NO: 142

edgar.robles 4:38:36 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DPP-16.dgn



P-159



N

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HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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ENGINEERING DIVISION

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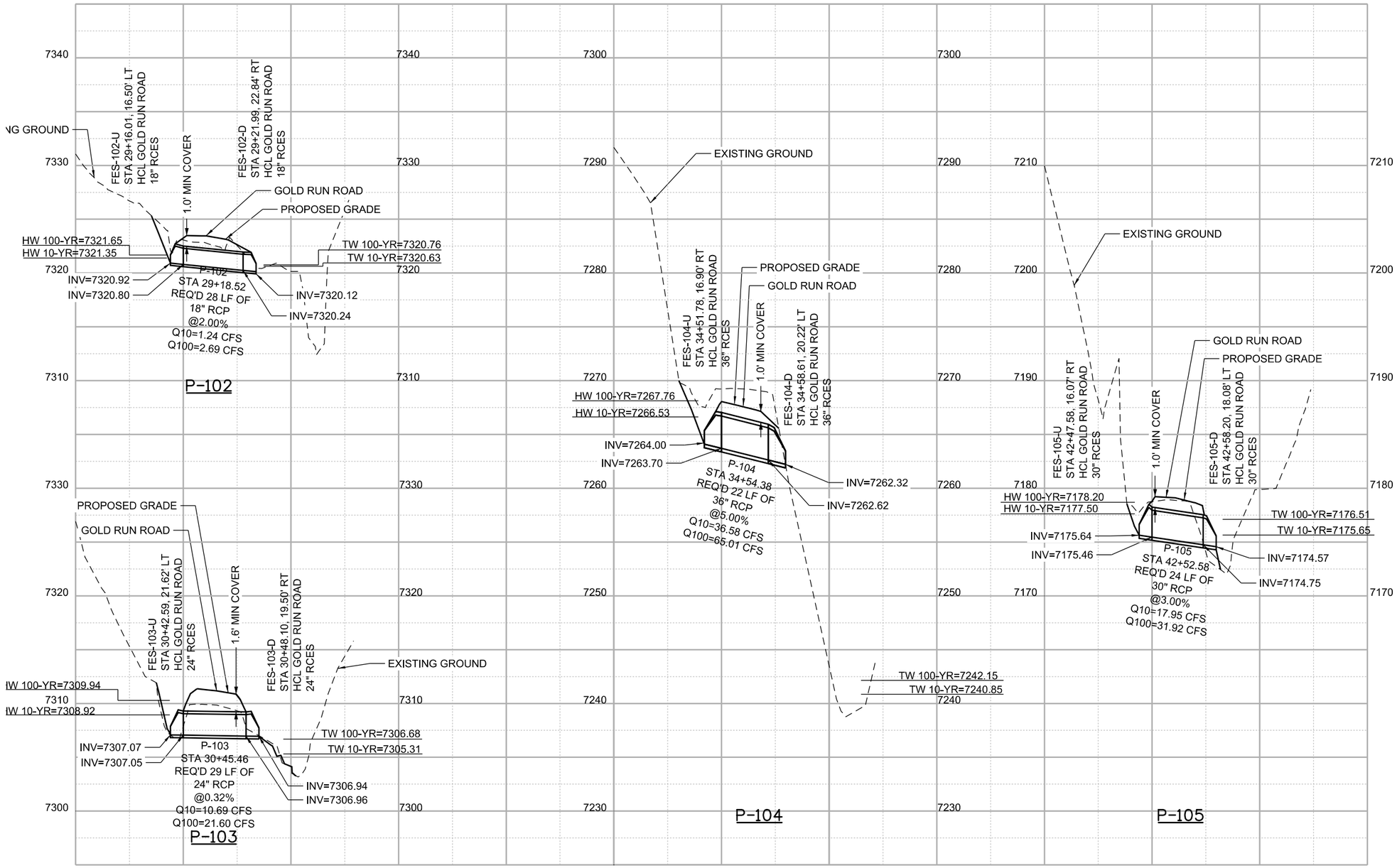
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PLAN AND PROFILE
P-159

PROJECT NO: 4043.SEPT12C38 SHEET NO: 143

edgar.robles 4:39:10 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DPP-17.dgn



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VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

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Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
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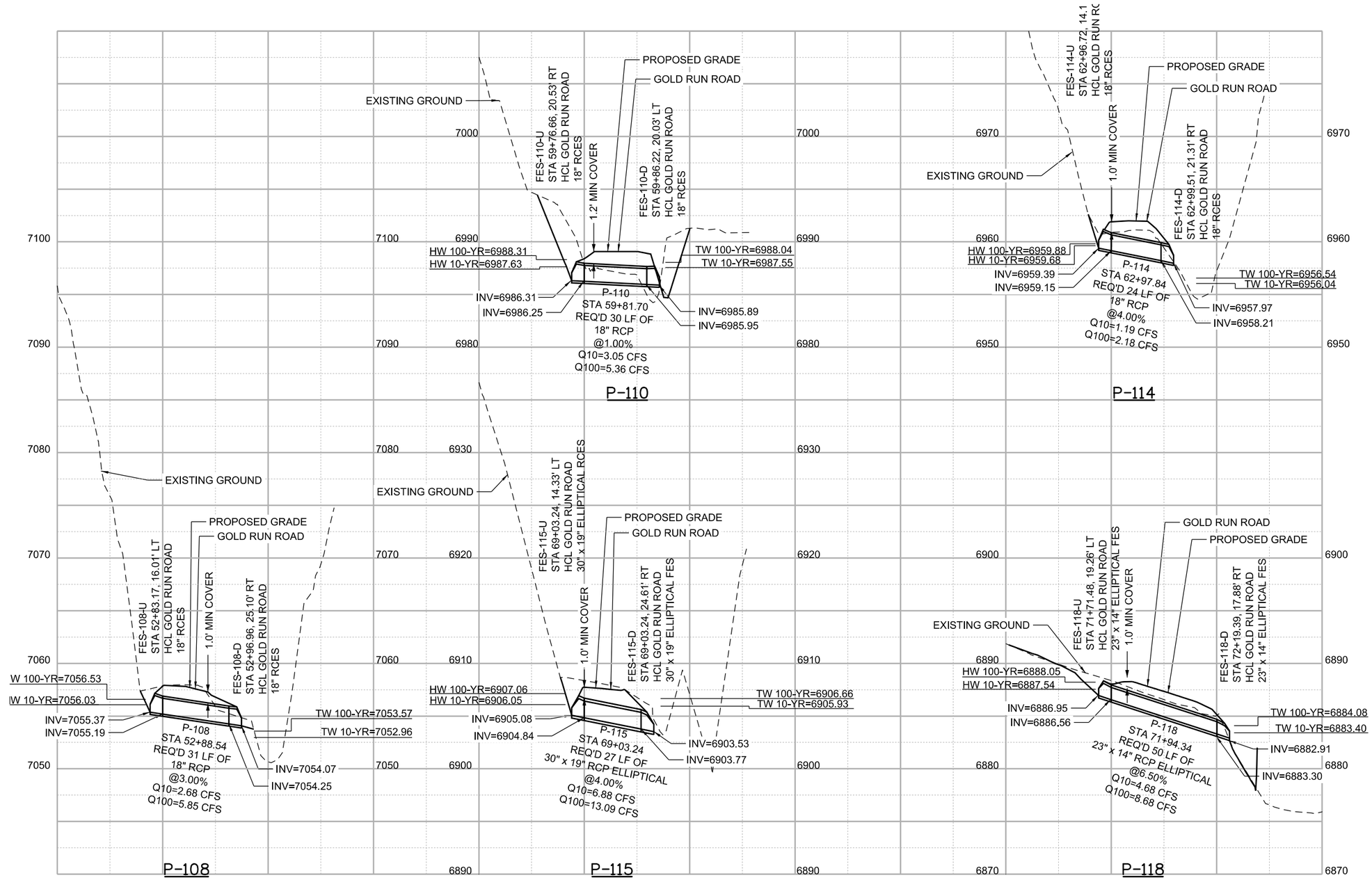
GOLD RUN ROAD
DRAINAGE PROFILES (1 OF 5)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 144

edgar.robles 4:39:44 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DP-01.dgn



25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

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BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

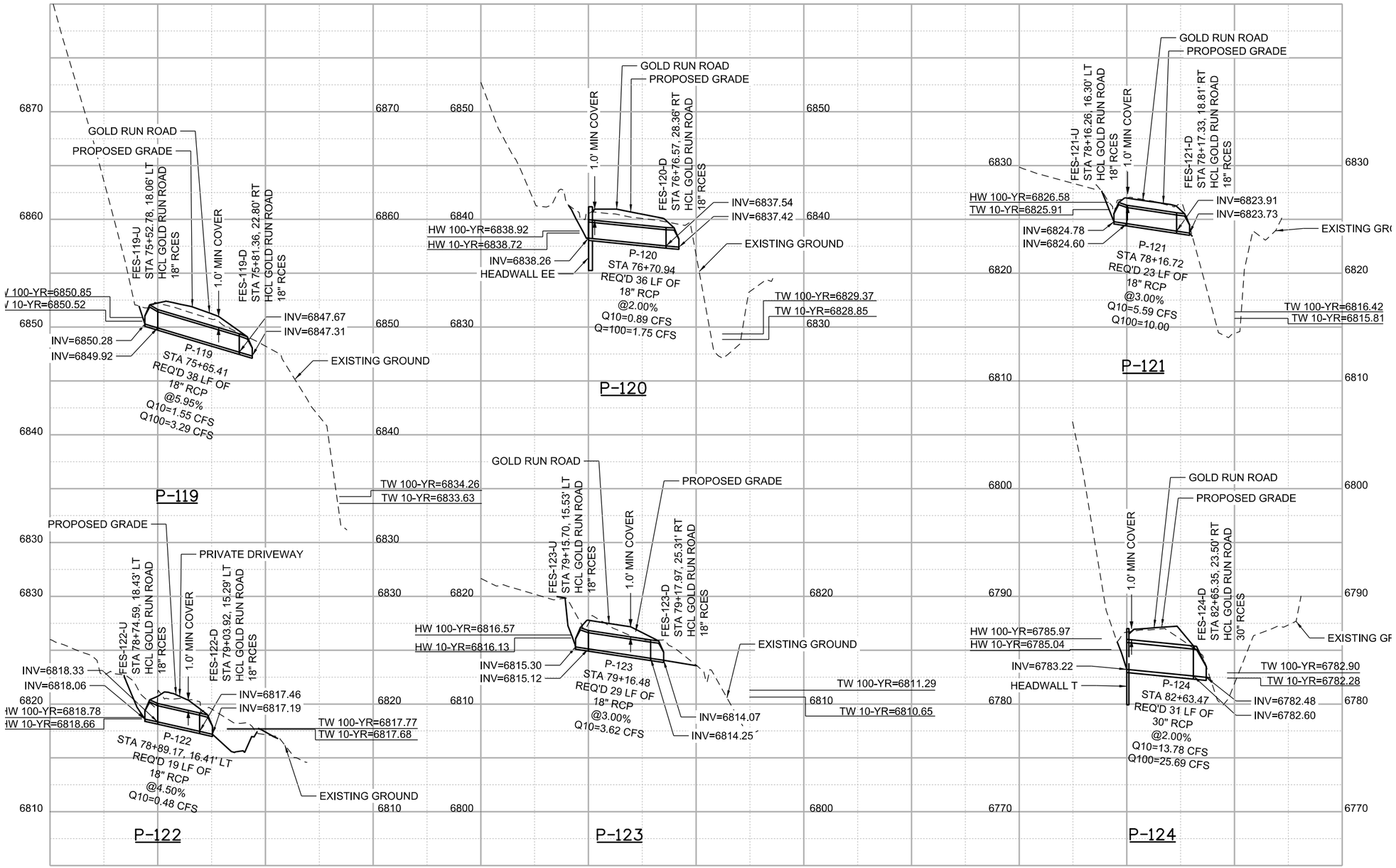
Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PROFILES (2 OF 5)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 145

edgar.robles 4:40:15 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DP-02.dgn



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HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

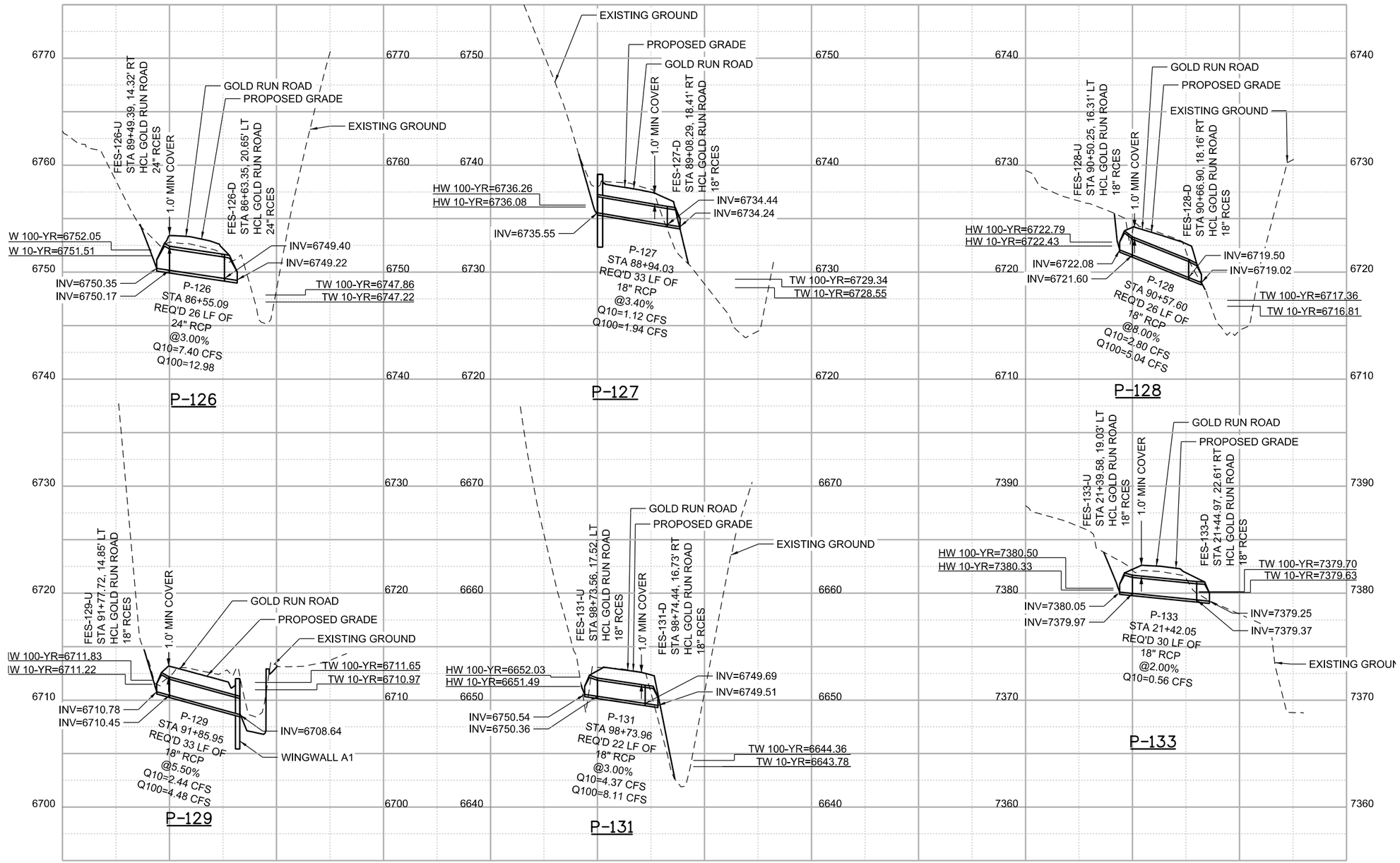
BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PROFILES (3 OF5)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 146

jessica.wray 12:35:12 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DP-03.dgn



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HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

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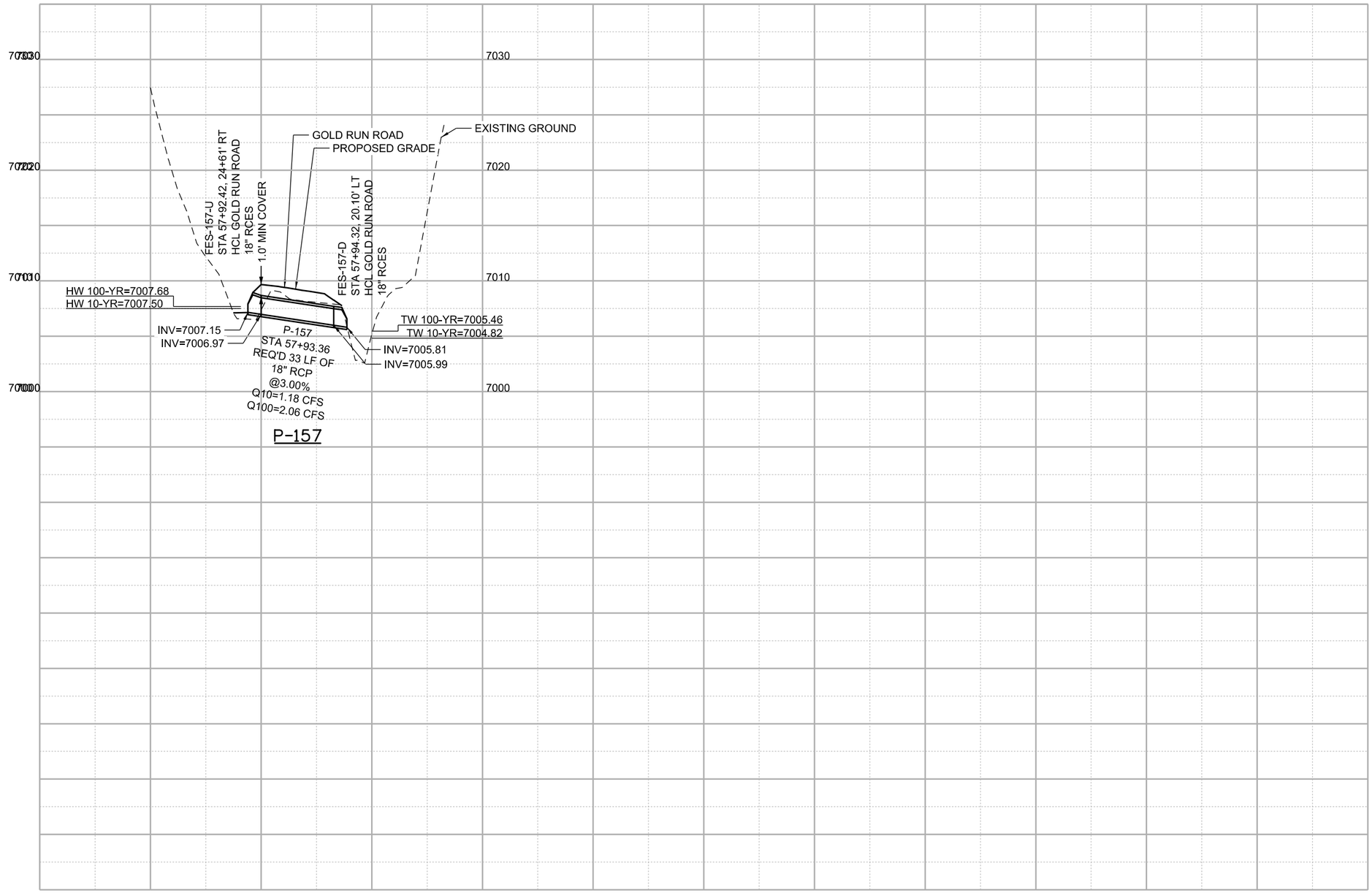
ENGINEERING DIVISION
Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE PROFILES
(4 OF 5)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 147

jessica.wray 12:35:29 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DP-04.dgn



25 0 25 50 FT
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County
Michael Baker INTERNATIONAL

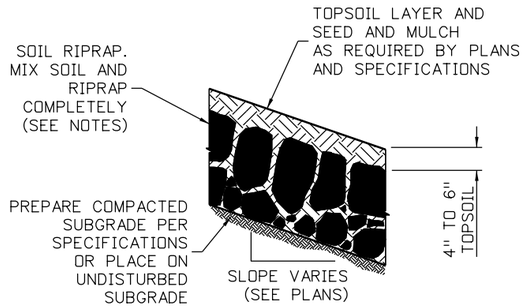
BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

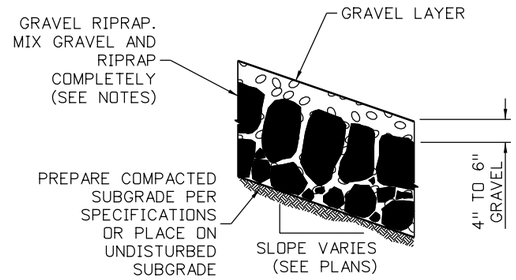
GOLD RUN ROAD
DRAIANGE PROFILES
(5 OF 5)

PROJECT NO: 4043.SEPT12C38
SHEET NO: 148

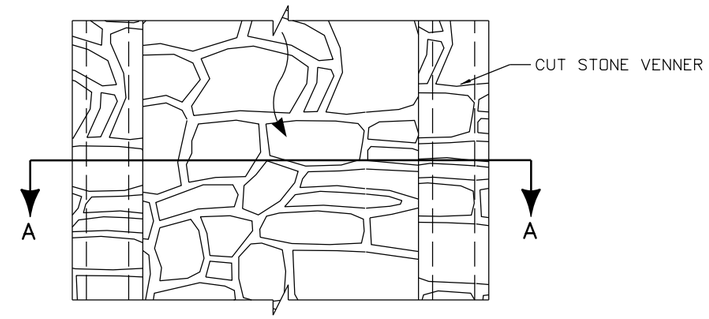
edgar.robles 4:41:52 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DP-05.dgn



TYPICAL SECTION
SOIL RIPRAP WITH MULCH
FOR CHANNEL
NTS



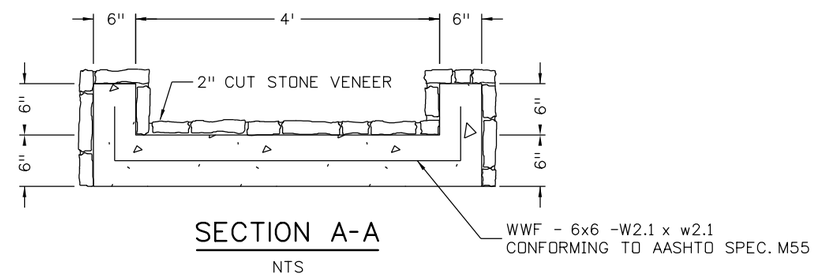
TYPICAL SECTION
GRAVEL RIPRAP WITH MULCH
FOR CHANNEL
NTS



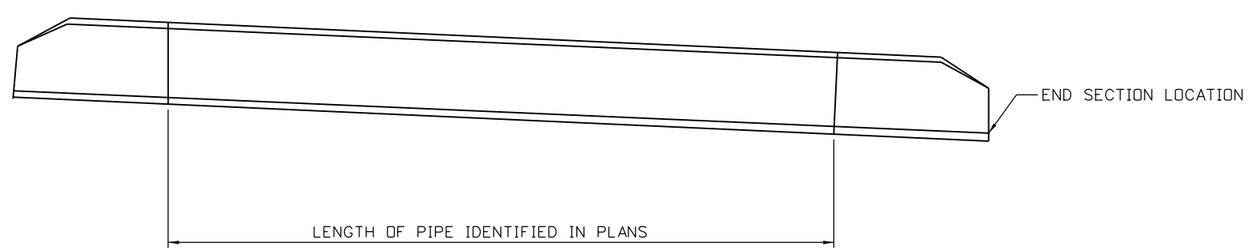
GUTTER (SPECIAL)
PLAN VIEW
NTS

NOTES:

1. SOIL RIPRAP AND GRAVEL RIPRAP DETAILS ARE APPLICABLE TO SLOPED AREAS. REFER TO THE DRAINAGE PLANS FOR ACTUAL LOCATIONS AND LIMITS.
2. MIX UNIFORMLY 65% RIPRAP BY VOLUME WITH 35% OF APPROVED SOIL OR GRAVEL BY VOLUME PRIOR TO PLACEMENT.
3. PLACE RIPRAP-SOIL OR RIPRAP-GRAVEL MIX TO RESULT IN SECURELY INTERLOCKED ROCK AT THE DESIGN THICKNESS AND GRADE. COMPACT AND LEVEL TO ELIMINATE ALL VOIDS AND ROCKS PROJECTING ABOVE DESIGN RIPRAP TOP GRADE.
4. CRIMP OR TACKIFY MULCH ON SOIL RIPRAP OR AS CALLED FOR IN THE PLANS AND SPECIFICATIONS.
5. SEE STORMWATER MANAGEMENT PLAN FOR SEEDING MIXTURE AND DETAILS.
6. BENCH RIPRAP AS NECESSARY TO MATCH EXISTING GRADE AND PLACE STONE-SOIL OR STONE-GRAVEL MIX TO RESULT IN SECURELY INTERLOCKED ROCK AT THE DESIGN THICKNESS AND GRADE. COMPACT AND LEVEL TO ELIMINATE ALL VOIDS AND ROCKS PROJECTING ABOVE FINISHED GRADE.



SECTION A-A
NTS



90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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Boulder County
Michael Baker INTERNATIONAL

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE DETAILS
(SHEET 1 OF 2)

PROJECT NO: 4011.SEPT12C38 | SHEET NO: 149

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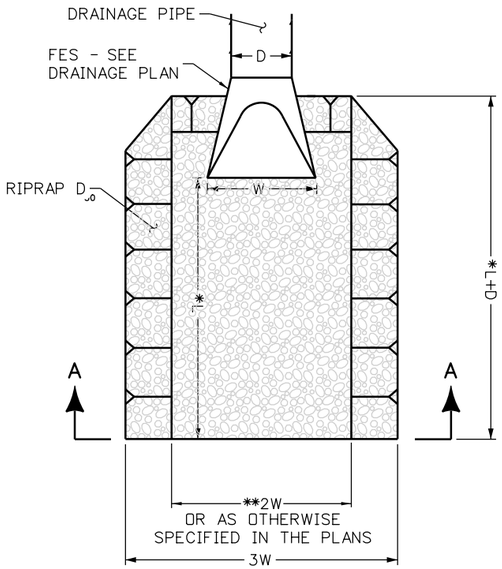
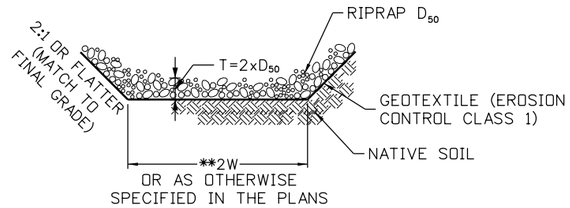


PLAN



SECTION A-A

ID	L
FES-100	0.0'

* 3D < L < 10D (SEE TABLE)
** EQUALS CHANNEL WIDTH FOR PIPE INLETS

PIPE INLET/OUTLET WITH RIPRAP

NOTES:

1. FLOW DIRECTION MAY VARY. SEE DRAINAGE PLANS.
2. DIMENSIONS OF DITCH FEATURES ARE LOCATION SPECIFIC. SEE DRAINAGE PLANS AND TABLES.

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS: NO.	DATE	REVISION DESCRIPTION:

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Michael Baker INTERNATIONAL

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
JLW	EMR	SLS	04/15/16

GOLD RUN ROAD
DRAINAGE DETAILS (SHEET 2 OF 2)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 150

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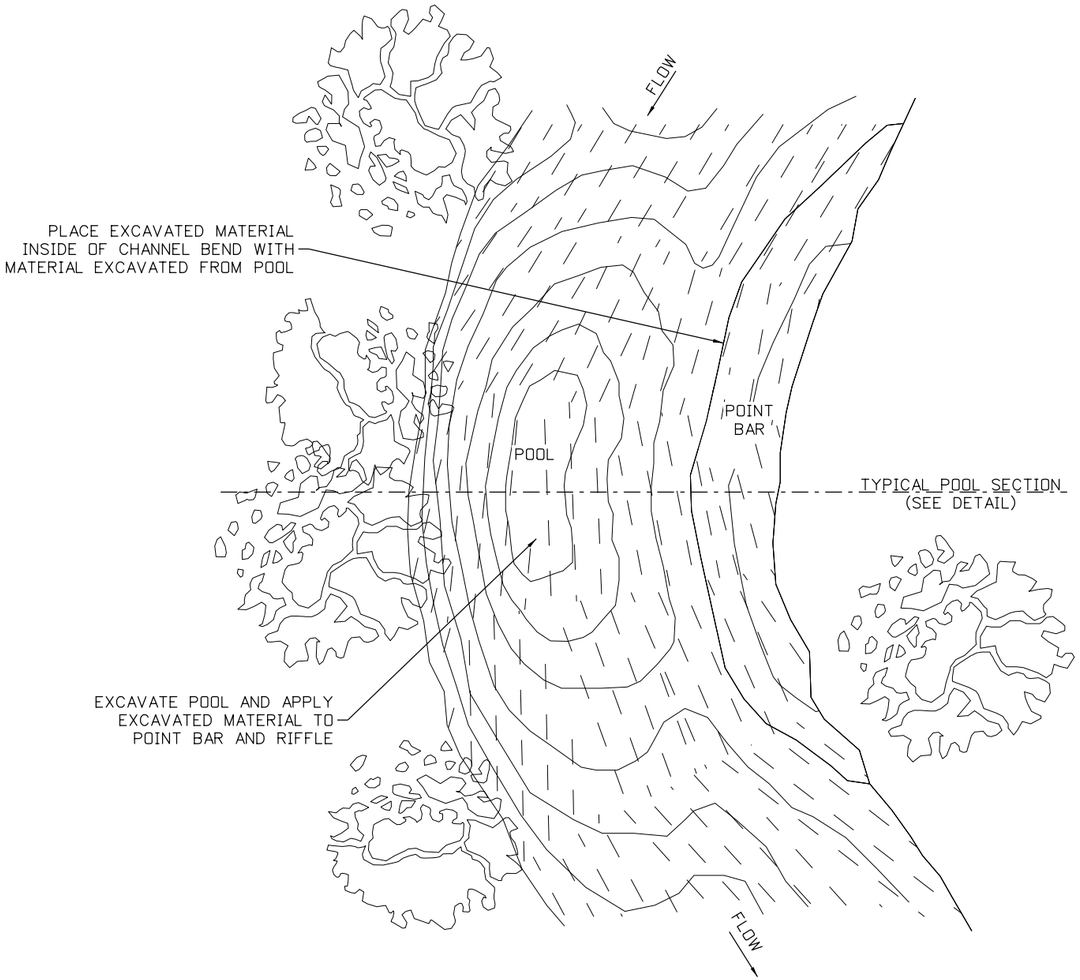

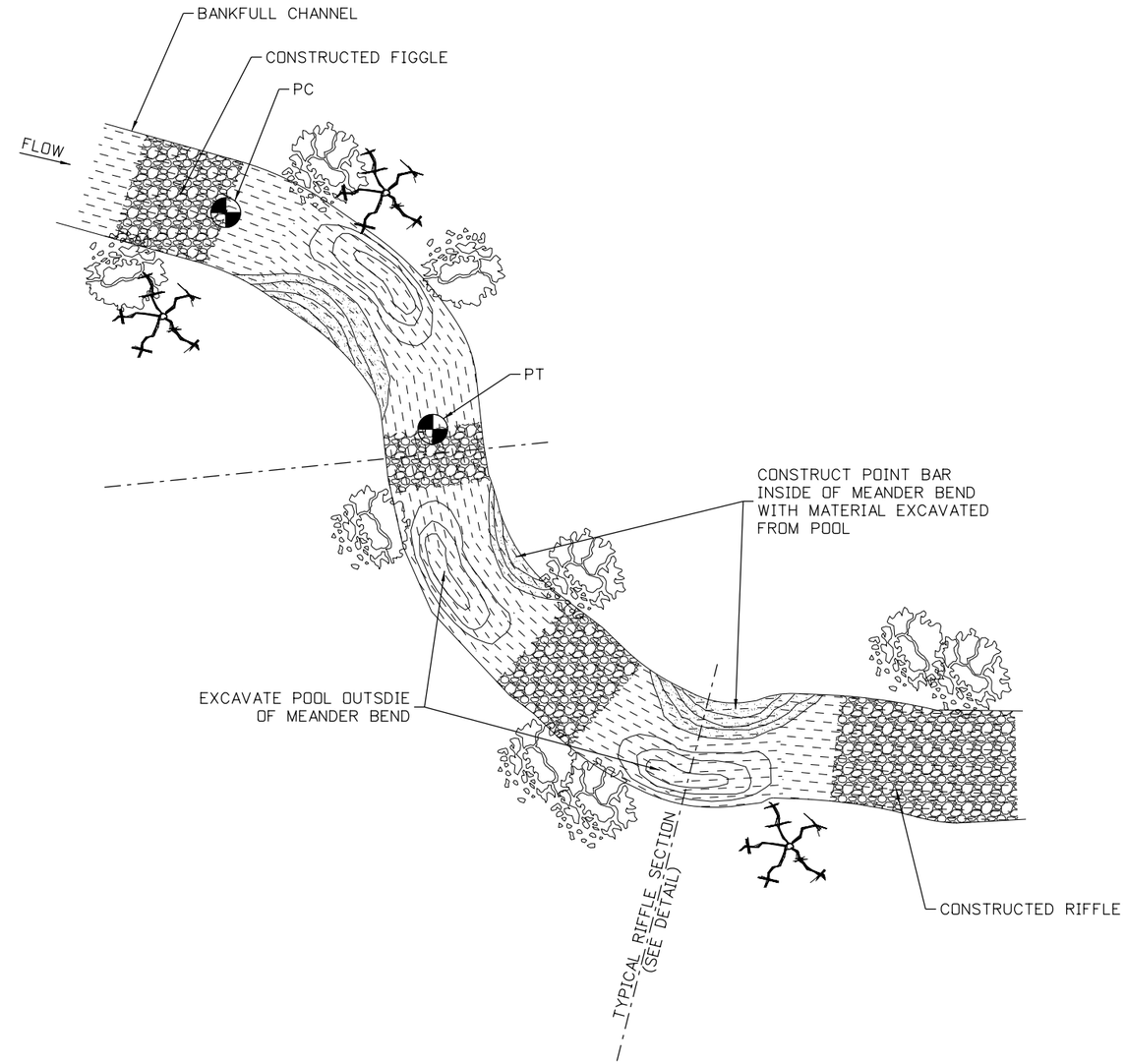

CONSTRUCTED POOL AND POINT BAR

NTS

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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ENGINEERING DIVISION

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DESIGNED:	CAD:	CHECKED:	DATE:
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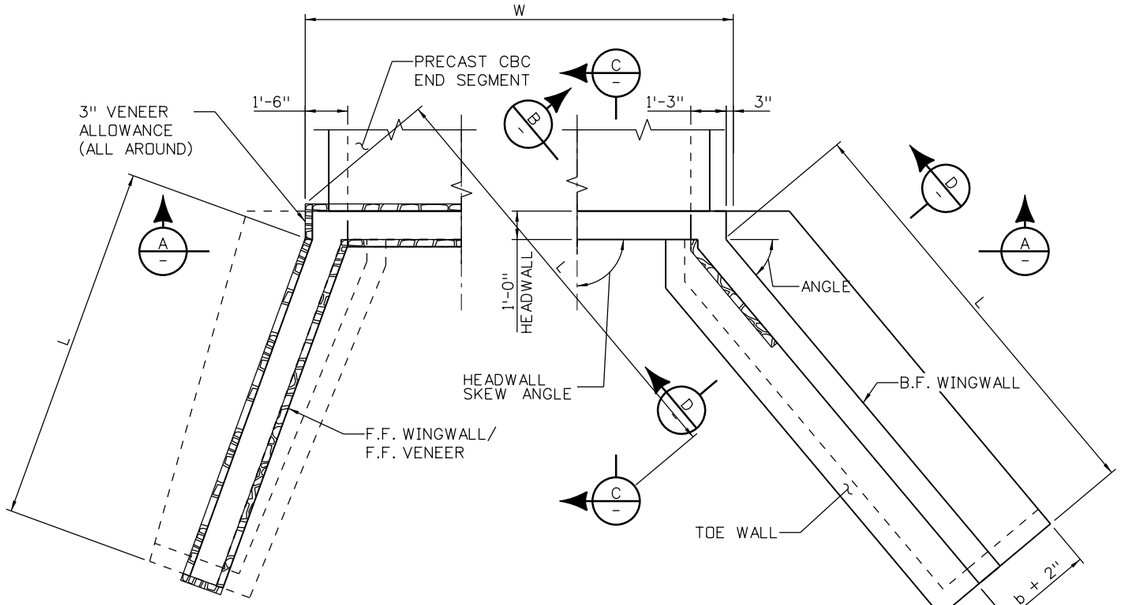
GOLD RUN ROAD
HABITAT RESTORATION DTLS (SHEET 3 OF 11)

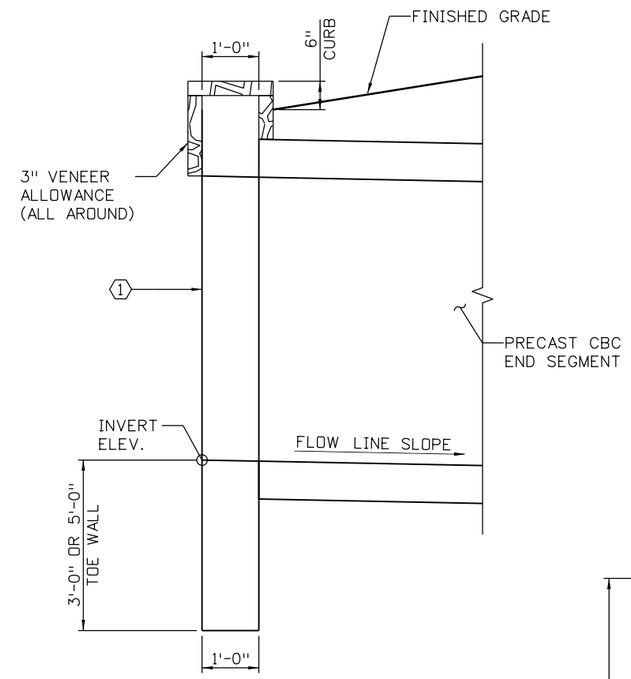
PROJECT NO: 4011.SEPT12C38 | SHEET NO: 151

edgar.robles 4:47:10 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\SRD-03.dgn



PLAN
UPPER PORTION OF WINGWALL

PLAN
LOWER PORTION OF WINGWALL



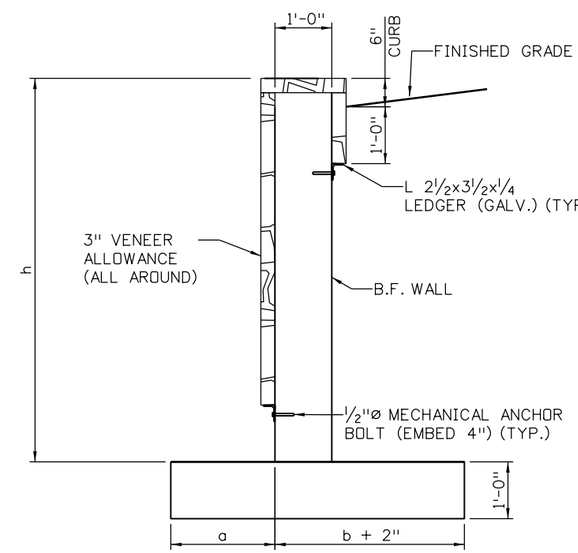
SECTION C

NOTES:

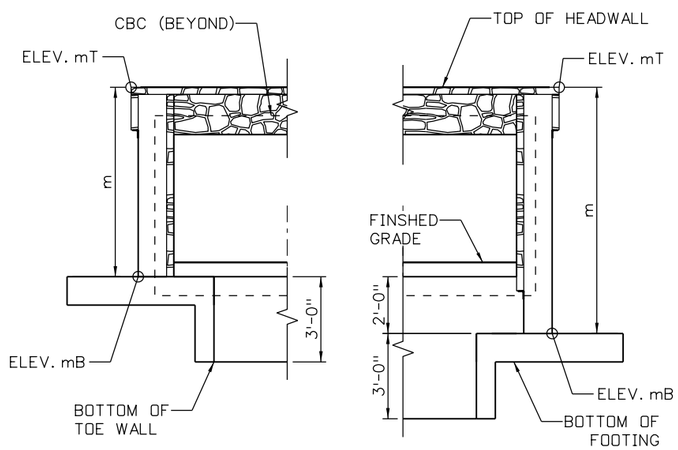
1. FOR REINFORCING AND ADDITIONAL INFORMATION, REFER TO CDOT STANDARD PLAN NO. M-206-1, M-601-1, M-601-20, AND M-603-3.
2. FOR ARCHITECTURAL DETAILS, SEE STRUCTURES PLANS.
3. SEE HEADWALL AND WINGWALL DATA TABLE FOR PARAMETER VALUES.
4. TOE WALL MAY BE OMITTED WHEN FOOTINGS ARE ON BEDROCK AS PERMITTED BY THE ENGINEER.
5. ALL CONCRETE SHALL BE CONCRETE CLASS D.
6. CONTRACTOR SHALL DETERMINE VENEER DETAILS PRIOR TO FABRICATING REINFORCING STEEL.
7. LEDGER AND MECHANICAL ANCHORS TO BE INCLUDED IN ITEM 601 CUT STONE VENEER.

KEYNOTES:

(1) F.F. HEADWALL IS VERTICAL.



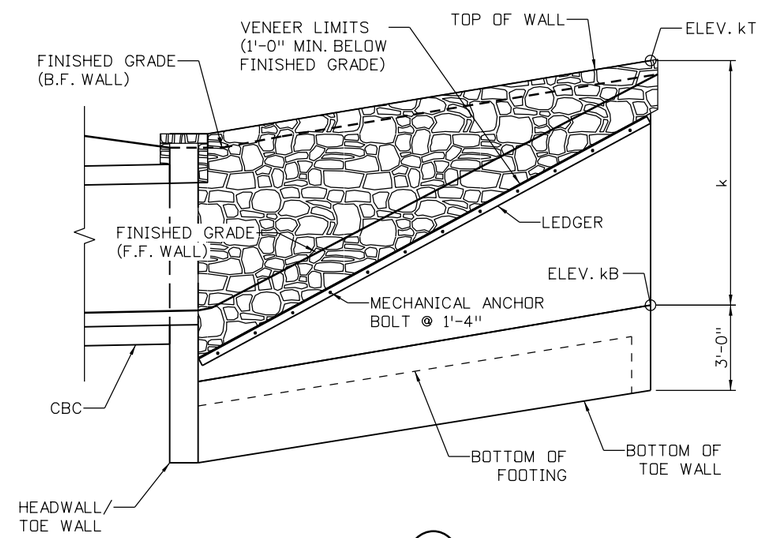
SECTION D
TOE WALL NOT SHOWN



WITHOUT BOULDER BANK PROTECTION

WITH BOULDER BANK PROTECTION

SECTION A



VIEW B

90% SET

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811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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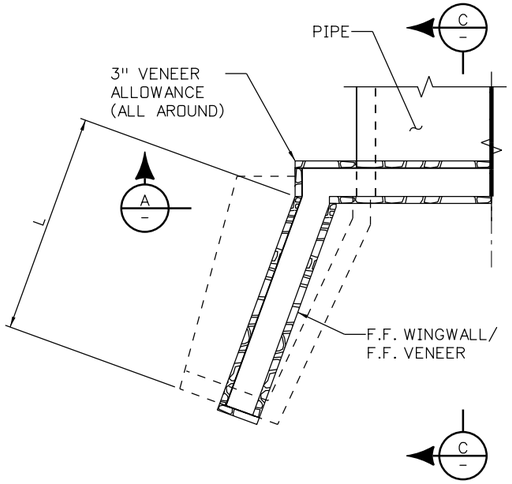
ENGINEERING DIVISION
Boulder County
Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
DLT	BMT		04/15/16

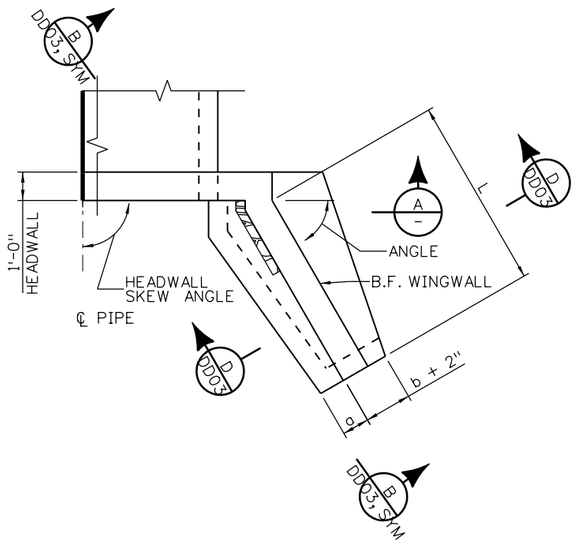
GOLD RUN ROAD
TYPICAL PRECAST BOX CULVERT END DETAILS

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 152

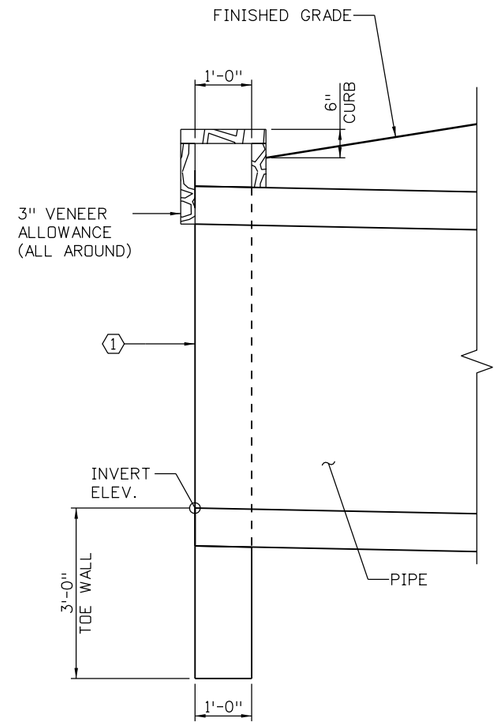
jessica.wroy 12:58:59 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DD-03.dgn



PLAN
UPPER PORTION OF WINGWALL



PLAN
LOWER PORTION
OF WINGWALL



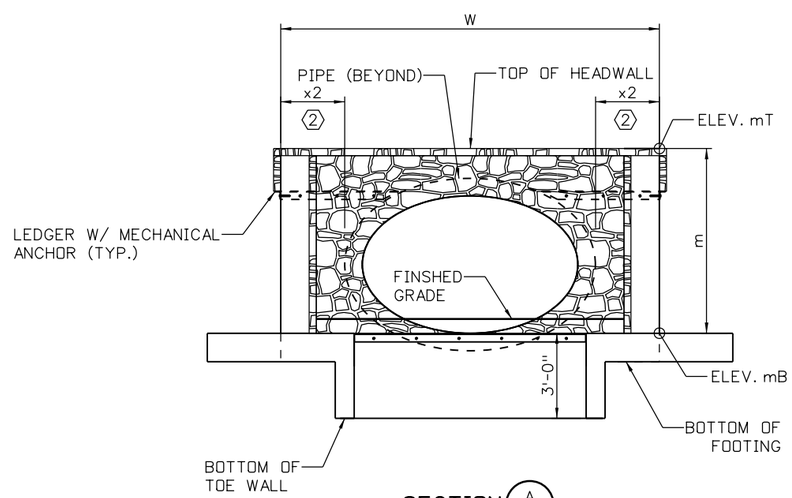
SECTION C

NOTES:

1. NOT ALL REINFORCING AND DETAILS SHOWN. FOR ADDITIONAL INFORMATION, SEE CDOT STANDARD PLAN NO. M-206-1, M-601-10, AND M-601-20.
2. FOR ARCHITECTURAL DETAILS, SEE STRUCTURES PLANS.
3. SEE HEADWALL AND WINGWALL DATA TABLE FOR PARAMETER VALUES.
4. TOE WALL MAY BE OMITTED WHEN FOOTINGS ARE ON BEDROCK AS PERMITTED BY THE ENGINEER.
5. ALL CONCRETE SHALL BE CONCRETE CLASS D.
7. x2 DIMENSION AS SHOWN ON CDOT STANDARD PLAN NO. M-601-10 SHALL BE FOR THE WIDTH OF THE PIPE.
8. FOR LEDGER DETAILS, SEE TYPICAL PRECAST BOX CULVERT END DETAILS SHEET.

KEYNOTES:

1. F.F. HEADWALL IS VERTICAL.
2. PROVIDE x2 DIMENSION FOR BOTH FRONT AND BACE FACE OF HEADWALL AT LIMITS OF PIPE.



SECTION A

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS: NO.	DATE	REVISION DESCRIPTION:

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ENGINEERING DIVISION
Boulder County
Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
DLT	BMT		04/15/16

GOLD RUN ROAD
TYPICAL ELLIPTICAL
CULVERT END DETAILS

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 153

jessica.wray 1:46:25 PM pw:\\DCPWAPP1.bkr.mbakercorp.com:pwprod\Documents\Projects\Lakewood_Office\Boulder_County_Emergency_Transportation\T02\08_Sheet_Files\02_Hydraulics\DGN\DD-04.dgn

HEADWALL AND WINGWALL DATA TABLE

HEADWALL	PIPE CL NORTHING	PIPE CL EASTING	INVERT ELEV	FINISHED GRADE ELEV.	SKEW ANGLE (D M S)	W (FEET)	WINGWALL	ANGLE (D M S)	L (FEET)	ELEV. mT	ELEV. mB	m (FEET)	FINISHED GRADE ELEV. m TOP	FINISHED GRADE ELEV. m BOT	ELEV. kT	ELEV. kB	k (FEET)	FINISHED GRADE ELEV. k TOP	FINISHED GRADE ELEV. k BOT
							A1	70° 00'00"	7.75	7309.83	7298.83	11.00	7309.33	7302.33	7307.17	7299.61	7.57	7306.67	7306.11
A	263661.403	31469.716	7301.83	7302.33	90° 00'00"	14.00													
							A2	60° 00'00"	6.75	7309.83	7298.83	11.00	7309.33	7302.33	7307.36	7299.51	7.85	7306.86	7306.26
							B1	77° 00'00"	15.50	7298.28	7286.17	12.11	7297.78	7290.78	7294.09	7284.62	9.47	7293.59	7288.92
B	263572.790	31556.013	7290.28	7290.78	90° 00'00"	14.00													
							B2	85° 00'00"	19.00	7298.28	7284.34	13.94	7297.78	7290.78	7287.92	7282.44	5.48	7287.42	7286.74
							C1	90° 00'00"	16.50	7141.19	7132.10	9.09	7140.69	7135.60	7141.92	7133.75	8.17	7141.42	7140.66
C	263826.920	32696.370	7135.10	7135.60	90° 00'00"	10.50													
							C2	65° 00'00"	28.50	7141.19	7132.10	9.09	7140.69	7135.60	7143.58	7134.95	8.63	7143.08	7142.23
							D1	90° 00'00"	12.00	7136.84	7127.76	9.08	7136.34	7131.26	7134.80	7128.73	6.07	7134.30	7133.53
D	263809.060	32732.482	7130.76	7131.26	90° 00'00"	10.50													
							D2	75° 00'00"	10.00	7136.84	7127.39	9.45	7136.34	7131.26	7132.27	7126.39	5.88	7131.77	7131.19
							E1	50° 00'00"	14.00	7105.79	7097.75	8.05	7105.29	7099.37	7106.57	7099.15	7.43	7106.07	7105.29
E	263624.710	32810.043	7098.87	7099.37	90° 00'00"	13.25													
							E2	90° 00'00"	16.00	7105.79	7097.75	8.05	7105.29	7099.37	7109.51	7099.35	10.17	7109.01	7108.22
							F1	00° 00'00"	15.00	7102.13	7094.09	8.05	7101.63	7095.71	7101.73	7095.59	6.14	7101.23	7100.53
F	263573.980	32792.447	7095.21	7095.71	128° 17'15"	16.75													
							F2	00° 00'00"	19.00	7102.13	7094.09	8.05	7101.63	7095.71	7096.66	7092.69	3.98	7096.16	7095.61
							G1	80° 00'00"	16.00	7032.62	7024.20	8.42	7032.12	7026.20	7032.64	7025.80	6.84	7032.14	7031.15
G	263535.700	33444.805	7025.70	7026.20	90° 00'00"	10.50													
							G2	90° 00'00"	7.50	7032.62	7024.20	8.42	7032.12	7026.20	7030.98	7024.01	6.97	7030.48	7027.31
							H1	90° 00'00"	12.50	7027.11	7018.69	8.42	7026.61	7020.69	7022.62	7017.72	4.90	7022.12	7021.02
H	263563.644	33529.040	7020.19	7020.69	90° 00'00"	10.50													
							H2	45° 00'00"	16.50	7027.11	7018.69	8.42	7026.61	7020.69	7023.23	7018.72	4.51	7022.73	7022.02
							K1	85° 00'00"	13.00	6978.68	6970.01	8.67	6978.18	6972.01	6977.94	6971.31	6.63	6977.44	6976.85
K	263325.669	33899.576	6971.51	6972.01	105° 00'00"	15.25													
							K2	90° 00'00"	13.50	6978.68	6970.01	8.67	6978.18	6972.01	6981.07	6971.36	9.71	6980.57	6979.63
							L1	70° 00'00"	16.50	6970.86	6962.19	8.67	6970.36	6964.19	6965.64	6961.24	4.40	6965.14	6964.54
L	263243.901	33987.173	6963.69	6964.19	90° 00'00"	13.00													
							L2	00° 00'00"	7.25	6970.86	6962.19	8.67	6970.36	6964.19	6968.34	6962.92	5.43	6967.84	6967.71
							M1	00° 00'00"	3.60	6891.08	6882.91	8.17	6890.58	6885.66	6890.82	6883.27	7.55	6890.32	6890.18
M	263332.897	34842.894	6885.16	6885.66	90° 00'00"	10.75													
							M2	101° 43'48"	12.00	6891.08	6882.91	8.17	6890.58	6885.66	6891.78	6883.69	8.09	6891.28	6886.69
							N1	00° 00'00"	4.30	6889.77	6881.61	8.16	6889.27	6884.36	6889.18	6882.04	7.14	6888.68	6888.46
N	263315.441	34859.128	6883.86	6884.36	90° 00'00"	9.75													
							N2	75° 00'00"	4.60	6889.77	6881.06	8.71	6889.27	6884.36	6889.81	6880.60	9.21	6889.31	6883.35
O	263306.082	34870.104	6883.36	6883.36	140° 33'13"	19.50													
							P1	15° 00'00"	16.00	6891.51	6884.48	7.03	6891.01	6886.10	6891.78	6886.08	5.70	6891.28	6891.47
p	263346.010	34880.340	6886.10	6886.10	90° 00'00"	14.08													
							P2	80° 00'00"	14.00	6891.51	6884.48	7.03	6891.01	6886.10	6892.89	6885.88	7.02	6892.39	6891.13
							Q1	90° 00'00"	5.00	6739.13	6733.93	5.20	6738.00	6735.55	6738.20	6734.43	3.77	6737.70	6737.70
Q	262188.000	35987.122	6735.55	6735.55	130° 25'51"	7.42													
							Q2	00° 00'00"	8.00	6739.13	6733.93	5.20	6738.63	6735.55	6739.52	6734.73	4.80	6739.02	6738.89
							R1	80° 00'00"	20.25	6681.48	6672.90	8.58	6680.98	6674.90	6680.40	6674.93	5.48	6679.90	6678.71

90% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

Michael Baker INTERNATIONAL

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
DLT	BMT		04/15/16

GOLD RUN ROAD
END DATA TABLE
(SHEET 1 OF 2)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 154

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HEADWALL AND WINGWALL DATA TABLE

HEADWALL	PIPE CL NORTHING	PIPE CL EASTING	INVERT ELEV	FINISHED GRADE ELEV.	SKEW ANGLE (D M S)	W (FEET)	WINGWALL	ANGLE (D M S)	L (FEET)	ELEV. mT	ELEV. mB	m (FEET)	FINISHED GRADE ELEV. m TOP	FINISHED GRADE ELEV. m BOT	ELEV. kT	ELEV. kB	k (FEET)	FINISHED GRADE ELEV. k TOP	FINISHED GRADE ELEV. k BOT
R	261810.661	36487.123	6674.40	6674.90	90° 00'00"	10.50													
							R2	80° 00'00"	20.00	6681.48	6672.90	8.58	6680.98	6674.90	6682.53	6674.90	7.63	6682.03	6681.09
							S1	55° 00'00"	25.25	6679.88	6671.30	8.58	6679.38	6673.30	6674.81	6670.88	3.93	6674.31	6673.88
S	261829.378	36521.907	6672.80	6673.30	90° 00'00"	10.50													
							S2	90° 00'00"	35.60	6679.88	6671.30	8.58	6679.38	6673.30	6679.33	6673.95	5.38	6678.83	6677.95
							T1	00° 00'00"	6.50	6787.02	6781.60	5.43	6786.52	6783.22	6786.00	6782.25	3.76	6785.50	6785.20
T	262664.876	35594.421	6783.22	6783.22	95° 36'24"	6.42													
							T2	00° 00'00"	10.00	6787.02	6781.60	5.43	6786.52	6783.22	6788.29	6782.60	5.69	6787.79	6787.29
							U1	65° 00'00"	13.00	6727.44	6718.02	9.42	6726.94	6720.02	6726.20	6719.32	6.88	6725.70	6725.08
U	262084.164	36055.181	6719.52	6720.02	90° 00'00"	10.50													
							U2	70° 00'00"	18.00	6727.44	6718.02	9.42	6726.94	6720.02	6721.62	6718.61	3.01	6721.12	6721.11
							V1	60° 00'00"	14.00	6724.50	6715.08	9.42	6724.00	6717.08	6721.03	6716.48	4.55	6720.53	6719.91
V	262061.420	36086.400	6716.58	6717.08	90° 00'00"	10.50													
							V2	90° 00'00"	18.75	6724.50	6715.08	9.42	6724.00	6717.08	6717.42	6713.22	4.20	6716.92	6715.47
							W1	65° 00'00"	13.00	6717.73	6709.31	8.42	6717.23	6711.31	6715.62	6710.61	5.01	6715.12	6714.72
W	262008.903	36139.241	6710.81	6711.31	90° 00'00"	10.50													
							W2	65° 00'00"	12.75	6717.73	6709.31	8.42	6717.23	6711.31	6714.59	6710.59	4.01	6714.09	6713.24
							X1	00° 00'00"	10.25	6716.33	6707.91	8.42	6715.83	6709.91	6714.50	6708.94	5.57	6714.00	6714.00
X	261981.087	36157.035	6709.41	6709.91	90° 00'00"	9.33													
							X2	00° 00'00"	7.75	6716.33	6707.91	8.42	6715.83	6709.91	6716.33	6707.14	9.19	6715.83	6714.92
							Y1	80° 00'00"	14.00	6712.81	6704.64	8.17	6712.31	6706.64	6711.44	6706.04	5.40	6710.94	6710.27
Y	261945.950	3618055.000	6706.14	6706.64	90° 00'00"	10.50													
							Y2	50° 00'00"	15.75	6712.81	6704.64	8.17	6712.31	6706.64	6714.62	6706.22	8.40	6714.12	6713.26
							Z1	75° 00'00"	14.00	6711.00	6702.83	8.17	6710.50	6704.83	6709.88	6704.14	5.74	6709.38	6708.14
Z	261926.118	36188.142	6704.33	6704.83	90° 00'00"	10.50													
							Z2	80° 00'00"	14.00	6711.00	6702.83	8.17	6710.50	6704.83	6710.62	6704.23	6.39	6710.12	6708.62
							AA1	80° 00'00"	13.50	6703.08	6694.50	8.58	6702.58	6696.50	6703.74	6695.85	7.89	6703.24	6702.79
AA	261827.310	36226.537	6696.00	6696.50	90° 00'00"	10.50													
							AA2	70° 00'00"	29.00	6703.08	6694.50	8.58	6702.58	6696.50	6705.94	6697.40	8.54	6705.44	6705.49
							BB1	80° 00'00"	30.50	6702.16	6693.58	8.58	6701.66	6695.58	6696.28	6692.23	4.05	6695.78	6695.53
BB	261788.505	36233.913	6695.08	6695.58	90° 00'00"	10.50													
							BB2	00° 00'00"	8.00	6702.16	6693.58	8.58	6701.66	6695.58	6702.16	6694.38	7.78	6701.66	6701.03
							CC1	80° 00'00"	25.00	7166.10	7156.68	9.42	7165.60	7159.43	7171.70	7159.18	12.52	7171.20	7169.93
CC	263770.509	32460.975	7158.93	7159.43	90° 00'00"	14.50													
							CC2	90° 00'00"	26.00	7166.10	7156.68	9.42	7165.60	7159.43	7164.66	7159.28	5.38	7164.16	7163.51
							DD1	75° 00'00"	22.00	7164.14	7154.72	9.42	7163.64	7157.47	7165.67	7156.92	8.75	7165.17	7163.67
DD	263783.265	32485.836	7156.97	7157.47	90° 00'00"	14.50													
							DD2	90° 00'00"	18.00	7164.14	7154.72	9.42	7163.64	7157.47	7158.47	7153.19	5.28	7157.97	7157.19
							EE1	90° 00'00"	8.00	6840.84	6836.64	4.20	6840.34	6838.26	6841.50	6837.44	4.06	6841.05	6841.05
EE	263046.978	35206.070	6838.26	6838.26	101° 13'14"	5.67													
							EE2	00° 00'00"	15.00	6841.47	6836.64	4.84	6840.97	6838.26	6843.12	6838.14	4.98	6842.62	6842.29
							FF1	85° 00'00"	9.00	7069.86	7060.94	8.92	7069.36	7064.44	7069.65	7061.84	7.81	7069.15	7068.16
FF	263451.714	33058.397	7063.94	7064.44	90° 00'00"	10.50													
							FF2	80° 00'00"	17.50	7069.86	7060.94	8.92	7069.36	7064.44	7069.37	7062.57	6.80	7068.87	7067.77
							GG1	80° 00'00"	11.50	7068.46	7059.54	8.92	7067.96	7063.04	7065.56	7059.34	6.22	7065.06	7064.14
GG	263454.793	33077.664	7062.54	7063.04	90° 00'00"	10.50													
							GG2	80° 00'00"	11.50	7068.46	7059.54	8.92	7067.96	7063.04	7067.86	7060.65	7.21	7067.36	7066.15

90% SET

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Boulder County

Michael Baker INTERNATIONAL

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

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DLT	BMT		04/15/16

GOLD RUN ROAD
END DATA TABLE
(SHEET 2 OF 2)

PROJECT NO: 4043.SEPT12C38 | SHEET NO: 155

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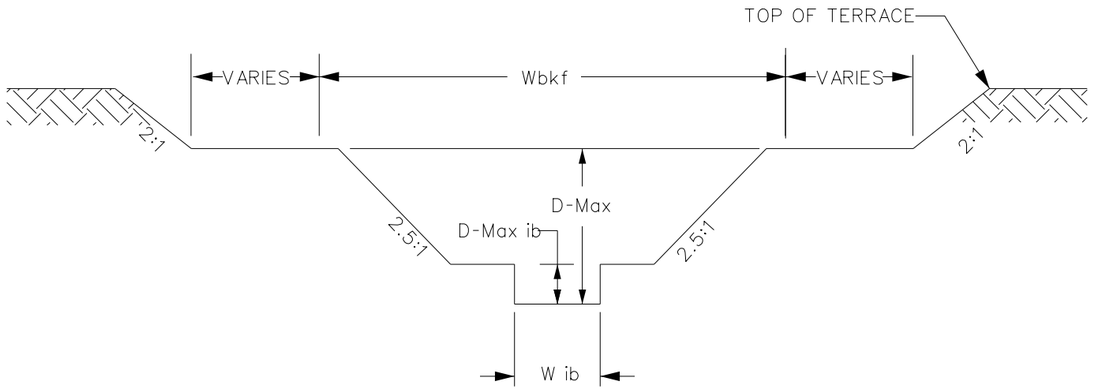
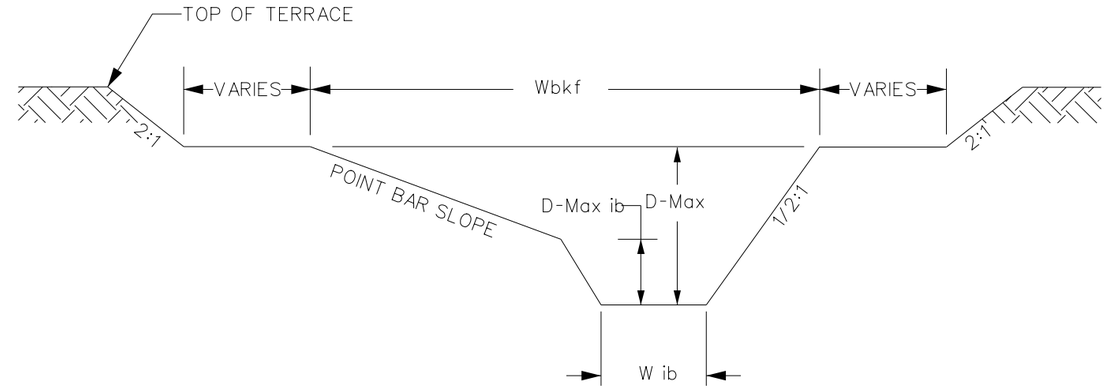


TYPICAL RIFFLE CROSS SECTION
NTS



TYPICAL POOL CROSS SECTION
NTS

UNITS IN FT.

REACH 3G		REACH 3F AND 3E		
RIFFLE	POOL	RIFFLE	POOL	
13.0	13.0	13.5	13.5	WIDTH OF BANKFULL (Wbkf)
0.7	1.6 - 1.8	0.9	1.8 - 2.1	AVERAGE DEPTH (D)
1.3	---	1.5	---	MAXIMUM DEPTH (D-Max)
15.7	---	15.4	---	WIDTH TO DEPTH RATIO (Wbkf / D)
7.7	---	11.8	---	BANKFULL XSEC AREA
3.5	---	4.0	---	WIDTH OF INNER BERM (Wib)
0.66	---	0.66	---	DEPTH OF INNER BERM (D-Max ib)
1.8 SF	---	2.0	---	CROSS SECTION AREA OF INNER BERM
---	0.5 - 1.5 Wbkf	---	0.5 - 1.5 Wbkf	POOL LENGTH(Wp)
---	1 - 5 Wbkf	---	1 - 5 Wbkf	POOL TO POOL SPACING - CASCADE POOL SYSTEM
---	0.5 - 1.5 Wbkf	---	0.5 - 1.5 Wbkf	POOL TO POOL SPACING - STEP POOL SYSTEM
1 - 7 Wbkf		1 - 7 Wbkf		RIFFLE CASCADE LENGTH
0.1 - 0.75 Wbkf		0.1 - 0.75 Wbkf		STEP LENGTH
0.5 - 2 AVG. DEPTH		0.5 - 2 AVG. DEPTH		STEP HEIGHT

NOTES:
1. DURING CONSTRUCTION CORNERS OF DESIGN CHANNEL WILL BE ROUNDED AND A THALWEG WILL BE SHAPED PER DIRECTION OF ENGINEER.
2. POOL SHOWN ABOVE IS RIGHT BANK POOL ONLY.

90% SET

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ENGINEERING DIVISION
Michael Baker INTERNATIONAL

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LB	EMR	KPD	04/15/16

GOLD RUN ROAD
HABITAT RESTORATION DTLS
(SHEET 1 OF 11)

PROJECT NO: 4011.SEPT12C38 | SHEET NO: 156

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