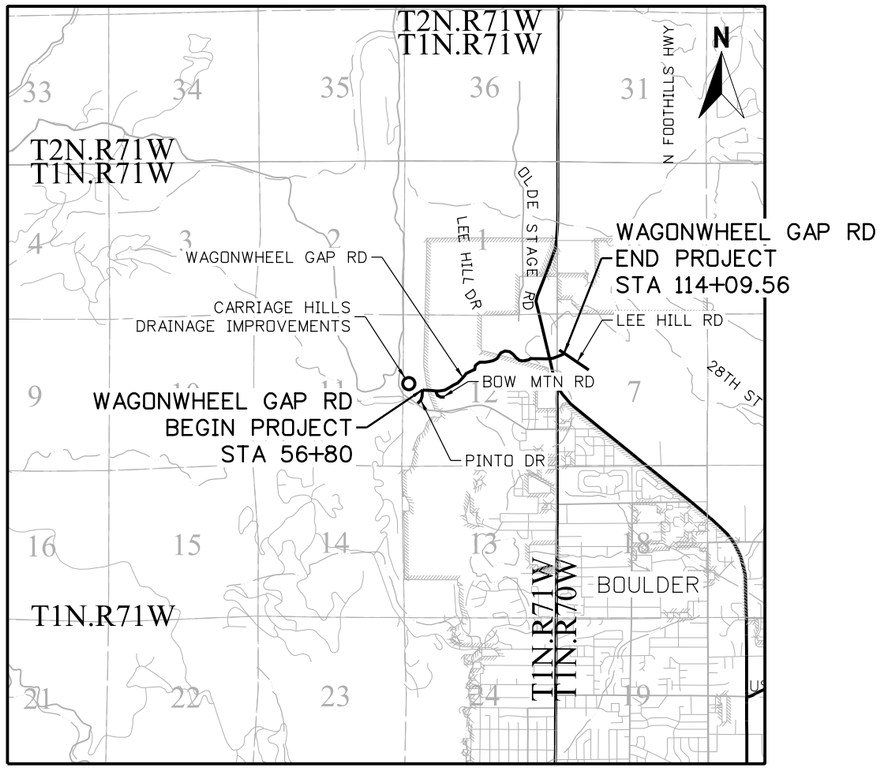
BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

100% PLANS OF PROPOSED
WAGONWHEEL GAP ROAD
BOULDER COUNTY
BOULDER COUNTY PROJECT NO. 4043.SEPT12C34
RO-BOW MOUNTAIN-000

TABULATION OF LENGTH & DESIGN DATA		
STATION	FEET	
	ROADWAY	STRUCTURE
BEGIN WAGONWHEEL GAP RD STA 56+80.00 END WAGONWHEEL GAP RD STA 114+09.56	5,641.56	88.00
BEGIN PINTO DR STA 0+12.00 END PINTO DR STA 8+00.00	788.00	
BEGIN BOW MOUNTAIN RD STA 20+12.00 END BOW MOUNTAIN RD STA 21+83.08	106.08	65.00
TOTAL	6,535.64	153.00
SUMMARY OF PROJECT LENGTH	FEET	MILES
ROADWAY (NET LENGTH)	6,535.64	1.24
MAJOR STRUCTURE (NET LENGTH	265.58	0.05
PROJECT GROSS LENGTH	6,688.64	1.29

DESIGN DATA	WAGONWHEEL GAP RD	PINTO DR	BOW MOUNTAIN RD
ROADWAY CLASSIFICATION	LOCAL/COLLECTOR	LOCAL/COLLECTOR	LOCAL/COLLECTOR
EXISTING SURFACE TYPE	PAVED	PAVED	PAVED
MINIMUM RADIUS OF CURVE	231'	100'	90'
MAXIMUM GRADE	8.00%	6.54%	13.43%
MINIMUM S.S.D. HORIZONTAL	155'	115'	80'
MINIMUM S.S.D. VERTICAL	89'	122'	72'
DESIGN SPEED	30 MPH	20 MPH	10 MPH
CLEAR ZONE DISTANCE	4' TO 7'	6'	6' TO 7'
MAXIMUM SUPERELEVATION (emax	6%	6%	6%



PROJECT LOCATION MAP

LATITUDE: 40.06
LONGITUDE: 105.30

0 0.5 1 2
(MILES)

INDEX OF SHEETS

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APPROVED FOR CONSTRUCTION

MICHAEL A. THOMAS, P.E. DATE

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Michael Baker INTERNATIONAL

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WAGONWHEEL GAP ROAD
TITLE SHEET

PROJECT NO: 4043.SEPT12C34 SHEET NO: 1

PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER
M-100-1		STANDARD SYMBOLS (3 SHEETS)	1-3
M-100-2		ACRONYMS AND ABBREVIATIONS (4 SHEETS)	4-7
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M-203-2		DITCH TYPES	9
M-203-11		SUPERELEVATION CROWNED AND DIVIDED HIGHWAYS (3 SHEETS)	10-12
M-203-12		SUPERELEVATION STREETS (2 SHEETS)	13-14
M-206-1		EXCAVATION AND BACKFILL FOR STRUCTURES (2 SHEETS)	15-16
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M-210-1		MAILBOX SUPPORTS (2 SHEETS)	31-32
M-214-1		PLANTING DETAILS	33
M-216-1	■	SOIL RETENTION COVERING (2 SHEETS) (NEW ON JULY 16, 2015)	
M-412-1	□	CONCRETE PAVEMENT JOINTS (5 SHEETS) (REVISED ON JULY 24, 2012)	~~34-38~~
M-510-1		STRUCTURAL PLATE PIPE H-20 LOADING	39
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M-601-2	■	DOUBLE CONCRETE BOX CULVERT (2 SHEETS) (REVISED ON NOVEMBER 25, 2015)	~~42-43~~
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M-603-1	□	METAL PIPE (4 SHEETS). (REVISED ON OCTOBER 02, 2014)	~~50-53~~
M-603-2	■	REINFORCED CONCRETE PIPE. (REVISED ON OCTOBER 02, 2014)	~~54~~
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M-603-5	□	POLYVINYL CHLORIDE (PVC) PIPE (AASHTO M304). (REVISED ON OCT. 02, 2014).	~~57~~
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M-609-1	■	CURBS, GUTTERS, AND SIDEWALKS (4 SHEETS) (REVISED ON JULY 24, 2012).	~~126-129~~
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COLORADO
DEPARTMENT OF TRANSPORTATION

M&S STANDARDS PLANS LIST

July 04, 2012

Revised on June 24, 2016

ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

PLAN NUMBER	NEW OR REVISED	S STANDARD TITLE	PAGE NUMBER
S-612-1		DELINEATOR INSTALLATIONS (7 SHEETS)	151-157
S-614-1	■	GROUND SIGN PLACEMENT (2 SHEETS) (REVISED ON DECEMBER 12, 2014).	~~158-159~~
S-614-2	□	CLASS I SIGNS (REVISED ON JUNE 24, 2016)	~~160~~
S-614-3		CLASS II SIGNS	161
S-614-4	□	CLASS III SIGNS (3 SHEETS) (REVISED ON DECEMBER 17, 2014)	~~162-164~~
S-614-5		BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS (2 SHEETS)	165-166
S-614-6	□	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS) (REVISED ON SEPTEMBER 16, 2013)	~~167-168~~
S-614-8	□	TUBULAR STEEL SIGN SUPPORT DETAILS (6 SHEETS) (REVISED ON OCTOBER 23, 2014)	~~169-173~~
S-614-9	□	PEDESTRIAN PUSH BUTTON POST ASSEMBLY (REVISED ON MAY 24, 2016)	~~174~~
S-614-10		MARKER ASSEMBLY INSTALLATIONS	175
S-614-11		MILEPOST SIGN DETAIL FOR HIGH SNOW AREAS	176
S-614-12		STRUCTURE NUMBER INSTALLATION	177
S-614-14		FLASHING BEACON AND SIGN INSTALLATIONS (3 SHEETS)	178-180
S-614-20		TYPICAL POLE MOUNT SIGN INSTALLATIONS	181
S-614-21	□	CONCRETE BARRIER SIGN POST INSTALLATIONS (REVISED ON MAY 24, 2016)	~~182~~
S-614-22		TYPICAL MULTI-SIGN INSTALLATIONS	183
S-614-40	□	TYPICAL TRAFFIC SIGNAL INSTALLATION DETAILS (5 SHEETS) (REVISED ON JUNE 17, 2016)	~~184-188~~
S-614-40A	□	ALTERNATIVE TRAFFIC SIGNAL INSTALLATION DETAILS (4 SHEETS) (REVISED ON JUNE 17, 2016)	~~189-192~~
S-614-41	□	TEMPORARY SPAN WIRE SIGNALS (REVISED ON APRIL 2, 2015)	~~193~~
S-614-42		CABINET FOUNDATION DETAIL (4 SHEETS)	194-197
S-614-43		TRAFFIC LOOP AND MISCELLANEOUS SIGNAL DETAILS (10 SHEETS)	198-207
S-614-44	□	PEDESTAL POLE SIGNALS (2 SHEETS) (REVISED ON JUNE 17, 2016)	
S-614-50	□	STATIC SIGN MONOTUBE STRUCTURES (12 SHEETS) (REVISED ON JUNE 17, 2016)	~~208-219~~
S-614-60	□	DYNAMIC SIGN MONOTUBE STRUCTURES (14 SHEETS) (REVISED ON JUNE 17, 2016)	~~220-233~~
S-627-1	■	PAVEMENT MARKINGS (5 SHEETS) (REVISED ON JUNE 10, 2014).	~~234-238~~
S-630-1	■	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION (24 SHEETS) (REVISED ON JUNE 23, 2016)	~~239-258~~
S-630-2	■	BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP). AND VERTICAL PANELS (REVISED ON JUNE 23, 2016)	~~259~~
S-630-3		FLASHING BEACON (PORTABLE) DETAILS	260
S-630-4		STEEL SIGN SUPPORT (TEMPORARY) INSTALLATION. DETAILS (2 SHEETS)	261-262
S-630-5	□	PORTABLE RUMBLE STRIPS (TEMPORARY) (2 SHEETS) (REVISED ON AUGUST 13, 2015)	~~263-264~~
S-630-6		EMERGENCY PULL-OFF AREA (TEMPORARY)	265
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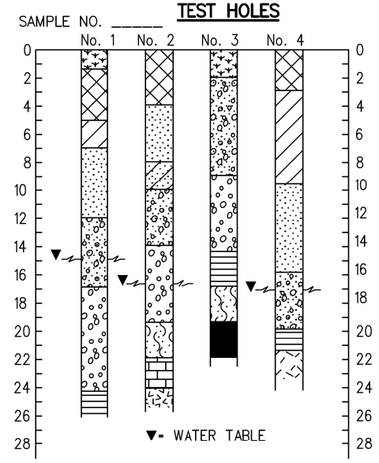
WAGONWHEEL GAP ROAD
STANDARDS PLANS LIST

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 2

LEGEND

- TOPSOIL
- OVERBURDEN
- CLAY
- SILT
- SAND
- GRAVEL
- SHALE
- LIMESTONE
- SANDSTONE
- SOLID ROCK (IGNEOUS)
- SOLID ROCK (METAMORPHIC)
- COAL

TEST HOLES

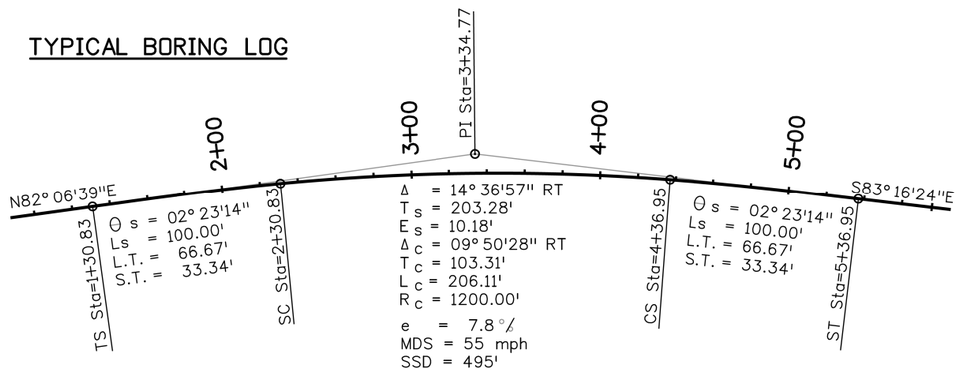


COMPOSITE MATERIALS ARE REPRESENTED BY COMBINATIONS OF THE ABOVE SYMBOLS, SUCH AS:

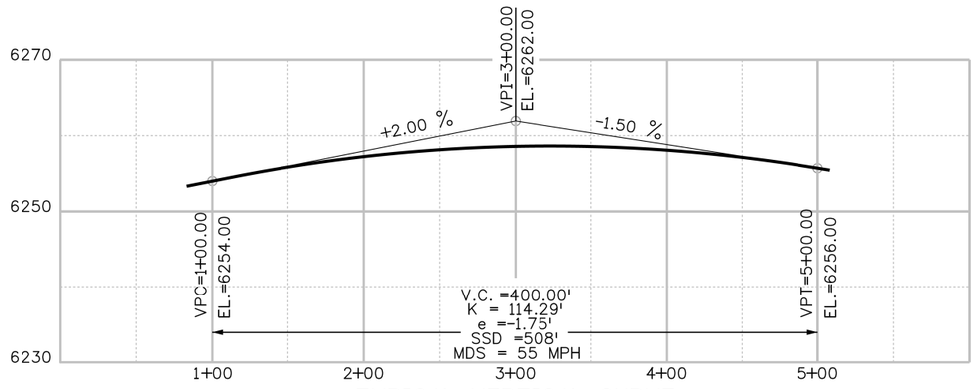
- SANDY CLAY

TYPICAL BORING LOG

NORTH ARROW



TYPICAL HORIZONTAL CURVE



TYPICAL VERTICAL CURVE

- TERRAIN SINGLE SHOTS
- TOP OF CUT
- TOE OF FILL

TERRAIN

- EDGE OF PAVEMENT
- CENTERLINE OF DIRT ROAD

ROADWAY

- BRIDGES PROPOSED
- BRIDGES EXISTING
- PP PROPERTY PIN
- FED FEDERAL MONUMENT
- WC WITNESS CORNER
- BM BENCH MARK
- USGS USGS MARKER
- LOCAL OR PLSS MONUMENT
- SECONDARY CONTROL MONUMENT
- ROW RIGHT OF WAY MARKER
- N 9.88 E 3.81 EL 0.00 PROJECT CONTROL MONUMENT
- PERMANENT, PROPERTY, SLOPE, & UTILITY EASEMENT LINE
- TEMPORARY EASEMENT LINE (EXISTING)
- PROPERTY BOUNDARY LINE (EXISTING AND PROPOSED)
- RIGHT OF WAY LINE
- VIRGIN RIGHT OF WAY LINE (PROPOSED)
- CITY LIMIT LINE (EXISTING)
- COUNTY LINE (EXISTING)
- QUARTER SECTION LINE
- SECTION LINE
- SIXTEENTH SECTION LINE
- STATE LINE (EXISTING)
- TOWNSHIP LINE (EXISTING)

SURVEY/ROW

GENERAL NOTES

1. EXISTING FEATURES SHOWN AS SCREENED WEIGHT (LIGHT GRAY SCALE), EXCEPT AS NOTED WITH THE WORD (EXISTING). PROPOSED OR NEW FEATURES SHOWN AS FULL WEIGHT WITHOUT SCREENING, EXCEPT AS NOTED WITH THE WORD (PROPOSED).
2. THESE SYMBOLS ARE INTENDED TO EXPLAIN THE VARIOUS TOPOGRAPHIC FEATURES INVOLVED ON THE DESIGN PLAN SHEETS WHICH ARE PREPARED AT VARIOUS SCALES. NOTES ARE ADDED WHERE NECESSARY TO CLARIFY THE SYMBOL. A LEGEND IS PROVIDED IN THE PLANS FOR SYMBOLS NOT SHOWN ON THE STANDARD SYMBOLS SHEETS.
3. GUARDRAIL, CURB AND GUTTER, ETC., ARE REPRESENTED BY A SYMBOL WITH TYPE GIVEN BY NOTE.

- BACK OF CURB
- TOP OF CURB
- FLOW LINE (fl)
- EDGE OF PAVEMENT
- CURB AND GUTTER
- CURB AND GUTTER-TYPE 2, 4 OR 6
- GUTTER
- CURB CUT

CURB AND GUTTER

- GUARDRAIL END ANCHOR
- GUARD POST
- GUARDRAIL-TYPE 3 OR 6
- GUARDRAIL-TYPE 4 OR 7
- GUARDRAIL-TYPE 5 OR HANDRAIL

GUARDRAIL

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WAGONWHEEL GAP ROAD
STANDARD SYMBOLS (SHEET 1 OF 2)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 3

ROCK, MASONRY OR MECHANICALLY STABILIZED WALL (FACE)

BRIDGE CURB

BRIDGE RAIL

BRIDGE RAIL-TYPE 3A

FLOW LINE CBC

STRUCTURE

LIGHT STANDARD

LIGHTING

MISCELLANEOUS BUILDING STRUCTURE (PRIMARY)

BUILDING STRUCTURES

TREES GROVE

HEDGE OR SHRUB GROVE

MISCELLANEOUS TREES

DECIDUOUS TREE

DECIDUOUS SHRUB

CONIFEROUS TREE

LANDSCAPING

TV UNDERGROUND CABLE

TV OVERHEAD CABLE

TELEVISION

TELEPHONE UNDERGROUND CONDUIT OR CABLE

FIBER OPTICS UNDERGROUND CABLE

TELEPHONE OVERHEAD LINE

TELEPHONE

PLASTIC FENCE

SILT FENCE

WOOD FENCE WITH GATE

COMBINATION WIRE FENCE WITH GATE

CHAIN LINK FENCE WITH GATE

BARBED WIRE FENCE WITH GATE

FENCE

CENTER YELLOW SOLID DOUBLE

4 INCH WIDE

8 INCH WIDE

LANE LINE BROKEN

- INTERNATIONAL SYMBOL OF ACCESS

TRAFFIC STRIPING

GAS MISCELLANEOUS

GAS LINE LOW PRESSURE

GAS LINE HIGH PRESSURE

PROPANE GAS LINE

GAS

POWER POLE

GUY WIRE

ELECTRICAL VAULT OR TRANSFORMER

ELECTRICAL MISCELLANEOUS

ELECTRICAL UNDERGROUND LINE

ELECTRICAL OVERHEAD LINE

ELECTRICAL

ROCK CHECK DAM

CONCRETE WASHOUT STRUCTURE

EROSION LOG

DROP INLET EROSION PROTECTION

TEMPORARY BERM

SOIL RETENTION BLANKET

PIPE INLET EROSION PROTECTION

RIGID INLET PROTECTION

STORM DRAIN INLET PROTECTION

EROSION CHECK

EROSION LOG DITCH CHECK

SILT DIKE

SEDIMENT TRAP/ DEWATERING STRUCTURE

EXISTING WETLAND PATTERN

TEMPORARY SLOPE DRAIN

STABILIZED CONSTRUCTION ENTRANCE

LIMITS OF DISTRUBED AREA

SANITARY SEWER MANHOLE

SANITARY SEWER MISCELLANEOUS SYMBOL

SANITARY SEWER PIPE

SANITARY SEWER

METAL

CONCRETE

PIPE WITH END SECTION

HEADWALL

PIPES

SINGLE POST SIGN

DOUBLE POST SIGN

DELINEATOR-TYPE I

DELINEATOR-TYPE II

DELINEATOR-TYPE III

TRAFFIC CONTROL

DITCH WITH FLOW

EDGE OF WATER, CANALS, PONDS, STREAM OR RIVER

DITCHES AND WATERWAY

INLET TYPE 13

INLET TYPE C

INLET TYPE D

INLET VANE GRATE

INLET TYPE R XX FT LENGTH

STORM SEWER MANHOLE

MANHOLE EXISTING

STORM SEWER MISCELLANEOUS

STORM SEWER PIPE

STORM SEWER

WATER SPIGOT

WATER VALVE

WATER MANHOLE

FIRE HYDRANT

WATER METER

WATER WELL SYMBOL

WATER LINE

WATER

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WAGONWHEEL GAP ROAD
STANDARD SYMBOLS (SHEET 2 OF 2)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 4

GENERAL NOTES:

1. THE INTENT OF THIS CONTRACT IS TO RESTORE THE AREA AFFECTED BY THE 2013 FLOOD TO PRE- FLOOD CONDITIONS AND AS MODIFIED BY THESE PLANS.

2. PROJECT BENCHMARK: ALL ELEVATIONS SHOWN ON THESE PLANS ARE REFERENCED TO THE PROJECT BENCHMARKS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEGUARDING THE PROJECT BENCHMARKS AND OTHER SURVEY MONUMENTS. DAMAGED MONUMENTS SHALL BE REESTABLISHED AND REPLACED BY THE LICENSED LAND SURVEYOR AT THE EXPENSE OF THE PARTY RESPONSIBLE FOR THE DAMAGE.

3. GEOTECHNICAL INFORMATION FOR THIS PROJECT IS BASED UPON THE GEOTECHNICAL INVESTIGATION REPORT BY YEH AND ASSOCIATES, DATED JULY 8, 2014. THE CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH THE GEOTECHNICAL RECOMMENDATIONS.

4. FOR PLAN QUANTITIES OF PAVEMENT MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:
   HOT MIX ASPHALT.....@ 110 LBS./SQ.YD./INCH
   AGGREGATE BASE COURSE CLASS 6.....@ 133 LBS./CU.FT.
   TACK COAT DILUTED EMULSIFIED ASPHALT.....@ 0.10 GALS/SQ.YD. (DILUTED)

5. BOULDER COUNTY SHALL OBTAIN THE BOULDER COUNTY FLOODPLAIN DEVELOPMENT PERMIT. THE CONTRACTOR SHALL OBTAIN, AT THEIR EXPENSE, ALL OTHER PERMITS REQUIRED TO PERFORM THE PROPOSED WORK PRIOR TO CONSTRUCTION.

6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2011; AND AS SUBSEQUENTLY REVISED; THE CDOT STANDARD PLANS M&S STANDARDS DATED JULY, 2012 AND REVISED; AND THE BOULDER COUNTY MULTI-MODAL TRANSPORTATION STANDARDS; AND THE BOULDER COUNTY STORM DRAINAGE CRITERIA MANUAL.

7. THE CONTRACTOR SHALL HAVE: ONE (1) SIGNED COPY OF THE PLANS ACCEPTED BY THE BOULDER COUNTY ENGINEER, ONE (1) COPY OF THE CONSTRUCTION SPECIFICATIONS FOR THE PROJECT, ONE (1) COPY OF THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD PLANS (M&S STANDARDS), AND ONE (1) COPY OF THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AT THE JOB SITE AT ALL TIMES.

8. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH BOULDER COUNTY AT LEAST 2 WEEKS PRIOR TO START OF CONSTRUCTION. THOSE IN ATTENDANCE SHALL INCLUDE ENGINEER, CONTRACTOR AND ANY OTHER AFFECTED AGENCIES. CONSTRUCTION PLANS WILL BE DISTRIBUTED AT THE PRE-CONSTRUCTION MEETING.

9. CONTRACTORS NEED TO USE THE DESIGN PLANS IN CONJUNCTION WITH THE DIGITAL TERRAIN MODEL (DTM). IN THE EVENT OF A CONFLICT, DESIGN PLANS SHALL ALWAYS GOVERN OVER DATA FROM THE DTM.

10. IN THE EVENT THE CONTRACTOR ALLOWS, AUTHORIZES, APPROVES OR CONSTRUCTS ITEMS THAT DIFFER FROM THE APPROVED PLANS, SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, WITHOUT WRITTEN APPROVAL BY THE ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY LIABILITY ARISING FROM SUCH CHANGES.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, AND ANY OTHER NEEDED ACTION TO PROTECT THE LIFE, HEALTH AND SAFETY OF THE PUBLIC AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE JOB SITE CONDITIONS THROUGHOUT THE DURATION OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROTECTION OF PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED ONLY TO WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER, THE ENGINEER AND BOULDER COUNTY HARMLESS FOR ANY AND ALL LIABILITY, IN CONNECTION WITH THE PERFORMANCE OF WORK, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER, THE ENGINEER OR BOULDER COUNTY.

13. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IN THE EVENT OF A DISCREPANCY BETWEEN CRITERIA PRIOR TO CONSTRUCTION.

GENERAL NOTES CONT'D:

14. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL CONTAIN ALL WORK WITHIN THE RIGHT OF WAY AND TEMPORARY OR PERMANENT EASEMENTS AS SHOWN ON THE PLANS AND CROSS SECTIONS (ROW SHOWN ON PLANS IS APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD). ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR AT CONTRACTOR'S OWN EXPENSE. CONSTRUCTION ACTIVITIES IN ADDITION TO NORMAL CONSTRUCTION SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER, AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS.

15. UNLESS OTHERWISE INDICATED ON THE PLANS, THE DECISION TO BRACE, SHORE AND/OR SHEET PILE FOR STRUCTURE EXCAVATION SHALL BE ENTIRELY THE CONTRACTOR'S RESPONSIBILITY AND WILL BE INCLUDED IN THE COST OF LABOR. HOWEVER, IF THE ENGINEER IS OF THE OPINION THAT AT ANY POINT THE TRENCH WALLS ARE NOT PROPERLY SUPPORTED; THE ENGINEER MAY ORDER THE PLACEMENT OF ADDITIONAL SUPPORTS BY AND AT THE EXPENSE OF THE CONTRACTOR. COMPLIANCE WITH SUCH ORDER SHALL NOT RELIEVE OR RELEASE THE CONTRACTOR FROM RESPONSIBILITIES FOR THE SAFETY OF THE WORK. ALL WORK SHALL BE IN ACCORDANCE WITH ALL STATE AND FEDERAL OSHA REGULATIONS. THE CONTRACTOR SHALL TAKE NOTE THAT EXISTING UTILITIES NEAR THE PROPOSED EXCAVATION SHALL BE PROTECTED DURING CONSTRUCTION. TEMPORARY SHORING IS RECOMMENDED TO LIMIT TRENCH WIDTH AND POTENTIAL DAMAGE TO EXISTING UTILITIES.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCEPTANCE AND CONTROL OF ALL SURFACE AND SUBSURFACE DRAINAGE AND GROUNDWATER ENTERING THE PROJECT AREA. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING DEWATERING IF NEEDED AT NO ADDITIONAL COSTS TO THE PROJECT. DEWATERING METHODS SHALL BE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL OBTAIN A CONSTRUCTION DEWATERING PERMIT FOR ALL CONSTRUCTION ACTIVITIES.

17. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT (1-800-922-1987) OR 811 FOR LOCATION OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO EXCAVATION. THE CONTRACTOR SHALL NOTIFY OTHER APPLICABLE UTILITY COMPANIES AS WELL TO OBTAIN FIELD LOCATES OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

18. LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS WERE TAKEN FROM THE RECORDS OF THE CONTROLLING AGENCIES OR FROM AGENCY MARKINGS IN THE FIELD. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR COMPLETENESS OR ACCURACY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTENCE AND/OR LOCATION OF ALL UNDERGROUND UTILITIES AND PARTICIPATE IN THE RESOLUTION OF ANY CONFLICTS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

19. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES BY USING EVERY REASONABLE MEANS, INCLUDING FIELD LOCATION OF THE UTILITY. REPAIR OF DAMAGE TO THE EXISTING UTILITIES DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL DOCUMENT THE CONDITION OF EXISTING UTILITIES (VISIBLE FACILITIES) WITH THE ENGINEER AND UTILITY REPRESENTATIVES PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.

20. THE CONTRACTOR MUST KEEP ALL EQUIPMENT OPERATION A MINIMUM OF 10 FEET FROM EXISTING OVERHEAD ELECTRIC LINES. IF THIS IS NOT FEASIBLE, OR CONDITIONS WARRANT ADDITIONAL PROTECTION OR POLE STABILIZATION, THE CONTRACTOR MUST CONTACT THE UTILITY OWNER TO ARRANGE PROTECTIVE COVERING AND POLE STABILIZATION. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.

21. ALL EXISTING UTILITY FACILITIES TO REMAIN IN PLACE WITHIN THE CONSTRUCTION LIMITS SHALL BE PROTECTED BY THE CONTRACTOR.

22. THE SULFATE EXPOSURE CLASS FOR THIS PROJECT IS CLASS 0. SEE SECTION 601 - STRUCTURAL CONCRETE.

23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING NEARBY PUBLIC OR PRIVATE STREETS OF MUD AND DEBRIS, DUE TO CONSTRUCTION ACTIVITIES, ON A DAILY BASIS OR AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF OTHER WORK.

24. IT IS ANTICIPATED THAT ONE (1) LUMP SUM (LS) ITEM 625 CONSTRUCTION SURVEYING SHALL BE REQUIRED FOR THIS PROJECT IN ACCORDANCE WITH SPECIFICATIONS 625 AND 629. ALONG WITH OTHER DUTIES SPECIFIED IN THE PLANS AND SPECIFICATIONS, THE SURVEYOR SHALL STAKE ALL EASEMENTS AND BOULDER COUNTY RIGHT OF WAY FIRST.

GENERAL NOTES CONT'D:

25. STATIONING LATH WILL BE REMOVED AS DIRECTED AND AT NO ADDITIONAL COST TO THE PROJECT.

26. IT IS ANTICIPATED THAT PUBLIC INFORMATION SERVICES WILL BE REQUIRED FOR THIS PROJECT AND BE PROVIDED BY THE COUNTY.

27. THE FOLLOWING ITEMS ARE REQUIRED:

ITEM NO. 201-00000 CLEARING AND GRUBBING	1 (LUMP SUM)
ITEM NO. 203-01100 PROOF ROLLING	10 (HOUR)
ITEM NO. 203-01597 POTHOLING	10 (HOUR)
ITEM NO. 213-00700 LANDSCAPE BOULDER	6 (EACH)
ITEM NO. 217-00020 HERBICIDE TREATMENT	4 (HOUR)
ITEM NO. 240-00000 WILDLIFE BIOLOGIST	8 (HOUR)
ITEM NO. 240-00010 REMOVAL OF NESTS	6 (HOUR)
ITEM NO. 620-00002 FIELD OFFICE (CLASS 2)	1 (EACH)
ITEM NO. 620-00020 SANITARY FACILITY	1 (EACH)
ITEM NO. 626-00000 MOBILIZATION	1 (LUMP SUM)
ITEM NO. 626-01101 PUBLIC INFORMATION SERVICES (TIER 1)	1 (LUMP SUM)

   MAINTENANCE OF THE SANITARY FACILITY SHALL INCLUDE CLEANING AT LEAST TWICE A WEEK.

NOTE: ALL ITEMS LISTED AND DESCRIBED HEREIN AS REQUIRED FOR THE COMPLETION OF THE PROJECT SHALL BE PLACED AS DIRECTED BY THE PROJECT ENGINEER.

29. THE CONTRACTOR SHALL REMOVE DEBRIS AS NEEDED FOR CONSTRUCTION OF THE PROJECT. ALL WORK ASSOCIATED WITH THIS CONSTRUCTION ACTIVITY WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE CLEARING AND GRUBBING IN ITEM 201.

30. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE EXISTING VEGETATION INSIDE AND OUTSIDE THE PROJECT LIMITS. THE CONTRACTOR SHALL FENCE ALL VEGETATION TO BE UNDISTURBED PRIOR TO COMMENCING WORK. ANY COST INCURRED FOR DAMAGE OF SUCH MATERIAL DUE TO CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

PAVEMENT CONSTRUCTION NOTES:

1. DILUTED EMULSIFIED ASPHALT FOR THE TACK COAT SHALL CONSIST OF 1 PART WATER AND 1 PART EMULSIFIED ASPHALT. RATES OF APPLICATION SHALL BE DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION. TACK COAT SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

2. WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS DIRECTED BY THE ENGINEER. THIS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF CONSTRUCTION.

3. ANY LAYER OF HOT MIX ASPHALT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.

4. ASPHALT JOINTS SHALL FALL ON LANE LINES, SHOULDER LINES OR MEDIAN LINES, EXCEPT WHERE STATED IN THE PLANS.

5. PRIOR TO PLACING HOT MIX ASPHALT, THE PAVED SURFACE SHALL BE SWEPT AND CLEANED. THIS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE HOT MIX ASPHALT PAVEMENT ITEMS.

6. THE CONTRACTOR MAY USE AN EXPOSED LONGITUDINAL JOINT FOR A MAXIMUM OF 1 DAY. THE JOINT SHALL CONSIST OF A VERTICAL FACE 1 INCH DEEP, AND AT THE BOTTOM OF THE VERTICAL FACE, A 3:1 SLOPE TO EXISTING PAVEMENT (OR SUBGRADE). THE MAXIMUM DEPTH OF THE 3:1 SLOPE SHALL BE 2 INCHES. AT THE END OF THE FOLLOWING DAY, PLACEMENT OF THE HMA ON THE ADJACENT LANE IS REQUIRED.

7. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:
   A. A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH
   B. SHORT SKI OR SHOE
   C. 1500 FEET OF CONTROL LINE AND STAKES

8. EMULSIFIED ASPHALT, IF REQUIRED, WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

100% 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:
BMC	EAV	SLS	11/04/16

WAGONWHEEL GAP ROAD
GENERAL NOTES (SHEET 1 OF 3)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 5

EARTHWORK/GRADING NOTES:

1. DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
   BASES OF CUTS AND FILLS - 1 FOOT
   FULL DEPTH OF ALL EMBANKMENTS ON THIS PROJECT.
2. EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.
3. GRADING WILL BE INSPECTED BY AN OWNER'S REPRESENTATIVE DURING ALL EXCAVATIONS TO EVALUATE CHANGING CONDITIONS.
4. TYPE OF COMPACTION FOR THIS PROJECT WILL BE AASHTO T-180. WATER FOR COMPACTION WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.

DRAINAGE NOTES:

1. ALL PIPE LENGTHS ARE GIVEN AND PAID FOR IN THE HORIZONTAL DIMENSION, AND HAVE BEEN ROUNDED TO THE NEAREST FOOT. THE CONTRACTOR SHALL SUPPLY THE ADDITIONAL LENGTH OF PIPE TO ACCOUNT FOR SLOPES AND INCLUDED IN THE COST OF THE WORK. THE PIPE LENGTHS PROVIDED DO NOT INCLUDE THE LENGTH OF FLARED END SECTIONS.
2. ALL DOWNSTREAM CONCRETE FLARED END SECTIONS MUST BE INSTALLED WITH JOINT FASTENERS. IN ADDITION, JOINT FASTENERS SHALL BE INSTALLED ON ALL PIPE JOINTS WITHIN 15-FEET OF THE DOWNSTREAM END OF ALL CULVERTS.
3. ALL PIPE MATERIAL SHALL BE REINFORCED CONCRETE PIPE (RCP) UNLESS OTHERWISE SPECIFIED. STRENGTH CLASS OF ALL RCP SHALL BE IN ACCORDANCE WITH CDOT M-603-2 AND SECTION 706.02 OF THE STANDARD SPECIFICATION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING AND DIVERSION INCLUDING, BUT NOT LIMITED TO, LIVE STREAM FLOW AND GROUNDWATER. THE CONTRACTOR SHALL OBTAIN THE APPLICABLE DEWATERING PERMIT FOR CONSTRUCTION AT THE SITE. THIS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK. THE CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS.
5. THE CONTRACTOR IS REQUIRED TO KEEP EXISTING CULVERTS FUNCTIONAL AND MAINTAIN PROPER STORMWATER CONVEYANCE UNTIL THE PROPOSED DRAINAGE FACILITIES ARE CONSTRUCTED AND FUNCTIONING PROPERLY. EXISTING CULVERT LOCATIONS FOR REMOVAL AND/OR ABANDONMENT ARE CALLED OUT ON THE PLANS. EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED.
6. THE CONTRACTOR SHALL PROVIDE SIGNED AND SEALED SHOP DRAWINGS FOR ALL NON CDOT/BOULDER COUNTY STANDARD DRAINAGE STRUCTURES FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION OF THE STRUCTURE.
7. THE INFORMATION PROVIDED ON THE DRAINAGE PLAN SET REPRESENTS THE FINAL STORM DRAIN SYSTEM AND CULVERTS.
8. OTHER UTILITIES MAY BE CROSSED OR OTHERWISE IMPACT DRAINAGE CONSTRUCTION. CONTRACTOR SHALL PROTECT EXISTING UTILITIES IN PLACE. UNLESS NOTED OTHERWISE, PROTECTION OF EXISTING UTILITIES, INCLUDING INCIDENTAL SHORING, WILL NOT BE MEASURED OR PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
9. CONCRETE TOE WALLS SHALL BE REQUIRED AS INDICATED IN THE PLANS. TOE WALLS WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING PIPE SIZES, LENGTHS AND LOCATIONS PRIOR TO ORDERING AND DELIVERY OF THE PIPE MATERIAL TO THE SITE.

SIGNING & PAVEMENT MARKING NOTES:

POSTS:
1. SIGN POSTS SHALL BE 2"x2"x10' (14 GAUGE) GALVANIZED PERFORATED SQUARE STEEL TUBING. SIGN POST BASES SHALL BE 2 1/4" x2 1/4" (12 GAUGE, 3' IN LENGTH) GALVANIZED PERFORATED SQUARE STEEL TUBING.
2. SIGN POST BASES SHALL BE 2 1/4" x 2 1/4" (12 GAUGE, 3' IN LENGTH) GALVANIZED PERFORATED SQUARE STEEL TUBING.
3. BASES SHALL BE INCLUDED IN THE COST FOR SIGN POSTS. TOP OF BASES SHALL BE 3"± ABOVE FINISHED GRADE. THE SIGN POST SHALL BE INSTALLED 4" IN TO THE BASE AND BOLTED BOTH WAYS.

SIGNING & PAVEMENT MARKING NOTES CONT'D:

4. SIGN POST LOCATIONS SHALL BE APPROVED BY THE ENGINEER AND ROAD MAINTENANCE SIGN SHOP REPRESENTATIVE PRIOR TO INSTALLATION.
5. POST LOCATIONS IN CONCRETE MEDIAN OR ISLANDS SHALL HAVE 6" PVC INSTALLED PRIOR TO POURING CONCRETE.

SIGNS:
6. THICKNESS OF ALL SIGN PANELS SHALL BE 0.100".

PAVEMENT MARKINGS:
7. FINAL PAVEMENT STRIPING SHALL BE EPOXY PER CDOT STANDARD SPECIFICATIONS.
8. ALL STOP LINES, CROSSWALKS AND PAVEMENT MARKING SYMBOLS SHALL BE WHITE, PREFORMED THERMOPLASTIC, PREMARK OR EQUIVALENT.
9. STOP LINES SHALL BE 2' WIDE; CROSSWALKS SHALL BE 2' x 9', UNLESS OTHERWISE NOTED.
10. PAVEMENT MARKING ARROWS SHALL BE ELONGATED.
11. BICYCLE DETECTOR PAVEMENT MARKINGS SHALL BE PER MUTCD FIG. 9C-7 B WITH HELMETED BICYCLE SYMBOL.
12. PAVEMENT MARKINGS FOR BIKE LANES SHALL BE PER MUTCD FIG. 9C-3 B WITH HELMETED BICYCLE SYMBOL.
13. PREFORMED THERMOPLASTIC INSTALLATION ON CONCRETE SHALL HAVE THE CONCRETE CURE REMOVED PRIOR TO INSTALLATION OR A BONDING AGENT APPLIED TO THE CONCRETE BEFORE INSTALLATION. INSTALLATION SHALL FOLLOW THE MANUFACTURER S SPECIFICATIONS.

ENVIRONMENTAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH THE MIGRATORY BIRD TREATY ACT (MBTA) AND THE BALD AND GOLDEN EAGLE PROTECTION ACT (BGEPA), AT ALL TIMES, INCLUDING CONDUCTING PRE-CONSTRUCTION SURVEYS FOR NESTING BIRDS SET FORTH BY U.S. FISH AND WILDLIFE SERVICE (USFWS). THE CONTRACTOR SHALL SCHEDULE WORK TO AVOID TAKING (PURSUE, HUNT, TAKE, CAPTURE OR KILL; ATTEMPT TO TAKE, CAPTURE, KILL OR POSSESS) MIGRATORY BIRDS PROTECTED BY THE MBTA AND BGEPA. THE INCIDENTAL TAKING OF A MIGRATORY BIRD SHALL BE REPORTED TO USFWS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PENALTIES LEVIED BY THE USFWS FOR THE TAKING OF A MIGRATORY BIRD. THE CONTRACTOR SHALL RETAIN A QUALIFIED WILDLIFE BIOLOGIST, WITH A MINIMUM OF THREE YEARS' EXPERIENCE CONDUCTING MIGRATORY BIRD SURVEYS, TO IMPLEMENT THE REQUIREMENTS OF THE MBTA AND BGEPA. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION OF THE BIOLOGIST'S EDUCATION AND EXPERIENCE TO THE ENGINEER FOR ACCEPTANCE PRIOR TO COMMENCEMENT OF ANY ASSOCIATED WORK. A BIOLOGIST WITH LESS EXPERIENCE MAY BE USED BY THE CONTRACTOR SUBJECT TO THE ACCEPTANCE OF THE ENGINEER BASED ON REVIEW OF THE BIOLOGIST'S QUALIFICATIONS. DOCUMENTATION OF THE NEST SURVEYS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
2. THE WILDLIFE BIOLOGIST RETAINED BY THE CONTRACTOR SHALL COMPLETE RAPTOR NEST SURVEYS TO EVALUATE THE PRESENCE OF ACTIVE RAPTOR NESTS WITHIN THE STUDY AREA. IF AN ACTIVE NEST IS LOCATED IN OR NEAR THE STUDY AREA, THE USFWS AND CPW SHALL BE CONTACTED REGARDING USE OF SEASONAL BUFFERS TO PREVENT DISTURBANCE TO NESTING BIRDS DURING CONSTRUCTION.
3. TREE TRIMMING AND/OR REMOVAL ACTIVITIES SHALL BE TIMED TO AVOID THE BREEDING SEASON AND TO AVOID IMPACTS TO ACTIVE BIRD NESTS. IF REQUIRED, TREES SHALL BE CLEARED PRIOR TO FEBRUARY 15 OR AFTER AUGUST 31 TO PREVENT RAPTORS (AND OTHER BIRDS) FROM NESTING ON-SITE AND TO AVOID THE TAKING OF, OR DISTURBANCE TO, ACTIVE NESTS DURING THE BREEDING SEASON. WHERE WORK IS TO BE COMPLETED DURING THE NESTING SEASON, MIGRATORY BIRD SURVEYS WILL BE REQUIRED.
4. CLEARING AND GRUBBING OF VEGETATION THAT MAY DISTURB GROUND NESTING BIRDS SHALL BE COMPLETED BEFORE BIRDS BEGIN TO NEST OR AFTER THE YOUNG HAVE FLEDGED. IF WORK ACTIVITIES ARE PLANNED BETWEEN APRIL 1 AND AUGUST 3, VEGETATION SHALL BE REMOVED AND/OR TRIMMED TO A HEIGHT OF SIX (6) INCHES OR LESS PRIOR TO APRIL 1. ONCE VEGETATION HAS BEEN REMOVED AND/OR TRIMMED, APPROPRIATE MEASURES, I.E., REPEATED MOWING/TRIMMING, SHALL BE IMPLEMENTED TO ASSURE VEGETATION DOES NOT GROW TO MORE THAN SIX (6) INCHES. FAILURE TO MAINTAIN VEGETATION HEIGHT OF SIX (6) INCHES OR LESS MAY POSTPONE PROJECT CONSTRUCTION.
5. THE FOLLOWING WEED MANAGEMENT STRATEGIES WILL BE IMPLEMENTED:
   A. VEHICLES SHALL BE INSPECTED BEFORE THEY ARE USED FOR CONSTRUCTION TO ENSURE THAT THEY ARE FREE OF SOIL AND DEBRIS CAPABLE OF TRANSPORTING NOXIOUS WEED SEEDS OR ROOTS. HEAVY CONSTRUCTION EQUIPMENT SHALL BE CLEANED AND POWER WASHED PRIOR TO USE ON THE PROJECT SITE AND BEFORE LEAVING THE SITE.

ENVIRONMENTAL NOTES CONT'D:

   B. MATERIAL FOR EROSION BALES, MULCHING, OR COMPOST SHALL CONSIST OF CERTIFIED WEED-FREE MATERIAL. COLORADO CERTIFIED WEED-FREE STRAW IS IDENTIFIED BY BLUE AND ORANGE TWINE BINDING THE BALES (CDOT STANDARD SPECIFICATIONS, PAGE 190). MATERIALS FOR MULCHING SHALL CONSIST OF CERTIFIED WEED-FREE STRAW OF OATS, BARLEY, WHEAT OR TRITICALE CERTIFIED UNDER THE CDA WEED-FREE FORAGE CERTIFICATION PROGRAM (CDOT STANDARD SPECIFICATIONS, PAGE 231). IN ADDITION, CERTIFIED WEED-FREE STRAW SHALL BE FREE OF CHEATGRASS.
   C. FERTILIZER WILL NOT BE USED IN SEEDED AREAS BECAUSE IT CAN ENHANCE THE GROWTH OF NOXIOUS WEEDS AT THE EXPENSE OF DESIRED VEGETATION.
   D. ADDITIONALLY THE PROJECT PROPONENT SHALL WORK WITH THE COUNTY WEED COORDINATOR (STEVE SAUER 303-678-6110) TO DEVELOP A LONG TERM PLAN FOR SUPPRESSING NOXIOUS WEEDS THAT MAY SPROUT AT THE CONSTRUCTION SITE.
6. AQUATIC INVASIVE SPECIES MAY BE SPREAD BY CONSTRUCTION EQUIPMENT. SPECIFIC BMPS DEVELOPED BY CPW SHALL BE OBSERVED WHERE PRACTICABLE TO MINIMIZE THE RISK OF SPREADING OF NEW ZEALAND MUD SNAILS, ZEBRA MUSSELS, QUAGGA MUSSELS, WHIRLING DISEASE, AND ANY OTHER AQUATIC INVASIVE SPECIES. SPECIFICALLY, IF HEAVY EQUIPMENT IS USED THAT WAS PREVIOUSLY WORKING IN ANOTHER STREAM, RIVER, LAKE, POND, OR WETLAND ONE OF THE FOLLOWING PROCEDURES WILL BE NECESSARY:
   A. REMOVE ALL MUD AND DEBRIS FROM EQUIPMENT (TRACKS, TURRETS, BUCKETS, DRAGS, TEETH, ETC.) AND SPRAY/SOAK EQUIPMENT WITH A SOLUTION OF COMMERCIAL GRADE QUATERNARY AMMONIUM DISINFECTANT COMPOUND CONTAINING AT LEAST 8.0% ACTIVE INGREDIENT DILUTED IN SOLUTION TO ACHIEVE AT LEAST 0.8% CONCENTRATION (ROUGHLY 12 OUNCES OF PRODUCT PER GALLON OF WATER). SPECIFICALLY, A 1:15 SOLUTION OF QUAT 4 OR SUPER HDQ NEUTRAL INSTITUTIONAL CLEANER AND WATER, CAN BE USED FOR EFFECTIVE TREATMENT. TREATED EQUIPMENT SHOULD BE KEPT MOIST FOR AT LEAST 10 MINUTES, MANAGING RINSATE AS A SOLID WASTE IN ACCORDANCE WITH LOCAL, COUNTY, STATE, OR FEDERAL REGULATIONS, OR
   B. REMOVE ALL MUD AND DEBRIS FROM EQUIPMENT (TRACKS, TURRETS, BUCKETS, DRAGS, TEETH, ETC.) AND SPRAY/SOAK EQUIPMENT WITH WATER HOTTER THAN 140 DEGREES FAHRENHEIT FOR AT LEAST 10 MINUTES.
   C. CLEAN HAND TOOLS, BOOTS, AND ANY OTHER EQUIPMENT THAT WILL BE USED IN THE WATER WITH ONE OF THE ABOVE OPTIONS AS WELL. DO NOT MOVE WATER FROM ONE WATER BODY TO ANOTHER. BE SURE EQUIPMENT IS DRY BEFORE USE.
7. IN ORDER TO COMPLY WITH THE ENDANGERED SPECIES ACT (ESA), THE FOLLOWING CONSERVATION MEASURES SHALL BE IMPLEMENTED FOR THE DURATION OF THE PROJECT TO PREVENT AND OFFSET ANY AFFECTS THE PROPOSED ACTION MAY HAVE ON FEDERALLY LISTED PREBLE'S MEADOW JUMPING MOUSE, UTE LADIES'-TRESSES, COLORADO BUTTERFLY PLANT, AND OTHER BIOLOGICAL RESOURCES.
   A. THE USFWS WILL BE CONTACTED BY TELEPHONE AT (303) 236-4773, IF ANY LISTED SPECIES ARE ENCOUNTERED DURING CONSTRUCTION.
   B. VEGETATION WILL NOT BE REMOVED OR DISTURBED DURING THIS PROJECT, EXCEPT FOR AREAS WITHIN THE PLANNED LIMITS OF DISTURBANCE. THESE AREAS SHALL BE RESEEDED IN ACCORDANCE WITH THE STORMWATER MANAGEMENT PLAN (SWMP).
   C. EQUIPMENT WILL BE OPERATED AND MAINTAINED WITHIN PLANNED LIMITS OF DISTURBANCE. THE STAGING AREA SHALL BE LOCATED WITHIN AREAS WHICH HAVE BEEN SEVERELY DISTURBED BY THE FLOODING. AT THE END OF THE PROJECT, GROUND WITHIN THE CONSTRUCTION FOOTPRINT SHALL BE PREPARED, COVERED WITH TOPSOIL, AND RESEEDED.
   D. WASTE SHALL BE PROMPTLY REMOVED IN ACCORDANCE WITH CDOT STANDARD SPECIFICATIONS TO MINIMIZE SITE DISTURBANCE AND AVOID ATTRACTING PREDATORS. THE CONTRACTOR SHALL COVER EXPOSED HOLES OR PILES OF LOOSE DIRT WITH BOARDS, TARPS, OR OTHER MATERIALS TO PREVENT ENTRAPMENT.
   E. THE CONTRACTOR SHALL USE THE NATIVE SEED MIX PROVIDED BY BOULDER COUNTY AND USE ONLY WEED FREE CERTIFIED MATERIALS, INCLUDING GRAVEL, SAND, TOP SOIL, SEED AND MULCH. CONSTRUCTION SHALL BE COMPLETED BEFORE ANY RESTORATION/SEEDING EFFORTS BEGIN. RIPRAP BEING INSTALLED TO PROTECT THE CREEK SHALL BE COVERED WITH SOIL AND REVEGETATED WITH A NATIVE SEED MIX TO IMPROVE THE RIPARIAN HABITAT.

100% 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:
BMC	EAV	SLS	11/04/16

WAGONWHEEL GAP ROAD
GENERAL NOTES
(SHEET 2 OF 3)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 6

ENVIRONMENTAL NOTES CONT'D:

8. WATER-RELATED ACTIVITIES/USE IN THE SOUTH PLATTE RIVER BASIN MAY AFFECT LISTED SPECIES IN NEBRASKA AND THESE ACTIVITIES/USES ARE SUBJECT TO THE PROVISIONS OF THE ESA. THEREFORE, THE CONTRACTOR SHALL NOT USE ON-SITE SOURCES OF WATER FOR ANY CONSTRUCTION ACTIVITY, INCLUDING STORING OR USING ON-SITE WATER FOR DUST ABATEMENT, SOIL COMPACTION, CONCRETE MIXING, OR OTHER ACTIVITIES.

9. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT, OR VEHICLES ARE STAGED OR PARKED NEAR WETLANDS OR DRAINAGE AREAS, UNLESS SPECIFICALLY ALLOWED AS NOTED IN THE PLANS.

10. THE CONTRACTOR SHALL NOT PARK ANY VEHICLES OR EQUIPMENT IN, OR DISTURB ANY AREAS NOT APPROVED BY THE ENGINEER; THE CONTRACTOR SHALL ADHERE TO THE CONSTRUCTION LIMITS AS NOTED IN THE PLANS AND DEMARCATE THE WORK AREA TO PREVENT GROUND DISTURBANCE OUTSIDE THOSE PRESCRIBED AREAS.

11. THE CONTRACTOR SHALL REMOVE IN A TIMELY MANNER ALL SEDIMENT, MUD, DEBRIS, OR OTHER POTENTIAL POLLUTANTS WHICH MAY BE DISCHARGED TO, OR ACCUMULATE IN, THE FLOW LINES AND PUBLIC RIGHT-OF-WAYS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT.

12. ALL EROSION/SEDIMENT CONTROL AND STORMWATER RESPONSIBILITIES SHALL BE IMPLEMENTED AS STATED IN THE SWMP. BIODEGRADABLE HYDRAULIC FLUID SHALL BE USED WHEN WORKING IN OR ADJACENT TO SURFACE WATER AS SPECIFIED BY THE BOULDER COUNTY STORMWATER DRAINAGE CRITERIA.

13. ORANGE PLASTIC FENCING WILL BE USED TO DEFINE NO-WORK AREAS AND TO PROTECT ADJACENT RIPARIAN AREAS AND ENVIRONMENTAL AREAS OF CONCERN.

14. CONTAMINATED MATERIAL, INCLUDING ASBESTOS-CONTAINING SOIL AND PETROLEUM-IMPACTED SOIL AND/OR GROUNDWATER MAY BE ENCOUNTERED DURING PROJECT ACTIVITIES IN THIS AREA. WORKERS SHALL BE ALERT DURING EXCAVATIONS FOR VISUAL AND OLFACTORY SIGNS OF PETROLEUM CONTAMINATION. IF SOIL AND/OR GROUNDWATER CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION, WORK WILL STOP IMMEDIATELY AND THE PROCEDURES OUTLINED IN THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) SPECIFICATION 250 AND SUBSECTION 107.25 SHALL BE FOLLOWED. IN THE EVENT THAT SUSPECT ACMS ARE ENCOUNTERED (I.E., DEBRIS WITH BUILDING MATERIALS), WORKERS MUST FOLLOW CDOT SPECIFICATION 250.07 - ASBESTOS -CONTAINING MATERIAL MANAGEMENT AND THE CDOT ASBESTOS-CONTAMINATED SOIL MANAGEMENT STANDARD OPERATING PROCEDURE.

15. IF PALEONTOLOGICAL (E.G., ANIMAL BONES OR FOSSILS) RESOURCES ARE DISCOVERED OR UNCOVERED DURING CONSTRUCTION, WORK WILL STOP IMMEDIATELY AND THE ENGINEER NOTIFIED SO FURTHER ACTIONS MAY BE TAKEN, INCLUDING RETAINING A CERTIFIED PALEONTOLOGIST.

16. IF ANY ARCHAEOLOGICAL RESOURCES ARE FOUND (E.G., ARTIFACTS SUCH AS, BUT NOT LIMITED TO, HISTORIC TRASH LIKE BOTTLES, DISHWARE, HOUSEHOLD OR MINING ITEMS, ETC.; PREHISTORIC STONE TOOLS SUCH AS PROJECTILE POINTS OR OTHER FLAKED STONE ITEMS; OR FEATURES SUCH AS BUILDING FOUNDATIONS, TRAILS, WAGON ROADS, RAILROAD GRADES, STONE WALL REMAINS, MINE ADITS, OR PROSPECT PITS; OR PREHISTORIC FEATURES LIKE HEARTHS, ETC.), WORK WILL BE IMMEDIATELY HALTED IN THE VICINITY OF THE FIND, THE ENGINEER NOTIFIED, AND A CERTIFIED ARCHEOLOGIST WILL BE PROMPTLY NOTIFIED.

17. IF BONES OF POTENTIAL HUMAN ORIGIN ARE DISCOVERED DURING CONSTRUCTION, GROUND-DISTURBING WORK MUST BE STOPPED IN THE VICINITY OF THE DISCOVERY, AND THE COUNTY CORONER, THE COUNTY SHERIFF, THE COLORADO STATE HISTORIC PRESERVATION OFFICER (SHPO), AND THE COLORADO STATE ARCHAEOLOGIST WILL BE PROMPTLY NOTIFIED. WORK CANNOT RESUME IN THE VICINITY OF THE FIND UNTIL CLEARANCE IS GRANTED.

18. ALL EQUIPMENT SHALL BE CLEANED AND FREE OF CONTAMINANTS PRIOR TO WORK IN AND ADJACENT TO FOURMILE CREEK.

100% 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:

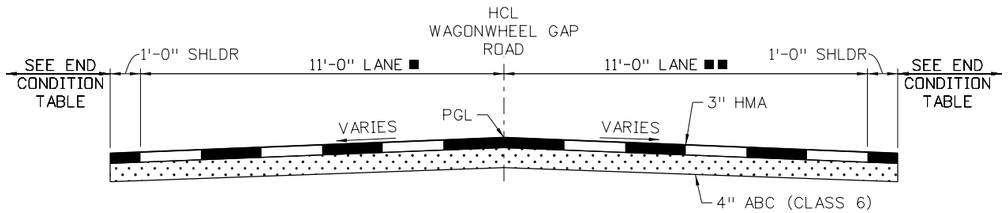
Boulder County
Michael Baker INTERNATIONAL

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
BMC	EAV	DTW	11/04/16

WAGONWHEEL GAP ROAD
GENERAL NOTES
(SHEET 3 OF3)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 7

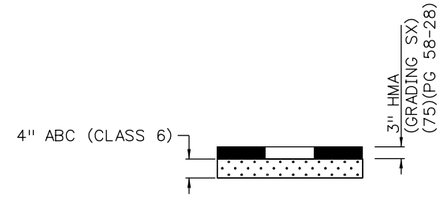


TYPICAL SECTION - WAGONWHEEL GAP ROAD

NTS

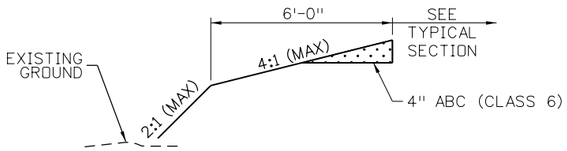
■ STA 56+80.00 TO STA 57+60.00 8'-0"
STA 57+60.00 TO STA 58+05.00 8'-0" TO 11'-0"
STA 56+80.00 TO STA 111+99.93
STA 111+99.93 TO STA 113+68.56

■■ STA 56+80.00 TO STA 57+45.00 7'-0"
STA 57+45.00 TO STA 58+05.00 7'-0" TO 11'-0"



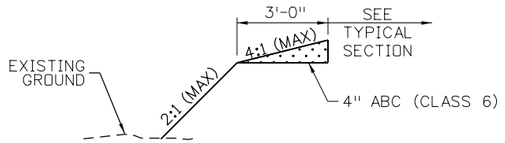
PAVEMENT DETAIL

NTS



DETAIL A

7 FT CLEAR ZONE
FILL CONDITION

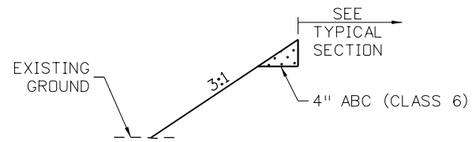


DETAIL B

4 FT CLEAR ZONE
FILL CONDITION

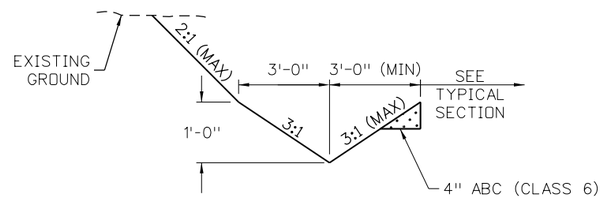
DETAIL C

4:1 FILL



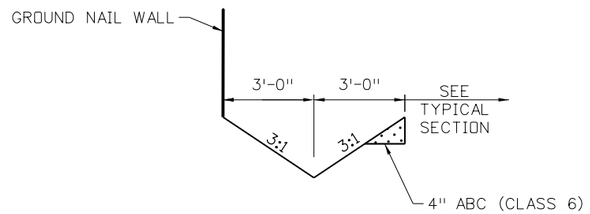
DETAIL D

3:1 FILL



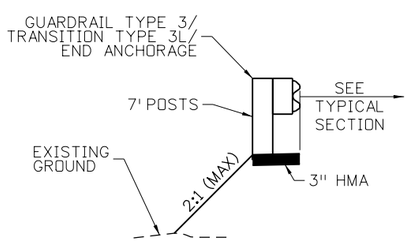
DETAIL E

ROADSIDE DITCH



DETAIL F

ROADSIDE DITCH
WITH CUT WALL



DETAIL G

GUARDRAIL TYPE 3

NOTES:

1. END CONDITION DETAILS SHOWN FOR LEFT SIDE. TO BE MIRRORED FOR RIGHT SIDE CONSTRUCTION.
2. ROADWAY SUPERELEVATION VARIES. SEE ROADWAY PROFILES.
3. ALL GUARDRAIL POSTS SHALL BE 7 FOOT. SEE CDOT M-606-1 FOR RESTRICTIVE ROADSIDE INSTALLATION AND END ANCHORAGE AND WIDENING DETAILS.
4. SEE ROADWAY PLANS FOR SPEED HUMP LOCATIONS.
5. SEE DRAINAGE PLANS FOR ROADSIDE DITCH LOCATIONS.
6. SEE STRUCTURAL PLANS FOR WALL DETAILS.
7. TOPSOIL, SEEDING AND MULCH SHALL BE PLACED ON ALL DISTURBED AREAS OUTSIDE OF THE FINAL ROADWAY SECTION AND CREEK BED. SEE SWMP PLANS FOR SEED MIX DETAILS.

100% SET

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WAGONWHEEL GAP ROAD
TYPICAL SECTIONS (SHEET 1 OF 3)

PROJECT NO: 4043.SEPT12C34 SHEET NO: 8

WAGONWHEEL GAP ROAD END CONDITION TABLE				
STATION		SIDE	END CONDITION	COMMENTS
FROM	TO			
56+80.00	69+90.00	LT	E	STA 57+00 TO 58+20 20:1 SLOPE TO HILLSIDE. STA 58+60 TO 60+90 SLOPE VARIES 3:1 TO 1.5:1, FILL TO TOP OF ERODED SLOPE
56+80.00	58+02.60	RT	A	STA 57+80 TO STA 58+02.6 4:1 TO 10:1 FORESLOPE TRANSITION
58+85.00	59+63.91	RT	C	
60+90.00	61+10.00	LT	D	3:1 TO 4:1 FORESLOPE TRANSITION
60+14.19	61+00.00	RT	E	
61+49.89	61+99.89	RT	GUARDRAIL WIDENING	TIE TOE INTO STREAM GRADING
61+99.89	62+37.39	RT	G	TIE TOE INTO STREAM GRADING
62+02.87	64+00.00	LT	C	
64+20.00	64+60.00	RT	C	20:1 FILL
65+20.00	66+05.00	RT	C	
65+52.34	67+52.34	LT	E	STA 65+75 TO STA 66+70.27 FILL TO TOP OF ERODED SLOPE
66+05.00	66+40.00	RT	A	
67+50.00	67+52.89	LT	A	
68+30.00	68+95.00	RT	A	
68+95.00	69+85.00	LT	A	
68+95.00	69+40.00	RT	E	
69+85.00	70+36.00	LT	C	
70+36.00	70+60.00	LT	B	
71+05.00	71+20.00	LT	A	
71+21.03	74+35.00	RT	D	2:1 SLOPES FROM 71+50 TO 73+55
71+35.00	71+85.00	LT	B	
72+13.28	73+11.42	LT	D	1:1 SLOPES WITH GEOGRID REINFORCEMENT. SEE SWMP PLANS
74+16.71	74+35.00	LT	D	
76+64.15	79+10.00	LT	C	
77+60.00	77+98.06	RT	A	
78+31.75	79+68.74	RT	A	STA 78+99 TO STA 79+23 3:1 TO 2:1 FILL SLOPE TRANSITION
79+68.75	80+78.80	RT	C	STA 79+79 TO 80+00 4:1 TO 20:1 FORESLOPE TRANSITION 80+00 TO 80+78.80 20:1 FORESLOPE
79+75.51	80+09.21	LT	E	
80+09.21	83+43.74	LT	F	SEE STRUCTURES PLANS
81+22.96	83+45.26	RT	C	
83+43.74	84+48.75	LT	E	
83+45.23	83+95.23	RT	GUARDRAIL WIDENING	
83+95.24	84+46.96	RT	G	
84+48.75	84+98.75	LT	F	SEE STRUCTURES PLANS
84+98.75	85+51.16	LT	E	
85+04.67	85+42.17	RT	GUARDRAIL WIDENING	
85+42.16	88+24.55	RT	G	
85+68.75	87+13.74	LT	F	SEE STRUCTURES PLANS
87+13.74	88+75.00	LT	C	
88+65.24	89+02.75	RT	GUARDRAIL WIDENING	
88+93.07	89+14.62	LT	F	SEE STRUCTURES PLANS
89+02.74	90+41.24	RT	G	

WAGONWHEEL GAP ROAD END CONDITION TABLE CONT.				
STATION		SIDE	END CONDITION	COMMENTS
FROM	TO			
89+61.48	90+11.11	LT	C	
90+11.11	91+18.74	LT	E	
90+41.24	90+78.74	RT	G	
90+78.75	91+28.74	RT	GUARDRAIL WIDENING	
91+28.75	91+75.00	RT	C	
92+03.84	92+38.21	LT	C	6:1 MAX GRADE AT MAILBOXES
93+09.53	94+50.00	RT	A	
94+50.00	95+00.00	RT	GUARDRAIL WIDENING	
93+38.60	94+40.00	LT	E	
94+70.00	94+88.73	LT	E	
94+88.73	97+11.23	LT	C	
95+00.00	96+89.09	RT	G	TIE TOE INTO STREAM GRADING
98+15.00	99+65.00	RT	C	STA 98+15 TO STA 98+30 4:1 TO 3:1 FORESLOPE TRANSITION STA 98+30 TO STA 99+55
99+65.00	100+95.00	RT	A	
100+95.00	103+48.92	RT	C	
101+92.13	102+42.13	LT	GUARDRAIL WIDENING	
102+42.13	102+95.00	LT	A	
103+15.00	104+90.93	LT	B	
103+48.93	106+38.60	RT	A	
104+90.93	106+60.00	LT	E	
106+38.60	107+21.55	RT	C	
106+83.93	110+88.43	LT	A	
107+97.88	110+05.00	RT	A	
110+88.43	111+38.43	LT/RT	GUARDRAIL WIDENING	
111+38.43	111+98.68	LT/RT	G	
111+98.68	112+89.18	LT/RT	BRIDGE	SEE STRUCTURES PLANS
112+87.93	113+49.43	LT/RT	G	
113+49.43	113+68.57	LT/RT	GUARDRAIL WIDENING	

NOTE:
GAPS IN STATION RANGES ARE END CONDITION TRANSITIONS, DRIVEWAYS, APPROACH ROADS, CHANNEL GRADING, OR DRAINAGE STRUCTURES. REFER TO DRAINAGE PLANS AND DRIVEWAY AND APPROACH ROAD GRADING PLANS FOR DETAILS.

100% SET

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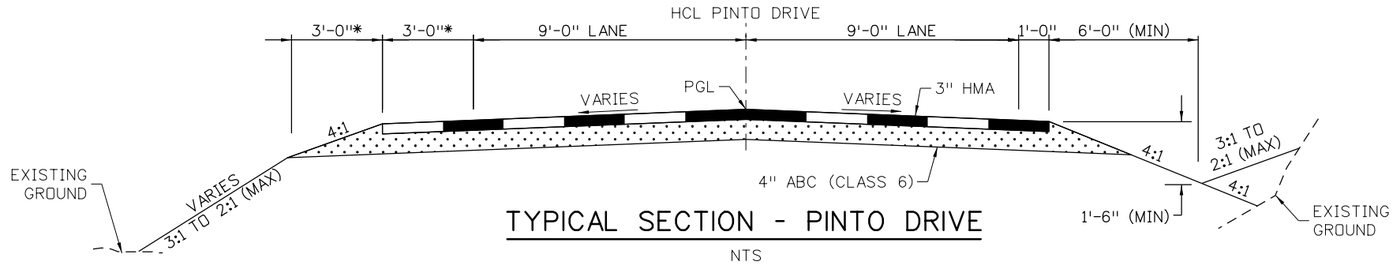
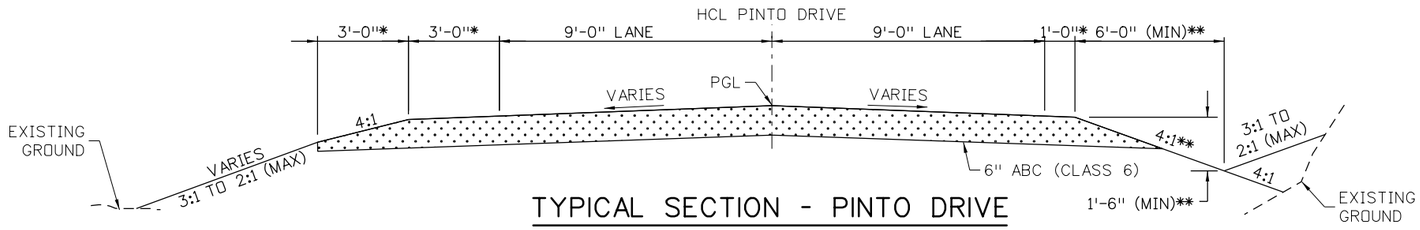
WAGONWHEEL GAP ROAD
TYPICAL SECTIONS
(SHEET 2 OF 3)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 9



TYPICAL SECTION - PINTO DRIVE

NTS
STA 0+12.00 TO STA 0+56.33

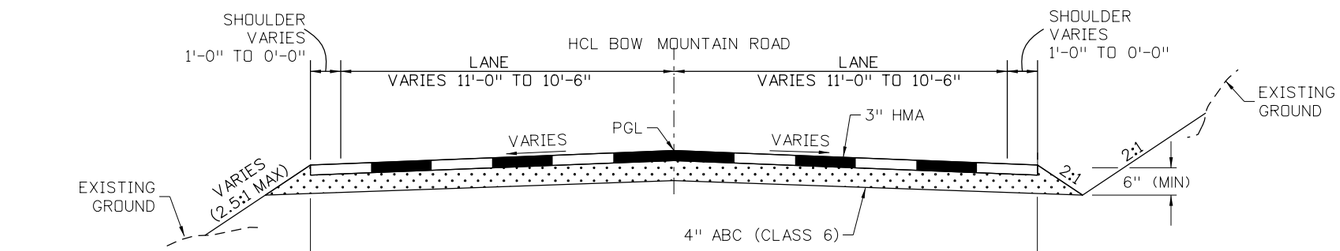


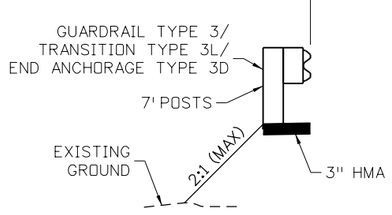
TYPICAL SECTION - PINTO DRIVE

NTS
STA 0+56.33 TO STA 8+00.00

* SEE ROADWAY PLANS FOR PARKING AREA AND EMERGENCY TURNAROUND LOCATIONS

** AT PARKING AREA 6+40 TO 8+00, RT
1'-0" (MIN) HORIZONTAL TO DITCH FLOWLINE
6" (MIN) VERTICAL TO DITCH FLOWLINE
SLOPE VARIES

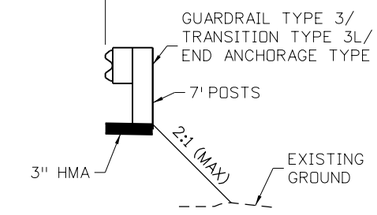




STA 20+95.09 TO STA 21+21.35

TYPICAL SECTION
BOW MOUNTAIN ROAD

NTS
STA 20+12.00 TO STA 20+28.55
STA 20+93.55 TO STA 21+83.08



STA 20+12.00 TO STA 20+28.55
STA 20+92.42 TO STA 21+14.32

NOTES:

1. SEE DRAINAGE PLANS FOR ROADSIDE DITCH LOCATIONS.
2. PARKING AREAS AND THE EMERGENCY TURNAROUND ON PINTO DRIVE SHALL MATCH THE PINTO DRIVE ROADWAY STRUCTURAL SECTION.
3. TOPSOIL, SEEDING AND MULCH SHALL BE PLACED ON ALL DISTURBED AREAS OUTSIDE OF THE FINAL ROADWAY SECTION AND CREEK BED. SEE SWMP PLANS FOR SEED MIX DETAILS.
4. ROADWAY SUPERELEVATION VARIES. SEE ROADWAY PROFILES.

100% SET

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WAGONWHEEL GAP ROAD
TYPICAL SECTIONS (SHEET 3 OF 3)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 10

CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		DRAINAGE		STRUCTURES		SWMP										PROJECT TOTALS	
			PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.									PLAN	AS CONST.
201-00001	CLEARING AND GRUBBING	ACRE	6.00																6.00	
202-00001	REMOVAL OF STRUCTURE	EACH			2														2	
202-00010	REMOVAL OF TREE	EACH	310																310	
202-00035	REMOVAL OF PIPE	LF			1,750														1,750	
202-00090	REMOVAL OF DELINEATOR	EACH	40																40	
202-00220	REMOVAL OF ASPHALT MAT	SY	9,150																9,150	
202-01000	REMOVAL OF FENCE	LF	1,036																1,036	
203-00060	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CY	9,370																9,370	
203-00100	MUCK EXCAVATION	CY	500		500														1,000	
203-00400	ROCK EXCAVATION	CY	200		200														400	
203-01100	PROOF ROLLING	HOUR	20																20	
203-01597	POTHOLING	HOUR	20																20	
203-01500	BLADING	HOUR	12																12	
206-00000	STRUCTURE EXCAVATION	CY			11,140		1,119												12,259	
206-00100	STRUCTURE BACKFILL (CLASS 1)	CY			4,142		857												4,999	
206-00200	STRUCTURE BACKFILL (CLASS 2)	CY					109												109	
206-00360	MECHANICAL REINFORCEMENT OF SOIL	CY					846												846	
206-00510	FILTER MATERIAL (CLASS A)	CY			627														627	
207-00205	TOPSOIL	CY							5,158										5,158	
208-00002	EROSION LOG TYPE 1 (12 INCH)	LF							1,575										1,575	
208-00020	SILT FENCE	LF							2,200										2,200	
208-00041	ROCK CHECK DAM	EACH							4										4	
208-00045	CONCRETE WASHOUT STRUCTURE	EACH							6										6	
208-00070	VEHICLE TRACKING PAD	EACH							3										3	
208-00103	REMOVAL AND DISPOSAL OF SEDIMENT (LABOR)	HOUR							20										20	
208-00105	REMOVAL AND DISPOSAL OF SEDIMENT (EQUIPMENT)	HOUR							20										20	
208-00206	EROSION CONTROL SUPERVISOR	DAY							100										100	
208-00520	TEMPORARY STREAM CROSSING	L S					2												2	
210-00010	RESET MAILBOX STRUCTURE	EACH	88																88	
210-01000	RESET FENCE	LF	350																350	
210-00810	RESET GROUND SIGN	EACH	24																24	
210-00815	RESET SIGN PANEL	EACH	3																3	
212-00006	SEEDING (NATIVE)	ACRE							6.40										6.40	
212-00022	SEEDING (RIPARIAN)	ACRE							0.10										0.10	

100% SET

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WAGONWHEEL GAP ROAD
SUMMARY OF APPROXIMATE QUANTITIES (SHEET 1 OF 3)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 11

CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		DRAINAGE		STRUCTURES		SWMP										PROJECT TOTALS	
			PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.									PLAN	AS CONST.
212-00032	SOIL CONDITIONING	ACRE							6.40										6.40	
213-00004	MULCHING (WEED FREE STRAW)	ACRE							6.40										6.40	
213-00061	MULCH TACKIFIER	LB							1,254										1,254	
216-00022	SOIL RETENTION BLANKET (CLASS 2)	SY							8,156										8,156	
216-00303	TURF REINFORCEMENT MAT (CLASS 3)	SY							842										842	
217-00020	HERBICIDE TREATMENT	HOUR							20										20	
240-00000	WILDLIFE BIOLOGIST	HOUR							24										24	
240-00010	REMOVAL OF NESTS	HOUR							32										32	
304-06007	AGGREGATE BASE COURSE (CLASS 6)	CY	1,944																1,944	
403-32741	HOT MIX ASPHALT (GRADING SG) (75) (PG 64-22)	TON	2,838				68												2,906	
420-00112	GEOTEXTILE (DRAINAGE) (CLASS 1)	SY			4,819		789												5,608	
503-00024	DRILLED CAISSON (24 INCH)	LF					731												731	
503-00030	DRILLED CAISSON (30 INCH)	LF					320												320	
504-06315	GROUND NAIL (15 FOOT)	EACH					266												266	
506-00409	SOIL RIPRAP (9 INCH)	CY			2,979														2,979	
506-00412	SOIL RIPRAP (12 INCH)	CY			62														62	
506-00418	SOIL RIPRAP (18 INCH)	CY			2,441														2,441	
506-00424	SOIL RIPRAP (24 INCH)	CY					1,282												1,282	
509-00000	STRUCTURAL STEEL	LB					46,830												46,830	
515-00120	WATERPROOFING (MEMBRANE)	SY					68												68	
518-01001	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG)	LF					96												96	
601-01000	CONCRETE CLASS B	CY			515														515	
601-03000	CONCRETE CLASS D	CY					404												404	
601-03050	CONCRETE CLASS D (WALL)	CY					22												22	
601-40005	CUT STONE VENEER	SF			4,285		6,579												10,864	
601-40301	STRUCTURAL CONCRETE COATING	SF					7,660												7,660	
601-40302	STRUCTURAL CONCRETE COATING (ANTI-GRAFFITI)	SF					7,660												7,660	
602-00000	REINFORCING STEEL	LB			61,800		81,206												143,006	
602-00020	REINFORCING STEEL (EPOXY COATED)	LB					3,311												3,311	
603-01185	18 INCH REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	LF			502														502	
603-01245	24 INCH REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	LF			104														104	
603-01305	30 INCH REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	LF			34														34	
603-01485	48 INCH REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	LF			35														35	
603-02180	23X14 INCH REINFORCED CONCRETE PIPE ELLIPTICAL (COMPLETE IN PLACE)	LF			89														89	

100% 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:
BMC	BMC	DTW	11/04/16

WAGONWHEEL GAP ROAD
SUMMARY OF APPROXIMATE QUANTITIES (SHEET 2 OF 3)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 12

CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		DRAINAGE		STRUCTURES		SWMP										PROJECT TOTALS	
			PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.									PLAN	AS CONST.
603-05018	18 INCH REINFORCED CONCRETE END SECTION	EACH			22														22	
603-05024	24 INCH REINFORCED CONCRETE END SECTION	EACH			6														6	
603-05030	30 INCH REINFORCED CONCRETE END SECTION	EACH			2														2	
603-50008	8 INCH PLASTIC PIPE	LF			61														61	
603-70707	7X7 FOOT CONCRETE BOX CULVERT (PRECAST)	LF			48														48	
603-71008	10X8 FOOT CONCRETE BOX CULVERT (PRECAST)	LF			255														255	
603-71012	10X12 FOOT CONCRETE BOX CULVERT (PRECAST)	LF			430														430	
603-71408	14X8 FOOT CONCRETE BOX CULVERT (PRECAST)	LF			313														313	
606-00301	GUARDRAIL TYPE 3 (6-3 POST SPACING)	LF	1,123																1,123	
606-01340	END ANCHORAGE TYPE 3D	EACH	11																11	
606-01390	END ANCHORAGE TYPE 3K	EACH	3																3	
606-01395	TRANSITION TYPE 3L	EACH	7																7	
606-02005	END ANCHORAGE (FLARED)	EACH	11																11	
606-10325	BRIDGE RAIL TYPE 3	LF					317												317	
607-01055	FENCE WIRE WITH TREATED WOODEN POSTS	LF	673																673	
607-60112	12 FOOT GATE	EACH	2																2	
609-24004	GUTTER TYPE 2 (4 FOOT)	LF	93																93	
612-00001	DELINEATOR (TYPE I)	EACH	211																211	
612-00003	DELINEATOR (TYPE III)	EACH	53																53	
614-00011	SIGN PANEL (CLASS I)	SF	282																282	
614-00041	SIGN POST (SPECIAL)	EACH	1																1	
614-00216	STEEL SIGN POST (2X2 INCH TUBING)	LF	461																461	
618-01992	PRESTRESSED CONCRETE BOX (DEPTH LESS THAN 32 INCHES)	SF					2,354												2,354	
620-00002	FIELD OFFICE (CLASS 2)	EACH	2																2	
620-00020	SANITARY FACILITY	EACH							6										6	
621-00425	DETOUR	L S	1																1	
625-00000	CONSTRUCTION SURVEYING	L S	1																1	
626-00000	MOBILIZATION	L S	1																1	
626-01101	PUBLIC INFORMATION SERVICES (TIER I)	L S	1																1	
627-00005	EPOXY PAVEMENT MARKING	GAL	136																136	
630-00008	TRAFFIC CONTROL (SPECIAL)	L S	1																1	
641-10000	SHOTCRETE	SY					619												619	
700-70010	F/A MINOR CONTRACT REVISIONS	F A	1																1	
700-70380	F/A EROSION CONTROL	F A							1										1	

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WAGONWHEEL GAP ROAD
SUMMARY OF APPROXIMATE QUANTITIES (SHEET 3 OF 3)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 13

TABULATION OF ROADWAY REMOVALS AND RESETS

LOCATION			SIDE	202-00220 REMOVAL OF ASPHALT MAT	202-01000 REMOVAL OF FENCE	210-00010 RESET MAILBOX STRUCTURE	210-01000 RESET FENCE	REMARKS
				SY	LF	EACH	LF	
WAGONWHEEL GAP ROAD								
56+80.00	TO	57+79.00	LT/RT	142				
58+37.00	TO	58+46.00	LT/RT	19				
58+51.00	TO	61+13.00	LT/RT	399				
58+72.00	TO	59+03.00	RT			28		RESET ALL ON EXISTING STRUCTURE
63+42.00	TO	64+84.00	RT		144			
63+50.00	TO	63+80.00	RT			34		RESET ALL ON EXISTING STRUCTURE
64+92.00	TO	65+15.00	RT		23			
65+61.00	TO	66+73.00	LT/RT	182				
66+60.00			RT		11			
66+80.00			RT		15			
69+63.00	TO	75+00.00	LT/RT	1,246				
69+69.00			RT			1		
70+83.00			RT			2		
75+00.00	TO	75+31.00	LT/RT	68				
75+12.00			LT			1		
75+24.00			RT			1		
75+65.45	TO	76+06.76	RT		81			
77+70.00			RT			6		
77+57.00	TO	79+71.00	LT/RT	459				
79+96.00			LT			1		
80+94.00			RT			1		
82+03.00	TO	87+00.00	LT/RT	1,163				
84+54.00			RT			1		
87+00.00	TO	93+00.00	LT/RT	1,414				
88+75.00			RT			1		
89+72.00			LT			1		
91+75.00			LT			6		
93+00.00	TO	99+00.00	LT/RT	1,309				
93+05.00			LT			1		
97+10.00			LT			1		
99+00.00	TO	99+77.00	LT/RT	161				
102+35.00	TO	105+00.00	LT/RT	619				
103+42.00	TO	107+71.00	LT		284			
105+00.00	TO	111+00.00	LT/RT	1,481				
108+00.00			LT			1		
108+86.00	TO	110+64.00	LT		178			
110+28.00			RT			1		
110+81.00	TO	111+53.00	LT/RT		72			
111+00.00	TO	111+55.00	LT/RT	120				
112+97.00	TO	113+55.00	LT		59			
113+21.00	TO	113+68.00	LT		47			
113+33.00	TO	114+29.00	LT/RT	207				
PINTO DRIVE								
03+07.00	TO	05+09.00	LT				207	AS DIRECTED BY COUNTY ENGINEER
BOW MOUNTAIN DRIVE								
20+48.00	TO	21+85.00	LT		122			
20+57.00	TO	21+41.00	RT				143	AS DIRECTED BY COUNTY ENGINEER
CARRIAGE HILLS DRAINAGE IMPROVEMENTS								
P-128			LT/RT	37				
P-129			LT/RT	33				
P-130			LT/RT	49				
P-140			LT/RT	27				
P-140			LT	15				
TOTALS				**9,150**	**1,036**	**88**	**350**	

NOTES: SEE DRAINAGE PLANS FOR ADDITIONAL REMOVALS AND RESETS AT DRAINAGE STRUCTURES.
SEE TABULATION OF SIGNING AND STRIPING QUANTITIES FOR SIGN REMOVAL AND RESET QUANTITIES.
SEE TREE INVENTORY PLANS FOR TREE REMOVAL TABULATIONS.

NOTES:

1. ROADWAY QUANTITIES INCLUDE DRIVEWAYS AND GUARDRAIL WIDENING.
2. SEE DRAINAGE PLANS FOR POSSIBLE ADDITIONAL REMOVALS AND RESETS AT DRAINAGE STRUCTURES.
3. SEE SUMMARY OF EARTHWORK TABLE FOR EARTHWORK QUANTITIES.
4. SEE TABULATION OF SURFACING FOR SURFACING QUANTITIES.
5. SEE TABULATION OF SIGNING AND STRIPING FOR SIGN REMOVAL AND RESET QUANTITIES.
6. SEE TREE INVENTORY PLANS FOR TREE REMOVAL TABULATIONS.
7. FINAL MAILBOX LOCATIONS TO BE DETERMINED BY COUNTY ENGINEER.

100% SET

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WAGONWHEEL GAP ROAD
ROADWAY QUANTITIES
(SHEET 1 OF 4)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 14

SUMMARY OF EARTHWORK QUANTITIES

		CUBIC YARDS
EMBANKMENT MATERIAL (COMPLETE IN PLACE)		
WAGONWHEEL GAP RD (FROM CROSS-SECTIONS)		14,121
PINTO DR (FROM CROSS-SECTIONS)		4,123
BOW MOUNTAIN RD (FROM CROSS-SECTIONS)		41
DRIVEWAYS		260
	TOTAL FOR PAY QUANTITY	**18,545**
STRUCTURE BACKFILL		
BRIDGES (FROM TAB)		883
RETAINING WALLS (FROM TAB)		236
DRAINAGE STRUCTURES		4,092
	TOTAL FOR PAY QUANTITY	**5,211**
FOR INFORMATION ONLY		
		CUBIC YARDS
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)		
WAGONWHEEL GAP RD (FROM CROSS-SECTIONS)		8,014
PINTO DR (FROM CROSS-SECTIONS)		395
BOW MOUNTAIN RD (FROM CROSS-SECTIONS)		3,473
DRIVEWAYS		74
	TOTAL	**11,958**
MUCK EXCAVATION		1,000
	TOTAL FOR PAY QUANTITY	**1,000**
ROCK EXCAVATION		400
	TOTAL FOR PAY QUANTITY	**400**
STRUCTURE EXCAVATION		
BRIDGES (FROM TAB)		857
RETAINING WALLS (FROM TAB)		109
DRAINAGE STRUCTURES		11,140
	TOTAL FOR PAY QUANTITY	**12,106**

ROADWAY QUANTITIES BALANCE:		CUBIC YARDS
EMBANKMENT MATERIAL (COMPACTION FACTOR) =	1.15	21,327
UNCLASSIFIED EXCAVATION		11,958
APPROXIMATE BORROW MATERIAL		**9,370**

NOTES:

1. UNCLASSIFIED EXCAVATION VOLUMES INCLUDE THE EXISTING PAVEMENT.
2. ROADWAY QUANTITIES BALANCE DOES NOT REFLECT THE EARTHWORK REQUIRED IN EACH CONSTRUCTION PHASE. THE PROJECT MAY REQUIRE ADITIONAL EMBANKMENT OR EXCAVATION PER PHASE. THE COST OF ADDITIONAL EMBANKMENT, EXCAVATION, HAULING, AND HANDLING WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE ORIGINAL PLAN QUANTITIES.

TABULATION OF SURFACING

LOCATION	403-34721	304-06007
	HOT MIX ASPHALT (GRADING SX) (75) (PG 58-28)	AGGREGATE BASE COURSE (CLASS 6)
	TON	CY
WAGONWHEEL GAP RD		
56+80.00 TO 114+09.56	2,786	1,824
BOW MOUNTAIN RD		
20+12.00 TO 21+83.08	5	33
PINTO DR		
00+12.00 TO 08+00.00		71
00+12.00 TO 00+56.33	22	
BRIDGES	-531	
CARRIAGE HILLS DRAINAGE IMPROVEMENTS		
P-128	6	4
P-129	5	4
P-130	8	5
P-131	4	3
TOTALS	**2,306**	**1,944**

NOTE: SURFACING QUANTITIES INCLUDE DRIVEWAYS, PARKING AREAS, GUARDRAIL WIDENING AND EMERGENCY TURNAROUND.

NOTES:

1. SURFACING QUANTITIES INCLUDE DRIVEWAYS, PARKING AREAS, GUARDRAIL WIDENING AND EMERGENCY TURNAROUND.
2. SEE DRAINAGE PLANS FOR ADDITIONAL REMOVALS AND RESETS AT DRAINAGE STRUCTURES.
3. SEE TABULATION OF SIGNING AND STRIPING FOR SIGN REMOVAL AND RESET QUANTITIES.
4. SEE TREE INVENTORY PLANS FOR TREE REMOVAL TABULATIONS.

TABULATION OF MISCELLANEOUS ITEMS

LOCATION	SIDE	609-24004	607-01055	607-60112
		GUTTER TYPE 2 (4 FOOT)	FENCE WIRE WITH TREATED WOODEN POSTS	12 FOOT GATE
		LF	LF	EACH
WAGONWHEEL GAP RD				
74+57.48 TO 75+47.06	LT	93		
101+95.20 TO 106+41.60	LT		465	
108+97.77 TO 109+51.14	LT		53	
110+02.48 TO 110+63.65	LT		61	
112+82.93 TO 113+77.25	LT		94	
TBD	LT			2
TOTALS		**93**	**673**	**2**

100% SET

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WAGONWHEEL GAP ROAD
ROADWAY QUANTITIES (SHEET 2 OF 5)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 15

TABULATION OF GUARDRAIL

LOCATION	SIDE	606-00301 GUARDRAIL TYPE 3 (6-3 POST SPACING) LF	606-01340 END ANCHORAGE TYPE 3D EACH	606-01390 END ANCHORAGE TYPE 3K EACH	606-01395 TRANSITION TYPE 3L EACH	606-02005 END ANCHORAGE (FLARED) EACH
WAGONWHEEL GAP RD						
62+00.00 TO 62+37.88	RT					1
66+68.91	RT			1		
66+68.91 TO 67+04.41	RT	37.50				
67+04.41	RT		1			
75+53.40	LT		1			
75+53.40 TO 76+00.74	LT	50.00				
76+00.74	LT			1		
83+95.23 TO 84+34.19	RT					1
84+34.19 TO 84+40.58	RT	6.25				
84+40.58	RT		1			
85+05.63 TO 85+42.15	RT					1
85+42.15 TO 88+24.55	RT	290.00				
88+24.55	RT		1			
88+66.19 TO 89+02.74	RT					1
89+02.74 TO 90+41.24	RT	140.00				
90+41.24 TO 90+78.74	RT					1
92+09.16	LT		1			
92+09.16 TO 92+44.66	LT	37.50				
92+44.66	LT			1		
95+00.00 TO 95+37.50	RT					1
95+37.50 TO 97+11.02	RT	175.00				
97+11.02	RT		1			
99+26.33	LT		1			
99+26.33 TO 101+55.00	LT	225.00				
101+55.00 TO 101+92.13	LT					1
111+38.43 TO 111+75.93	LT/RT					2
111+75.93 TO 111+82.18	LT	6.25				
111+75.93 TO 111+82.18	RT	6.25				
111+82.18 TO 112+00.93	LT/RT				2	
112+86.93 TO 113+05.68	LT/RT				2	
113+05.68 TO 113+11.94	LT	6.25				
113+05.68 TO 113+11.94	RT	6.25				
113+11.93 TO 113+49.37	LT/RT					2
PINTO DR						
06+73.96	LT		1			
06+73.96 TO 07+88.28	LT	137.00				
07+88.28	LT		1			
BOW MOUNTAIN RD						
20+12.32 TO 20+29.55	RT				1	
20+91.52 TO 21+07.92	RT				1	
20+93.87 TO 21+15.52	LT				1	
21+07.92	RT		1			
21+15.52	LT		1			
TOTALS		1,123.25	11	3	7	11

TABULATION OF SIGNING AND PAVEMENT MARKINGS

LOCATION	SIDE	202-00810 REMOVAL OF GROUND SIGN EACH	210-00810 RESET GROUND SIGN EACH	210-00815 RESET SIGN PANEL EACH	SIGN CODE	SIGN PANEL SIZE IN x IN	614-00011 SIGN PANEL (CLASS I) SF	614-00041 SIGN POST (SPECIAL) EACH	614-00216 STEEL SIGN POST (2X2 INCH TUBING) LF	PAVEMENT MARKINGS SPEED HUMP MARKING EA	PAVEMENT MARKINGS DOUBLE YELLOW SOLID 4 INCH LF	PAVEMENT MARKINGS WHITE SOLID 4 INCH LF	627-00005 EPOXY PAVEMENT MARKING GAL	REMARKS
WAGONWEEL GAP RD														
58+00 TO 58+09	RT											11	0.0	
58+00 TO 76+19	LT											1,802	5.4	
58+00 TO 114+10	LT/RT										5,596		33.6	
58+73 TO 62+39	RT											372	1.1	
58+02	RT		1											
58+09	RT				OM-3R	12 x 36	3		5					
60+36	RT		1											
60+44	RT				W17-1	30 x 30	6		10					
60+50	LT/RT									1				MUTCD MARKING OPTION C
60+56	LT				W17-1	30 x 30	6		10					
61+30	LT				OM-3R	12 x 36	3		5					
62+71	RT		1											
62+89 TO 114+28	RT											5,083	15.2	
63+90	RT	1												
64+15	RT				R2-1	24 x 30	5							25 MPH
64+34	RT		1											
66+73	RT				OM-3R	12 x 36	3		5					
68+64	LT				OM-3R	12 x 36	3		5					
69+44	RT				W17-1	30 x 30	6		10					
69+50	LT/RT									1				MUTCD MARKING OPTION C
69+56	LT				W17-1	30 x 30	6		10					
71+40	LT				R2-1	24 x 30	5		10					25 MPH
72+40	RT				W13-1P	18 x 18	2		10					20 MPH ADVISORY
72+40	RT				W1-3R	30 x 30	6							
75+64	LT				OM-3R	12 x 36	3		5					
76+11	LT				OM-3R	12 x 36	3		5					
76+64 TO 91+36	LT											1,472	4.4	
78+50	LT				W13-1P	18 x 18	2		10					20 MPH ADVISORY
78+50	LT		1											WINDING RD
79+94	RT				W17-1	30 x 30	6		10					
80+00	LT/RT									1				MUTCD MARKING OPTION C
80+06	LT				W17-1	30 x 30	6							
81+19	LT		1											BUS STOP
82+67	LT				OM-3R	12 x 36	3		5					
85+67	LT				OM-3R	12 x 36	3		5					
86+94	RT				W17-1	30 x 30	6		10					
87+00	LT/RT									1				MUTCD MARKING OPTION C
87+06	LT				W17-1	30 x 30	6		10					
89+13	LT				OM-3R	12 x 36	3		7					
92+03 TO 113+80	LT											2,176	6.5	
92+07	RT				OM-3R	12 x 36	3		7					
92+33	LT				OM-3R	12 x 36	3		7					
SUBTOTALS		1	6	0			104	0	161	4	5,596	10,915	66	

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WAGONWHEEL GAP ROAD
ROADWAY QUANTITIES (SHEET 3 OF 5)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 16

TABULATION OF SIGNING AND PAVEMENT MARKINGS (CONTINUED)

LOCATION	SIDE	202-00810	210-00810	210-00815	SIGN CODE	SIGN PANEL SIZE	614-00011	614-00041	614-00216	PAVEMENT MARKINGS			627-00005	REMARKS
		REMOVAL OF GROUND SIGN	RESET GROUND SIGN	RESET SIGN PANEL			SIGN PANEL (CLASS I)	SIGN POST (SPECIAL)	STEEL SIGN POST (2X2 INCH TUBING)	SPEED HUMP MARKING	DOUBLE YELLOW SOLID 4 INCH	WHITE SOLID 4 INCH	EPOXY PAVEMENT MARKING	
		EACH	EACH	EACH		IN x IN	SF	EACH	LF	EA	LF	LF	GAL	
96+64	RT				OM-3R	12 x 36	3		7					
98+20	LT				W2-2R	30 x 30	6	1						SEE CDOT S-614-21
99+65	LT				OM-3R	12 x 36	3		7					
106+94	RT				W17-1	30 x 30	6		10					
107+00	LT/RT									1				MUTCD MARKING OPTION C
107+06	LT				W17-1	30 x 30	6		10					
109+98	LT		1											DEER CROSSING
113+70	LT	1												
PINTO DR														
00+12 TO 00+56	LT/RT										37		0.2	
00+12 TO 00+56	LT											63	0.2	
00+12 TO 00+56	RT											55	0.2	
00+17	LT			3	R1-1	30 x 30	6		10					
00+30	RT				OM-3R	12 x 36	3		7					
00+60	LT				OM-3R	12 x 36	3		7					
00+67	RT		1											
00+75	LT		1											
02+09	LT		1											
02+24	RT		1											
03+63	LT/RT		2											
04+44	LT		1											
04+76	LT		1											
05+29	RT		1											
06+03	RT		1											
06+23	RT				OM-3R	12 x 36	3		7					
07+18	RT		1											
07+27	LT				R8-3	24 x 24	4		10					
07+27	LT				R7-201P	12 x 6	1							
BOW MOUNTAN RD														
20+12 TO 21+83	LT/RT										167	342	2.0	
20+12 TO 21+83	LT											157	0.5	
20+12 TO 21+83	RT											176	0.5	
20+35	RT				R2-1	24 x 30	5		10					10 MPH
20+82	RT	1												
21+83	LT				W3-1A	24 x 30	5		10					
21+83	LT				W13-1P	18 x 18	2							
CARRIAGE HILLS														
N 265836.00, E 51447.25					R8-3	24 x 24	4		10					
N 265762.49, E 51555.49					R8-3	24 x 24	4		10					
N 265687.29, E 51677.03					R8-3	24 x 24	4		10					
SUBTOTALS		3	18	3			179	1	300	5	5920	11,948	71	
TOTALS		4	24	3			282	1	461	9	11,636	23,103	139.0	

100% SET

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Michael Baker INTERNATIONAL

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
BMC	EAV	DTW	11/04/16

WAGONWHEEL GAP ROAD
ROADWAY QUANTITIES (SHEET 4 OF 5)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 17

TABULATION OF DELINEATORS

LOCATION			SIDE	202-00090 REMOVAL OF DELINEATOR EACH	612-00001 DELINEATOR (TYPE I) C EACH	612-00001 DELINEATOR (TYPE I) G EACH	612-00003 DELINEATOR (TYPE III) Y EACH	612-00003 DELINEATOR (TYPE III) G EACH	REMARKS
WAGONWEEL GAP RD				40					
56+00	TO	59+75	LT/RT		18				40' MAX SPACING
59+76	TO	66+05	LT/RT		8				200' MAX SPACING
56+00	TO	59+75	LT/RT		18				40' MAX SPACING
61+25			RT				1		
62+00			RT					1	
64+84			LT				1		
64+70			RT				1		
66+05	TO	68+15	LT/RT		10				40' MAX SPACING
66+50			RT					1	
67+12			RT		1				
68+15	TO	70+54	LT/RT		4				200' MAX SPACING
70+37			RT				1		
70+54	TO	71+75	LT/RT		4				85' MAX SPACING
70+89			LT				1		
71+75	TO	73+29	LT/RT		4				200' MAX SPACING
73+29	TO	77+03	LT/RT		15				37' MAX SPACING
74+94			RT				1		
75+46			LT			1			
75+96			LT				1		
76+19			LT					1	
77+03	TO	78+25	LT/RT		6				46' MAX SPACING
78+25	TO	81+55	LT/RT		4				200' MAX SPACING
79+38			LT						
79+39			RT				1		
81+55	TO	89+51	LT/RT		28				60' MAX SPACING
82+65			RT				1		
83+95			RT					1	
84+47			RT			1			
84+47			RT			1			
85+05			RT					1	
85+61			RT				1		
88+39			RT			1			
88+66			RT					1	
89+04			RT				1		
89+51	TO	91+21	LT/RT		4				200' MAX SPACING
90+79			RT			1			
91+21	TO	94+92	LT/RT		16				40' MAX SPACING
91+37			RT				1		
91+39			LT				1		
SUBTOTALS				40	145		19		

TABULATION OF DELINEATORS (CONTINUED)

LOCATION			SIDE	202-00090 REMOVAL OF DELINEATOR EACH	612-00001 DELINEATOR (TYPE I) C EACH	612-00001 DELINEATOR (TYPE I) G EACH	612-00003 DELINEATOR (TYPE III) Y EACH	612-00003 DELINEATOR (TYPE III) G EACH	REMARKS
92+01			LT			1			
92+64			LT					1	
94+56			RT				1		
94+61			LT				1		
94+93			RT					1	
96+42			RT				1		
96+58			LT				1		
97+19			RT			1			
97+61			LT				1		
97+89	TO	100+00	LT/RT		10				40' MAX SPACING
99+18			LT			1			
100+00	TO	101+43	LT/RT		4				87' MAX SPACING
101+43	TO	105+10	LT/RT		10				87' MAX SPACING
101+92			LT					1	
105+10	TO	111+39	LT/RT		12				110' MAX SPACING
107+53			RT				1		
107+71			LT				1		
110+26			RT				1		
110+26			RT				1		
110+35			LT				1		
111+38			RT				1		
111+39	TO	112+14	RT				3		37.5' SPACING
112+73	TO	113+48	LT				3		37.5' SPACING
PINTO DR									
00+12	TO	08+00	LT/RT		26				60' MAX SPACING
BOW MOUNTAN RD									
20+39			RT				1		
20+83			LT				1		
21+18			RT			1			
CARRIAGE HILLS									
P-128			LT/RT					2	
P-129			LT/RT					2	
P-129			LT/RT					2	
P-129			LT/RT					2	
P-130			LT/RT					2	
P-131			LT/RT					2	
SUBTOTALS				0	66		34		
TOTALS				40	211		53		

100% 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

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

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BMC	BMC	DTW	11/04/16

WAGONWHEEL GAP ROAD
ROADWAY QUANTITIES (SHEET 5 OF 5)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 18

TABULATION OF DRAINAGE STRUCTURES

ID	LOCATION	STATION-OFFSET	LINE		PIPE INVERT ELEVATIONS		GRADE (%)	REMOVAL OF PIPE	REMOVAL OF STRUCTURE	REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)				23x14 INCH REINFORCED CONCRETE PIPE ELLIPTICAL	REINFORCED CONCRETE END SECTION			23x14 INCH REINFORCED CONCRETE END SECTION ELLIPTICAL	14X8 FOOT CONCRETE BOX CULVERT (PRECAST)	10X8 FOOT CONCRETE BOX CULVERT (PRECAST)	10X12 FOOT CONCRETE BOX CULVERT (PRECAST)	7X7 FOOT CONCRETE BOX CULVERT (PRECAST) (SPECIAL)	8 INCH PLASTIC PIPE	CONCRETE CLASS B	REINFORCING STEEL	FILTER MATERIAL (CLASS A)	GEOTEXTILE (DRAINAGE) (CLASS 1)	SOIL RIPRAP (9 INCH)	SOIL RIPRAP (12 INCH)	SOIL RIPRAP (18 INCH)	CUT STONE VENEER	DESCRIPTION
										18 INCH	24 INCH	30 INCH	48 INCH		18 INCH	24 INCH	30 INCH														
			FROM UPPER	TO LOWER	UPPER	LOWER		LF	EA	LF				LF	EA			EA	LF	LF	LF	LF	LF	CY	LBS	CY	SY	CY	CY	CY	SF	
CH-102	WAGONWHEEL	STA 56+80.11 TO 61+38.05, LT																									296	148				ROADSIDE DITCH
P-102	WAGONWHEEL	STA 61+23.73	HEADWALL C	18" RCES	5983.54	5982.72	3.00			28					1									3	360	3		8				
CH-102A	WAGONWHEEL	STA 60+04.19 TO 61+27.99, RT																									79	40				ROADSIDE DITCH
BOW MOUNTAIN EMBANKMENT	WAGONWHEEL	STA 61+22.27 TO 62+21.37, RT																								36		108				
EXISTING	WAGONWHEEL	STA 61+53.02, 13.73' LT						29																								
CH-103	WAGONWHEEL	STA 61+79.25 TO 64+88.64, LT																									270	135				ROADSIDE DITCH
P-103	WAGONWHEEL	STA 64+82.94	24" RCES	24" RCES	5962.55	5962.22	1.00				33					2										3		7				
CH-104	WAGONWHEEL	STA 65+51.22 TO 68+61.67, LT																									277	139				ROADSIDE DITCH
P-124	WAGONWHEEL	STA 67+55.90	HEADWALL H	HEADWALL I	5944.93	5939.54	4.00	240											270					142	17,040	76				450	1,428	2 RCBC
CH-105	WAGONWHEEL	STA 68+55.69 to 69+75.28, RT																									185	93				ROADSIDE DITCH
P-105	WAGONWHEEL	STA 69+96.25, 21.54' RT	18" RCES	18" RCES	5943.61	5943.01	1.20			50					2																	
CH-106	WAGONWHEEL	STA 70+10.15 TO 70+51.23, RT																									58	29				ROADSIDE DITCH
P-106	WAGONWHEEL	STA 70+60.11, 23.75 RT	18" RCES	18" RCES	5942.08	5940.84	4.44			28					2																	
CH-113	WAGONWHEEL	STA 70+64.00 TO 71+08.89, RT																									77	39				ROADSIDE DITCH
P-113	WAGONWHEEL	STA 70+86.38	30" RCES	30" RCES	5939.66	5938.64	3.00					34					2									4			13			
CH-107U	WAGONWHEEL	STA 71+22.94 TO 75+03.56, RT																									170	85				ROADSIDE DITCH
P-150	WAGONWHEEL	STA 73+48.01, 20.01' LT			5927.32	5924.26	5.08	40															61									REPLACE IN KIND
CH-114	WAGONWHEEL	STA 73+81.44 TO 74+57.41, LT																									41	21				ROADSIDE DITCH
P-107	WAGONWHEEL	STA 75+08.44, 23.46' RT	18" RCES	18" RCES	5914.53	5913.19	6.67	21		20					2																	
P-125	WAGONWHEEL	STA 75+84.07	HEADWALL J	HEADWALL K	5905.96	5900.87	6.00	244												255				103	12,360	233		442		492	900	3 RCBC
P-127	WAGONWHEEL	STA 76+19.74	18" RCES	WINGWALL K1	5911.71	5903.14	13.00			66					1																	
CH-108	WAGONWHEEL	STA 76+68.30 to 79+47.61, LT																									162	81				ROADSIDE DITCH
P-108	WAGONWHEEL	STA 79+38.16	18" RCES	18" RCES	5897.63	5896.29	4.00			33					2											2		4				
EXISTING	WAGONWHEEL	STA 79+59.41, 14.00' LT						20																								
CH-118	WAGONWHEEL	STA 79+70.79 TO 82+71.62, LT																									197	99				ROADSIDE DITCH
P-118	WAGONWHEEL	STA 82+64.37	HEADWALL P	18" RCES	5886.71	5884.67	6.00			34					1									5	600	2				7		
CH-122	WAGONWHEEL	STA 82+71.62 TO 85+71.73, LT																									203	102				ROADSIDE DITCH
EXISTING	WAGONWHEEL	STA 83+81.04						47																								
P-122	WAGONWHEEL	STA 85+61.95	HEADWALL Q	18" RCES	5874.77	5874.48	1.00			28					1									4	480	2				7		
CH-115	WAGONWHEEL	STA 85+71.73 TO 89+11.97, LT																									196	98				ROADSIDE DITCH
P-115	WAGONWHEEL	STA 89+05.09	HEADWALL E	18" RCES	5851.72	5851.43	1.00			29					1									5	600	2		4				
EXISTING	WAGONWHEEL	STA 89+33.99, 13.97' LT						47																								
CH-116	WAGONWHEEL	STA 89+67.14 TO 91+61.77, LT																									169	85				ROADSIDE DITCH
P-116	WAGONWHEEL	STA 91+37.67	18" RCES	18" RCES	5846.40	5844.76	5.00			33					2											2		4				
P-109	WAGONWHEEL	STA 92+20.00	HEADWALL F	HEADWALL G	5835.66	5822.83	6.66	56											43				60	7,200	29				166	539	DELIVER & INSTALL ONLY
SUBTOTAL								744	0	349	33	34	0	0	15	2	2	0	313	255	0	0	61	322	38,640	394	2,380	1,771	13	1,122	2,867	

100% SET

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EMR	EMR	SLS	11/04/16

WAGONWHEEL GAP ROAD
DRAINAGE TABULATION (SHEET 1 OF 2)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 19

TABULATION OF DRAINAGE STRUCTURES

ID	LOCATION	STATION-OFFSET	LINE		PIPE INVERT ELEVATIONS		GRADE (%)	REMOVAL OF PIPE	REMOVAL OF STRUCTURE	REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)				23x14 INCH REINFORCED CONCRETE PIPE ELLIPTICAL	REINFORCED CONCRETE END SECTION			23x14 INCH REINFORCED CONCRETE END SECTION ELLIPTICAL	14X8 FOOT CONCRETE BOX CULVERT (PRECAST)	10X8 FOOT CONCRETE BOX CULVERT (PRECAST)	10X12 FOOT CONCRETE BOX CULVERT (PRECAST)	7X7 FOOT CONCRETE BOX CULVERT (PRECAST) (SPECIAL)	8 INCH PLASTIC PIPE	CONCRETE CLASS B	REINFORCING STEEL	FILTER MATERIAL (CLASS A)	GEOTEXTILE (DRAINAGE) (CLASS 1)	SOIL RIPRAP (9 INCH)	SOIL RIPRAP (12 INCH)	SOIL RIPRAP (18 INCH)	CUT STONE VENEER	DESCRIPTION
										18 INCH	24 INCH	30 INCH	48 INCH		18 INCH	24 INCH	30 INCH														
			FROM UPPER	TO LOWER	UPPER	LOWER		LF	EA	LF				LF	EA			EA	LF	LF	LF	LF	LF	CY	LBS	CY	SY	CY	CY	CY	SF	
LION POINT EMBANKMENT	WAGONWHEEL	STA 92+79.85 TO 94+54.37, RT																								65				385		
CH-110	WAGONWHEEL	STA 93+45.41 TO 94+66.41, LT																									114	57				ROADSIDE DITCH
P-110	WAGONWHEEL	STA 94+58.86	18" RCES	18" RCES	5830.22	5826.67	5.26			67					2											2		4				
CH-119	WAGONWHEEL	STA 94+71.34 TO 96+99.68, LT																									253	126				ROADSIDE DITCH
P-119	WAGONWHEEL	STA 97+22.65, 27.21' LT	23"x14" RCES	23"x14" RCES	5822.36	5821.64	1.20	60						60				2														
CH-132	WAGONWHEEL	STA 97+24.66 TO 101+95.59, LT																														ROADSIDE DITCH
P-132	WAGONWHEEL	STA 97+66.30	HEADWALL N	HEADWALL O	5811.80	5803.42	3.91	204													430			105	12,600	126				745	870	2 RCBC
CH-120	WAGONWHEEL	STA 97+44.25 TO 101+00.38, RT																									150	75				
CH-111	WAGONWHEEL	STA 98+10.83 TO 107+62.06, RT																									408	174	40			ROADSIDE DITCH
EXISTING	WAGONWHEEL	STA 99+81.93						27																								
P-111	WAGONWHEEL	STA 107+61.85	24" RCES	24" RCES	5775.54	5773.84	5.00				34						2									3			9			
EXISTING	WAGONWHEEL	107+76.12, 23.14' RT						40																								
CH-112	WAGONWHEEL	STA 108+02.82 TO 110+28.44, RT																									255	128				ROADSIDE DITCH
P-112	WAGONWHEEL	STA 110+30.73	18" RCES	18" RCES	5761.57	5760.98	1.59			37					2											2		4				
EXISTING	WAGONWHEEL	110+53.91, 27.76' RT						51																								
LEE HILL EMBANKMENT	WAGONWHEEL	STA 111+72.46 TO 112+77.89, LT																									189			189		
LEE HILL BRIDGE	WAGONWHEEL							205																								ABUTMENT STABILIZATION
CH-140	WAGONWHEEL	STA 112+39.06 TO 112+61.08, LT																									64	32				
CH-141	WAGONWHEEL	STA 112+83.09 TO 113+58.67, LT																									64	32				ROADSIDE DITCH
CH-136	BOW MOUNTAIN	STA 20+91.03 TO 21+83.74, RT																									35	18				ROADSIDE DITCH
BOW MOUNTAIN BRIDGE	BOW MOUNTAIN							240																								ABUTMENT STABILIZATION
P-100	PINTO	STA 0+42.81	HEADWALL A	HEADWALL B	6001.59	6000.49	2.27	60															48		60	7,200		52	26			548	1 RCBC
CH-100	PINTO	STA 0+41.52 TO 4+27.83, RT																									247	124				ROADSIDE DITCH
CH-137	PINTO	STA 0+41.52 TO 4+27.83, RT																									288	144				
CH-117	PINTO	STA 4+63.99 TO 8+00.00, RT																									219	110				ROADSIDE DITCH
P-117	PINTO	STA 6+33.24	HEADWALL D	18" RCES	6018.33	6017.96	2.00			26					1									7	840							
PINTO EMBANKMENT	PINTO	STA 6+25.50 TO 7+30.17, LT																								35		104				
P-128	CARRIAGE HILLS	N 266362.13, E 51200.57	24" RCES	24" RCES	6097.43	6096.14	3.50	40			37					2											29	14				
P-129	CARRIAGE HILLS	N 266092.85, E 51317.69	23"x14" RCES	23"x14" RCES	6067.15	6064.47	9.25	25	2					29				2									26	13				
P-130	CARRIAGE HILLS	N 266035.30, E 51310.41	HEADWALL L	HEADWALL M	6060.08	6058.68	4.00	32					35											21	2,520							
P-131	CARRIAGE HILLS	N 265683.77, E 51706.38	18" RCES	18" RCES	6020.14	6019.57	2.50			23					2												46	23				
EXISTING	CARRIAGE HILLS	N 265687.99, E 51725.15						22																								
SUBTOTAL								1,006	2	153	71	0	35	89	7	4	0	4	0	0	430	48	0	193	23,160	233	2,439	1,208	49	1,319	1,418	
TOTAL								1,750	2	502	104	34	35	89	22	6	2	4	313	255	430	48	61	515	61,800	627	4,819	2,979	62	2,441	4,285	

100% SET

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Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

Michael Baker INTERNATIONAL

DESIGNED:	CAD:	CHECKED:	DATE:
EMR	EMR	SLS	11/04/16

WAGONWHEEL GAP ROAD
DRAINAGE TABULATION (SHEET 2 OF 2)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 20

TO ESTABLISH GEOMETRIC CONTROL FOR THE CONSTRUCTION OF THIS PROJECT, THE DEPARTMENT HAS PROVIDED THE FOLLOWING INFORMATION:

	Format *
■ Horizontal Control	Plans
■ Vertical Control	Plans
■ Roadway Alignment	Plans
□ Original Terrain Data	
□ Other:	

* Specify the information format, ie., plan sheet, computer disk, computer printout, or other. The information marked is either contained on the plans or is available from the Engineer.

TYPE OF PROJECT

- □ Landscaping
- □ Signalization
- □ Safety Improvement
- □ Asphalt Overlay
- □ Concrete Overlay
- □ Minor Widening
- □ Major Reconstruction
- □ New Roadway Construction
- □ Bridge Replacement
- □ Bridge Widening
- □ New Bridge
- ■ Other: Flood Recovery and Restoration

SURVEY WORK TO BE PERFORMED BY OTHERS: _____

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 625:

- ___ ■ Establish and Maintain Project Centerline or Engineer Approved Offset Line(s)
- ___ ■ Verification and Maintenance of Horizontal and Vertical Control
- ___ ■ Verify or Determine existing grades and alignments
- ___ □ Verify or Determine existing topography
- ___ □ GPS/RTS (Global Positioning System/Robotic Total Station) Construction Machine Control
- ___ □ Clearing and Grubbing Limits (Section 201)
- ___ □ Removal Limits (Section 202)
- ___ □ Reset Items (Section 210)
- ___ ■ Excavation and Embankment (Section 203)
  - ___ ■ Excavation
    - ___ ■ Unclassified
    - ___ □ Stripping
    - ___ □ Muck
    - ___ ■ Rock
    - ___ □ Borrow
    - ___ □ Other: _____
    - ___ ■ Potholing
  - ___ ■ Embankment
  - ___ □ Site Grading
  - ___ □ Erosion Control (Perm)
  - ___ □ Other: _____
  - ___ ■ As Staked Earthwork Quantities (See General Notes)

	Slope Staking (Y/N)	Grid (Y/N)	Grade (Y/N)	Special Interval
Excavation	Y	N	Y	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

Embankment	Y	N	Y	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

- ___ □ Landscaping
  - ___ □ Top Soil (Section 207)
  - ___ □ Seeding (Section 212)
  - ___ □ Mulching (Section 213)
  - ___ □ Planting (Section 214)
  - ___ □ Herbicide (Section 217)
  - ___ ■ Other: Seeding Boundaries
- ___ □ Erosion Control (Section 208)
  - ___ □ Seeding (Temp)
  - ___ □ Silt Fence
  - ___ □ Erosion Bales
  - ___ □ Erosion Logs
  - ___ □ Riprap (Temp)
  - ___ □ Other: _____
- ___ ■ Roadway Bases
  - ___ □ Untreated Subgrade
  - ___ □ Treated Subgrade
  - ___ ■ Aggregate Base Course (Section 304)
  - ___ □ Reconditioning
  - ___ □ PMBB - Plant Mix Bituminous Base
  - ___ □ Other: _____

	Grid (Y/N)	Grade (Y/N)	Special Interval	Special Offset
Roadway Bases	-	-	-	-
	-	-	-	-
	N	Y	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

- ___ ■ Pavements
  - ___ ■ HMA - Hot Mix Asphalt (Section 403)
  - ___ □ Concrete (Section 412)
  - ___ □ Heating & Scarifying Treatment
  - ___ □ Prime Coat, Tack Coat & Rejuvenating Agent (Section 407)
  - ___ □ Seal Coat or Chip Seal (Section 409)
  - ___ □ Other: _____

	Grid (Y/N)	Special Interval	Special Offset
Pavements	N	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

	Tangent Interval	Curve Interval	Special Offset
Curb & Gutter	-	-	-

- ___ ■ Roadway Elements
  - ___ □ Curb and Gutter (Section 609)
  - ___ □ Drop inlets - alignment and grades (Section 604)
  - ___ ■ Retaining Walls
  - ___ ■ Guard Rail (Section 606)
  - ___ □ Sidewalk (Section 608)
  - ___ □ Overlay Stationing
  - ___ □ Other: _____

	Left Interval	Center Interval	Right Interval
Stationing	-	-	-

- ___ ■ Riprap (Perm) (Section 506)
- ___ □ Slope and Ditch Paving (Section 507)
- ___ ■ Minor Structures
  - ___ ■ Structure Excavation limits (Section 206)
  - ___ ■ Culverts (Section 603)
  - ___ ■ Culverts w/ Headwalls and Wingwalls (Section 601)
  - ___ ■ Concrete Box Culverts w/ Headwalls and Wingwalls
  - ___ ■ Pipes (Section 603)
    - ___ □ Sanitary Sewer
    - ___ ■ Storm Sewer
    - ___ □ Water
    - ___ □ Irrigation
    - ___ □ Miscellaneous
  - ___ □ Manholes (Section 604)
  - ___ □ Inlets (Section 604)
  - ___ □ Permanent Water Quality BMP (Section 208)
  - ___ □ Other: _____
- ___ ■ Major Structures - Overhead Signs (Section 614), Concrete Box Culverts, Bridges - and all other structures assigned a structure number
  - ___ ■ Structure Excavation limits (Section 206)
  - ___ ■ Concrete Box Culverts (Section 603) w/ Headwalls and Wingwalls (Section 601)
  - ___ □ Piling locations and cut off elevations (Section 502)
  - ___ □ Caisson locations and elevations (Section 503)
  - ___ □ Footing locations, alignment, and elevations
  - ___ □ Abutment/Pier locations, alignment, and elevations
  - ___ □ Wingwall skew angles/offsets
  - ___ □ Structural concrete form locations
  - ___ □ Substructure As-constructed survey required for Bridges (Subsection 601 .12) and Overhead signs (S-614-50)
  - ___ □ Bridge expansion joint(s) alignment and grade (longitudinal and transverse)
  - ___ □ Deck grades at Girder 10th or "n" th point locations and elevations
  - ___ □ Slope and Ditch Paving (Section 507)
  - ___ ■ Other: Retaining Walls, Moment Slab
- ___ ■ Fencing (Section 607)
  - ___ □ Temporary
  - ___ ■ Permanent
  - ___ □ Sound Barrier
  - ___ □ Other: _____
- ___ ■ Delineators (Section 612)
  - ___ □ Temporary
  - ___ ■ Permanent
- ___ □ Lighting (Section 613) and Traffic Control Devices (Permanent) (Section 614)
  - ___ □ Signal pole locations and elevations
  - ___ □ Light pole locations and elevations
  - ___ □ Sign locations
  - ___ □ Field verify sign post locations, elevations, and lengths before fabrication.
  - ___ □ Other: _____
- ___ ■ Pavement Marking (Section 627)
  - ___ □ Striping (Temp)
  - ___ ■ Striping (Perm)
  - ___ □ Symbols
  - ___ □ Other: _____
- ___ □ Temporary Lighting and Construction Traffic Control Devices (Section 630)
  - ___ □ Signal pole locations and elevations (Temp)
  - ___ □ Light pole locations and elevations (Temp)
  - ___ □ Sign Locations (Temp)
  - ___ □ Other: _____
- ___ ■ All Easements (Temp Staking by P.L.S. Only)
- ___ ■ Right of Way (Temp Staking by P.L.S. Only)

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 629:

- ___ □ Monumentation (Section 629)
  - ___ □ Control
  - ___ □ Right of Way
  - ___ □ Land corners, Aliquot corners
  - ___ □ Easements
  - ___ □ Reference the specified existing monuments:** _____
  - ___ □ Replace the specified existing monuments: ** _____
  - ___ □ Locate monuments. It is estimated ___ hours are required.

NOTE: All 629 items shall include adequate research, calculations, and evaluations of evidence for monuments to be set.

** A Tabulation of Survey Monuments may be provided on the plans.

GENERAL NOTES:

1. Unless indicated otherwise on this Survey Tabulation Sheet, all survey work and staking intervals shall be done in accordance with the latest edition of the CDOT Survey Manual.
2. Adequate information for establishing lines, grades, and locations for all work items have been specified on the plans. Any additional information required to stake the item or element shall be generated by the Contractor's surveyor.
3. The Contractor's surveyor shall provide an estimate of the man-hours necessary to complete the work items indicated on this sheet. A copy of this sheet, with the estimated man-hours written on the blank line to the left of the specified items, shall be submitted with the Survey Schedule to the Engineer 3 days prior to the Presurvey Conference - Construction Survey.
4. Stakes and Monuments which are damaged or destroyed by the progress of construction shall be replaced by the Contractor at no additional cost to the Department.
5. The Contractor shall furnish an As Staked (or GPS/RTS Construction Machine Control) Earthwork Quantity report to the Engineer prior to completion of twenty percent (20%) of the planned earthwork in any phase as per the CDOT Survey Manual. A printed copy of the As Staked (or GPS/RTS Construction Machine Control) Earthwork data report and a computer disk with that information on it, in the specified format shall be submitted to the Engineer. The Contractor shall field verify original ground cross sections at a maximum 500 feet intervals.
6. Prior to beginning work on any subsequent operation, such as placing base course or paving, the Contractor shall certify in writing to the Engineer that the final grade is within specified tolerance.
7. The Contractor's surveyor shall perform all field surveying and calculations necessary to tie plan grades into field grades.
8. The Contractor shall coordinate construction staking on the project with any utility work.
9. Fieldbooks shall contain daily records of points set and or measurements observed. The information recorded shall contain: date, crew members' names, point no., description, staking information, and sketches. If the survey information is collected electronically, information recorded shall be provided to the Project Engineer in a hard copy format that is intuitive, clear and related to the supplemental information recorded in the field books. All linear surveys, such as slope stakes and blue tops, shall have the station and offset information related to the measured information. Non-linear surveys such as structures staking shall have sketches relating electronic information, such as point numbers, to the sketch.
10. The Contractor's surveyor shall submit the following fieldbooks to the Engineer:
    - ■ Horizontal Control (Primary & Secondary)
    - ■ Vertical Control (i.e. Benchmarks)
    - ■ Property Pin Ties
    - □ Horizontal Alignment
    - □ Grading
    - □ Slope Staking
    - □ Minor Structures
    - □ Major Structures
    - □ One fieldbook for each work category shown on this sheet
    - □ Other Fieldbook(s): _____

100% 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:
DEA	DEA	DTW	11/04/16

WAGONWHEEL GAP ROAD
SURVEY TABULATION

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 21

BOULDER COUNTY EMERGENCY RESPONSE

CONTROL DIAGRAM - TASK ORDER 4

A PARCEL OF LAND IN SECTION 11,
TOWNSHIP 1 NORTH, RANGE 71 WEST AND OF THE 6TH P.M.,
COUNTY OF BOULDER, STATE OF COLORADO.

- SHEET 1 OF 1 -

GROUND COORDINATE TABLE:

PT #	NORTHING	EASTING	ELEV.	DESCRIPTION
401	266824.52	56029.71	5780.4	#5 REBAR W/ 1-1/4" ORANGE PLASTIC CAP
402	265571.50	52625.58	N/A	#5 REBAR W/ 1-1/4" ORANGE PLASTIC CAP
403	266345.15	51185.07	N/A	#5 REBAR W/ 1-1/4" ORANGE PLASTIC CAP

NOTES:

1.) The basis of coordinates for this map is the North America Datum of 1983-2011 (NAD 83 (2011)) U.S. Survey Feet, based locally upon the David Evans and Associates, Inc. Control Point DEA CP 402 for ground coordinate scale factor determination.

2.) The basis of elevations for this map is the North American Vertical Datum of 1988 (NAVD 88), based locally upon the CP 401.

3.) To modify ground control to Colorado State Plane North Zone; add 1,000,000 feet to North coordinate, add 3,000,000 feet to East coordinate and multiply by 1/csf (combined scale factor = 1/1.000319292 = 0.999680809.

4.) Fieldwork for control was completed November 2013.

5.) Set 18" long #5 rebar with 1-1/4" outside diameter orange plastic cap marked "DEA INC" at all control points unless otherwise noted, see Ground Coordinate Table above.

NOTICE:

According to Colorado law you MUST commence any legal action based upon any defect in this survey within three years after you first discovered such defect. In NO event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

DAVID EVANS AND ASSOCIATES INC.

0 400 800
FEET
Scale: 1" = 400'

100% SET

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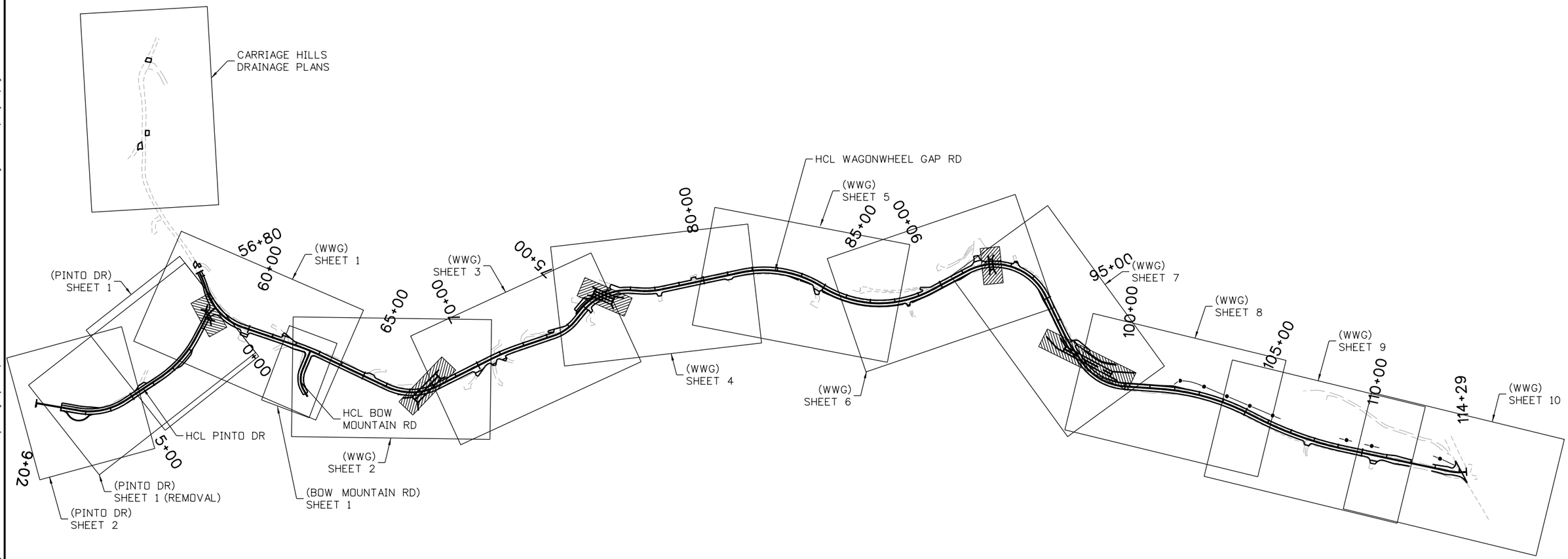
WAGONWHEEL GAP ROAD
SURVEY CONTROL DIAGRAM

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 22

LEGEND

ROADWAY, DRAINAGE AND REMOVALS AND RESETS PLANS

DRAINAGE PLAN & PROFILE SHEETS



N

200 0 200 400 FT

HORIZONTAL SCALE: 1"=400'

100% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO

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WAGONWHEEL GAP ROAD
KEY MAP

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 23

WAGONWHEEL GAP RD

POB 56+80.00
PI 57+17.77
L-1
C-1
PL-1
PC 56+85.95
PI 0+35.67
PRC 57+49.40
PC 1+44.03
PC-1
C-2
PT 59+76.23
HCL PINTO DR
STA 0+00.00=
HCL WAGONWHEEL GAP RD
STA 58+38.60
HCL BOW MOUNTAIN RD
STA 20+00.00=
HCL WAGONWHEEL GAP RD
STA 62+64.09
60+00
L-2
PC 61+98.60
PI 62+54.15
PT 63+09.58
PT 3+70.28
PI 58+72.52
PT 0+56.33
POB 0+00.00
PC 0+14.39
PL-2
HCL PINTO DR
C-3
POB 20+00.00
HCL WAGONWHEEL GAP RD
PC 5+33.30
PT 7+29.83
PI 2+59.60
PC-2
PL-3
BL-1
PC 20+83.97
PI 21+28.53
BC-1
HCL BOW
MOUNTAIN RD
PT 21+66.72
POE 21+98.56
BL-2
65+00
L-4
C-4
L-3
PI 71+14.23
70+00
C-5
C-6
PI 76+02.55
PT 77+02.56
PC 77+45.47
PT 78+25.45
L-7
75+00
C-7
C-8
L-6
PC 74+84.86
PT 74+34.53
PI 77+85.70
80+00
L-8
C-9
PC 81+54.46
MATCH LINE STA 80+60
PC 73+28.99
PI 73+83.15
PT 71+74.43
PC 70+53.84
PC 66+04.83
PI 67+17.86
PT 68+15.07
PINTO DR
PC-3
PL-4
POE 9+02.31
PI 6+36.53
50+00

N

100 0 100 200 FT
HORIZONTAL SCALE: 1"=200'

100% SET

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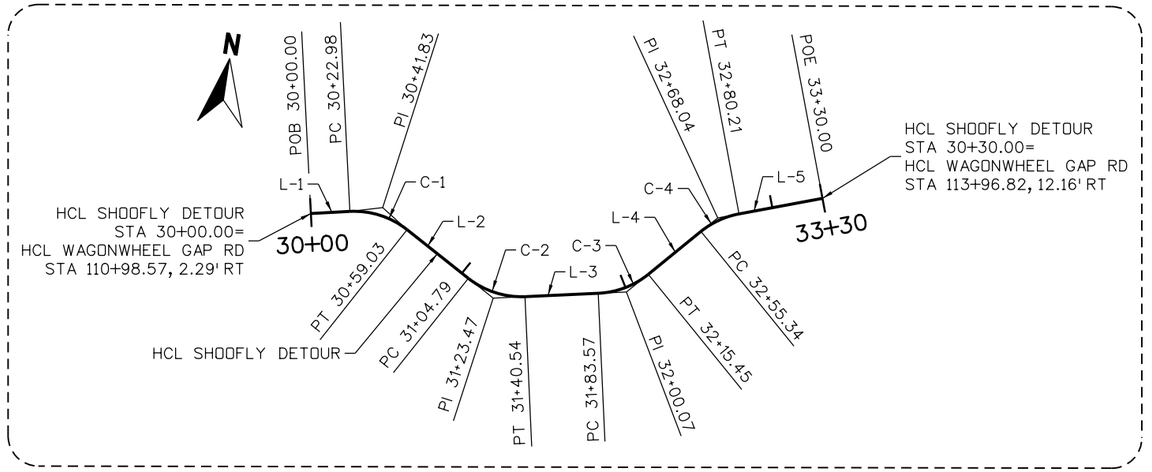
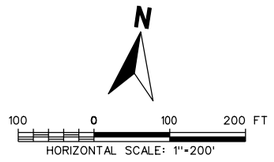
WAGONWHEEL GAP ROAD
GEOMETRIC LAYOUT
(SHEET 1 OF 4)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 24



SHOOFLY DETOUR
NTS



100% SET

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Michael Baker INTERNATIONAL

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

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WAGONWHEEL GAP ROAD
GEOMETRIC LAYOUT
(SHEET 2 OF 4)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 25

CENTERLINE HORIZONTAL ALIGNMENT DATA (HCL WAGONWHEEL GAP ROAD)

LINE NUMBER	CURVE NUMBER	POINT TYPE	STATION	NORTHING	EASTING	BEARING	DISTANCE FEET	RADIUS FEET	LENGTH FEET	CURVE DELTA	CURVE DIRECTION
		POB	56+80.00	265661.59	51733.20						
L-1						S 50° 12'04" E	5.95				
		PC	56+85.95	265657.78	51737.77						
	C-1	PI	57+17.77	265637.42	51762.22			335	63.45	10° 51'09"	RIGHT
		PRC	57+49.40	265612.81	51782.40						
	C-2	PI	58+72.52	265517.60	51860.46			235	226.82	55° 18'08"	LEFT
		PT	59+76.23	265527.58	51983.18						
L-2						N 85° 20'57" E	222.37				
		PC	61+98.60	265545.61	52204.82						
	C-3	PI	62+54.15	265550.12	52260.19			972	110.98	6° 32'31"	RIGHT
		PT	63+09.58	265548.28	52315.71						
L-3						S 88° 06'33" E	295.25				
		PC	66+04.83	265538.54	52610.80						
	C-4	PI	67+17.86	265534.81	52723.77			231	210.24	52° 08'48"	LEFT
		PT	68+15.07	265621.72	52796.04						
L-4						N 39° 44'39" E	238.77				
		PC	70+53.84	265805.31	52948.70						
	C-5	PI	71+14.23	265851.75	52987.31			864	120.59	7° 59'48"	RIGHT
		PT	71+74.43	265892.36	53032.01						
L-5						N 47° 44'27" E	154.56				
		PC	73+28.99	265996.30	53146.39						
	C-6	PI	73+83.15	266032.72	53186.48			190.67	105.54	31° 42'54"	LEFT
		PT	74+34.53	266084.78	53201.43						
L-6						N 16° 01'33" E	50.33				
		PC	74+84.86	266133.15	53215.33						
	C-7	PI	76+02.55	266246.27	53247.82			231	217.70	53° 59'47"	RIGHT
		PT	77+02.56	266286.48	53358.43						
L-7						N 70° 01'19" E	42.91				
		PC	77+45.47	266301.14	53398.75						
	C-8	PI	77+85.70	266314.89	53436.57			296	79.98	15° 28'53"	LEFT
		PT	78+25.45	266338.23	53469.34						
L-8						N 54° 32'26" E	329.01				
		PC	81+54.46	266529.10	53737.33						
	C-9	PI	83+32.45	266632.36	53882.31			440	338.28	44° 02'58"	RIGHT
		PRC	84+92.74	266605.77	54058.31						
	C-10	PI	87+45.61	266568.00	54308.34			438	458.66	59° 59'55"	LEFT
		PT	89+51.40	266765.65	54466.07						
L-9						N 38° 35'30" E	169.17				
		PC	91+20.56	266897.87	54571.59						
	C-11	PI	93+60.15	267085.13	54721.04			231	371.28	92° 05'26"	RIGHT
		PT	94+91.85	266928.95	54902.73						
L-10						S 49° 19'03" E	162.33				
		PC	96+54.17	266823.14	55025.82						
	C-12	PI	96+86.58	266802.01	55050.40			465	64.71	7° 58'26"	LEFT
		PT	97+18.89	266784.50	55077.67						
L-11						S 57° 17'29" E	70.55				
		PC	97+89.43	266746.38	55137.03						
	C-13	PI	99+02.38	266685.34	55232.07			231	210.11	52° 06'52"	LEFT
		PT	99+99.54	266722.87	55338.61						
L-12						N 70° 35'39" E	143.39				
		PC	101+42.93	266770.51	55473.85						
	C-14	PI	103+29.00	266832.34	55649.35			918	367.17	22° 54'59"	RIGHT
		PT	105+10.10	266820.94	55835.07						
L-13						S 86° 29'23" E	51.42				
		PC	105+61.52	266817.79	55886.39						
	C-15	PI	107+45.81	266806.51	56070.34			1400	366.48	14° 59'54"	LEFT
		PT	109+28.00	266843.21	56250.94						
L-14						N 78° 30'43" E	431.81				
		PC	113+59.81	266929.21	56674.10						
	C-16	PI	113+87.41	266934.71	56701.16			200	54.87	15° 43'06"	LEFT
		PT	114+14.67	266947.33	56725.71						
L-15						N 62° 47'37" E	14.6				
		POE	114+29.27	266954.01	56738.69						

100% SET

CALL UTILITY NOTIFICATION CENTER OF COLORADO
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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

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BMC	EAV	DTW	11/04/16

WAGONWHEEL GAP ROAD
GEOMETRIC LAYOUT
(SHEET 3 OF 4)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 26

CENTERLINE HORIZONTAL ALIGNMENT DATA (HCL PINTO DRIVE)											
LINE NUMBER	CURVE NUMBER	POINT TYPE	STATION	NORTHING	EASTING	BEARING	DISTANCE FEET	RADIUS FEET	LENGTH FEET	CURVE DELTA	CURVE DIRECTION
		POB	0+00.00	265556.08	51850.53						
PL-1						S 28° 21'51" W	14.39				
		PC	0+14.39	265543.41	51843.70						
	PC-1	PI	0+35.67	265524.69	51833.59			100	41.93	24° 01'37"	LEFT
		PT	0+56.33	265503.47	51831.98						
PL-2						S 4° 20'15" W	87.7				
		PC	1+44.03	265416.02	51825.34						
	PC-2	PI	2+59.60	265300.78	51816.60			450	226.24	28° 48'23"	RIGHT
		PT	3+70.28	265204.02	51753.42						
PL-3						S 33° 08'37" W	163.02				
		PC	5+33.30	265067.52	51664.29						
	PC-3	PI	6+36.53	264981.09	51607.85			260	196.54	43° 18'37"	RIGHT
		PT	7+29.83	264956.91	51507.49						
PL-4						S 76° 27'15" W	172.48				

CENTERLINE HORIZONTAL ALIGNMENT DATA (HCL BOW MOUNTAIN ROAD)											
LINE NUMBER	CURVE NUMBER	POINT TYPE	STATION	NORTHING	EASTING	BEARING	DISTANCE FEET	RADIUS FEET	LENGTH FEET	CURVE DELTA	CURVE DIRECTION
		POB	20+00.00	265548.72	52270.22						
BL-1						S 0° 47'26" E	83.97				
		PC	20+83.97	265464.76	52271.38						
	BC-1	PI	21+28.53	265420.20	52272.00			90	82.75	52° 40'49"	LEFT
		PT	21+66.72	265393.68	52307.80						
BL-2						S 53° 28'15" E	31.84				
		POE	21+98.56	265374.73	52333.38						

CENTERLINE HORIZONTAL ALIGNMENT DATA (HCL SHOOFLY DETOUR)											
LINE NUMBER	CURVE NUMBER	POINT TYPE	STATION	NORTHING	EASTING	BEARING	DISTANCE FEET	RADIUS FEET	LENGTH FEET	CURVE DELTA	CURVE DIRECTION
		POB	30+00.00	266874.94	56418.55						
L-1						N 78° 30'43" E	22.98				
		PC	30+22.98	266879.52	56441.07						
	C-1	PI	30+41.83	266883.28	56459.54			50	36.05	41° 18'27"	RIGHT
		PT	30+59.03	266873.90	56475.90						
L-2						S 60° 10'50" E	45.76				
		PC	31+04.79	266851.15	56515.59						
	C-2	PI	31+23.47	266841.86	56531.80			50	35.76	40° 58'26"	LEFT
		PT	31+40.54	266845.47	56550.13						
L-3						N 78° 50'44" E	43.03				
		PC	31+83.57	266853.80	56592.35						
C-3	C-3	PI	32+00.07	266856.99	56608.54			50	31.88	36° 32'12"	LEFT
		PT	32+15.45	266869.20	56619.65						
L-4						N 42° 18'32" E	39.89				
		PC	32+55.34	266898.69	56646.50						
	C-4	PI	32+68.04	266908.09	56655.05			50	24.87	28° 30'16"	RIGHT
		PT	32+80.21	266912.26	56667.04						
L-5						N 70° 48'48" E	49.79				
		POE	33+30.00	266928.62	56714.06						

100% SET

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BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
BMC	EAV	DTW	11/04/16

WAGONWHEEL GAP ROAD
GEOMETRIC LAYOUT
(SHEET 4 OF 4)

PROJECT NO: 4043.SEPT12C34 | SHEET NO: 27