PoDI / NHS	
FHWA PROJECT OF DIVISION INTEREST (PoDI)?	☐ NO ■ YES
NATIONAL HIGHWAY SYSTEM?	■ NO ☐ YES

CITY OF BOULDER

DEPARTMENT OF PUBLIC WORKS, TRANSPORTATION DIVISION

CONSTRUCTION BID PLANS OF PROPOSED

FEDERAL AID PROJECT NO. SHO M110-084 (SA 19062)

BOULDER COUNTY

VALMONT ROAD AND 29TH STREET

INTERSECTION IMPROVEMENTS

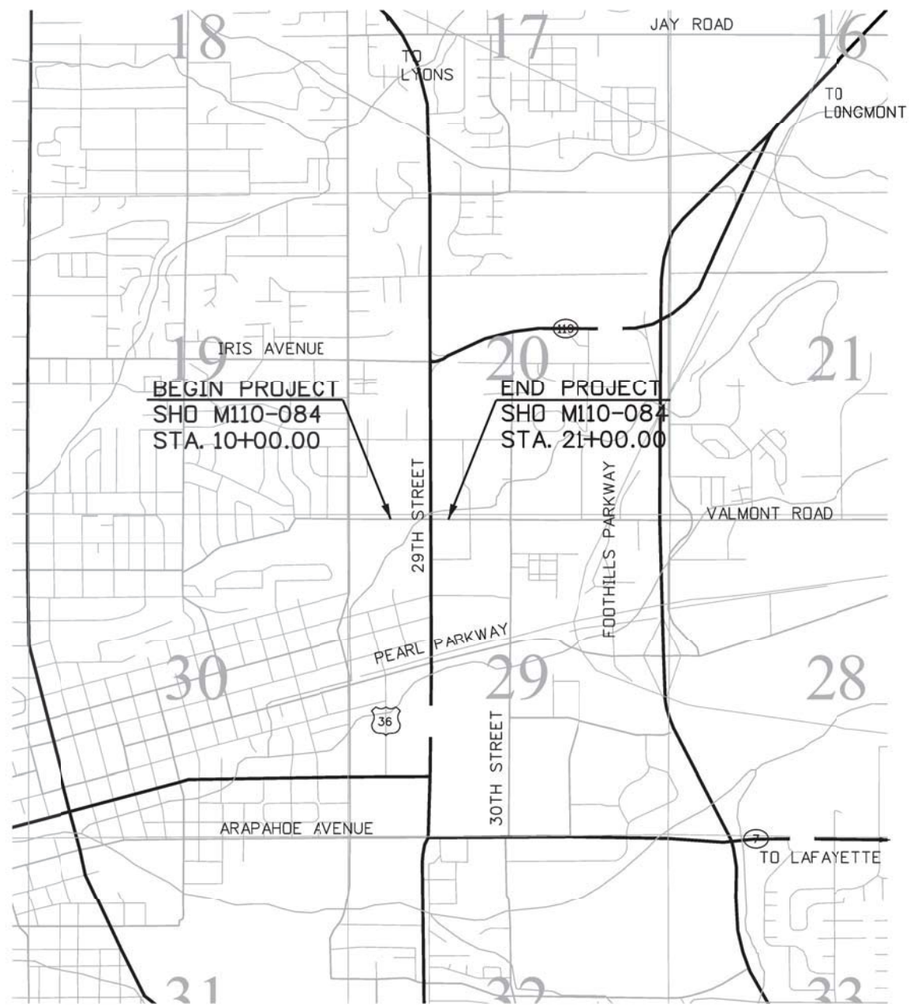
Related Projects:
P. E. UNDER PROJECT:
Project Number
Project Code:

R.O.W. Projects:
R.O.W. Project Description

TABULATION OF LENGTH & DESIGN DATA

STATION		LINEAR FEET ROADWAY	LINEAR FEET STRUCTURE
VALMONT ROAD			
STA. 10+00.00	BEGIN PROJECT SHO M110-084		
STA. 12+52.69	BEGIN CONCRETE BOX CULVERT	1:00	512
STA. 17+62.85	END CONCRETE BOX CULVERT		
STA. 21+00.00	END PROJECT SHO M110-084		
29TH STREET SOUTH		106	
STA. 30+00.00	BEGIN PROJECT SHO M110-084		
STA. 31+05.73	END PROJECT SHO M110-084		
29TH STREET NORTH		82	
STA. 40+00.00	BEGIN PROJECT SHO M110-084		
STA. 40+82.00	END PROJECT SHO M110-084		
TOTAL		1,297	512
SUMMARY OF PROJECT LENGTH		FEET	MILES
ROADWAY (NET LENGTH)		1,297	0.25
STRUCTURE (NET LENGTH)		512	0.10
PROJECT GROSS LENGTH		1,297	0.25

DESIGN DATA	
VALMONT ROAD	
MAXIMUM DESIGN SPEED	40 M.P.H.
MINIMUM RADIUS OF CURVE	762'
MAXIMUM GRADE	3.85%
MINIMUM S.S.D. HORIZONTAL	> 305'
MINIMUM S.S.D. VERTICAL	> 305'
2014 DESIGN TRAFFIC	AAD=19,160 DHV=1,916
CLEAR ZONE DISTANCE	7-10'
29TH STREET	
MAXIMUM DESIGN SPEED	25 M.P.H.
MINIMUM RADIUS OF CURVE	50'
MAXIMUM GRADE	8.30%
MINIMUM S.S.D. HORIZONTAL	> 80'
MINIMUM S.S.D. VERTICAL	> 80'
CLEAR ZONE DISTANCE	7-10'



PROJECT LOCATION MAP

INDEX OF SHEETS

SHEET	DESCRIPTION
1	TITLE SHEET
2	STANDARD PLANS LIST
3 to 4	GENERAL NOTES
5 to 8	TYPICAL SECTIONS
9 to 12	SUMMARY OF APPROXIMATE QUANTITIES
13 to 18	ROADWAY TABULATIONS
19	ROADWAY DETAILS
20 to 24	PROJECT GEOMETRY
25	SURVEY TABULATION
26 to 29	SURVEY CONTROL DIAGRAM
30 to 31	UTILITY AND REMOVALS PLAN
32 to 33	ROADWAY PLAN AND PROFILE
34 to 35	INTERSECTION PLAN AND PROFILES
36	RAMP DETAILS
37 to 39	DRIVEWAY PLAN AND PROFILES
40 to 41	SIDEWALK PLAN AND PROFILE
42 to 43	SWMP NOTES
44 to 46	EROSION CONTROL AND GRADING PLAN
47	TABULATION OF MINOR DRAINAGE STRUCTURES
48 to 51	GENERAL NOTES AND DRAINAGE DETAILS
52 to 55	DRAINAGE PLAN AND PROFILES
56 to 59	BOX CULVERT PLAN AND DETAILS
60 to 61	SIGNAL PLAN AND TABULATIONS
62 to 64	SIGNING AND STRIPING TABULATION
65 to 67	SIGNING AND STRIPING PLAN
68	TRAFFC CONTROL TABULATION
69 to 76	CONSTRUCTION PHASING PLAN
77 to 78	LANDSCAPE NOTES AND DETAILS
79 to 80	LANDSCAPE PLAN
81 to 86	IRRIGATION PLAN
81 to 95	CROSS SECTIONS

N

0' 1250' 2500' 5000'

Print Date: 4/25/2016
File Name: 19062DES_TitleSheet.dgn
Horiz. Scale: 1:1 Vert. Scale: As Noted

HDR
1670 BROADWAY, SUITE 3400 DENVER, COLORADO 80202
Phone: 303-764-1520 Fax: 303-860-1139

Sheet Revisions		
Date:	Comments	Init.

CDOT Region 4 LHN
10601 W 10th Street
Greeley, CO 80634
Phone: 970-350-2126

City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266
FAX: 303-441-4271

As Constructed	
No Revisions:	
Revised:	
Void:	

Contract Information	
Contractor:	
Resident Engineer:	
Project Engineer:	
PROJECT STARTED: / /	ACCEPTED: / /
Comments:	

Project No./Code
SHD M110-084
SA 19062
Sheet Number 1

JMCPHAUL 8:43:39 AM pw:\\PWAPPDMA001:NorthCentral_Omaha\Documents\0092811\0000000002474O2\6.0_CAD_BIM\6.2_Work_In_Progress\Design\Drawings\19062DES_TitleSheet.dgn

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
M-203-1	☐	APPROACH ROADS (REVISED ON JULY 08, 2013)	~~8~~
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
M-206-2		EXCAVATION AND BACKFILL FOR BRIDGES (2 SHEETS)	17-18
M-208-1	■	TEMPORARY EROSION CONTROL (11 SHEETS) (REVISED ON MARCH 29, 2016)	~~19-30~~
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
M-601-1	■	SINGLE CONCRETE BOX CULVERT (2 SHEETS) (REVISED ON NOVEMBER 25, 2015)	~~40-41~~
M-601-2	☐	DOUBLE CONCRETE BOX CULVERT (2 SHEETS) (REVISED ON NOVEMBER 25, 2015)	~~42-43~~
M-601-3	☐	TRIPLE CONCRETE BOX CULVERT (2 SHEETS) (REVISED ON NOVEMBER 25, 2015)	~~44-45~~
M-601-10		HEADWALL FOR PIPES	46
M-601-11		TYPE "S" SADDLE HEADWALLS FOR PIPE	47
M-601-12		HEADWALLS AND PIPE OUTLET PAVING	48
M-601-20		WINGWALLS FOR PIPE OR BOX CULVERTS	49
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~~
M-603-3		PRECAST CONCRETE BOX CULVERT	55
M-603-4	☐	CORRUGATED POLYETHYLENE PIPE (AASHTO M294) (REVISED ON OCT. 02, 2014)	~~56~~
M-603-5	■	POLYVINYL CHLORIDE (PVC) PIPE (AASHTO M304) (REVISED ON OCT. 02, 2014)	~~57~~
M-603-6	☐	STEEL REINFORCED POLYETHYLENE RIBBED PIPE (AASHTO MP 20) (NEW ON APRIL 30, 2015)	
M-603-10		CONCRETE AND METAL END SECTIONS (2 SHEETS)	58-59
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M-604-11		INLET, TYPE D	61
M-604-12		CURB INLET TYPE R (2 SHEETS)	62-63
M-604-13		CONCRETE INLET TYPE 13	64
M-604-20		MANHOLES (3 SHEETS)	65-67
M-604-25		VANE GRATE INLET (5 SHEETS)	68-72
M-605-1		SUBSURFACE DRAINS	73
M-606-1	☐	GUARDRAIL TYPE 3 W-BEAM (20 SHEETS) (REVISED ON OCTOBER 27, 2014)	~~74-92~~
M-606-1	☐	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES (20 SHEETS) (REVISED ON DECEMBER 29, 2015)	
M-606-13	☐	GUARDRAIL TYPE 7 F-SHAPE BARRIER (4 SHEETS) (REVISED ON AUGUST 30, 2013)	~~93-96~~
M-606-14		PRECAST TYPE 7 CONCRETE BARRIER (3 SHEETS)	97-99

PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER
M-607-1		WIRE FENCES AND GATES (3 SHEETS)	100-102
M-607-2		CHAIN LINK FENCE (3 SHEETS)	103-105
M-607-3		BARRIER FENCE	106
M-607-4	☐	DEER FENCE, GATES, AND GAME RAMPS (5 SHEETS) (REVISED ON APRIL 30, 2015)	~~107-109~~
M-607-10		PICKET SNOW FENCE	110
M-607-15		ROAD CLOSURE GATE (9 SHEETS)	111-119
M-608-1	■	CURB RAMPS (7 SHEETS) (REVISED ON JUNE 16, 2014)	~~120-125~~
M-609-1	■	CURBS, GUTTERS, AND SIDEWALKS (4 SHEETS) (REVISED ON JULY 24, 2012).	~~126-129~~
M-611-1		CATTLE GUARD (2 SHEETS)	130-131
M-611-2	☐	DEER GUARD (2 SHEETS) (NEW ON APRIL 30, 2015)	
M-613-1		ROADWAY LIGHTING (4 SHEETS)	132-135
M-614-1		RUMBLE STRIPS (3 SHEETS)	136-138
M-614-2		SAND BARREL ARRAYS (2 SHEETS)	139-140
M-615-1		EMBANKMENT PROTECTOR TYPE 3	141
M-615-2		EMBANKMENT PROTECTOR TYPE 5	142
M-616-1		INVERTED SIPHON	143
M-620-1		FIELD LABORATORY CLASS 1	144
M-620-2		FIELD LABORATORY CLASS 2 (2 SHEETS)	145-146
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M-629-1		SURVEY MONUMENTS (2 SHEETS)	149-150

COLORADO
DEPARTMENT OF TRANSPORTATION

M&S STANDARDS PLANS LIST

July 04, 2012

Revised on March 29, 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.

NEW OR REVISED STANDARD PLAN SHEETS APPLICABLE TO THIS PROJECT, INDICATED BY A MARKED BOX ■, WILL BE ATTACHED TO THE PLANS.

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	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	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	182
S-614-22		TYPICAL MULTI-SIGN INSTALLATIONS	183
S-614-40	■	TYPICAL TRAFFIC SIGNAL INSTALLATION DETAILS (5 SHEETS) (REVISED ON APRIL 2, 2015)	~~184-188~~
S-614-40A	☐	ALTERNATIVE TRAFFIC SIGNAL INSTALLATION DETAILS (4 SHEETS) (REVISED ON APRIL 2, 2015)	~~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 NOVEMBER 03, 2014)	
S-614-50	☐	STATIC SIGN MONOTUBE STRUCTURES (12 SHEETS) (REVISED ON NOVEMBER 28, 2012)	~~208-219~~
S-614-60	☐	DYNAMIC SIGN MONOTUBE STRUCTURES (14 SHEETS) (REVISED ON NOVEMBER 28, 2012)	~~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 DECEMBER 08, 2014)	~~239-258~~
S-630-2		BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP) AND VERTICAL PANELS	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
S-630-7		ROLLING ROADBLOCKS FOR TRAFFIC CONTROL (3 SHEETS)	266-268

PAVEMENT/RESURFACING

1. FOR PRELIMINARY PLAN QUANTITIES OF PAVEMENT MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:
   AGGREGATE BASE COURSE CLASS 6 .....@ 133 LBS/CF
   HOT MIX ASPHALT .....@ 110 LBS/SY-IN
   DILUTED EMULSIFIED ASPHALT (SLOW-SETTING).....@ 0.10 GAL/SY

2. A TACK COAT OF DILUTED EMULSIFIED ASPHALT (SLOW-SETTING) IS TO BE APPLIED TO THE EXISTING SURFACE PRIOR TO PAVING. DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER. TACK COAT WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT BE INCLUDED IN THE COST OF THE HOT MIX ASPHALT.

3. THE FOLLOWING SHALL BE FURNISHED WITH EACH HOT MIX ASPHALT PAVER:

   1. A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH.
   2. SHORT SKI OR SHOE.
   3. 5,000 FEET OF CONTROL LINE AND STAKES.

4. LONGITUDINAL JOINT WORK SHALL BE INSPECTED AFTER 300 FEET OF JOINT WORK IS COMPLETED. CONTINUAL PAVING OR REQUIRED MODIFICATION SHALL BE DETERMINED BY THE ENGINEER AT THAT TIME. ITEMS OF CONCERN ARE DENSITY, VERTICAL GRADE, AND ALIGNMENT OF THE LANE LINES AND CENTERLINES.

5. ANY LAYER OF ASPHALT PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE THE SUCCEEDING LAYER IS PLACED.

6. HMA JOINTS SHALL BE LOCATED ON CENTER, SHOULDER, OR MEDIAN LINES EXCEPT WHERE STATED IN PLANS.

7. A TACK COAT IS REQUIRED PRIOR TO PLACEMENT OF EACH LIFT OF HMA, ROADWAY TO BE SWEPT CLEAN PRIOR TO THE APPLICATION OF THE TACK COAT.

8. WHERE IT IS REQUIRED TO CUT EXISTING ASPHALT (SUCH AS FOR ASPHALT PATCHING), THE CUTTING SHALL BE DONE FULL DEPTH TO A NEAT WORK LINE WITH A SAW AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

9. COMPACTION SHALL BE PER REVISION OF SECTIONS 203, 206, 304 AND 613 – COMPACTION, OR PER THE ENGINEER. MOISTURE DENSITY CONTROL FOR THIS PROJECT SHALL BE FULL DEPTH FOR ALL EMBANKMENTS AND 6 INCHES IN BASES OF CUT AND FILLS.

10. TYPE OF COMPACTION FOR ABC CLASS 6 WILL BE AASHTO T-180. THE TYPE OF COMPACTION FOR ROADWAY EMBANKMENT AND THE REMAINDER OF THE PROJECT IS AASHTO T-99.

11. TO PROVIDE FOR ADEQUATE SULFATE RESISTANCE IN ALL CONCRETE SUPPLIED, SEVERITY OF POTENTIAL EXPOSURE SHALL BE CLASS 1 FOR THIS PROJECT. THE CONTRACTOR MAY AT HIS OWN EXPENSE HAVE A CERTIFIED LABORATORY TEST THE SUB GRADE AS PER THE FIELD MATERIALS MANUAL. TESTING SHALL BE AT THE SAME SCHEDULE AND FREQUENCY AS REQUIRED FOR THE PRELIMINARY SOIL SURVEY. THE CONTRACTOR MAY PROPOSE A DIFFERENT CLASS OF EXPOSURE FOR THE PROJECT BASED ON THOSE TEST RESULTS.

12. PORTLAND CEMENT CONCRETE PAVEMENT IS ASSIGNED A PAVEMENT SMOOTHNESS CATEGORY OF HRI CATEGORY I. PORTLAND CEMENT CONCRETE PAVEMENT SHALL NOT BE SUBJECT TO DISINCENTIVE FAYMENTS BUT SHALL BE SUBJECT TO THE LOCALIZED ROUGHNESS CRITERIA OF SECTION 105.08 AND STANDARD SPECIAL PROVISION REVISION OF SECTION 105.08 – PORTLAND CEMENT CONCRETE PAVEMENT SMOOTHNESS.

13. ALL MATERIAL, EQUIPMENT, INSTALLATION AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION CDOT STANDARD PLANS (M&S STANDARDS), FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS AND THE COLORADO SUPPLEMENT THERETO.

14. THE RATIO AND PERCENTAGE SLOPES SHOWN ON CONCRETE CURB RAMP AND SIDEWALK DETAILS INCLUDED IN THE PLANS AND IN CDOT M&S STANDARDS GREATER THAN 2% (THAT IS SLOPES LISTED AS 5%, 8.3%, 10:1, AND 20:1), ARE THE MAXIMUM SLOPE ALLOWED TO SATISFY AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONSIDER EXISTING TERRAIN WHEN ESTABLISHING THE REMOVAL AND REPLACEMENT LIMITS NECESSARY TO MEET THESE REQUIREMENTS. ANY COMPLETED RAMPS AREAS EXCEEDING SLOPE REQUIREMENTS, WHEN CHECKED WITH A PROPERLY CALABRATED SMART LEVEL, SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS OWN EXPENSE AS DIRECTED BY THE ENGINEER. THE AREAS SLOPED AT 2% ARE TO PROVIDE PROPER DRAINAGE AND ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.

QUANTITIES/MISCELLANEOUS

1. NO CONSTRUCTION VEHICLES SHALL BE PARKED IN THE TRAVELED WAY AT ANY TIME WITHOUT APPROPRIATE CONSTRUCTION TRAFFIC CONTROL. ALL CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL BE MOVEABLE UNLESS DIRECTED BY THE ENGINEER. ALL SUCH DEVICES SHALL BE REMOVED BY THE CONTRACTOR FROM THE WORK SITE AT THE END OF EACH WORKDAY.

2. THE CONTRACTOR SHALL MAINTAIN ACCESS TO BUSINESSES/DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE PROJECT.

3. THE CONTRACTOR, AT NO EXPENSE TO THE PROJECT, SHALL REPLACE SIGNS, DELINEATORS, AND/OR ANY OTHER STRUCTURE OR MARKERS DAMAGED BY THE WORK.

4. THE CONTRACTOR SHALL CLEAR AND SWEEP THE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT BE INCLUDED IN THE COST OF THE WORK.

5. ANY LANDSCAPED, IRRIGATED, OR PAVED AREAS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR TO PRE-CONSTRUCTION CONDITION AT NO EXTRA COST TO THE PROJECT.

6. THE CONTRACTOR SHALL MASK ALL SIGNS CONFLICTING WITH CONSTRUCTION SIGNING. THE MASKING OF SIGNS WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FOR ALL APPLICABLE AGENCIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY. REFER TO OSHA PUBLICATION 2226, EXCAVATING AND TRENCHING.

9. ALL REMOVED ITEMS BECOME THE PROPERTY OF THE CONTRACTOR TO BE DISPOSED OF OFF-SITE UNLESS OTHERWISE NOTED.

10. THE CONTRACTOR SHALL CONFORM TO THE BUY AMERICA REQUIREMENT AS DETALED IN SECTION 106.11 OF THE STANDARD SPECIFICATIONS.

11. THIS PROJECT IS CLASSIFIED AS NON-SIGNIFICANT. THE TMP SHALL CONSIST OF A TCP.

ENVIRONMENTAL/EROSION & CULVERTS

1. THE CONTRACTOR SHALL PERFORM ALL WORK IN SUCH A MANNER THAT THE LEAST ENVIRONMENTAL DAMAGE WILL RESULT. ANY QUESTIONABLE AREAS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR APPROVAL PRIOR TO WORK COMMENCING.

2. CONSTRUCTION STAGING AND MATERIALS STOCKPILING WILL BE LOCATED GREATER THAN 50 FEET FROM THE EDGE OF WETLANDS OR THE EDGE OF OTHER WATERS OF THE U.S., WHEN POSSIBLE, TO AVOID DISTURBANCE OF VEGETATION AND TO PREVENT POLLUTANT DISCHARGES INTO SENSITIVE HABITATS. IF THIS BUFFER IS NOT ACHIEVABLE, CDOT WILL CONSIDER THE PLACEMENT OF MATERIALS CLOSER TO THE EDGE OF WETLANDS OR THE EDGE OF WATER AND IDENTIFY APPROPRIATE ADDITIONAL BEST MANAGEMENT PRACTICES (BMPS) THAT WOULD BE REQUIRED TO MINIMIZE POTENTIAL IMPACTS.

3. THE CONTRACTOR WILL TAKE PRECAUTIONS TO MINIMIZE WILD FIRE HAZARDS AND FOLLOW ALL REQUIRED ORDINANCES.

4. WATER SHALL BE USED AS A DUST PALLATIVE WHERE REQUIRED OR AS DIRECTED BY THE ENGINEER. MAGNESIUM CHLORIDE SHALL NOT BE ALLOWED. DUST PALLATIVE SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK. CONTRACTOR SHALL FOLLOW SECTION 209 OF THE STANDARD SPECIFICATIONS AND OPEN TERMS AND CONDITIONS FOR ALL WATERING AND DUST PALLIATIVE PRACTICES.

5. SEE STORMWATER MANAGEMENT PLANS, STANDARD SPECIFICATIONS, AND PROJECT SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION REGARDING EROSION CONTROL REQUIREMENTS FOR THIS PROJECT, INCLUDING QUANTITIES.

6. THE CONTRACTOR SHALL PREVENT TOOLS, CONCRETE, DIRT AND DEBRIS OF ANY KIND FROM FALLING INTO THE CHANNEL OF ANY IRRIGATION DITCH OR STREAM. THE CONTRACTOR SHALL CLEAN OR REMOVE FROM THE CHANNEL ALL SUCH ITEMS THAT ENTER IT AS A RESULT OF THE CONTRACTOR'S OPERATIONS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DIVERTING STORM WATER DURING CONSTRUCTION. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE COST OF THE WORK.

8. ALL WORK SHALL BE FERFORMED WITHIN THE ROW OR EASEMENTS. THE INSTALLATION OF A HAUL ROAD OR OTHER WORK OUTSIDE OF THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS IS NOT ALLOWED, UNLESS DIRECTED BY THE ENGINEER. VTP, ITS, AND OTHER ITEMS WILL BE STOCKPILED OFF SITE.

9. IF REMAINS OF PREHISTORIC OR HISTORIC STRUCTURES, PREHISTORIC OR HISTORIC ARTIFACTS ARE DISCOVERED, CONTRACTOR SHALL FOLLOW STANDARD SPECIFICATION, SECTION 107.23 AND IMMEDIATELY CONTACT CDOT STAFF PALEONTOLOGIST, JAMES EUSSSEN AT 970.350.2167 OR JAMES.EUSSEN@STATE.CO.US.

ENVIRONMENTAL/EROSION & CULVERTS (CONT'D)

6. EROSION & SEDIMENT CONTROL: EROSION/SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED BEFORE CONSTRUCTION, GRADING AND MILLING OPERATIONS BEGIN. ALL EROSION/SEDIMENT CONTROL BMPS SHALL BE PLACED CONTINUALLY AND REPLACED AS NECESSARY ACCORDING TO THE CONSTRUCTION PHASING AND AS APPROVED BY THE ENGINEER.

7. BMPS PROTECTIONS SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IS COMPLETE. ALL EROSION/SEDIMENT CONTROL AND STORMWATER RESPONSIBILITIES STATED IN THE STORMWATER MANAGEMENT PLAN AND 2011 CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTIONS 101, 107, AND 208 SHALL BE FOLLOWED OR AMENDED.

8. THE CONTRACTOR OR CONTRACTOR'S ECS SHALL PROVIDE ADEQUATE EROSION CONTROL FEATURES FOR EACH PHASING PLAN AND COORDINATE THE PLACEMENT OF ALL EROSION/SEDIMENT CONTROL FEATURES (BMPS) FOR EACH PHASING PLAN. THESE BMPS SHALL BE IN PLACE PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES IN THAT PHASE AND APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL BMPS THAT HAVE BEEN INSTALLED.

9. SAW RESIDUE: "THE DISCHARGE OF ANY WATER CONTAMINATED BY WASTE PRODUCTS FROM CUTTING OR SAND BLASTING OPERATIONS TO THE WATERS OF THE STATE, THROUGH INLETS, STORM DRAINS, VEGETATIVE SWALES, RIVERS, STREAMS, ETC IS PROHIBITED. THE CONTRACTOR SHALL PROTECT ALL FACILITIES ADJACENT TO ANY LOCATION WHERE PAVEMENT CUTTING OPERATIONS INVOLVING WHEEL CUTTING, SAW CUTTING, SAND BLASTING OR ABRASIVE WATER JET CUTTING ARE TO TAKE PLACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTAINMENT, REMOVAL AND PROPER DISPOSAL OF ALL WATER, SAW RESIDUE OR SAND PRODUCTS GENERATED BY SAID CUTTING OR SAND BLASTING OPERATIONS ON A DAILY BASIS FOLLOWING M-208-1 TEMPORARY EROSION CONTROL MEASURES. CONTAINMENT AND DISPOSAL SHALL BE INCLUDED IN THE COST OF THE WORK. SAW CUTTING SHALL BE DONE IN ACCORDANCE WITH STANDARD SPECIFICATIONS 2011, SUBSECTION 107.25, 208.04, 208.05.

10. STOCK PILES: STOCKPILE AREAS SHALL BE DESIGNATED BY THE ECS AND APPROVED BY THE ENGINEER. BMP PROTECTION SHALL BE PLACED AT THE TOE OF ALL STOCKPILES. BMP PROTECTION FOR STOCKPILES IS INCLUDED IN THE COST OF THE WORK.

11. PROTECTION OF AREA/LIMITS OF DISTURBANCE: THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND/OR TOES OF SLOPES AS SHOWN ON THE PLANS AND CROSS SECTIONS OR PAVED SURFACE. ANY DISTURBANCES BEYOND THESE LIMITS SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONSTRUCTION ACTIVITIES IN ADDITION TO NORMAL CONSTRUCTION PROCEDURE SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER, AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS. ANY OFF ROAD STAGING AREAS MUST BE PRE-APPROVED BY THE ENGINEER.

12. ALL EQUIPMENT AND VEHICLES SHALL STAY ON THE PAVED SURFACES OR SHOULDERS UNLESS APPROVED BY THE ENGINEER OR NOTED IN THE PLANS.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PRESENT CONDITION OF ANY EXISTING BUILDINGS, LANDSCAPING, IRRIGATION, WATER SERVICES, FENCING, EQUIPMENT, WALKS, DRIVES, AND ATTACHMENTS. IF ANY DAMAGE OCCURS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THE DAMAGE TO A BETTER OR NEW CONDITION AT NO COST TO THE PROJECT.

14. HERBICIDE APPLICATION THIS PROJECT AREA CONTAINS KNOWN NOXIOUS WEEDS FROM THE COLORADO DEPARTMENT OF AGRICULTURE NOXIOUS WEED LIST. IT IS ESTIMATED THAT THREE APPLICATIONS OF HERBICIDE WILL BE NEEDED ON THE PROJECT. ONE APPLICATION INCLUDED IN THE FIRST CONSTRUCTION ACTIVITIES, ONE APPLICATION DURING CONSTRUCTION ACTIVITIES SHOULD NOXIOUS WEEDS BE ENCOUNTERED, AND ONE APPLICATION AFTER SEEDING ACTIVITIES ARE COMPLETED AND THE SEEDING HAS ESTABLISHED. THIS WORK WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT BE INCLUDED IN THE COST OF THE WORK.

15. CARE AND TREATMENT OF ALL SOILS REMOVED FROM THIS SITE IS NEEDED TO PREVENT THE FURTHER SPREAD OF THESE WEEDS. ANY SOILS REMOVED FROM THE SITE SHALL BE TREATED BY A LICENSED HERBICIDE APPLICATOR AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PROVIDE CERTIFICATION TO THE ENGINEER THAT STATES THAT THE TREATMENT HAS BEEN APPLIED.

16. ALL HERBICIDE TREATMENT SHALL BE PERFORMED BY A LICENSED HERBICIDE APPLICATOR USING HERBICIDES THAT ARE PERMITTED FOR APPLICATION ADJACENT TO WATERWAYS, AND SHALL BE INCLUDED IN THE COST OF THE WORK.

17. USE THE CLEANEST FUELS AVAILABLE AT THE TIME IN CONSTRUCTION EQUIPMENT AND VEHICLES TO REDUCE EXHAUST EMISSIONS. KEEP CONSTRUCTION EQUIPMENT WELL MAINTAINED TO ENSURE THAT EXHAUST SYSTEMS ARE IN GOOD WORKING ORDER.

18. REFUEL EQUIPMENT WITHIN DESIGNATED REFUELING CONTAINMENT AREAS AWAY FROM THE ORDINARY HIGH WATER MARK AND WETLANDS.

UTILITIES/ROW/SURVEY

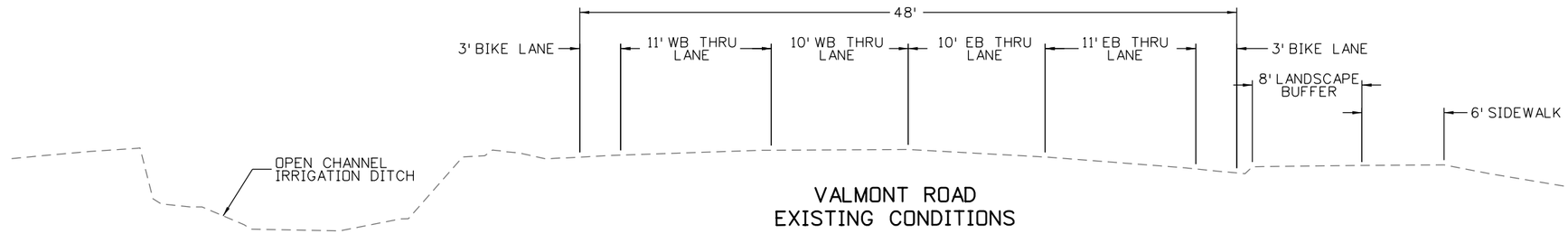
1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 105.11 OF THE STANDARD SPECIFICATIONS AND THE UTILITY PROJECT SPECIAL PROVISIONS CONCERNING UTILITIES. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH UTILITY OWNERS IN THEIR REMOVAL, ADJUSTMENT, AND/OR RELOCATION OPERATIONS SO THAT THE UTILITY WORK CAN BE ACCOMPLISHED WITHOUT IMPACTING THE CONSTRUCTION SCHEDULE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY REPRESENTATIVES TO BE ONSITE DURING POTHOLING. IT IS ESTIMATED THAT THERE SHALL BE 20 HOURS OF POTHOLING (203). THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL REFER TO THE UTILITY SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

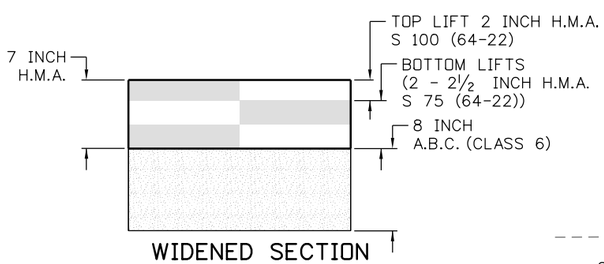
3. UTILITY LINES SHOWN ON THE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CALL FOR UTILITY LOCATES.

4. THE CONTRACTOR SHALL COMPLY WITH ARTICLE 1.5 OF TITLE 9, CRS ("EXCAVATION REQUIREMENTS") WHEN EXCAVATING OR GRADING IS PLANNED IN THE AREA OF UNDERGROUND UTILITY FACILITIES. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITIES AT LEAST TWO (2) BUSINESS DAYS, NOT INCLUDING THE ACTUAL DAY OF NOTICE, PRIOR TO COMMENCING SUCH OPERATIONS. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 811 OR 1-800-922-1987, TO HAVE LOCATIONS OF UNCC REGISTERED LINES MARKED BY MEMBER COMPANIES. ALL OTHER UNDERGROUND FACILITIES SHALL BE LOCATED BY CONTACTING THE RESPECTIVE OWNER. CDOT IS NOT CONTACED WHEN LOCATES ARE REQUESTED THROUGH THE UNCC. UTILITY SERVICE LATERALS SHALL ALSO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING.

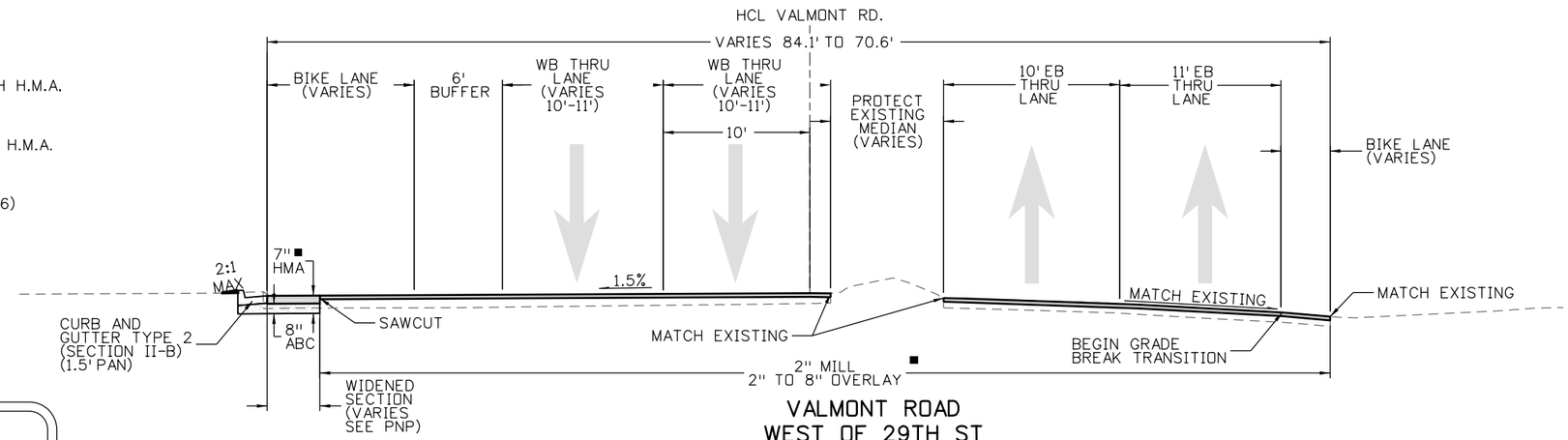
Know what's below. Call before you dig.



VALMONT ROAD
EXISTING CONDITIONS

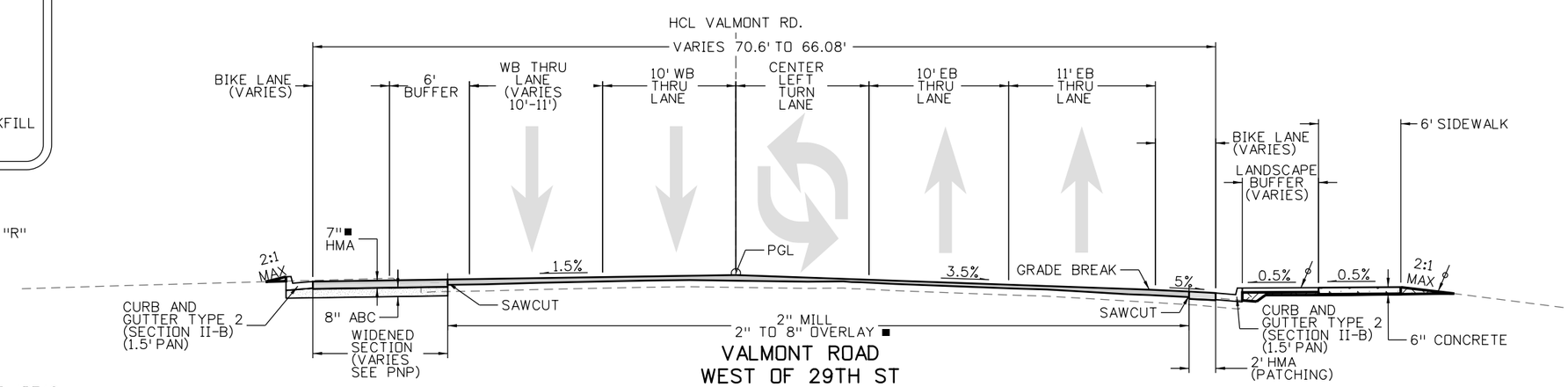


WIDENED SECTION
PAVEMENT SECTION
DETAIL



VALMONT ROAD
WEST OF 29TH ST
MILL AND OVERLAY

- HOT MIX ASPHALT
- EMBANKMENT
- PORTLAND CEMENT CONCRETE PAVEMENT
- AGGREGATE BASE COURSE
- CONCRETE SIDEWALK
- CONCRETE BOX CULVERT
- STRUCTURAL BACKFILL (CLASS 1)
- STRUCTURAL BACKFILL (FLOWFILL)



VALMONT ROAD
WEST OF 29TH ST
MILL AND OVERLAY
STA 11+66.26 TO STA 12+25.00

TYPICAL SECTION NOTES:

1. IMPORTED EMBANKMENT MATERIAL SHALL HAVE A MINIMUM "R" VALUE OF 40.

HCL - HORIZONTAL CONTROL LINE
PGL - PROFILE GRADE LINE
PCCP - PORTLAND CEMENT CONCRETE PAVEMENT
ABC - AGGREGATE BASE COURSE
HMA - HOT MIX ASPHALT
ø 2" TOPSOIL
■ FOR AND MILL AND OVERLAY AREAS AND HMA PAVEMENT AREAS THE TOP 2" OF HMA SHALL BE PAID FOR AS 403 HOT MIX ASPHALT (GRADING S) (100) (PG 64-22). THE REMAINING HMA SHALL BE PAID FOR AS 403 HOT MIX ASPHALT (PATCHING).

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Print Date: 5/10/2016	Sheet Revisions		
File Name: 19062DES_TypSec-01.dgn	Date:	Comments	Init.
Horiz. Scale: 1:10 Vert. Scale: As Noted			

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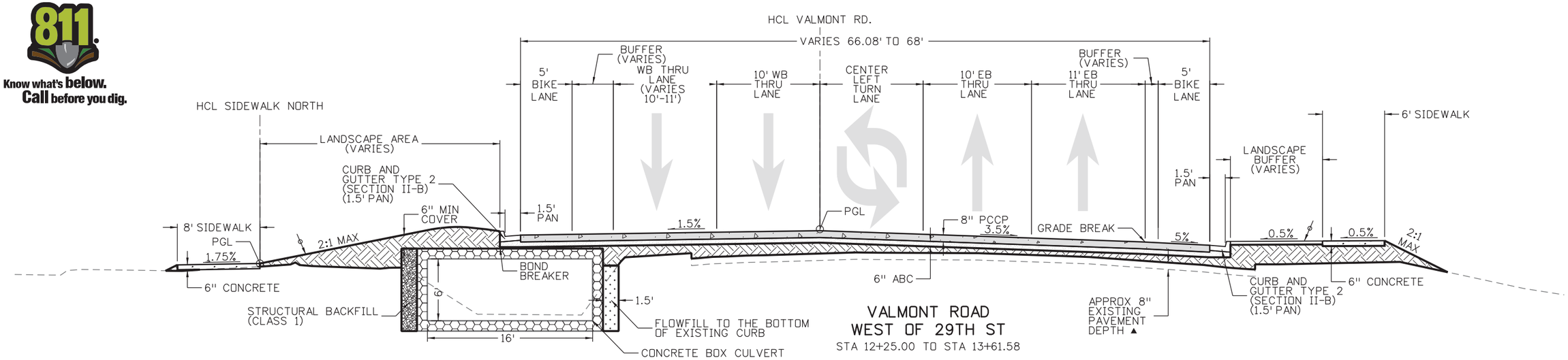
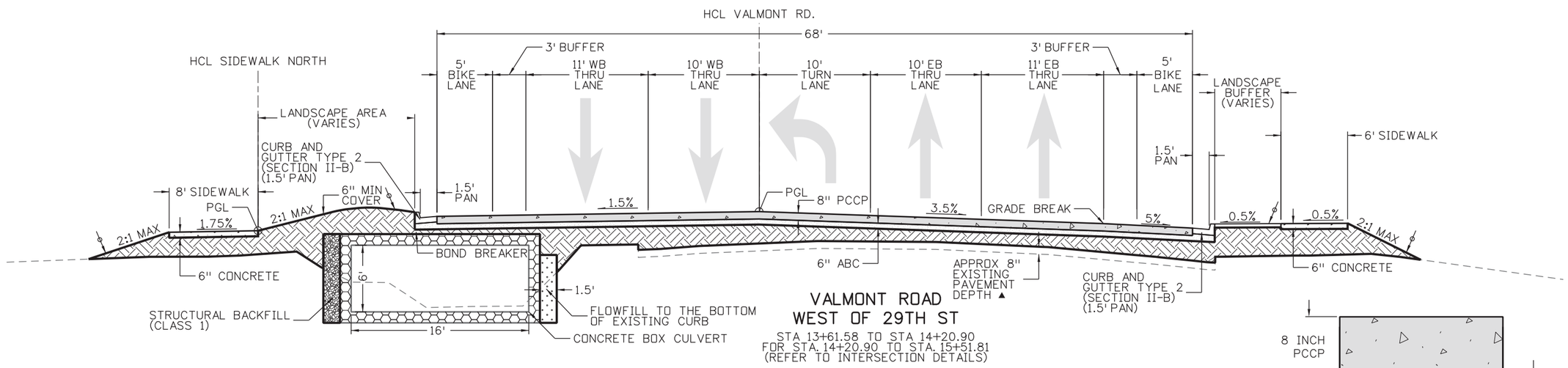
As Constructed	VALMONT ROAD & 29TH STREET TYPICAL SECTIONS			Project No./Code
No Revisions:				SHO M110-084
Revised:	Designer: J. COLIP	Structure Numbers		SA 19062
	Detailer: J. MCPHAUL			
Void:	Sheet Subset: TYPICAL	Subset Sheets: 1 of 4		Sheet Number 5



VALMONT ROAD WEST OF 29TH ST

STA 12+25.00 TO STA 13+61.58



VALMONT ROAD WEST OF 29TH ST

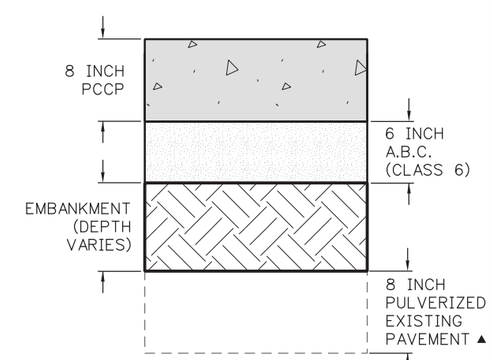
STA 13+61.58 TO STA 14+20.90
FOR STA. 14+20.90 TO STA. 15+51.81
(REFER TO INTERSECTION DETAILS)

TYPICAL SECTION NOTES:

1. IMPORTED EMBANKMENT MATERIAL SHALL HAVE A MINIMUM "R" VALUE OF 40.

HCL ~ HORIZONTAL CONTROL LINE
PGL ~ PROFILE GRADE LINE
PCCP ~ PORTLAND CEMENT CONCRETE PAVEMENT
ABC ~ AGGREGATE BASE COURSE
HMA ~ HOT MIX ASPHALT
✱ WIDTH VARIES. TURN LANE VARIES FROM 0'-10'. BIKE LANE VAIRES FROM 5'-3'. BUFFERS VARY BETWEEN 0'-3'.
▲ PULVERIZE EXISTING PAVEMENT 8 INCH DEPTH. USE AS BASE COURSE. (PAID FOR AS 310 FULL DEPTH RECLAMATION OF HOT MIX ASPHALT PAVEMENT)
2" TOPSOIL

- HOT MIX ASPHALT
- EMBANKMENT
- PORTLAND CEMENT CONCRETE PAVEMENT
- AGGREGATE BASE COURSE
- CONCRETE SIDEWALK
- CONCRETE BOX CULVERT
- STRUCTURAL BACKFILL (CLASS 1)
- STRUCTURAL BACKFILL (FLOWFILL)



CONCRETE PAVEMENT SECTION DETAIL

Print Date: 4/22/2016	Sheet Revisions		
File Name: 19062DES_TypSec-02.dgn	Date:	Comments	Init.
Horiz. Scale: 1:10 Vert. Scale: As Noted			

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Division of Transportation
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As Constructed
No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET TYPICAL SECTIONS

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: TYPICAL
Structure Numbers
Subset Sheets: 2 of 4

Project No./Code
SHO M110-084
SA 19062
Sheet Number 6

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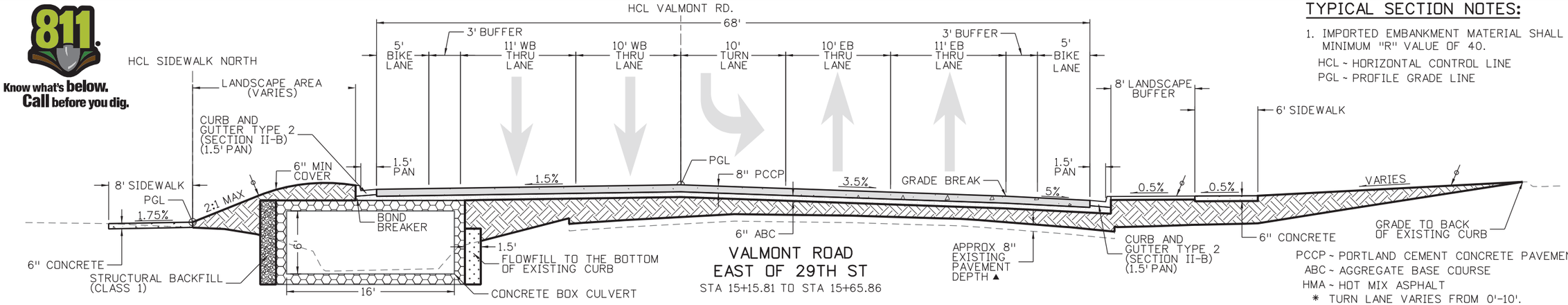
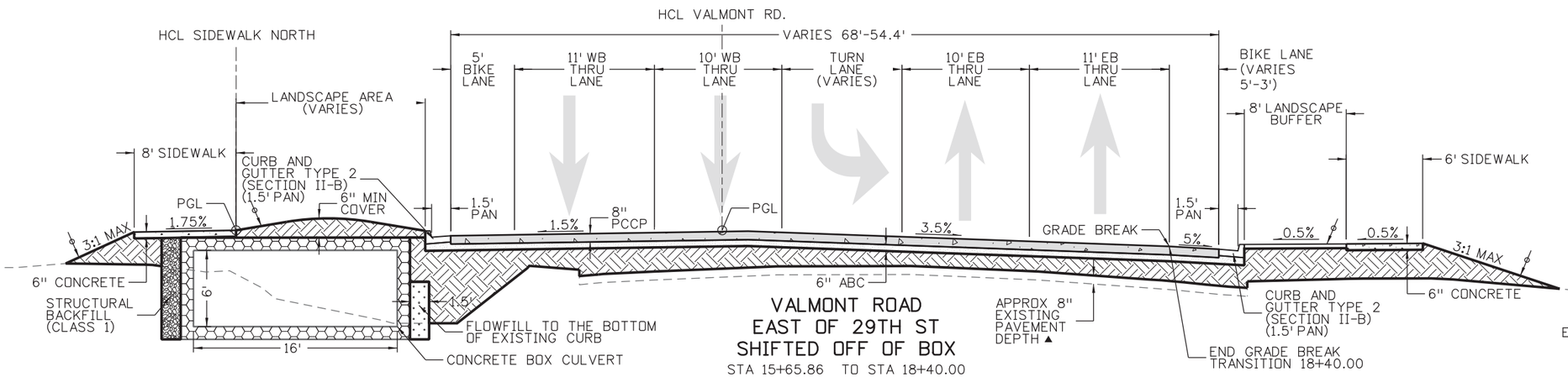
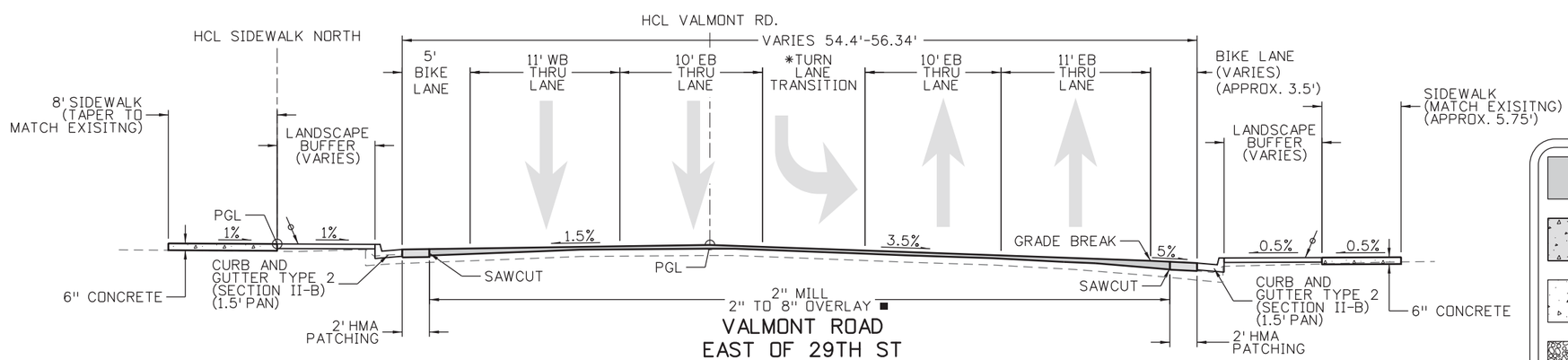


VALMONT ROAD
EAST OF 29TH ST
STA 15+15.81 TO STA 15+65.86



VALMONT ROAD
EAST OF 29TH ST
SHIFTED OFF OF BOX
STA 15+65.86 TO STA 18+40.00



VALMONT ROAD
EAST OF 29TH ST
MILL AND OVERLAY
STA 18+40.00 TO STA 18+90.00

TYPICAL SECTION NOTES:

1. IMPORTED EMBANKMENT MATERIAL SHALL HAVE A MINIMUM "R" VALUE OF 40.

HCL ~ HORIZONTAL CONTROL LINE
PGL ~ PROFILE GRADE LINE

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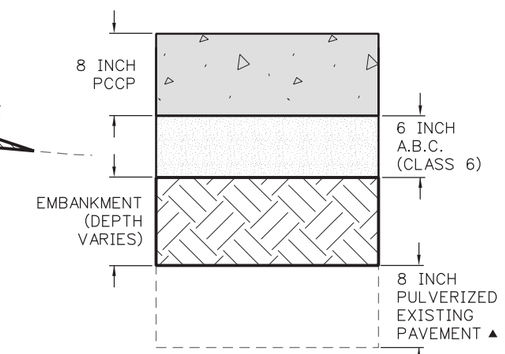
HMA ~ HOT MIX ASPHALT
* TURN LANE VARIES FROM 0'-10'.
▲ PULVERIZE EXISTING PAVEMENT 8 INCH DEPTH. USE AS BASE COURSE. (PAID FOR AS 310 FULL DEPTH RECLAMATION OF HOT MIX ASPHALT)
2" TOPSOIL
■ FOR AND MILL AND OVERLAY AREAS AND HMA PAVEMENT AREAS THE TOP 2" OF HMA SHALL BE PAID FOR AS 403 HOT MIX ASPHALT (GRADING S) (100) (PG 64-22). THE REMAINING HMA SHALL BE PAID FOR AS 403 HOT MIX ASPHALT (PATCHING).



CONCRETE PAVEMENT SECTION DETAIL

- HOT MIX ASPHALT
- EMBANKMENT
- PORTLAND CEMENT CONCRETE PAVEMENT
- AGGREGATE BASE COURSE
- CONCRETE SIDEWALK
- CONCRETE BOX CULVERT
- STRUCTURAL BACKFILL (CLASS 1)
- STRUCTURAL BACKFILL (FLOWFILL)

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Print Date: 4/22/2016
File Name: 19062DES_TypSec-03.dgn
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Sheet Revisions

Date:	Comments	Init.

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Boulder, CO 80306
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As Constructed
No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
TYPICAL SECTIONS

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: TYPICAL
Structure Numbers
Subset Sheets: 3 of 4

Project No./Code
SHO M110-084
SA 19062
Sheet Number 7

Know what's below. Call before you dig.

TYPICAL SECTION NOTES:

1. IMPORTED EMBANKMENT MATERIAL SHALL HAVE A MINIMUM "R" VALUE OF 40.

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PGL - PROFILE GRADE LINE
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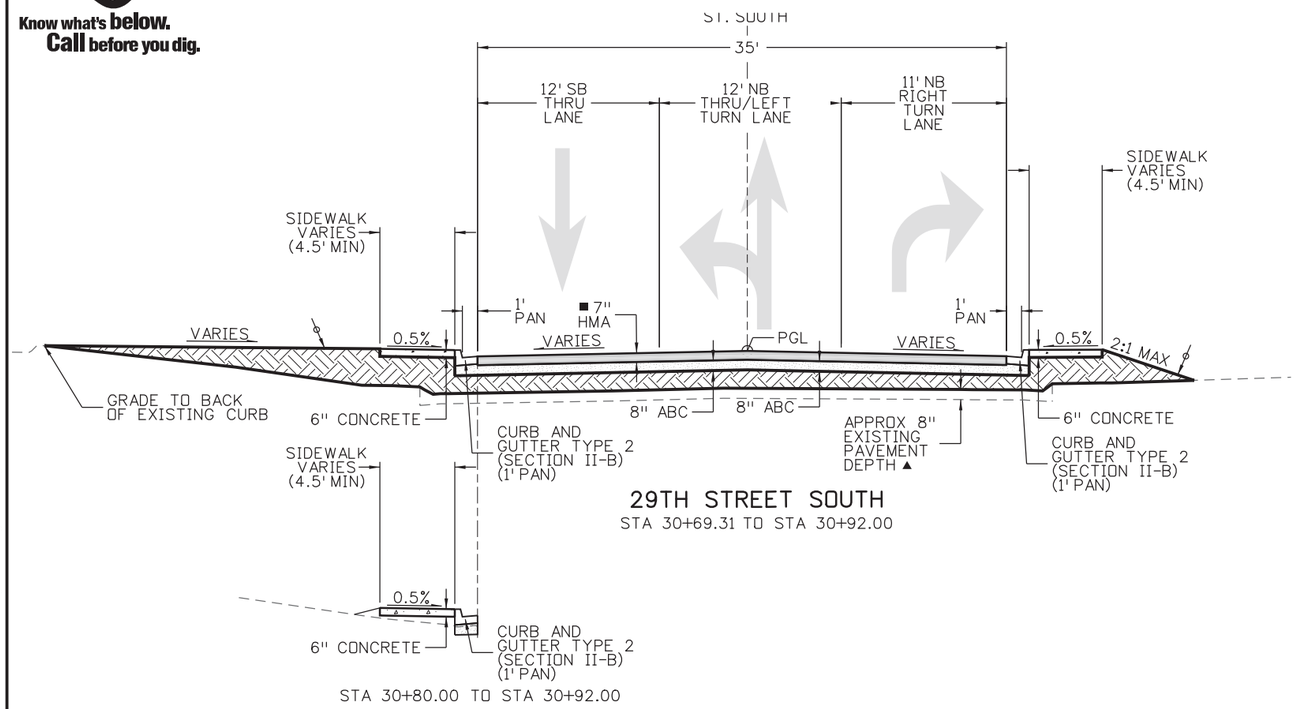
ABC - AGGREGATE BASE COURSE
HMA - HOT MIX ASPHALT

▲ PULVERIZE EXISTING PAVEMENT 8 INCH DEPTH. USE AS BASE COURSE. (PAID FOR AS 310 FULL DEPTH RECLAMATION OF HOT MIX ASPHALT)

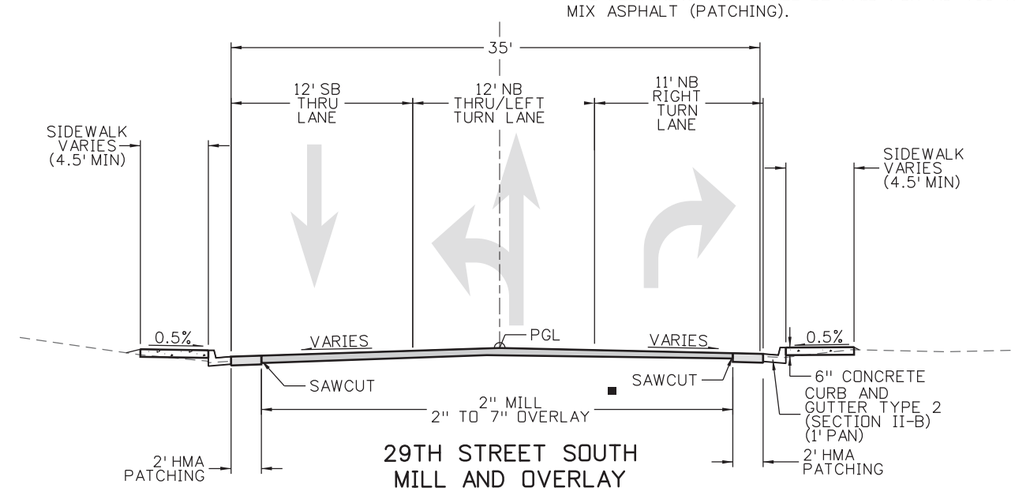
2" TOPSOIL

■ FOR AND MILL AND OVERLAY AREAS AND HMA PAVEMENT AREAS THE TOP 2" OF HMA SHALL BE PAID FOR AS 403 HOT MIX ASPHALT (GRADING S) (100) (PG 64-22). THE REMAINING HMA SHALL BE PAID FOR AS 403 HOT MIX ASPHALT (PATCHING).

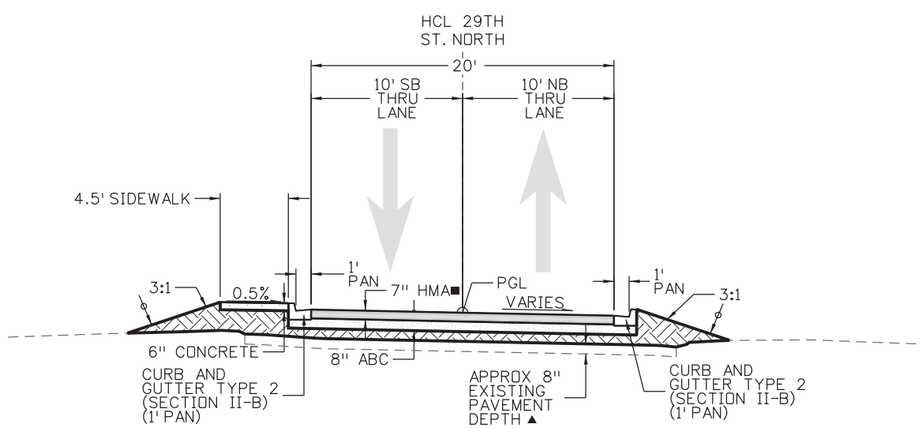


29TH STREET SOUTH
STA 30+69.31 TO STA 30+92.00

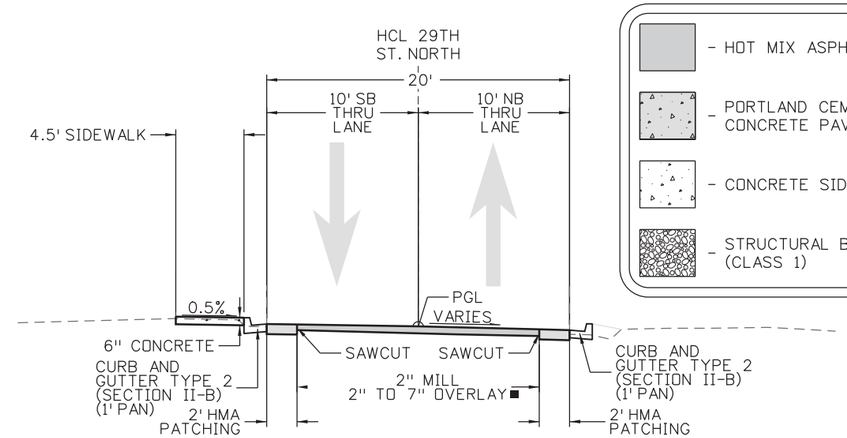
STA 30+80.00 TO STA 30+92.00



29TH STREET SOUTH
MILL AND OVERLAY
STA 30+92.00 TO STA 31+05.57



29TH STREET NORTH
STA 40+59.00 TO STA 40+69.00



29TH STREET NORTH
STA 40+69.00 TO STA 40+82.00

- HOT MIX ASPHALT
- EMBANKMENT
- PORTLAND CEMENT CONCRETE PAVEMENT
- AGGREGATE BASE COURSE
- CONCRETE SIDEWALK
- CONCRETE BOX CULVERT
- STRUCTURAL BACKFILL (CLASS 1)
- STRUCTURAL BACKFILL (FLOWFILL)

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Sheet Revisions		
Date:	Comments	Init.

CITY OF BOULDER DIVISION OF TRANSPORTATION

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Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

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No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
TYPICAL SECTIONS

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: TYPICAL
Structure Numbers
Subset Sheets: 4 of 4

Project No./Code
SHO M110-084
SA 19062
Sheet Number 8

ITEM NO.	CONTRACT ITEM	UNITS													PROJECT TOTALS	
			PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.
201	CLEARING AND GRUBBING	L S	1												1	
202	REMOVAL OF STRUCTURE	EACH	2												2	
202	REMOVAL OF TREE	EACH	9												9	
202	REMOVAL OF INLET	EACH	1												1	
202	REMOVAL OF CONCRETE BOX CULVERT	EACH	2												2	
202	REMOVAL OF MANHOLE	EACH	1												1	
202	REMOVAL OF PIPE	LF	157												157	
202	REMOVAL OF SIDEWALK	SY	975												975	
202	REMOVAL OF CURB AND GUTTER	LF	1530												1530	
202	REMOVAL OF CONCRETE PAVEMENT	SY	471												471	
202	REMOVAL OF ASPHALT MAT	SY	151												151	
202	REMOVAL OF ASPHALT MAT (PLANING)	SY	1430												1430	
202	REMOVAL OF PAVEMENT MARKING	SF	675												675	
202	REMOVAL OF BRIDGE	EACH	2												2	
202	REMOVAL OF PORTIONS OF PRESENT STRUCTURE	LS	1												1	
202	REMOVAL OF GROUND SIGN	EACH	4												4	
203	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CY	3100												3100	
203	MUCK EXCAVATION	CY	250												250	
203	POTHOLING	HOUR	20												20	
206	STRUCTURE EXCAVATION	CY	2176												2176	
206	STRUCTURE BACKFILL (FLOW-FILL)	CY	555												555	
206	STRUCTURE BACKFILL (CLASS 1)	CY	382												382	
206	SHORING (AREA 1)	L S	1												1	
206	SHORING (AREA 2)	L S	1												1	
207	TOPSOIL	CY	105												105	
208	EROSION LOG	LF	1475												1475	
208	AGGREGATE BAG	LF	220												220	
208	CONCRETE WASHOUT STRUCTURE	EACH	1												1	
208	STORM DRAIN INLET PROTECTION	EACH	3												3	
208	VEHICLE TRACKING PAD	EACH	2												2	
208	EROSION CONTROL SUPERVISOR	DAY	86												86	
210	RESET FIRE HYDRANT	EACH	1												1	
210	RESET GROUND SIGN	EACH	2												2	
210	RESET GROUND SIGN (SPECIAL)	EACH	4												4	
210	MODIFY MANHOLE	EACH	3												3	
210	MODIFY INLET	EACH	1												1	
210	ADJUST VALVE BOX	EACH	11												11	

ITEM NO.	CONTRACT ITEM	UNITS													PROJECT TOTALS	
			PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.
212	SOD (BUFFALOGRASS)	SF	2564												2564	
213	MULCHING (WEED FREE)	CY	103												103	
213	ROCK MULCH (WEED FREE)	TON	3												3	
213	LANDSCAPE BOULDER	EACH	2												2	
213	LANDSCAPE BOULDER (SPECIAL)	TONS	4												4	
214	DECIDUOUS TREE (2 INCH CALIPER)	EACH	11												11	
214	DECIDUOUS SHRUB (5 GALLON CONTAINER)	EACH	565												565	
214	GROUND COVER SHRUB	EACH	280												280	
304	AGGREGATE BASE COURSE (RAP)	CY	974												974	
310	FULL DEPTH RECLAMATION OF HOT MIX ASPHALT PAVEMENT	SY	3828												3828	
403	HOT MIX ASPHALT (PATCHING) (ASPHALT)	TON	466												466	
403	HOT MIX ASPHALT (GRADING S) (100) (PG 64-22)	TON	190												190	
412	CONCRETE PAVEMENT (8 INCH)	SY	4647												4647	
412	CONCRETE PAVEMENT (8 INCH) (SPECIAL)	SY	101												101	
503	DRILLED CAISSON (36 INCH)	LF	30												30	
503	DRILLED CAISSON (42 INCH)	LF	34												34	
601	CONCRETE CLASS D (BOX CULVERT)	CY	911												911	
602	REINFORCING STEEL	LB	191306												191306	
602	REINFORCING STEEL (EPOXY COATED)	LB	199460												199460	
603	15 INCH REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	LF	631												631	
603	24 INCH REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	LF	312												312	
603	2 INCH PLASTIC PIPE	EACH	15												15	
603	15 INCH REINFORCED CONCRETE END SECTION	EACH	1												1	
604	INLET TYPE D (5 FOOT)	EACH	2												2	
604	INLET TYPE D (10 FOOT)	EACH	1												1	
604	INLET TYPE 16 (DOUBLE) (5 FOOT)	EACH	1												1	
604	INLET TYPE 16 (TRIPLE) (5 FOOT)	EACH	1												1	
604	INLET TYPE R L 5 (10 FOOT)	EACH	2												2	
604	INLET TYPE R L 10 (10 FOOT)	EACH	1												1	
604	MANHOLE SLAB BASE (5 FOOT)	EACH	1												1	
604	MANHOLE SLAB BASE (10 FOOT)	EACH	1												1	
604	MANHOLE SLAB BASE (15 FOOT)	EACH	2												2	
604	WATER QUALITY DEVICE (BAFFLE)	EACH	2												2	
604	WATER QUALITY DEVICE (PIPE HOOD)	EACH	5												5	
608	CONCRETE SIDEWALK (6 INCH)	SY	954												954	
608	CONCRETE CURB RAMP	SY	108												108	
609	CURB TYPE 2 (SECTION B)	LF	12												12	
609	CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	1629												1629	

ITEM NO.	CONTRACT ITEM	UNITS	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PROJECT TOTALS PLAN	PROJECT TOTALS AS. CONST.
609	GUTTER TYPE 2 (8 FOOT)	LF	51												51	
609	GUTTER TYPE 2 (VARIABLE)	LF	66												66	
610	MEDIAN COVER MATERIAL (6 INCH PATTERNED CONCRETE)	SF	150												150	
613	2 INCH ELECTRICAL CONDUIT (TRENCHED)	LF	400												400	
613	3 INCH ELECTRICAL CONDUIT (TRENCHED)	LF	700												700	
613	TYPE FOUR PULL BOX (INSTALL ONLY)	EACH	8												8	
613	WIRING	L S	1												1	
613	LUMINAIRE (LED)	EACH	4												4	
613	CONCRETE FOUNDATION PAD	EACH	1												1	
613	METER PEDESTAL	EACH	1												1	
614	SIGN PANEL (CLASS I)	SF	37												37	
614	SIGNAL HEAD BACKPLATES	EACH	9												9	
614	PEDESTRIAN SIGNAL FACE (16) (COUNTDOWN)	EACH	8												8	
614	TRAFFIC SIGNAL FACE (12-12-12)	EACH	13												13	
614	TRAFFIC SIGNAL FACE (12-12-12-12)	EACH	4												4	
614	TRAFFIC CONTROLLER CABINET	EACH	1												1	
614	PEDESTRIAN PUSH BUTTON	EACH	8												8	
614	FIRE PREEMPTION UNIT	EACH	2												2	
614	MICROWAVE VEHICLE RADAR DETECTOR	EACH	4												4	
614	TRAFFIC SIGNAL-LIGHT POLE STEEL (1-25 FOOT MAST ARM)	EACH	1												1	
614	TRAFFIC SIGNAL-LIGHT POLE STEEL (1-35 FOOT MAST ARM)	EACH	1												1	
614	TRAFFIC SIGNAL-LIGHT POLE STEEL (1-45 FOOT MAST ARM)	EACH	2												2	
614	CONTROLLER (TYPE 170E-HC11)	EACH	1												1	
621	DETOUR PAVEMENT	SY	475												475	
622	SUMP PUMP	EACH	1												1	
623	MODIFY EXISTING IRRIGATION SYSTEM	L S	1												1	
625	CONSTRUCTION SURVEYING	L S	1												1	
626	MOBILIZATION	L S	1												1	
627	EPOXY PAVEMENT MARKING	GAL	20												20	
627	PAVEMENT MARKING PAINT (LOW VOC SOLVENT BASE)	GAL	88												88	
627	PREFORMED THERMOPLASTIC PAVEMENT MARKING (WORD-SYMBOL)	SF	254												254	
627	PREFORMED THERMOPLASTIC PAVEMENT MARKING (KWALK-STOP LINE	SF	1140												1140	
630	FLAGGING	HOUR	2000												2000	
630	TRAFFIC CONTROL INSPECTION	DAY	77												77	
630	TRAFFIC CONTROL MANAGEMENT	DAY	193												193	
630	CONSRUCTION TRAFFIC CONTROL	LS	1												1	
630	PORTABLE MESSAGE SIGN PANEL	DAY	28												28	
630	CONCRETE BARRIER (TEMPORARY)	LF	200												200	

ITEM NO.	CONTRACT ITEM	UNITS													PROJECT TOTALS	
			PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.	PLAN	AS. CONST.
							FORCE ACCOUNT ITEMS									
700	F/A MINOR CONTRACT REVISIONS	F A	1												1	
700	F/A PARTNERING	F A	1												1	
700	F/A FUEL COST ADJUSTMENT	F A	1												1	
700	F/A ON-THE-JOB TRAINEE	F A	1												1	
700	F/A FURNISH & INSTALL ELECTRICAL SERVICE	F A	1												1	

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Print Date: 4/22/2016
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Sheet Revisions		
Date:	Comments	Init.

City of Boulder
Division of Transportation
1739 Broadway
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As Constructed
No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
SUMMARY OF
APPROXIMATE QUANTITIES

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: SAQ
Structure Numbers
Subset Sheets: 4 of 4

Project No./Code
SHO M110-084
SA 19062
Sheet Number 12

Know what's **below.**
Call before you dig.

TABULATION OF SURFACING SUMMARY

STATION / LOCATION	SIDE	304 AGGREGATE BASE COURSE (RAP) CY		403 HOT MIX ASPHALT (PATCHING) (ASPHALT) TON		403 HOT MIX ASPHALT (GRADING S) (100) (PG 64-22) TON		412 CONCRETE PAVEMENT (8 INCH) SY		412 CONCRETE PAVEMENT (8 INCH)(SPECIAL) SY		REMARKS
		PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
VALMONT ROAD												
10+92.85 TO 11+28.46	LT	5						25				REPLACE DRIVEWAY
10+92.85 TO 12+25.00	LT	26		27		11						WIDENED SECTION
10+92.85 TO 12+25.00	LT/RT			128		90						MILL AND OVERLAY
11+63.71 TO 12+25.00	RT			4		2						PATCHING
12+25.00 TO 18+40.00	LT/RT	744						4395				
18+40.00 TO 18+90.00	RT			4		2						PATCHING
18+40.00 TO 18+90.00	LT			4		2						PATCHING
18+40.00 TO 18+90.00	LT/RT			44		32						MILL AND OVERLAY
29TH ST SOUTH												
30+39.00 TO 30+92.00	LT/RT	61		69		28						
30+92.00 TO 31+05.71	LT/RT			9		6						MILL AND OVERLAY
30+92.00 TO 31+05.71	LT			1		1						PATCHING
30+92.00 TO 31+05.71	RT			1		1						PATCHING
29TH ST NORTH												
40+37.00 TO 40+69.00	LT/RT	20		24		10						
40+69.00 TO 40+82.00	LT/RT			4		3						MILL AND OVERLAY
40+69.00 TO 40+82.00	LT			1		1						PATCHING
40+69.00 TO 40+82.00	RT			1		1						PATCHING
DRIVEWAY 12+68 LT												
50+31.00	LT/RT									19		**CONCRETE DRIVEWAY ENTRANCE**
50+36.62 TO 50+80.00	LT/RT	20		38								
DRIVEWAY 13+46 LT												
60+30.97	LT/RT									18		**CONCRETE DRIVEWAY ENTRANCE**
60+36.96 TO 60+89.46	LT/RT	39						227				
DRIVEWAY 16+64 RT												
70+40.51	LT/RT									28		**CONCRETE DRIVEWAY ENTRANCE**
70+54.46 TO 70+82.21	LT/RT	13		26								
DRIVEWAY 18+08 LT												
80+23.26	LT/RT									17		**CONCRETE DRIVEWAY ENTRANCE**
80+34.16 TO 80+44.26	LT/RT	5		9								
DRIVEWAY 18+11 RT												
90+35.32	LT/RT									19		**CONCRETE DRIVEWAY ENTRANCE**
90+45.90 TO 90+57.78	LT/RT	7		14								
PROJECT TOTAL		**940**		**408**		**190**		**4647**		**101**		

Know what's below. Call before you dig.

TABULATION OF SIDEWALK, CURB RAMP, AND CURB AND GUTTER (SHEET 1 OF 2)

STATION / LOCATION	SIDE	608 CONCRETE SIDEWALK (6 INCH) SY		608 CONCRETE CURB RAMP SY		609 CURB TYPE 2 (SECTION B) LF		609 CURB AND GUTTER TYPE 2 (SECTION II-B) LF		609 GUTTER TYPE 2 (8 FOOT) LF		610 MEDIAN COVER MATERIAL (6 INCH PATTERNED CONCRETE) SF		REMARKS
		PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
VALMONT ROAD														
11+16.06 TO 12+50.40	LT							136						1.5' GUTTER PAN
12+83.97 TO 13+30.03	LT							47						1.5' GUTTER PAN
11+57.50 TO 14+27.67	RT	178												
11+63.67 TO 14+21.40	RT							255						1.5' GUTTER PAN
13+62.38 TO 14+27.32	LT							66						1.5' GUTTER PAN
14+27.32 TO 15+06.32	LT									51				
15+06.32 TO 17+85.78	LT							279						1.5' GUTTER PAN
15+06.36 TO 18+90.38	RT	257												
15+15.31 TO 16+45.67	RT							131						1.5' GUTTER PAN
16+82.59 TO 17+91.79	RT							111						1.5' GUTTER PAN
18+29.29 TO 18+90.00	LT							61						1.5' GUTTER PAN
18+31.67 TO 18+90.00	RT							59						1.5' GUTTER PAN
29TH STREET SOUTH														
30+40.50 TO 30+68.77	LT							45						TRANSITION FROM 1.5' GUTTER PAN TO 1' GUTTER PAN
30+40.50 TO 30+69.29	RT							45						TRANSITION FROM 1.5' GUTTER PAN TO 1' GUTTER PAN
30+41.50	RT			5										
30+42.16	LT			6										
30+41.74 TO 30+46.50	RT											32		
30+42.53 TO 30+48.60	LT											39		
30+49.23	RT			16										
30+51.49	LT			15										
30+58.00 TO 31+05.40	RT	26												
30+61.12 TO 31+05.73	LT	25												
30+68.77 TO 31+05.73	LT							37						1'GUTTER PAN
30+69.29 TO 31+05.41	RT							37						1'GUTTER PAN
SJBTOTAL SHEET 1		486		42		0		1,309		51		71		

Know what's below. Call before you dig.

TABULATION OF SIDEWALK, CURB RAMP, AND CURB AND GUTTER (SHEET 2 OF 2)

STATION / LOCATION	SIDE	608 CONCRETE SIDEWALK (6 INCH) SY		608 CONCRETE CURB RAMP SY		609 CURB TYPE 2 (SECTION B) LF		609 CURB AND GUTTER TYPE 2 (SECTION II-B) LF		609 GUTTER TYPE 2 (8 FOOT) LF		610 MEDIAN COVER MATERIAL (6 INCH PATTERNED CONCRETE) SF		REMARKS
		PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
29TH STREET NORTH														
40+30.50 TO 40+59.00	RT							45						TRANSITION FROM 1.5' GUTTER PAN TO 1' GUTTER PAN
40+30.50 TO 40+59.00	LT							45						TRANSITION FROM 1.5' GUTTER PAN TO 1' GUTTER PAN
40+33.71	RT			8										
40+34.25	LT			8										
40+34.18 TO 40+41.33	RT											41		
40+34.71 TO 40+41.80	LT											38		
40+44.51	RT			12										
40+44.98	LT			11										
40+53.14 TO 40+82.00	LT	14												
40+59.00 TO 40+82.00	RT							24						1' GUTTER PAN
40+59.00 TO 40+82.00	LT							23						1' GUTTER PAN
SIDEWALK NORTH														
200+00.00	LT			7										
200+05.52 TO 200+50.90	LT	41												
200+56.37	LT			7										
200+78.26	LT			7										
200+83.72 TO 201+79.74	LT	80												
202+10.69 TO 204+87.53	LT	238												
205+06.61 TO 206+23.52	LT	95												
DRIVEWAY 12+68 LT														
50+36.68 TO 50+80.00	LT							45						1' GUTTER PAN
50+37.29 TO 50+76.58	RT							56						1' GUTTER PAN
50+60.58	LT			6										
DRIVEWAY 13+46 LT														
60+69.33 TO 60+89.46	LT							39						1' GUTTER PAN
60+69.64 TO 60+89.46	RT							43						1' GUTTER PAN
DRIVEWAY 18+11 RT														
90+45.94 TO 90+51.59	RT					6								
90+46.20 TO 90+51.59	LT					6								
SUBTOTAL SHEET 2		468		66		12		320		0		79		
SUBTOTAL SHEET 1		486		42		0		1,309		51		71		
PROJECT TOTAL		954		108		12		1,629		51		150		

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Division of Transportation
1739 Broadway
Boulder, CO 80306
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Revised:
Void:

VALMONT ROAD & 29TH STREET
TABULATION OF ROADWAY ITEMS

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: TABS
Structure Numbers
Subset Sheets: 3 of 6

Project No./Code
SHO M110-084
SA 19062
Sheet Number 15

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TABULATION OF REMOVALS AND RESETS (SHEET 1 0F 2)

STATION / LOCATION	SIDE	202 REMOVAL OF TREE EACH		202 REMOVAL OF PIPE LF		202 REMOVAL OF SIDEWALK SY		202 REMOVAL OF CURB AND GUTTER LF		202 REMOVAL OF CONCRETE PAVEMENT SY		202 REMOVAL OF ASPHALT MAT (PLANING) SY		202 REMOVAL OF PAVEMENT MARKING SF		210 RESET GROUND SIGN (SPECIAL) EACH		210 MODIFY MANHOLE EACH		210 ADJUST VALVE BOX EACH		310 FULL DEPTH RECLAMATION OF HOT MIX ASPHALT PAVEMENT SY		REMARKS
		PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
VALMONT ROAD																								
10+92.95 TO 20+50.07	RT																							
10+92.95 TO 20+50.07	LT																							
10+92.95 TO 12+25.00	LT/RT											820												
11+14.58 TO 11+28.39	LT									6														
11+14.58 TO 12+42.97	LT							133																
11+14.58 TO 18+90.00	LT/RT																					3726		
11+45.23	LT																			1				
11+57.64 TO 14+31.51	RT					213																		
11+63.60 TO 14+14.86	RT							250																
11+96.39	LT															1				1				
12+53.47 TO 12+61.30	LT					6																		
12+61.11	LT																			1				
12+90.00	RT																	1						
12+90.60	RT																	1						
12+80.13 TO 13+36.11	LT					40																		
12+93.66 TO 13+27.68	LT							35																
13+14.80	LT															1								
13+29.90	LT	1																						
13+85.33 TO 14+45.30	LT	3																						
13+64.20 TO 14+53.03	LT							97																
13+57.11 TO 14+54.60	LT					83																		
13+81.71	LT															1								
14+42.85	RT																			1				
14+46.84	LT															1								
14+60.56	RT																			1				
14+61.04	RT																			1				
14+79.84 TO 18+90.00	RT					289																		
14+85.57	LT																			1				
14+85.44 TO 17+88.68	LT							236																
15+06.11 TO 18+90.00	RT					253																		
15+21.63 TO 16+44.60	RT							123																
16+04.68	LT																			1				
16+13.08	LT																	1						
16+51.67 TO 17+41.83	LT	5																						
16+88.73 TO 17+91.21	RT							104																
17+22.99	RT																			1				
17+89.80	RT																			1				
18+33.51 TO 18+90.00	RT							57																
18+36.75 TO 18+90.00	LT							54																
18+40.00 TO 18+90.00	LT/RT											284												
18+67.74	RT																			1				
18+90.00 TO 20+70.00	LT/RT													675										

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TABULATION OF REMOVALS AND RESETS (SHEET 2 OF 2)

STATION / LOCATION	SIDE	202 REMOVAL OF TREE (EACH)	202 REMOVAL OF PIPE (LF)	202 REMOVAL OF SIDEWALK (SY)	202 REMOVAL OF CURB AND GUTTER (LF)	202 REMOVAL OF CONCRETE PAVEMENT (SY)	202 REMOVAL OF ASPHALT MAT (PLANING) (SY)	202 REMOVAL OF PAVEMENT MARKING (SF)	210 RESET GROUND SIGN (SPECIAL) (EACH)	210 MODIFY MANHOLE (EACH)	210 ADJUST VALVE BOX (EACH)	310 FULL DEPTH RECLAMATION OF HOT MIX ASPHALT PAVEMENT	REMARKS
DRIVEWAY 12+68 LT													
50+10.66 TO 50+23.57	LT/RT					44							
50+37.50 TO 50+74.15	RT		33										
50+39.83 TO 50+80.00	LT				32								
50+39.93 TO 50+77.67	LT				33								
50+39.83 TO 50+80.00	LT/RT						106						
DRIVEWAY 13+46 LT													
60+08.95 TO 60+21.10	LT/RT					39							
60+39.21 TO 60+86.22	LT/RT					232							
60+69.41 TO 60+87.07	LT				36								
60+69.65 TO 60+86.28	RT				39								
29TH STREET NORTH													
40+08.81 TO 40+24.48	LT/RT					53							
40+16.65 TO 40+23.63	LT/RT											20	
40+34.40 TO 40+65.10	LT		31										
40+35.78 TO 40+88.00	RT		52										
40+36.26 TO 40+77.08	LT		41										
40+36.65 TO 40+67.00	LT/RT											82	
40+36.65 TO 40+82.00	LT			21									
40+36.65 TO 40+82.00	LT				45								
40+37.36 TO 40+82.00	RT				33								
40+67.00 TO 40+82.00	LT/RT						27						
29TH STREET SOUTH													
30+39.21 TO 31+05.36	RT				86								
30+39.58 TO 31+05.73	LT				87								
30+45.93 TO 31+05.73	LT			35									
30+46.81 TO 31+05.36	RT			35									
30+90.00 TO 31+05.73	LT/RT						54						
DRIVEWAY 16+64 RT													
70+38.93 TO 70+49.04	LT/RT					41							
40+16.65 TO 40+23.63	LT/RT						77						
DRIVEWAY 18+08 LT													
80+17.84 TO 80+27.22	LT/RT					37							
80+32.28 TO 80+48.33	LT/RT						35						
DRIVEWAY 18+11 RT													
90+33.33 TO 90+43.29	LT/RT					40							
90+49.10 TO 90+57.78	LT/RT						28						
PROJECT TOTAL		9	157	975	1,530	493	1,430	675	4	3	11	3,828	

Know what's below. Call before you dig.

SUMMARY OF EARTHWORK QUANTITIES

EMBANKMENT MATERIAL (COMPLETE IN PLACE)(NET)		**CUBIC YARDS**
FOR ROADWAY:	REGULAR EMBANKMENT (FOR IMFORMATION ONLY)	1,500
	IMPORT EMB. (MIN. "R: 40)	2,850
FOR TEMPORARY PAVEMENT		
FOR REPLACING MUCK EXCAVATION		250
STRUCURAL BACKFILL (FLOW-FILL)(FOR INFORMATION ONLY)		555
STRUCURAL BACKFILL (CLASS 1) (FOR INFORMATION ONLY)		382
TOTAL		3,100
MUCK EXCAVATION		**CUBIC YARDS**
AS DIRECTED BY THE ENGINEER		250
TOTAL		250

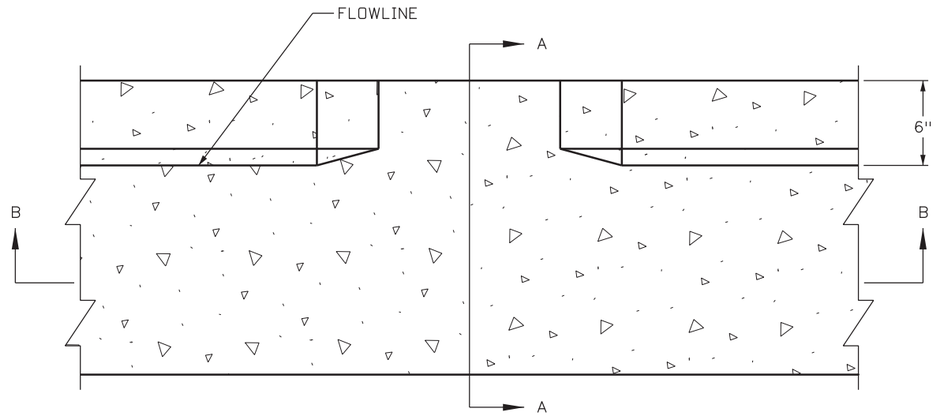
FOR INFORMATION ONLY

UNCLASSIFIED EXCAVATION		**CUBIC YARDS**
FOR ROADWAY		825
FOR CUT SLOPE TREATMENT		41
TOTAL		866
COMPACTION (AASHTO T 180)		**CUBIC YARDS**
TOTAL EMBANKMENT (NET)		3,100
TOTAL		3,100

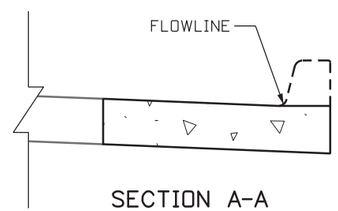
EARTHWORK QUATITIES BALANCE

UNCLASSIFIED EXCAVATION		**CUBIC YARDS**
TOTAL UNCLASSIFIED EXCAVATION		866
TOTAL		866
EMBANKMENT (NET)		
TOTAL		3,100
EMBANKMENT (NET) TIMES COMPACTION FACTOR	1.00	
TOTAL		3,100

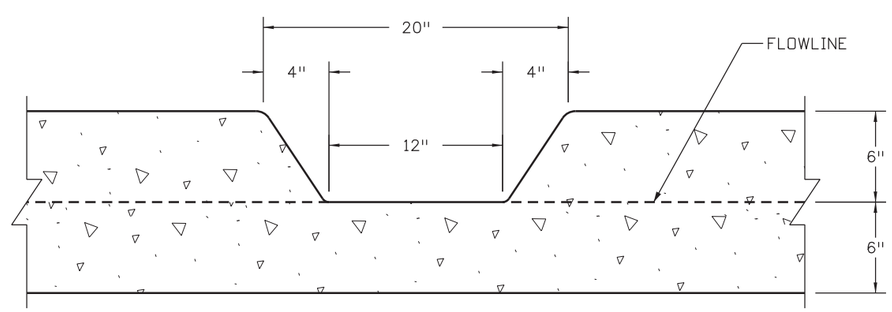
Know what's **below.**
Call before you dig.



CURB CUT
PLAN VIEW



SECTION A-A



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Print Date: 4/22/2016	Sheet Revisions			As Constructed	VALMONT ROAD & 29TH STREET ROADWAY DETAILS	Project No./Code
File Name: 19062DES_Plan_DT-01.dgn	Date:	Comments	Init.	No Revisions:		SHO M110-084
Horiz. Scale: 1:10 Vert. Scale: As Noted				Revised:	Designer: J. COLIP / Structure Numbers	SA 19062
FDR 1670 BROADWAY, SUITE 3400 DENVER, COLORADO 80202 Phone: 303-764-1520 Fax: 303-860-7139				Void:	Detailer: J. MCPHAUL / Sheet Subset: DETAIL / Subset Sheets: 1 of 1	Sheet Number 19

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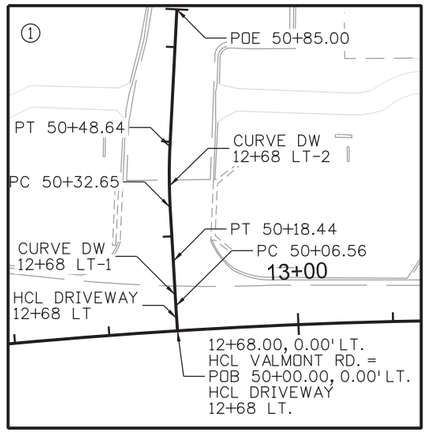

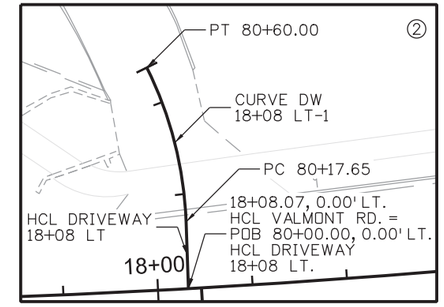

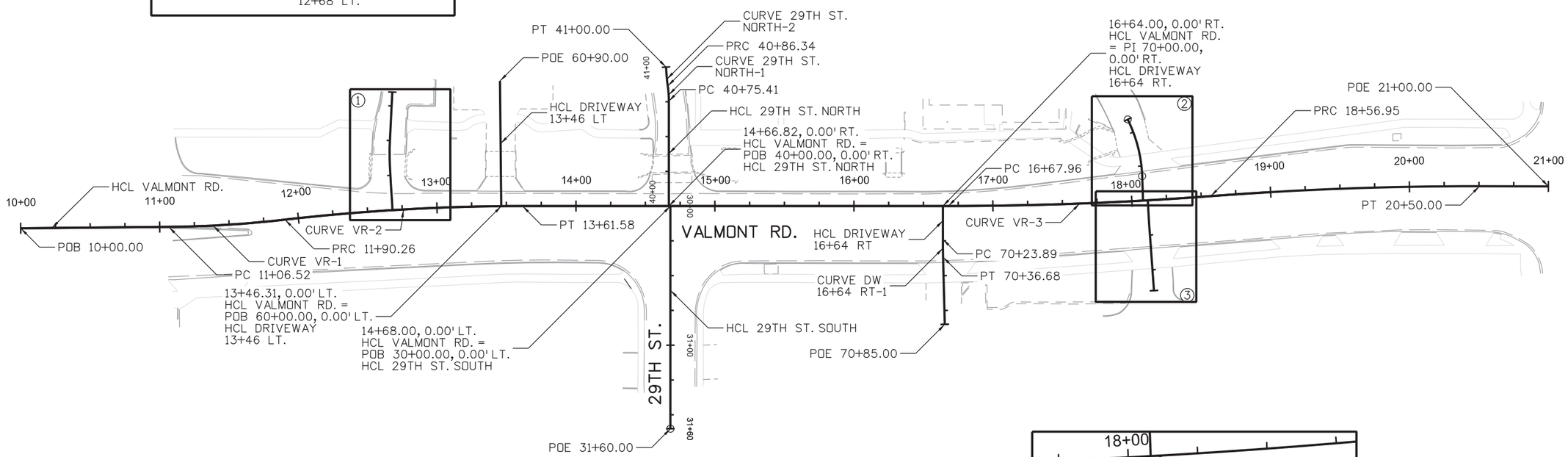

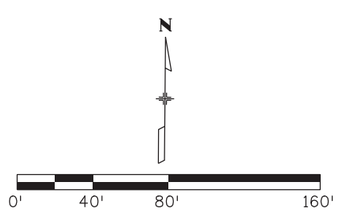

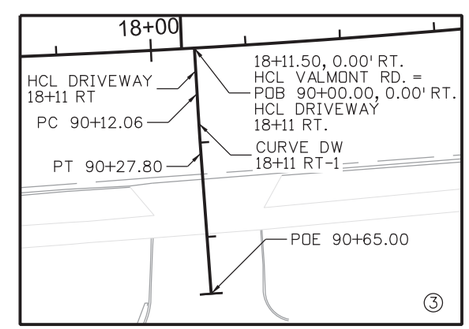

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File Name: 19062DES_Geometry01.dgn	Date:	Comments	Init.
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Void:

VALMONT ROAD & 29TH STREET
GEOMETRIC LAYOUT

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: GEOMETRY
Structure Numbers
Subset Sheets: 1 of 5

Project No./Code
SHO M110-084
SA 19062
Sheet Number 20

Know what's below. Call before you dig.

PT 201+05.49
CURVE SN-3
PC 200+90.81
PI 200+77.72
PI 200+56.90
PT 200+38.96
CURVE SN-2
POB 200+00.00, 0.00' LT.
HCL SIDEWALK NORTH =
12+82.24, 55.24' LT.
HCL VALMONT RD.
200+00
PC 200+17.91
CURVE SN-1
PRC 200+30.44
PI 201+73.21
201+00
PC 201+24.41
CURVE SN-4
PT 201+35.84
PT 202+52.06
CURVE SN-6
PRC 202+39.71
29TH ST.
202+00
CURVE SN-5
PC 202+29.58
PI 202+25.55
PI 202+18.55
PI 202+10.53
HCL VALMNONT RD.
PC 202+84.50
CURVE SN-7
PT 203+00.90
PC 203+01.83
CURVE SN-8
203+00
204+00
HCL SIDEWALK NORTH
PRC 204+51.22
CURVE SN-9
PT 204+68.02
PI 204+81.33
PC 205+09.14
CURVE SN-10
PT 205+23.59
205+00
206+00
206+25
POE 206+24.52, 0.00' LT.
HCL SIDEWALK NORTH =
18+91.39, 32.66' LT.
HCL VALMONT RD.
13+00
14+00
15+00
16+00
17+00
18+00
19+00
VALMONT RD.
PT 102+92.13
CURVE SS-3
PRC 102+79.10
PC 103+31.04
CURVE SS-4
PRC 103+35.08
103+88
103+00
100+00
101+00
102+00
POB 100+00.00, 0.00' RT.
HCL SIDEWALK SOUTH =
15+06.36, 55.08' RT.
HCL VALMONT RD.
HCL SIDEWALK SOUTH
PC 101+19.47
CURVE SS-1
PT 102+32.09
PC 102+65.89
CURVE SS-2
POE 103+87.99, 0.00' RT.
HCL SIDEWALK SOUTH =
18+90.38, 47.46' RT.
HCL VALMONT RD.
PT 103+43.86
CURVE SS-5

N

0' 25' 50' 100'

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VALMONT ROAD & 29TH STREET
GEOMETRIC LAYOUT

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: GEOMETRY
Structure Numbers
Subset Sheets: 2 of 5

Project No./Code
SHO M110-084
SA 19062
Sheet Number 21

BEGIN VALMONT RD.

	Station	Northing	Easting
Tangent			
PI	10+00.00	253897.99	68728.17
PC	11+06.52	253899.82	68834.68
Tangential Direction:	N 89°00'50" E		
Tangential Length:	106.52		
CURVE VR-1			
Curve VR-1			
PC	11+06.52	253899.82	68834.68
PI	11+48.43	253906.54	68876.58
CC		254699.7	68820.91
PRC	11+90.26	253905.64	68918.18
Radius:	800		
Delta:	5°59'51" Left		
Degree of Curvature (Arc):	7°09'43"		
Length:	83.74		
Tangent:	41.91		
Chord:	83.7		
CURVE VR-2			
Curve VR-2			
PRC	11+90.26	253905.64	68918.18
PI	12+70.01	253916.06	69000.29
CC		252416.76	69100.55
PT	13+61.58	253916.72	69089.04
Radius:	1500		
Delta:	6°32'38" Right		
Degree of Curvature (Arc):	3°49'11"		
Length:	171.32		
Tangent:	85.75		
Chord:	171.22		
Tangent			
PT	13+61.58	253916.72	69089.04
PC	16+67.96	253919.07	69395.42
Tangential Direction:	N 89°33'37" E		
Tangential Length:	306.39		
CURVE VR-3			
Curve VR-3			
PC	16+67.96	253919.07	69395.42
PI	17+62.50	253929.8	69489.95
CC		256419	69376.23
PRC	18+56.95	253927.66	69584.16
Radius:	2500		
Delta:	4°19'52" Left		
Degree of Curvature (Arc):	2°17'31"		
Length:	188.98		
Tangent:	94.54		
Chord:	188.94		
CURVE VR-4			
Curve VR-4			
PRC	18+56.95	253927.66	69584.16
PI	18+78.47	253929.45	69605.61
CC		251436.32	69792.09
PT	19+00.00	253930.07	69627.09
Radius:	2500		
Delta:	0°59'12" Right		
Degree of Curvature (Arc):	2°17'31"		
Length:	43.05		
Tangent:	21.53		
Chord:	43.05		
Tangent			
PT	20+50.34	253936.28	69777.31
PI	21+00.00	253936.57	69826.97
Tangential Direction:	N 89°39'41" E		
Tangential Length:	49.66		

END VALMONT RD.

BEGIN 29TH ST. SOUTH

	Station	Northirg	Easting
Tangent			
PI	30+00.00	253917.54	69195.46
PC	31+60.00	253757.54	69196.69
Tangential Direction:	S 0°26'23" E		
Tangential Length:	160		

END 29TH ST. SOUTH

BEGIN 29TH ST. NORTH

	Station	Northirg	Easting
Tangent			
PI	40+00.00	253917.53	69194.28
PC	40+75.41	253992.54	69193.7
Tangential Direction:	N 0°26'23" W		
Tangential Length:	75.41		
CURVE 29TH ST. NORTH-1			
Curve 29th St. North-1			
PC	40+75.41	253992.54	69193.7
PI	40+80.89	253998.41	69193.66
CC		253992.32	69113.7
PRC	40+86.34	254003.63	69192.87
Radius:	80		
Delta:	7°49'45" Left		
Degree of Curvature (Arc):	71°37'11"		
Length:	10.93		
Tangent:	5.47		
Chord:	10.92		
CURVE 29TH ST. NORTH-2			
Curve 29th St. North-2			
PC	40+86.34	254003.63	69192.87
PI	40+93.18	254010.40	69191.80
CC		2540254	69341.31
PRC	41+00.00	254017.41	69191.52
Radius:	150		
Delta:	5°12'59" Right		
Degree of Curvature (Arc):	38°11'50"		
Length:	13.66		
Tangent:	6.83		
Chord:	13.65		

END 29TH ST. NORTH

BEGIN DRIVEWAY 12+68 LT

	Station	Northing	Easting
Tangent			
PI	50+00.00	253913.08	68995.55
PC	50+06.56	253919.63	68995.09
Tangential Direction:	N 4°00'51" W		
Tangential Length:	6.56		
CURVE DW 12+68 LT-1			
Curve DW 12+68 LT-1			
PC	50+06.56	253919.63	68995.09
PI	50+12.50	253925.53	68994.67
CC		254059.64	70990.18
PT	50+18.44	253931.48	68994.29
Radius:	2000		
Delta:	0°20'24" Right		
Degree of Curvature (Arc):	2°51'53"		
Length:	11.87		
Tangent:	5.94		
Chord:	11.87		
Tangent			
PT	50+18.44	253931.48	68994.29
PI	50+32.65	253945.66	68993.38
Tangential Direction:	N 3°40'26" W		
Tangential Length:	14.21		
CURVE DW 12+68 LT-2			
Curve DW 12+68 LT-2			
PC	50+32.65	253945.66	68993.38
PI	50+40.65	253953.65	68992.87
CC		253955.28	69143.08
PT	50+48.64	253961.64	68993.21
Radius:	150		
Delta:	6°06'27" Right		
Degree of Curvature (Arc):	38°11'50"		
Length:	15.99		
Tangent:	8		
Chord:	15.98		
Tangent			
PT	50+48.64	253961.64	68993.21
PI	50+80.00	253992.97	68994.54
Tangential Direction:	N 2°26'01" E		
Tangential Length:	31.36		

END DRIVEWAY 12+68 LT

BEGIN DRIVEWAY 13+46 LT

	Station	Northing	Easting
Tangent			
PI	60+00.00	253916.53	69073.77
PC	60+90.00	254006.51	69072.16
Tangential Direction:	N 1°01'23" W		
Tangential Length:	90		

END DRIVEWAY 13+46 LT

BEGIN DRIVEWAY 16+64 RT

	Station	Northing	Easting
Tangent			
PI	70+00.00	253919.042	69391.46
PC	70+23.89	253895.15	69391.64
Tangential Direction:	S 0°26'23" E		
Tangential Length:	23.89		
CURVE DW 16+64 RT-1			
Curve DW 16+64 RT-1			
PC	70+23.89	253895.15	69391.64
PI	70+30.29	253888.75	69391.69
CC		253898.99	69891.62
PT	70+36.68	253882.36	69391.9
Radius:	500		
Delta:	1°27'57" Left		
Degree of Curvature (Arc):	11°27'33"		
Length:	12.79		
Tangent:	6.4		
Chord:	12.79		

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Tangent			
PT	70+36.68	253862.36	69391.9
PI	70+85.00	253834.07	69393.51
Tangential Direction:	S 1°54'20" E		
Tangential Length:	48.31		

END DRIVEWAY 16+64 RT

BEGIN DRIVEWAY 18+08 LT

	Station	Northing	Easting
Tangent			
PI	80+00.00	253924.07	69535.42
PC	80+17.65	253941.71	69534.63
Tangential Direction:	N 2°33'54" W		
Tangential Length:	17.65		
CURVE DW 18+08 LT-1			
Curve DW 18+08 LT-1			
PC	80+17.65	253941.71	69534.63
PI	80+39.15	253963.18	69533.67
CC		253937.23	69434.73
PT	80+60.00	253982.36	69523.97
Radius:	100		
Delta:	24°15'48" Left		
Degree of Curvature (Arc):	57°17'45"		
Length:	42.35		
Tangent:	21.5		
Chord:	42.03		

END DRIVEWAY 18+08 LT

BEGIN DRIVEWAY 18+11 RT

	Station	Northing	Easting
Tangent			
PI	90+00.00	253924.29	69538.84
PC	90+12.06	253912.26	69539.62
Tangential Direction:	S 3°43'46" E		
Tangential Length:	12.06		
CURVE DW 18+11 RT-1			
Curve DW 18+11 RT-1			
PC	90+12.06	253912.26	69539.62
PI	90+19.93	253904.4	69540.14
CC		253937.3	70537.51
PT	90+27.80	253896.56	69540.77
Radius:	1000		
Delta:	0°54'08" Left		
Degree of Curvature (Arc):	5°43'46"		
Length:	15.75		
Tangent:	7.87		
Chord:	15.75		
Tangent			
PT	90+27.80	253896.56	69540.77
PI	90+65.00	253859.48	69543.78
Tangential Direction:	S 4°37'54" E		
Tangential Length:	37.2		

END DRIVEWAY 18+11 RT

BEGIN SIDEWALK NORTH

	Station	Northing	Easting
Tangent			
POB	200+00.00	253969.15	69006.41
PC	200+17.91	253969.15	69024.33
Tangential Direction:	S 90°00'00" E		
Tangential Length:	17.91		
CURVE SN-1			
Curve SN-1			
PC	200+17.91	253969.15	69024.33
PI	200+24.31	253969.15	69030.73
CC		253994.15	69024.33
PRC	200+30.44	253972.22	69036.34
Radius:	25		
Delta:	28°42'42" Left		
Degree of Curvature (Arc):	229°10'59"		
Length:	12.53		
Tangent:	6.4		
Chord:	12.4		
CURVE SN-2			
Curve SN-2			
PRC	200+30.44	253972.22	69036.34
PI	200+34.79	253974.31	69040.15
CC		253957.31	69044.51
PT	200+38.96	253974.31	69044.51
Radius:	17		
Delta:	28°42'42" Right		
Degree of Curvature (Arc):	337°02'02"		
Length:	8.52		
Tangent:	4.35		
Chord:	8.43		
Tangent			
PT	200+38.96	253974.31	69044.51
PI	200+56.90	253974.31	69062.44
Tangential Direction:	S 90°00'00" E		
Tangential Length:	17.93		
Tangent			
PI	200+56.90	253974.31	69062.44
PI	200+77.72	253974.52	69083.27
Tangential Direction:	N 89°26'20" E		
Tangential Length:	20.83		
Tangent			
PI	200+77.72	253974.52	69083.27
PC	200+90.81	253974.52	69096.35
Tangential Direction:	S 90°00'00" E		
Tangential Length:	13.09		
CURVE SN-3			
Curve SN-3			
PC	200+90.81	253974.52	69096.35
PI	200+98.30	253974.52	69103.84
CC		253944.52	69096.35
PT	201+05.49	253971.00	69110.45
Radius:	30		
Delta:	28°02'16" Right		
Degree of Curvature (Arc):	190°59'09"		
Length:	14.68		
Tangent:	7.49		
Chord:	14.53		
Tangent			
PT	201+05.49	253971.00	69110.45
PC	201+26.51	253961.12	69129.01
Tangential Direction:	S 61°57'44" E		
Tangential Length:	21.02		

CURVE SN-4			
Curve SN-4			
PC	201+24.41	253962.10	69127.15
PI	201+30.25	253959.36	69132.31
CC		253982.40	69137.97
PT	201+35.84	253959.40	69138.14
Radius:	23		
Delta:	28°28'39" Left		
Degree of Curvature (Arc):	249°06'44"		
Length:	11.43		
Tangent:	5.84		
Chord:	11.31		
Tangent			
PT	201+35.84	253959.40	69138.14
PI	201+73.21	253959.69	69175.50
Tangential Direction:	N 89°33'37" E		
Tangential Length:	37.36		
Tangent			
PI	201+73.21	253959.69	69175.50
PI	202+10.53	253959.51	69212.83
Tangential Direction:	S 89°43'03" E		
Tangential Length:	37.32		
Tangent			
PI	202+10.53	253959.51	69212.83
PI	202+18.55	253959.44	69220.84
Tangential Direction:	N 89°33'37" E		
Tangential Length:	8.02		
Tangent			
PI	202+18.55	253959.44	69220.84
PI	202+25.55	253959.41	69227.84
Tangential Direction:	N 89°42'43" E		
Tangential Length:	7		
Tangent			
PI	202+25.55	253959.41	69220.84
PC	202+29.58	253959.44	69231.88
Tangential Direction:	N 89°33'37" E		
Tangential Length:	4.03		
CURVE SN-5			
Curve SN-5			
PC	202+29.58	253959.44	69231.88
PI	202+34.75	253959.48	69237.05
CC		253979.94	69231.72
PRC	202+39.71	253961.97	69241.58
Radius:	20.5		
Delta:	28°18'53" Left		
Degree of Curvature (Arc):	279°29'30"		
Length:	10.13		
Tangent:	5.17		
Chord:	10.03		
CURVE SN-6			
Curve SN-6			
PRC	202+39.71	253961.97	69241.58
PI	202+46.02	253965.00	69246.59
CC		253940.05	69253.61
PT	202+52.06	253965.05	69253.42
Radius:	25		
Delta:	28°18'53" Right		
Degree of Curvature (Arc):	229°10'59"		
Length:	12.35		
Tangent:	6.31		
Chord:	12.23		
Tangent			
PT	202+52.06	253965.05	69253.42
PC	202+84.50	253965.30	69285.84
Tangential Direction:	N 89°33'37" E		
Tangential Length:	32.43		

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VALMONT ROAD & 29TH STREET
COORDINATE GEOMETRY

Designer: J. McPHAUL
Detailer: D. MADDOCK
Structure Numbers
Sheet Subset: GEOMETRY
Subset Sheets: 4 of 5

Project No./Code
SHO M110-084
SA 19062
Sheet Number 23

CURVE SN-7

Curve SN-7			
PC	202+84.50	253965.30	69285.84
PI	202+92.77	253965.36	69294.12
CC		253915.30	69286.23
PT	203+00.90	253962.76	69301.97
Radius:	50		
Delta:	18°47'42" Right		
Degree of Curvature (Arc):	114°35'30"		
Length:	16.4		
Tangent:	8.28		
Chord:	16.33		

Tangent			
PT	203+00.90	253962.76	69301.97
PC	203+01.83	253962.46	69302.86
Tangential Direction:	S 71°38'41" E		
Tangential Length:	0.93		

CURVE SN-8

Curve SN-8			
PC	203+01.83	253962.46	69302.86
PI	203+79.40	253938.04	69376.48
CC		254176.01	69373.72
PRC	204+51.22	253964.17	69449.51
Radius:	225		
Delta:	38°02'31" Left		
Degree of Curvature (Arc):	25°27'53"		
Length:	149.39		
Tangent:	77.57		
Chord:	146.66		

CURVE SN-9

Curve SN-9			
PRC	204+51.22	253964.17	69449.51
PI	204+59.70	253967.02	69457.49
CC		253917.09	69466.36
PT	204+68.02	253967.09	69465.97
Radius:	50		
Delta:	19°14'49" Right		
Degree of Curvature (Arc):	114°35'30"		
Length:	16.8		
Tangent:	8.48		
Chord:	16.72		

Tangent			
PT	204+68.02	253967.09	69465.97
PI	204+81.33	253967.19	69479.29
Tangential Direction:	N 89°33'37" E		
Tangential Length:	13.31		

Tangent			
PI	204+81.33	253967.19	69479.29
PC	205+09.14	253957.89	69502.51
Tangential Direction:	S 56°37'07" E		
Tangential Length:	27.81		

CURVE SN-10

Curve SN-10			
PC	205+09.14	253957.89	69502.51
PI	205+16.70	253947.73	69508.82
CC		253968.59	69513.51
PT	205+23.59	253948.78	69516.30
Radius:	20		
Delta:	41°24'23" Left		
Degree of Curvature (Arc):	286°28'44"		
Length:	14.45		
Tangent:	7.56		
Chord:	14.14		

Tangent			
PT	205+23.59	253948.78	69516.30
POE	206+24.52	253962.87	69616.24
Tangential Direction:	N 81°58'29" E		
Tangential Length:	100.92		

END SIDEWALK NORTH

BEGIN SIDEWALK SOUTH

	Station	Northing	Easting
Tangent			
POB	100+00.00	253862.73	69234.24
PI	100+42.32	253863.16	69276.56
Tangential Direction:	N 89°26'53" E		
Tangential Length:	42.32		

Tangent			
PI	100+42.32	253863.16	69276.56
PC	101+19.47	253863.73	69353.71
Tangential Direction:	N 89°33'37" E		
Tangential Length:	77.16		

CURVE SS-1

Curve SS-1			
PC	101+19.47	253863.73	69353.71
PI	101+75.81	253864.18	69410.05
CC		255379.71	69342.08
PT	102+32.09	253868.80	69466.20
Radius:	1516		
Delta:	4°15'23" Left		
Degree of Curvature (Arc):	3°46'46"		
Length:	112.62		
Tangent:	56.34		
Chord:	112.59		

Tangent			
PT	102+32.09	253868.80	69466.20
PC	102+65.89	253871.56	69499.87
Tangential Direction:	N 85°18'14" E		
Tangential Length:	33.79		

CURVE SS-2

Curve SS-2			
PC	102+65.89	253871.56	69499.87
PI	102+72.53	253872.11	69506.50
CC		253921.39	69495.78
PRC	102+79.10	253874.36	69512.75
Radius:	50		
Delta:	15°08'29" Left		
Degree of Curvature (Arc):	114°35'30"		
Length:	13.21		
Tangent:	6.65		
Chord:	13.17		

CURVE SS-3

Curve SS-3			
PRC	102+79.10	253874.36	69512.75
PI	102+85.65	253876.59	69518.91
CC		253827.31	69529.72
PT	102+92.13	253877.13	69525.44
Radius:	50		
Delta:	14°56'16" Right		
Degree of Curvature (Arc):	114°35'30"		
Length:	13.04		
Tangent:	6.55		
Chord:	13		

Tangent			
PT	102+92.13	253877.13	69525.44
PC	103+31.04	253879.93	69564.25
Tangential Direction:	N 85°53'31" E		
Tangential Length:	38.9		

CURVE SS-4

Curve SS-4			
PC	103+31.04	253879.93	69564.25
PI	103+33.09	253880.10	69566.29
CC		253869.97	69565.08
PRC	103+35.08	253879.45	69568.24
Radius:	10		
Delta:	23°11'09" Right		
Degree of Curvature (Arc):	572°57'28"		
Length:	4.05		
Tangent:	2.05		
Chord:	4.02		

CURVE SS-5

Curve SS-5			
PRC	103+35.08	253879.45	69568.24
PI	103+39.54	253878.04	69572.46
CC		253899.14	69574.80
PT	103+43.86	253878.50	69576.90
Radius:	20.75		
Delta:	24°14'38" Left		
Degree of Curvature (Arc):	276°07'27"		
Length:	8.78		
Tangent:	4.46		
Chord:	8.71		

Tangent			
PT	103+43.86	253878.50	69576.90
POE	103+87.99	253882.87	69620.81
Tangential Direction:	N 84°18'28" E		
Tangential Length:	44.13		

END SIDEWALK SOUTH

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

Format *

- ■ Horizontal Control _____
- ■ Vertical Control _____
- □ Roadway Alignment _____
- □ 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: _____

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
- ___ □ 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 Stakes	Special Interval
Excavation	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
Embankment	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

- ___ □ Landscaping
  - ___ □ Top Soil (Section 207)
  - ___ □ Seeding (Section 212)
  - ___ □ Mulching (Section 213)
  - ___ □ Planting (Section 214)
  - ___ □ Herbicide (Section 217)
  - ___ □ Other: _____
- ___ ■ 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	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

- ___ ■ 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	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

- ___ ■ 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: _____

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

	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)
  - ___ □ 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: _____
- ___ □ 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: _____
- ___ ■ 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 _____ 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 earthwork quantity 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 earthwork data and a computer disk in the specified format shall be submitted to the Engineer. The Contractor shall field verify original ground cross sections at a maximum 100 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): _____

811. Know what's below. Call before you dig.

Print Date: 4/25/2016	Sheet Revisions			
File Name: 19062SURV_Tab.dgn	Date:	Comments	Init.	
Horiz. Scale: 1:1 Vert. Scale: As Noted				
FDR 1670 BROADWAY, SUITE 3400 DENVER, COLORADO 80202 Phone: 303-764-1520 Fax: 303-860-7139				

City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

As Constructed	VALMONT ROAD & 29TH STREET SURVEY TABULATION			Project No./Code
No Revisions:				SHO M110-084
Revised:	Designer: J. COLIP	Structure Numbers		SA 19062
	Detailer: J. MCPHAUL			
Void:	Sheet Subset: SURVEY	Subset Sheets: 1 of 1		Sheet Number 25

JMCPHAUL 8:40:44 AM pw:\\PWAPPDMA001:NorthCentral_Omaha\Documents\009281\0000000002247402\6.0_CAD_BIM\6.2_Work_In_Progress\ROW_Survey\Drawings\19062SURV_Tab.dgn

COLORADO DEPARTMENT OF TRANSPORTATION
Region 4
Address: 10601 West 10th Street
Greeley, CO 80631
Phone: (970) 350-2173 FAX: (970) 350-2223
Right of Way Plans Unit: Peter Sulmeisters, PLS

Sheet Revisions		
DATE	DESCRIPTION	INITIALS
4/5/16	REVISE SHEETS 2.01, 7.01, 7.02 RE: REVISED TEMPORARY EASEMENTS	JE

SECTIONS 20 & 29,
TOWNSHIP 1 NORTH,
RANGE 70 WEST,
OF THE 6TH P.M.

CITY OF BOULDER TRANSPORTATION DIVISION

BOULDER LAND CONSULTANTS, INC.
950 LARAMIE BLVD. UNIT D
BOULDER, CO 80304 (303) 443-3618
www.BLCsurveyors.com

Right Of Way Plans
Title Sheet
PROJECT NUMBER: SHO M110-084
Project Location: Valmont Road and 29th Street
City of Boulder

Project Code:	Last Mod. Date	Subset	Sheet No.
SA 19082	APRIL 5, 2016	1.01	1.01

COLORADO DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY PROJECT

ROW PLANS AUTHORIZED: 4/11/16
DATE

CDOT ROW MANAGER

City of Boulder Department of Public Works
Transportation Division
BOULDER COUNTY
STATE OF COLORADO

RIGHT OF WAY PLANS OF PROPOSED STATE HIGHWAY PROJECT NO. SHO M110-084

VALMONT TRANSPORTATION IMPROVEMENTS
29TH STREET INTERSECTION
CITY AND COUNTY OF BOULDER
SECTIONS 20 & 29, T. 1 N., R 70 W.,
OF THE 6TH P.M.

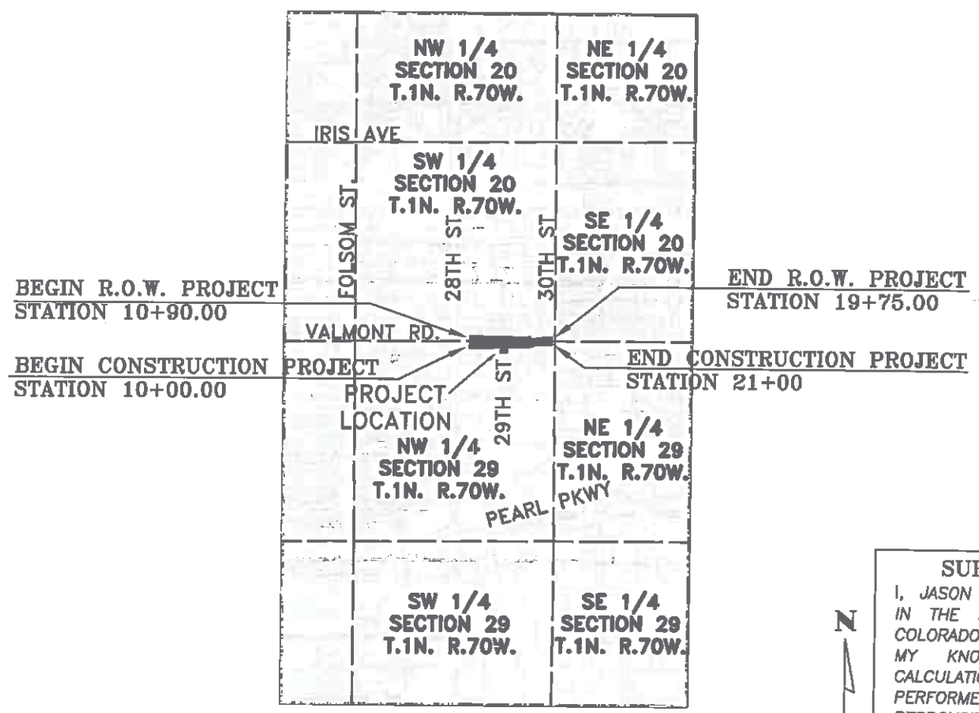
SECTION CORNER
QUARTER, SIXTEENTH, AND SECTION CORNERS
SET EASMENT MONUMENT
TEMPORARY EASMENT POINT
RIGHT OF WAY MARKER
BLM MARKER
PROPERTY PIN
NOAA MARKER
QUARTER, SIXTEENTH, AND SECTION CORNERS
FEDERAL MONUMENT
WITNESS CORNER
BENCH MARK
USGS MARKER
LOCAL OR PLSS MONUMENT
SECONDARY CONTROL MONUMENT
ROW RIGHT OF WAY MARKER
N 9.88 E 3.81 EL 0.00 — PROJECT CONTROL MONUMENT
N 10.13 E 3.81 EL 0.00 — DENSIFICATION CONTROL MONUMENT
N 10.38 E 3.81 EL 0.00 — HIGH ACCURACY REFERENCE NETWORK CONTROL MONUMENT

PERMANENT, PROPERTY, SLOPE, & UTILITY EASEMENT LINE
TEMPORARY EASEMENT LINE (EXISTING)
PROPERTY BOUNDARY LINE (EXISTING AND PROPOSED)
ACCESS CONTROL LINE
BARRIER ACCESS CONTROL LINE
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

TOP OF CUT / TOE OF FILL

TERRAIN



PROJECT LOCATION MAP

SHEET NO.	INDEX OF SHEETS
1.01	(1) Title Sheet
2.01	(1) Tabulation of Properties
N/A	(NA) Project Control Diagram
N/A	(NA) Land Survey Control Diagram
N/A	(NA) Monumentation Sheets
N/A	(NA) Tabulation of Road Approach Sheets
7.01-7.02	(2) Plan Sheets
N/A	(NA) Ownership Map
	(4) Total Sheets

BASIS OF BEARINGS: ALL BEARINGS ARE BASED ON THE SOUTH LINE OF THE SE 1/4, SW 1/4 OF SECTION 20, T1N, R70W, 6TH P.M. BETWEEN POINT 3495 (W 1/16 CORNER SECTIONS 20 & 29, A 2.5" BRASS CAP, IN MONUMENT BOX AT THE INTERSECTION OF 28TH STREET AND VALMONT ROAD) AND POINT 1000 (S 1/4 CORNER SECTION 20, A 2.5" ALLOY CAP, IN MONUMENT BOX AT THE INTERSECTION OF 28TH STREET AND VALMONT ROAD) BEING A GRID BEARING OF N 89°39'41" E (1328.10'). THE GRID BEARING WAS OBTAINED FROM A COMBINATION OF CONVENTIONAL SURVEYING METHODS AND A GLOBAL POSITIONING SYSTEM (GPS) SURVEY BASED ON THE COLORADO HIGH ACCURACY REFERENCE NETWORK (CHARN). THE GRID BEARING IS NAD 83 (2007) – COLORADO STATE PLANE NORTH ZONE (501).

COORDINATE DATUM: PROJECT COORDINATES ARE MODIFIED COLORADO STATE PLANE C501 ZONE NAD-83/2007 COORDINATES, BOUGHT TO GROUND AT CP-1003. THE COMBINED SCALE FACTOR USED TO MODIFY THE COORDINATES FROM STATE PLANE TO PROJECT COORDINATES IS 1.0002859404. THE RESULTING PROJECT COORDINATES ARE TRUNCATED BY 1,000,000 FT. IN THE NORTHING AND 3,000,000 IN THE EASTING AFTER CONVERTING FROM STATE PLANE COORDINATES TO PROJECT COORDINATES.

PROJECT COORDINATES NORTHING (US SURVEY FEET) = (STATE PLANE COORDINATE NORTHING x 1.0002859404)-1,000,000
PROJECT COORDINATES EASTING (US SURVEY FEET) = (STATE PLANE COORDINATE NORTHING X 1.0002859404)-3,000,000

1. THIS RIGHT-OF-WAY PLAN IS NOT A BOUNDARY SURVEY OF THE ADJOINING PROPERTY AND IS PREPARED FOR THE COLORADO DEPARTMENT OF TRANSPORTATION AND THE CITY OF BOULDER DEPARTMENT OF PUBLIC WORKS PURPOSES ONLY.

2. DUE TO THE NATURE OF THIS PROJECT, NO TITLE WORK WAS PERFORMED.

3. THIS PLAN SET IS SUBJECT TO CHANGE AND THE INFORMATION CONTAINED ON THE ATTACHED DRAWING IS NOT VALID UNLESS THIS COPY BEARS AN ORIGINAL SIGNATURE OF THE PROFESSIONAL LAND SURVEYOR HEREON NAMED.

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER 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.

SURVEYOR STATEMENT (ROW PLAN)

I, JASON EMERY, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF COLORADO, DO HEREBY STATE TO THE COLORADO DEPARTMENT OF TRANSPORTATION THAT BASED ON MY KNOWLEDGE, INFORMATION AND BELIEF, RESEARCH, CALCULATIONS AND EVALUATION OF THE SURVEY EVIDENCE WERE PERFORMED AND THIS ROW PLAN WAS PREPARED UNDER MY RESPONSIBLE CHARGE IN ACCORDANCE WITH APPLICABLE STANDARDS OF PRACTICE DEFINED BY COLORADO DEPARTMENT OF TRANSPORTATION PUBLICATIONS. THIS STATEMENT IS NOT A GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED.

PLS NO. 20134 4/5/16
DATE

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR JASON D. EMERY 20134 4/5/16

S:\BLC Projects\446COB14 - Valmont\CAD\44614_ROW PLANS-R2_04052016.dwg

COLORADO DEPARTMENT OF TRANSPORTATION
Region 4
Address: 10601 West 10th Street
Greeley, CO 80631
Phone: (970) 350-2173 FAX: (970) 350-2223
Right of Way Plans Unit: Peter Sulmeisters, PLS

Sheet Revisions

DATE	DESCRIPTION	INITIALS
4/5/16	DELETE TE-1, TE-2 & TE-8; ADD TE-1REV, TE-2REV & TE-8REV; CHANGE OWNERSHIP 2900 AND 2955 VALMONT.	JE

SECTIONS 20 & 29, TOWNSHIP 1 NORTH, RANGE 70 WEST, OF THE 6TH P.M.

CITY OF BOULDER TRANSPORTATION DIVISION

BOULDER LAND CONSULTANTS, INC.
980 LARAMIE BLVD, UNIT D
BOULDER, CO 80304 (303) 443-3918
www.BLCsurveyors.com

Right Of Way Plans
Title Sheet
PROJECT NUMBER: SHO M110-084
Project Location: Valmont Road and 29th Street
City of Boulder

Project Code:	Last Mod. Date	Subset	Sheet No.
SA 19082	APRIL 5 2016	2.01	2.01

R.O.W. TABULATION OF PROPERTIES IN BOULDER COUNTY

PARCEL NO.	OWNER	PROPERTY ADDRESS	MAILING ADDRESS	LOCATION	EASEMENT AREA	RECEPTION INFO.	REMARKS
TE-1REV	PINE PROPERTY LIMITED PARTNERSHIP	2845 29TH STREET	3946 PROMONTORY COURT, BOULDER, CO 80304	NW¼, SECTION 29	3207 SQ. FT. OR 0.074 ACRES MORE OR LESS	RECEPTION NO. 1039668	TEMPORARY EASEMENT FOR CONSTRUCTION OF SIDEWALK, DRAINAGE, AND ROADWAY IMPROVEMENTS
TE-2REV	WISHBONE LLC	2900 VALMONT ROAD	607 FOREST AVE. BOULDER , CO 80304	NW¼, SECTION 29	5283 SQ. FT. OR 0.121 ACRES MORE OR LESS	RECEPTION NO. 3470796	TEMPORARY EASEMENT FOR CONSTRUCTION OF SIDEWALK, DRAINAGE, AND ROADWAY IMPROVEMENTS
TE-3	MANFRED H. & VICKIE JOE NEUGEBAUER	2940 VALMONT ROAD	6450 LAKE DRIVE, LONGMONT, CO 80503	NW¼, SECTION 29	2206 SQ. FT. OR 0.051 ACRES MORE OR LESS	FILM 796, REC. 43619	TEMPORARY EASEMENT FOR CONSTRUCTION OF SIDEWALK, DRAINAGE, AND ROADWAY IMPROVEMENTS
TE-4	CAROL D. RIGGS	2851 VALMONT ROAD	PO BOX 1547, BOULDER, CO 80306-1547	SW¼, SECTION 20	607 SQ. FT. OR 0.014 ACRES MORE OR LESS	FILM 1271, REC. 576374	TEMPORARY EASEMENT FOR CONSTRUCTION OF SIDEWALK, DRAINAGE, AND ROADWAY IMPROVEMENTS
TE-5	BOULDER VALLEY CLINIC, INC.	2855 VALMONT ROAD	SAME AS PROPERTY ADDRESS	SW¼, SECTION 20	1053 SQ. FT. OR 0.024 ACRES MORE OR LESS	FILM 1449, REC. 815492	TEMPORARY EASEMENT FOR CONSTRUCTION OF SIDEWALK, DRAINAGE, AND ROADWAY IMPROVEMENTS
TE-6	DAVID N. LARSON	2889 VALMONT ROAD	SAME AS PROPERTY ADDRESS	SW¼, SECTION 20	1053 SQ. FT. OR 0.024 ACRES MORE OR LESS	FILM 1140, REC. 420700	TEMPORARY EASEMENT FOR CONSTRUCTION OF SIDEWALK, DRAINAGE, AND ROADWAY IMPROVEMENTS
TE-7	JAMES MARKETING AND ADVERTISING, INC.	2919 VALMONT ROAD	SAME AS PROPERTY ADDRESS	SW¼, SECTION 20	783 SQ. FT. OR 0.018 ACRES MORE OR LESS	RECEPTION NO. 1797901	TEMPORARY EASEMENT FOR CONSTRUCTION OF SIDEWALK, DRAINAGE, AND ROADWAY IMPROVEMENTS
TE-8REV	BOULDER WAREHOUSE ASSOCIATION, INC.	2955 VALMONT ROAD	PO BOX 18628, BOULDER, CO 80308	SW¼, SECTION 20	583 SQ. FT. OR 0.013 ACRES MORE OR LESS	RECEPTION NO. 1488840	TEMPORARY EASEMENT FOR CONSTRUCTION OF SIDEWALK, DRAINAGE, AND ROADWAY IMPROVEMENTS

PROJECT COORDINATES

POINT NO.	NORTHING (US FT)	EASTING (US FT)	DESCRIPTION
CP 111	253948.79	69508.24	SET CUT CROSS IN CONCRETE SIDEWALK NEAR PEDESTRIAN BRIDGE ON NORTH SIDE OF VALMONT ROAD
1000	253936.74	69856.13	N 1/4 CORNER SECTION 29, T.1N., R.70W.,6TH P.M. FOUND 2.5" "CITY OF BOULDER" ALLOY CAP IN MON BOX
CP 1002	253939.58	68966.18	SET 3/8" REBAR WITH ORANGE PLASTIC CAP, "SURVEY PT., LS 20134", ON NORTH SIDE OF VALMONT ROAD
1003	253850.08	69264.82	SET 3/8" REBAR WITH ORANGE PLASTIC CAP, "SURVEY PT., LS 20134", ON NORTH SIDE OF VALMONT ROAD
2484	253972.93	69127.44	FOUND CUT 'X' IN SIDEWALK
2485	253971.37	68862.30	FOUND 5/8 INCH REBAR (BENT)
3319	253978.63	69687.53	FOUND MALTESE CROSS IN SIDEWALK
3495	253928.89	68528.05	W 1/16 CORNER SECTIONS 20 & 29, T.1N., R.70W., 6TH P.M. FOUND 2.5" BRASS CAP, INSCRIPTION ILLEGIBLE, IN MON BOX
3496	253860.93	69043.20	FOUND CUT 'X' IN SIDEWALK
3827	253974.31	69366.54	FOUND 5/8" REBAR WITH 1.5" ALUMINUM CAP STAMPED "FLATIRONS SURVEYING LS 16406"

OWNERS

TE-1REV 2845 29TH STREET
PINE PROPERTY LIMITED PARTNERSHIP

TE-2REV 2900 VALMONT ROAD
WISHBONE LLC

TE-3 2940 VALMONT ROAD
MANFRIED & VICKIE NEUGEBAUER

TE-4 2851 VALMONT ROAD
CAROL D. RIGGS

TE-5 2845 VALMONT ROAD
BOULDER VALLEY CLINIC, INC.

TE-6 2889 VALMONT ROAD
DAVID N. LARSON

TE-7 2919 VALMONT ROAD
JAMES MARKETING AND ADVERTISING, INC.

TE-8REV 2955 VALMONT ROAD
BOULDER WAREHOUSE ASSOCIATION, INC.

COLORADO DEPARTMENT OF TRANSPORTATION
Region 4
Address: 10601 West 10th Street
Greeley, CO 80631
Phone: (970) 350-2173 FAX: (970) 350-2223
Right of Way Plans Unit: Peter Sulmeisters, PLS

Sheet Revisions

DATE	DESCRIPTION	INITIALS
4/5/16	DELETE TE-1 & TE-2; ADD TE-1REV & TE-2REV; CHANGE OWNERSHIP 2900 VALMONT.	JF

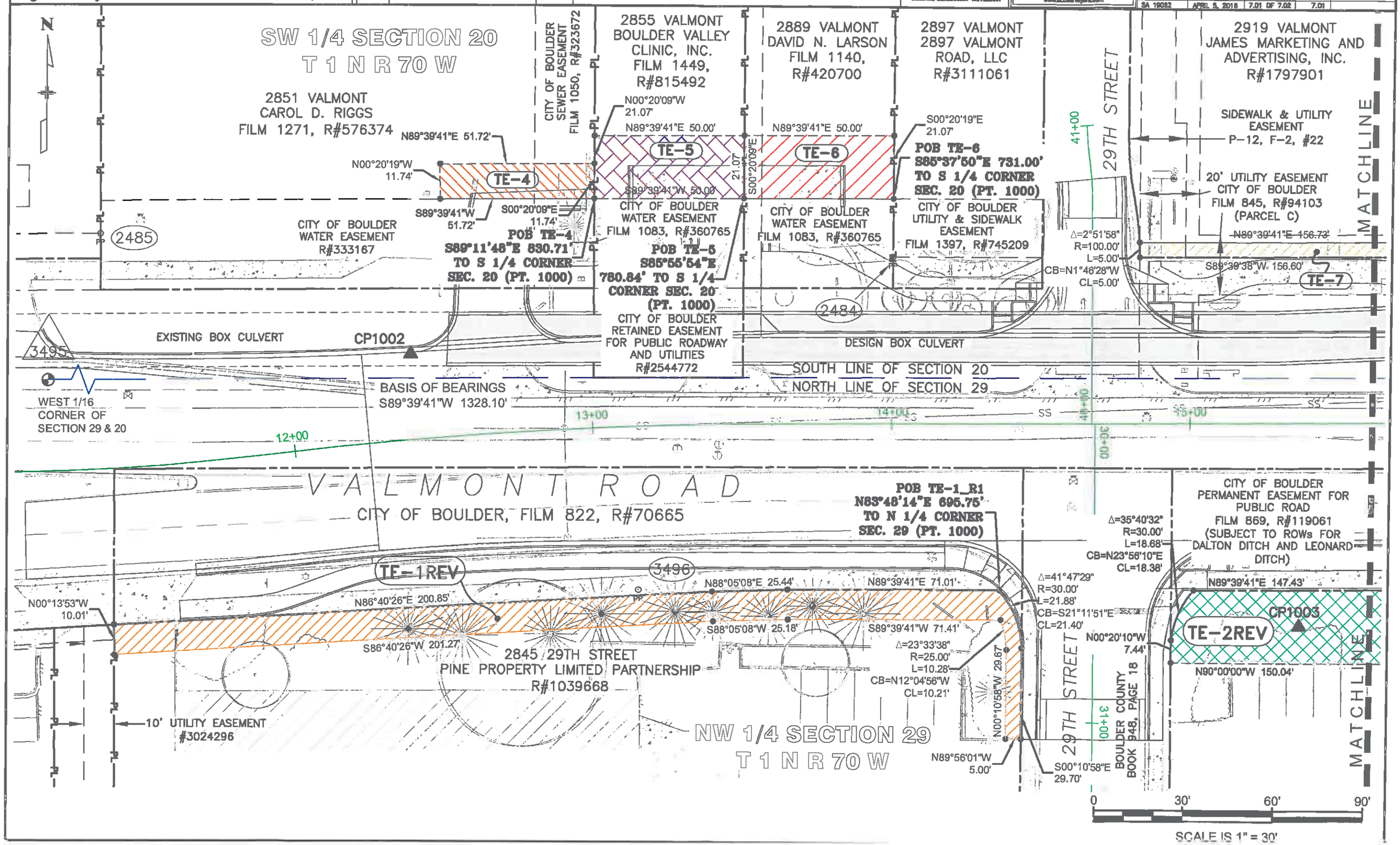
SECTIONS 20 & 29,
TOWNSHIP 1 NORTH,
RANGE 70 WEST,
OF THE 6TH P.M.

CITY OF BOULDER TRANSPORTATION DIVISION

BOULDER LAND CONSULTANTS, INC.
950 LARAMIE BLVD, UNIT D
BOULDER, CO 80304 (303) 443-3618
www.BLCsurveyors.com

Right Of Way Plans
Title Sheet
PROJECT NUMBER: SHO M110-084
Project Location: Valmont Road and 29th Street
City of Boulder

Project Code:	Last Mod. Date	Subset	Sheet No.
SA 19032	APRIL 5, 2016	7.01 OF 7.02	7.01



COLORADO DEPARTMENT OF TRANSPORTATION
Region 4
Address: 10601 West 10th Street
Greeley, CO 80631
Phone: (970) 350-2173 FAX: (970) 350-2223
Right of Way Plans Unit: Peter Sulmeisters, PLS

Sheet Revisions

DATE	DESCRIPTION	INITIALS
4/5/16	DELETE TE-2 & TE-8; ADD TE-2REV & TE-8REV; CHANGE OWNERSHIP 2900 AND 2955 VALMONT.	JE

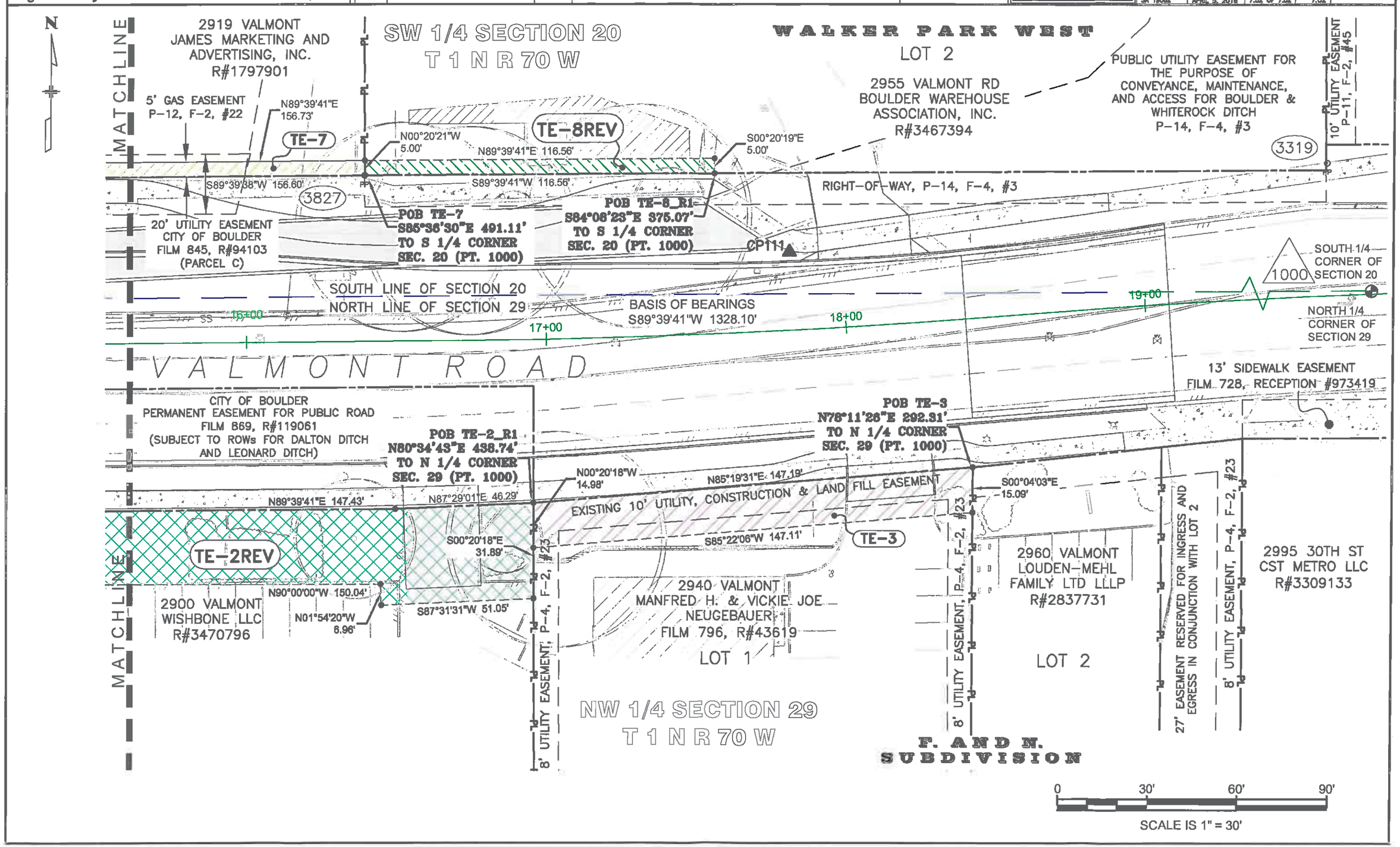
SECTIONS 20 & 29,
TOWNSHIP 1 NORTH,
RANGE 70 WEST,
OF THE 6TH P.M.

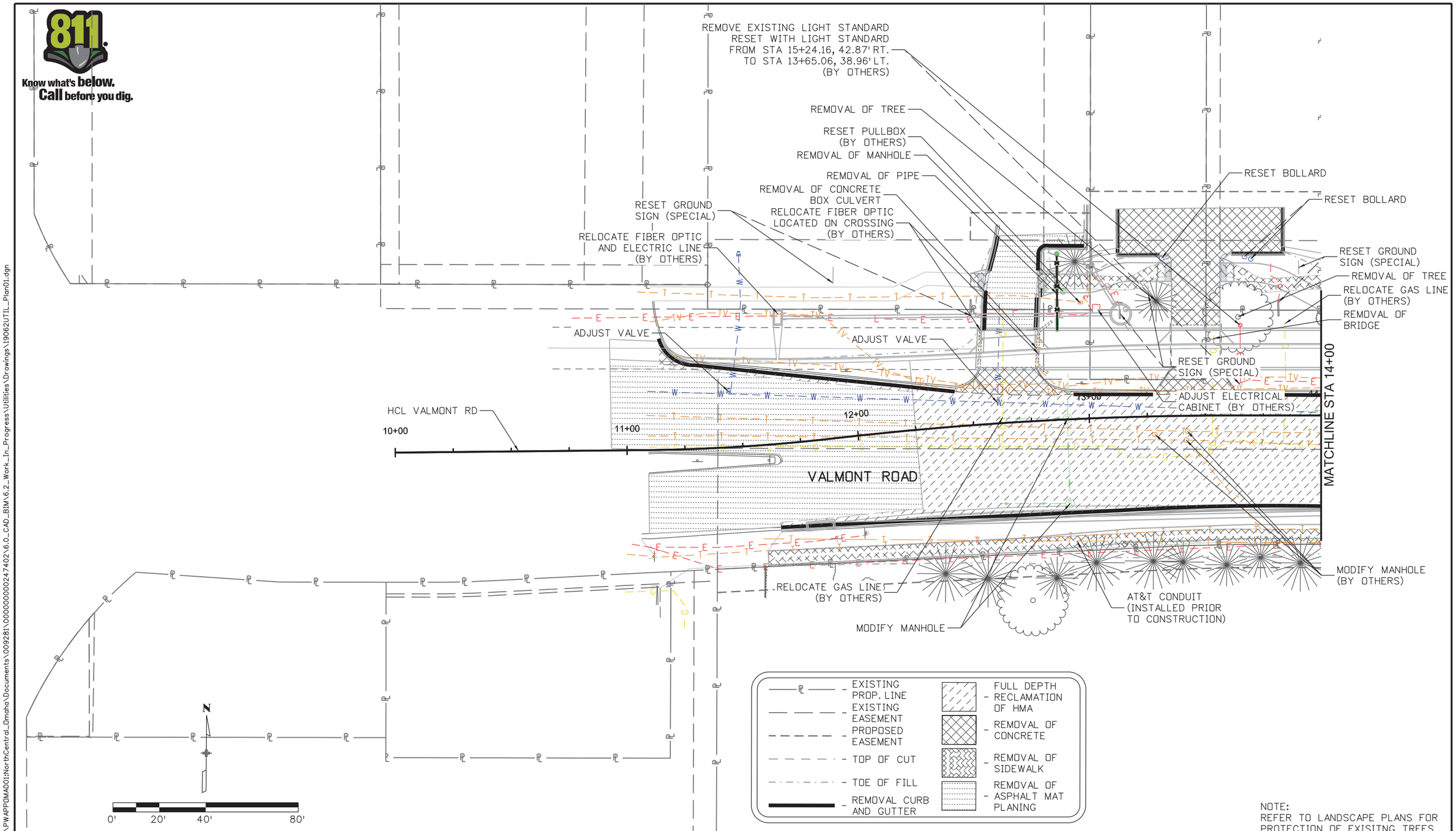
CITY OF BOULDER TRANSPORTATION DIVISION

BOULDER LAND CONSULTANTS, INC.
3180 LARAMIE BLVD, UNIT D
BOULDER, CO 80304 (303) 443-3618
www.BLSurveyors.com

Right Of Way Plans
Title Sheet
Project Number: SHO M110-084
Project Location: Valmont Road and 29th Street
City of Boulder

Project Code:	Last Mod. Date	Subset	Sheet No.
SA 19062	APRIL 5, 2016	7.02 OF 7.02	7.02





NOTE:
REFER TO LANDSCAPE PLANS FOR PROTECTION OF EXISITNG TREES

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Print Date: 4/22/2016
File Name: 19062UTIL_Plan01.dgn
Horiz. Scale: 1:40 Vert. Scale: As Noted

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Phone: 303-764-1520 Fax: 303-860-7139

Sheet Revisions		
Date:	Comments	Init.

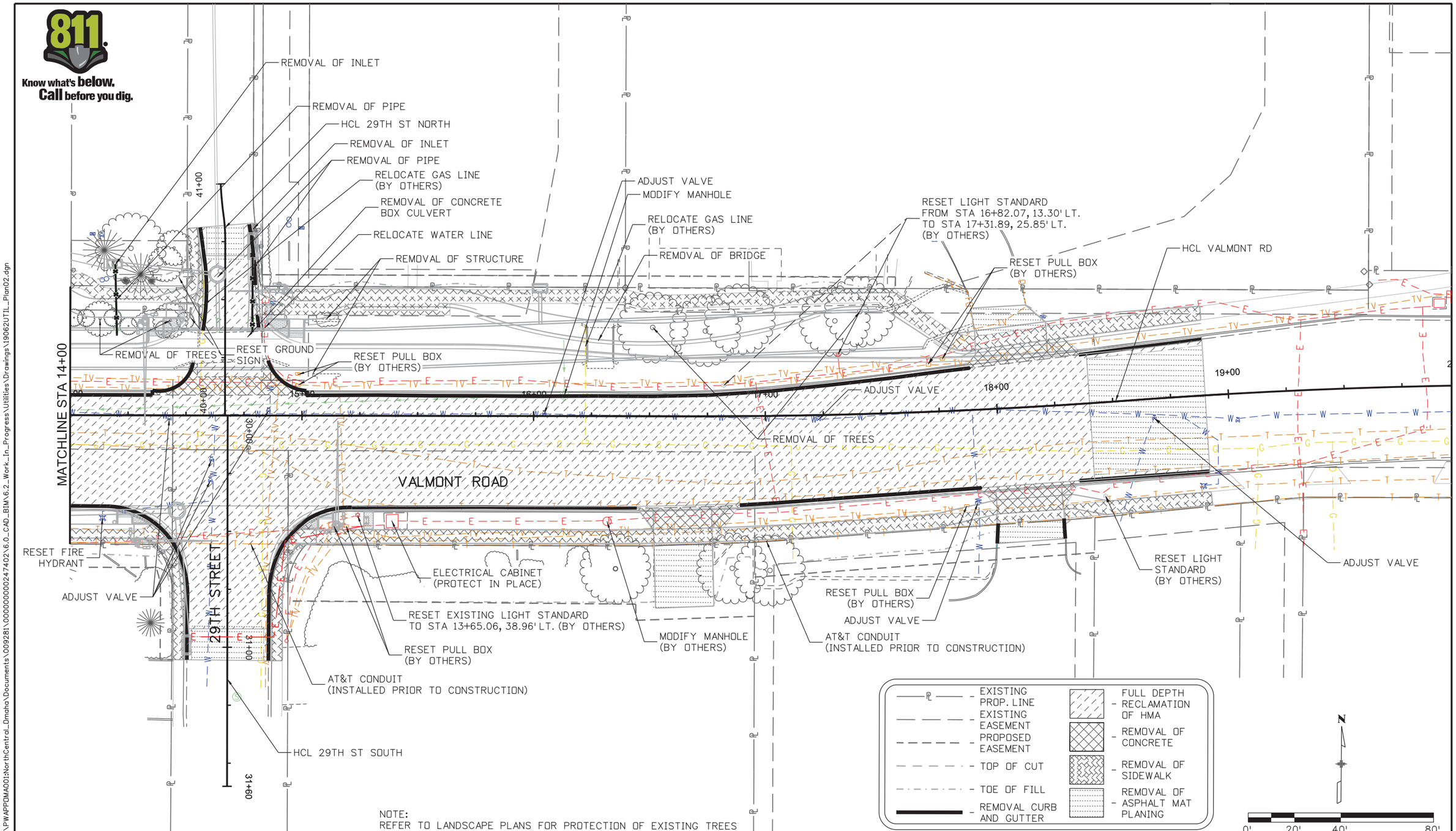
City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

As Constructed
No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
UTILITY AND REMOVAL PLAN
STA 10+00 TO STA 14+00

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: UTILITIES
Structure Numbers
Subset Sheets: 1 of 2

Project No./Code
SHO M110-084
SA 19062
Sheet Number 30



NOTE:
REFER TO LANDSCAPE PLANS FOR PROTECTION OF EXISTING TREES

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Print Date: 4/22/2016
File Name: 19062UTIL_Plan02.dgn
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Sheet Revisions		
Date:	Comments	Init.

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Boulder, CO 80306
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No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
UTILITY AND REMOVAL PLAN
STA 14+00 TO STA 19+00

Designer:	J. COLIP	Structure Numbers	
Detailer:	J. MCPHAUL		
Sheet Subset:	UTILITIES	Subset Sheets:	2 of 2

Project No./Code
SHO M110-084
SA 19062
Sheet Number 31

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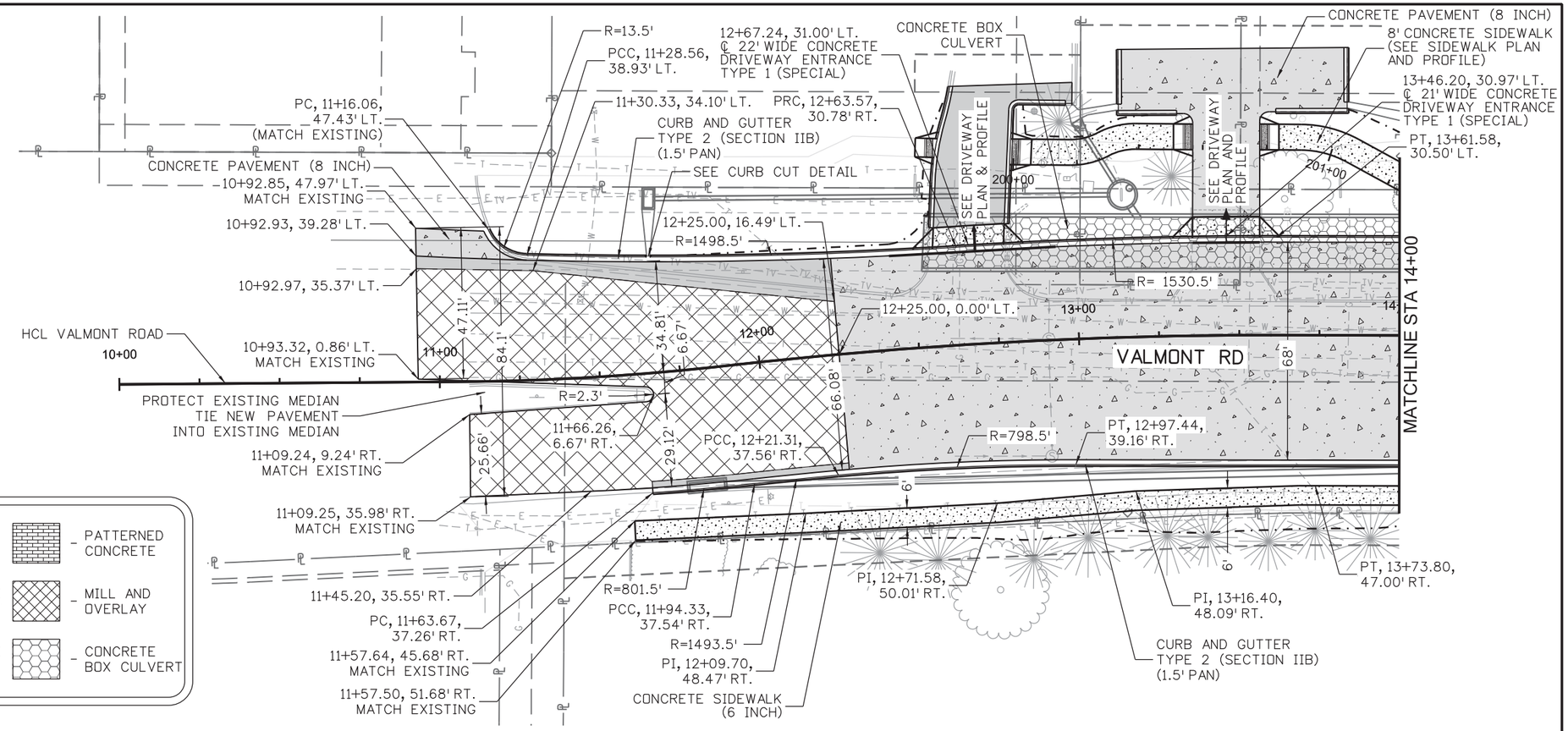
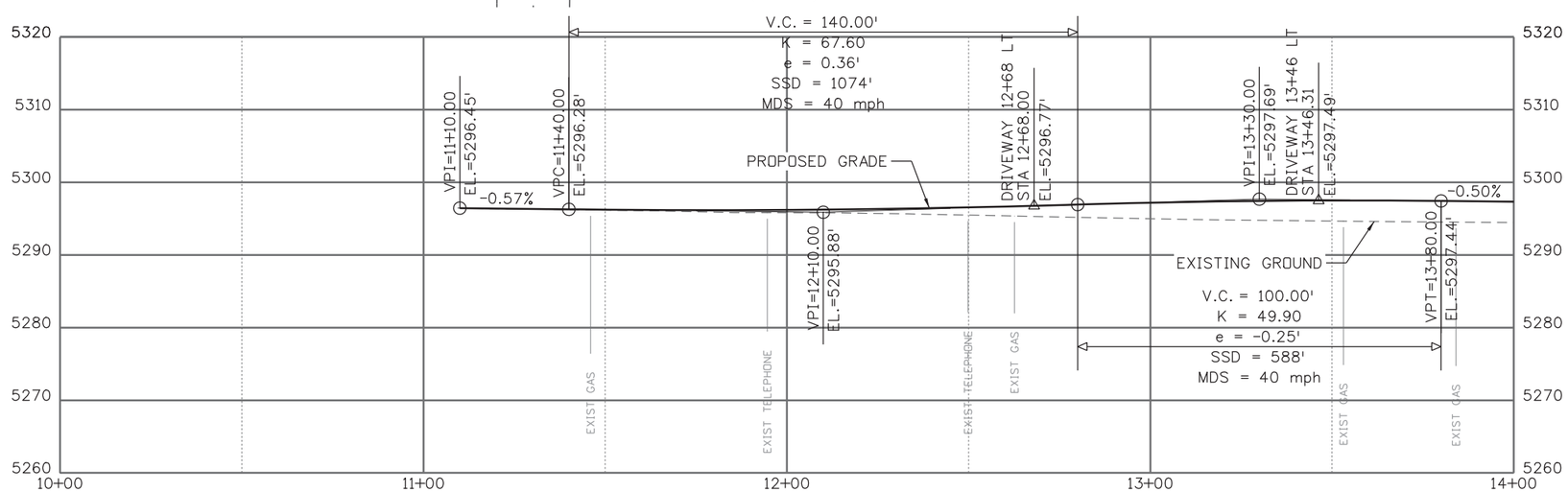
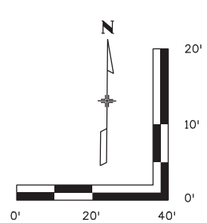


- EXISTING PROP. LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- TOP OF CUT
- TOE OF FILL
- HOT MIX ASPHALT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PATTERNED CONCRETE
- MILL AND OVERLAY
- CONCRETE BOX CULVERT

NOTES:

1. ROADWAY PC'S, PT'S, RADII, ECT. ARE CALLED OUT FI THE CURB FLOWLINE.





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Horiz. Scale: 1:40 Vert. Scale: As Noted			

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City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

As Constructed
No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET ROADWAY PLAN AND PROFILE STA 10+00 TO STA 14+00

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: ROADWAY
Structure Numbers
Subset Sheets: 1 of 8

Project No./Code
SHO M110-084
SA 19062
Sheet Number 32

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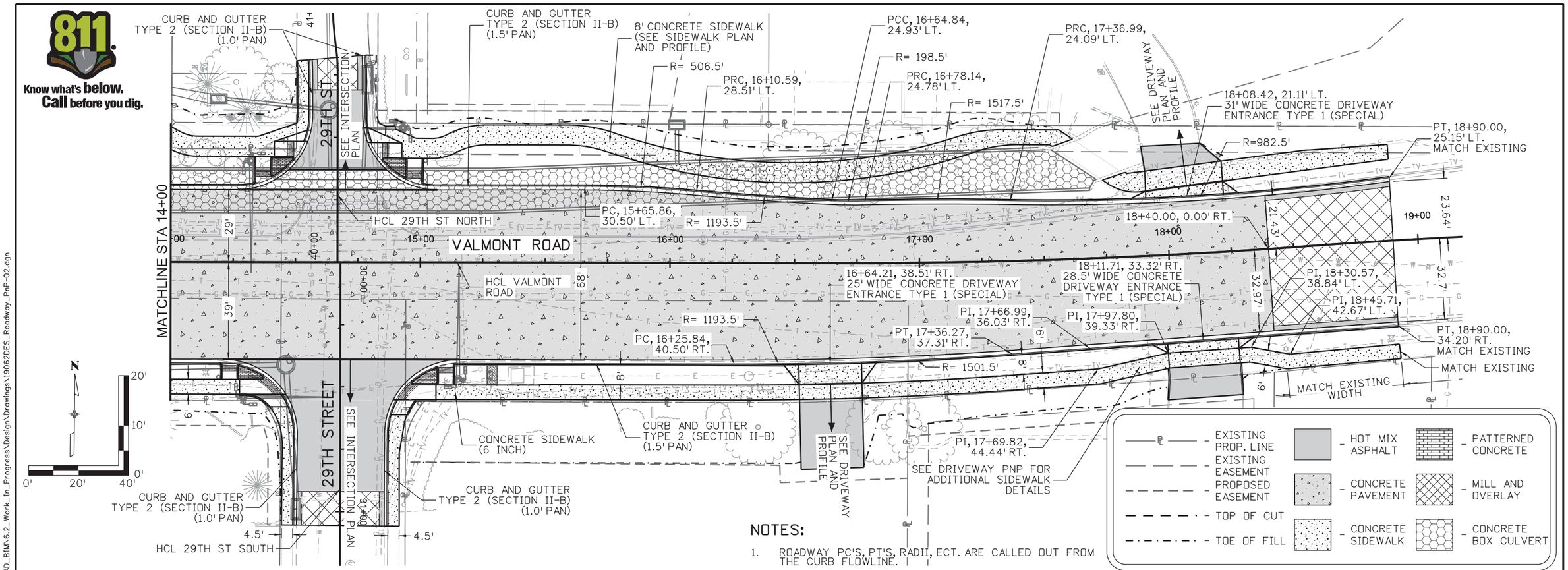

Print Date: 4/22/2016
File Name: 19062DES_Roadway_PnP-02.dgn
Horiz. Scale: 1:40 Vert. Scale: As Noted

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Date:	Comments	Init.

City of Boulder
Division of Transportation
1739 Broadway
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No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
ROADWAY PLAN AND PROFILE
STA 14+00 TO STA 19+00

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: ROADWAY
Structure Numbers
Subset Sheets: 2 of 8

Project No./Code
SHO M110-084
SA 19062
Sheet Number 33

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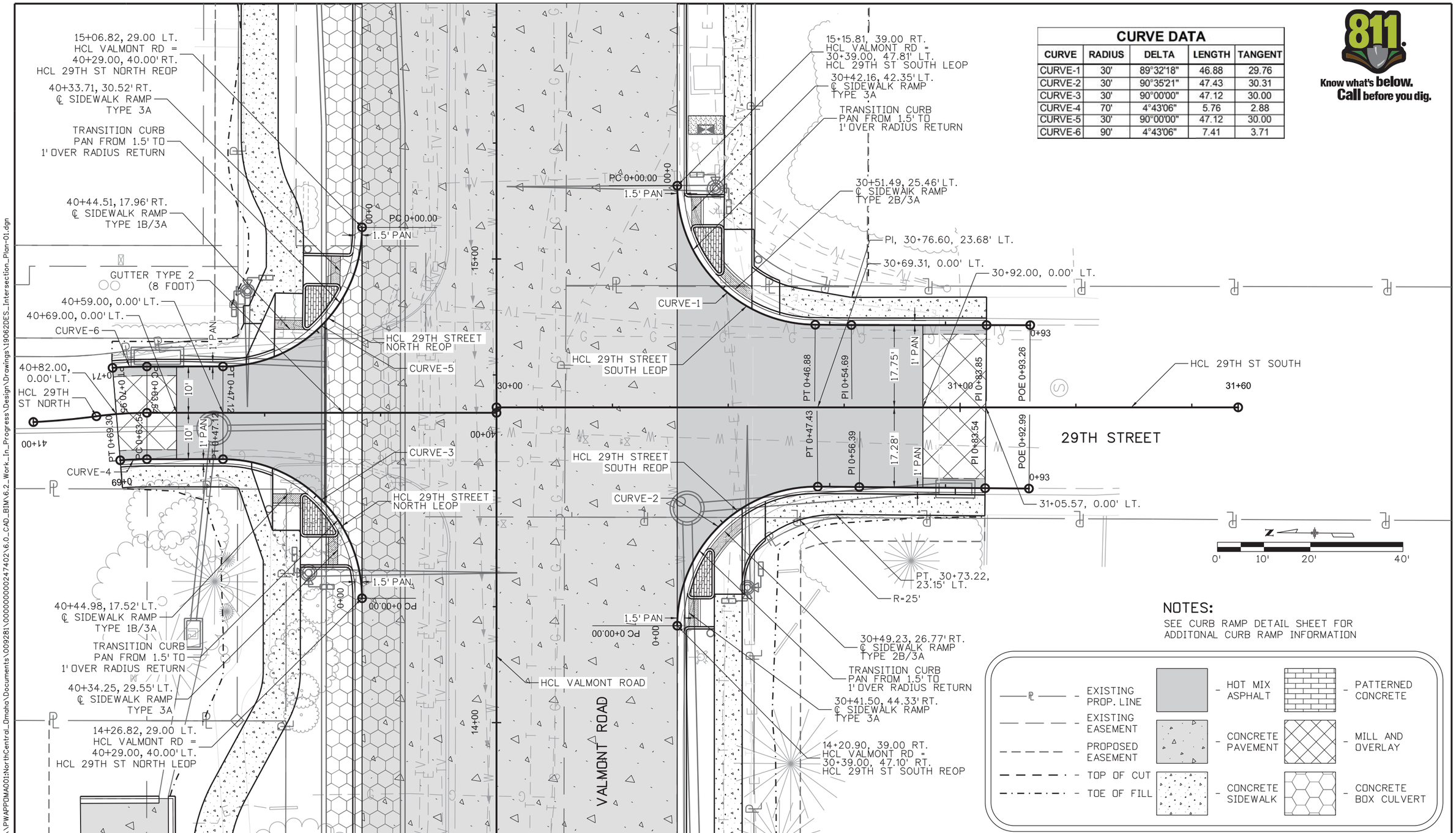

CURVE DATA

CURVE	RADIUS	DELTA	LENGTH	TANGENT
CURVE-1	30'	89°32'18"	46.88	29.76
CURVE-2	30'	90°35'21"	47.43	30.31
CURVE-3	30'	90°00'00"	47.12	30.00
CURVE-4	70'	4°43'06"	5.76	2.88
CURVE-5	30'	90°00'00"	47.12	30.00
CURVE-6	90'	4°43'06"	7.41	3.71

Know what's below. Call before you dig.

NOTES:

SEE CURB RAMP DETAIL SHEET FOR ADDITONAL CURB RAMP INFORMATION

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Print Date: 4/22/2016
File Name: 19062DES_Intersection_Plan-01.dgn
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Date:	Comments	Init.

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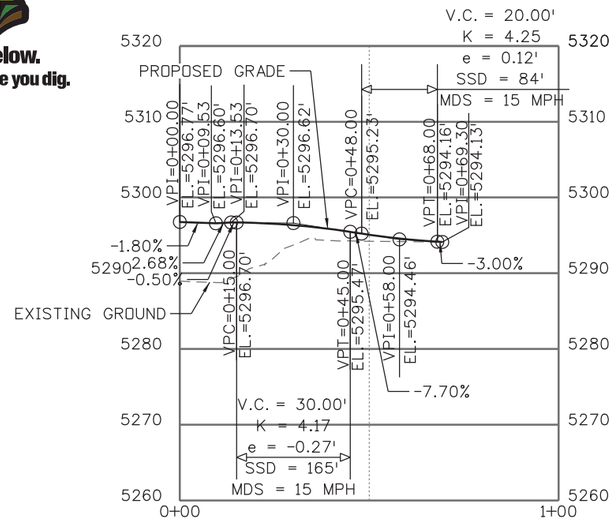
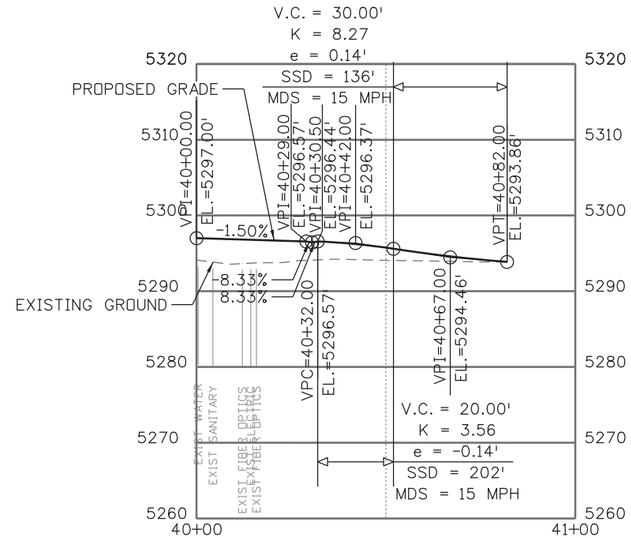
VALMONT ROAD & 29TH STREET INTERSECTION PLAN

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: ROADWAY
Structure Numbers
Subset Sheets: 3 of 8

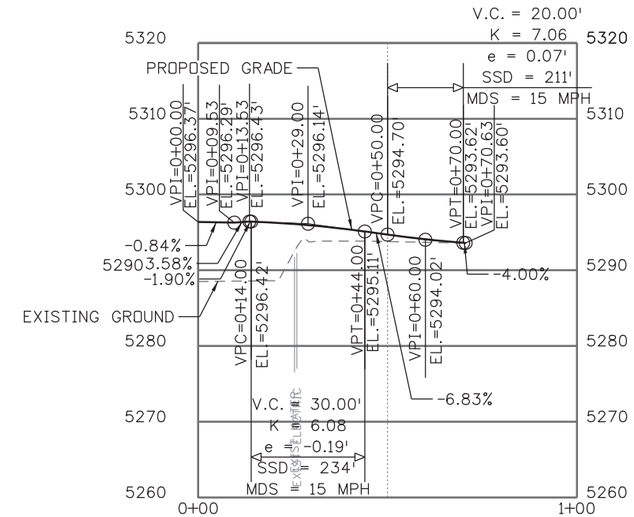
Project No./Code
SHO M110-084
SA 19062
Sheet Number 34



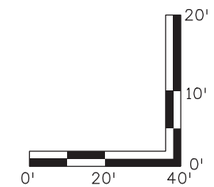
PROFILE 29TH ST NORTH LEOP
(NORTHWEST)

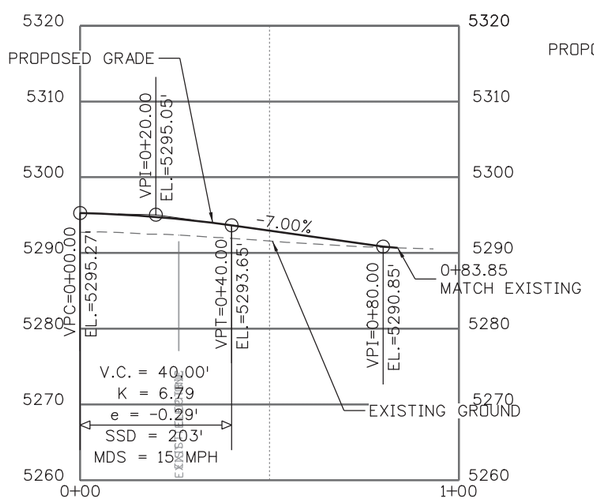


PROFILE 29TH ST NORTH CL

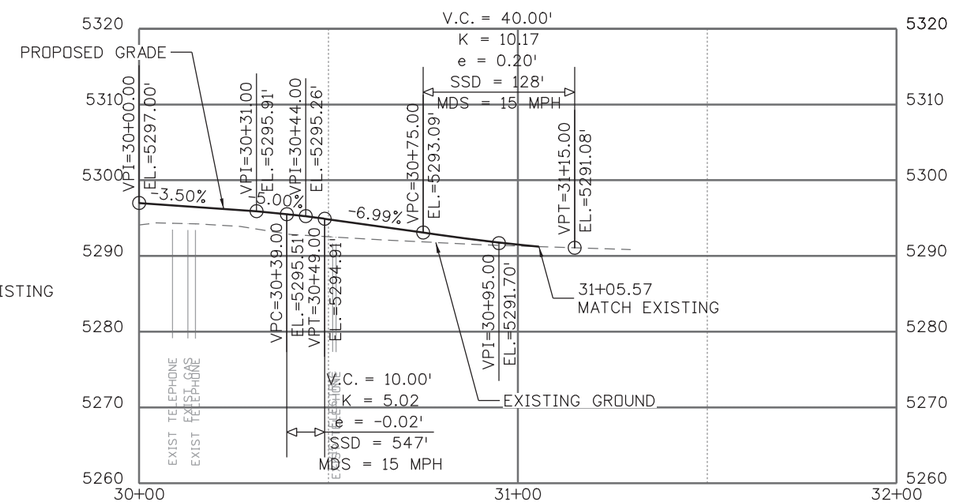


PROFILE 29TH ST NORTH REOP
(NORTHEAST)

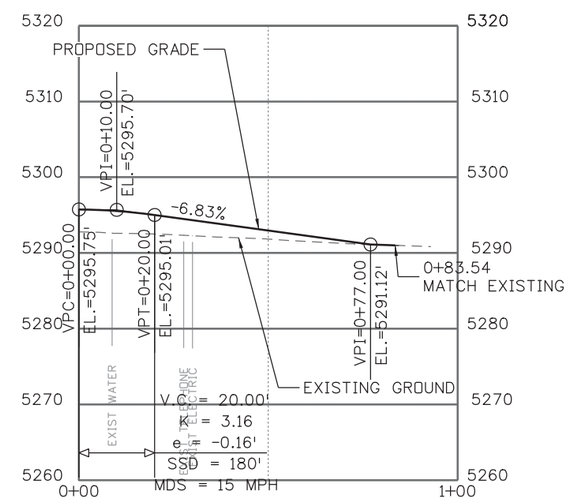




PROFILE 29TH ST SOUTH LEOP
(SOUTHWEST)



PROFILE 29TH ST SOUTH CL



PROFILE 29TH ST SOUTH REOP
(SOUTHEAST)

Know what's below. Call before you dig.

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Print Date: 4/22/2016	Sheet Revisions		
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City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

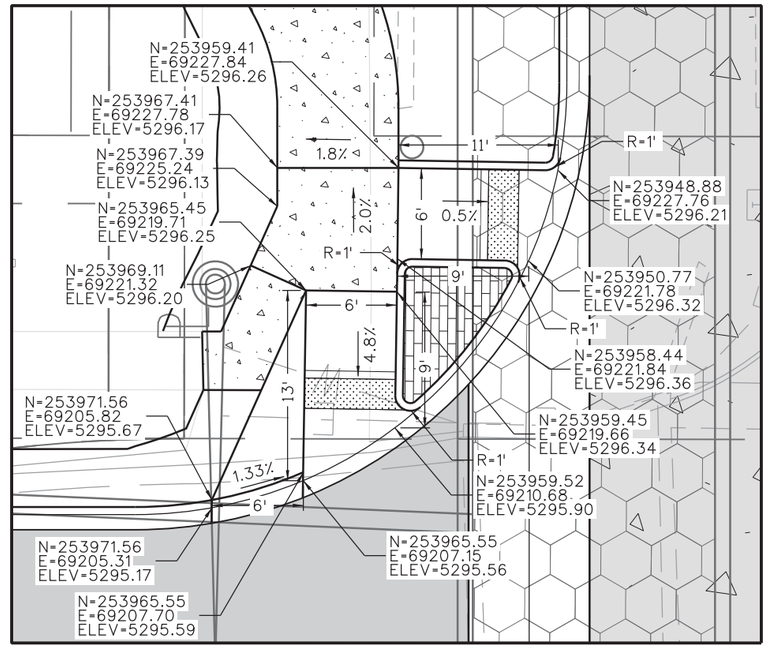
As Constructed
No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
29TH ST PROFILES

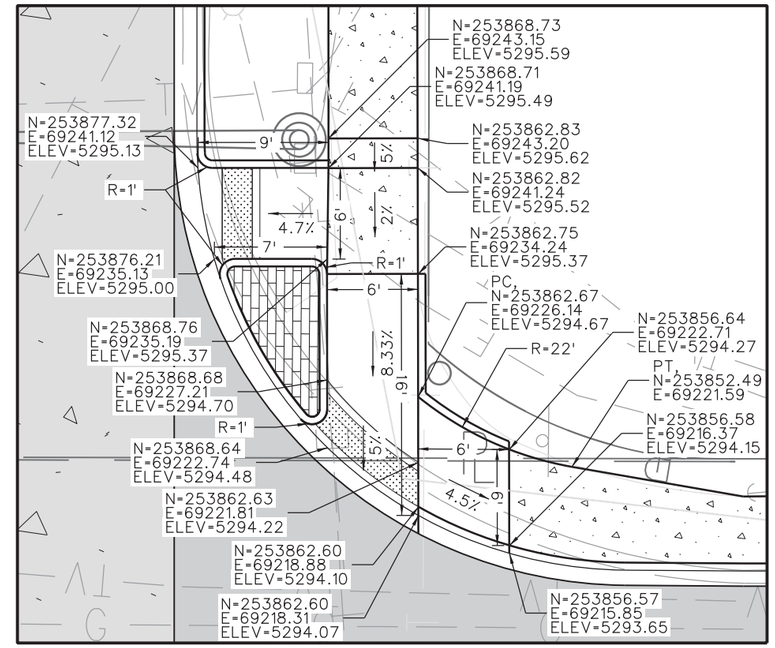
Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: ROADWAY
Structure Numbers
Subset Sheets: 4 of 8

Project No./Code
SHO M110-084
SA 19062
Sheet Number 35

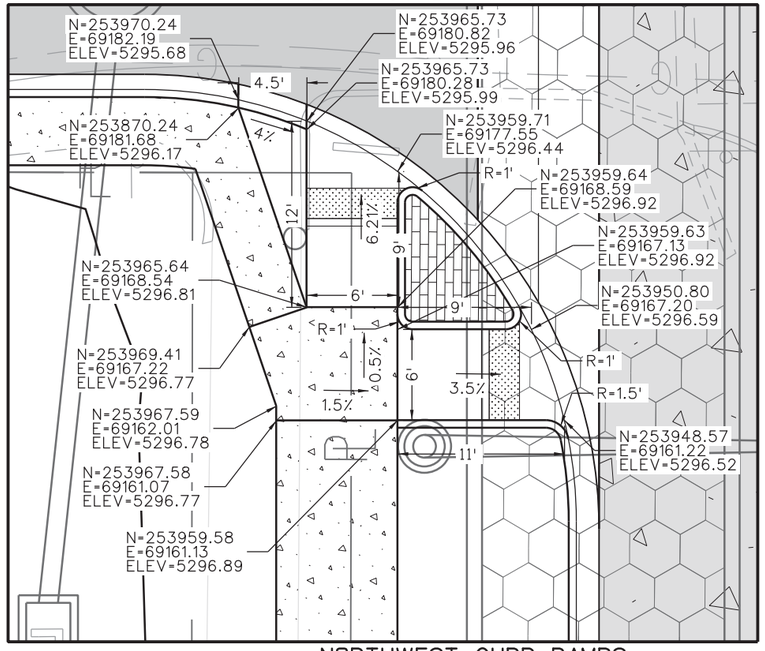
Know what's below. Call before you dig.



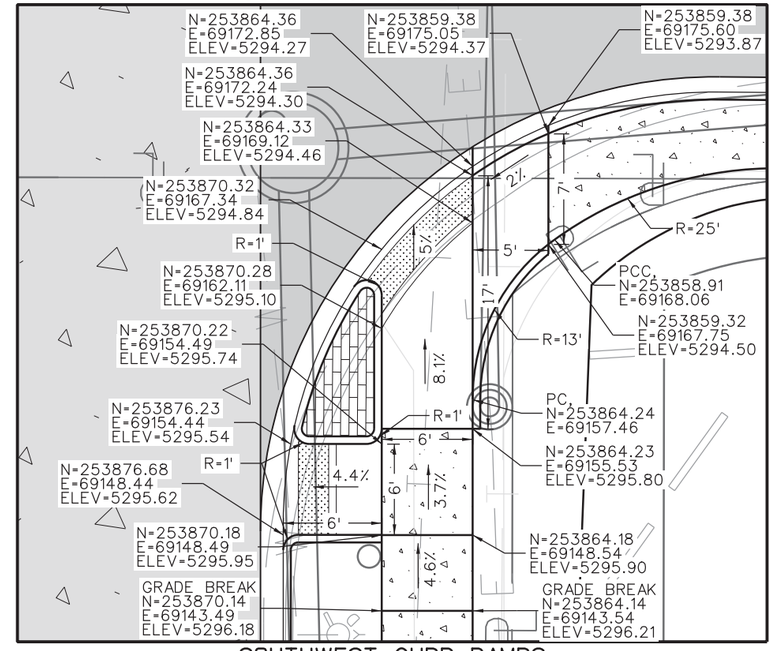
NORTHEAST CURB RAMPS



SOUTHEAST CURB RAMPS



NORTHWEST CURB RAMPS



SOUTHWEST CURB RAMPS

N

0' 5' 10' 20'

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File Name: 19062DES_Intersection_Plan-03.dgn	Date:	Comments	Init.
Horiz. Scale: 1:10 Vert. Scale: As Noted			

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City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

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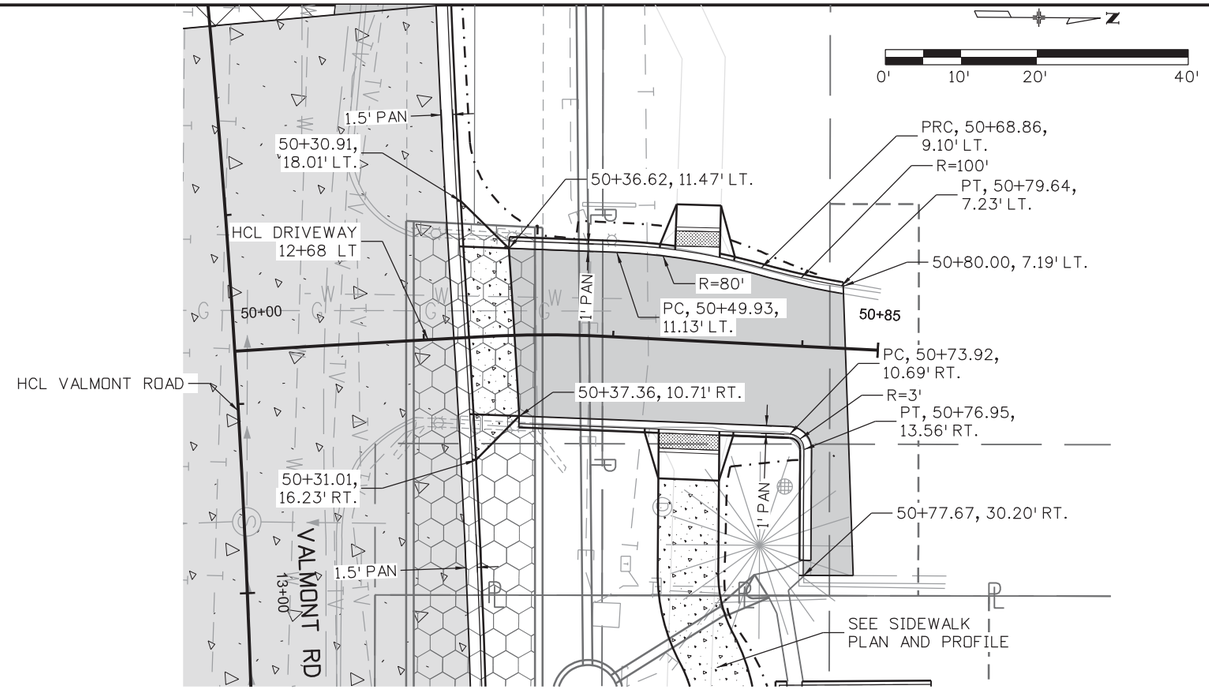
No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
CURB RAMP DETAILS

Designer:	J. COLIP	Structure Numbers	
Detailer:	J. MCPHAUL		
Sheet Subset:	ROADWAY	Subset Sheets:	5 of 8

Project No./Code
SHO M110-084
SA 19062
Sheet Number 36

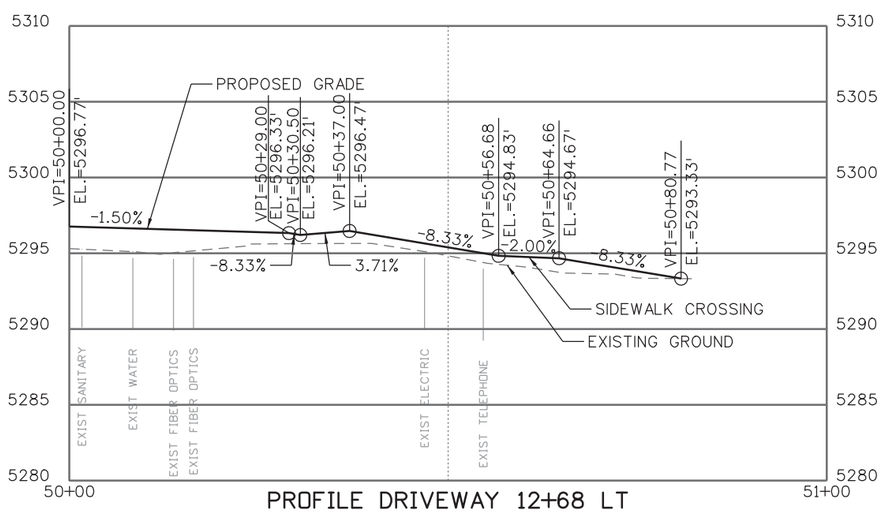
JMCPHAUL 1:17:59 PM pw:\\PWAPPDMA001:NorthCentral_Omaha\Documents\009281\00000000002474002\6.0_CAD_BIM\6.2_Work_In_Progress\Design\Drawings\19062DES_Intersection_Plan-03.dgn



DRIVEWAY 12+68 LT

- EXISTING PROP. LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- TOP OF CUT
- TOE OF FILL
- HOT MIX ASPHALT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PATTERNED CONCRETE
- MILL AND OVERLAY
- CONCRETE BOX CULVERT

Know what's below. Call before you dig.



PROFILE DRIVEWAY 12+68 LT

JMCPHAUL 1:18:16 PM pw:\\PWAPPDMA001:NorthCentral_Omaha\Documents\009281\0000000002247402\6.0_CAD_BIM\6.2_Work_In_Progress\Design\Drawings\19062DES_Roadway_PnP-04.dgn

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File Name: 19062DES_Roadway_PnP-04.dgn
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Phone: 303-764-1520 Fax: 303-860-7139

Sheet Revisions		
Date:	Comments	Init.

City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

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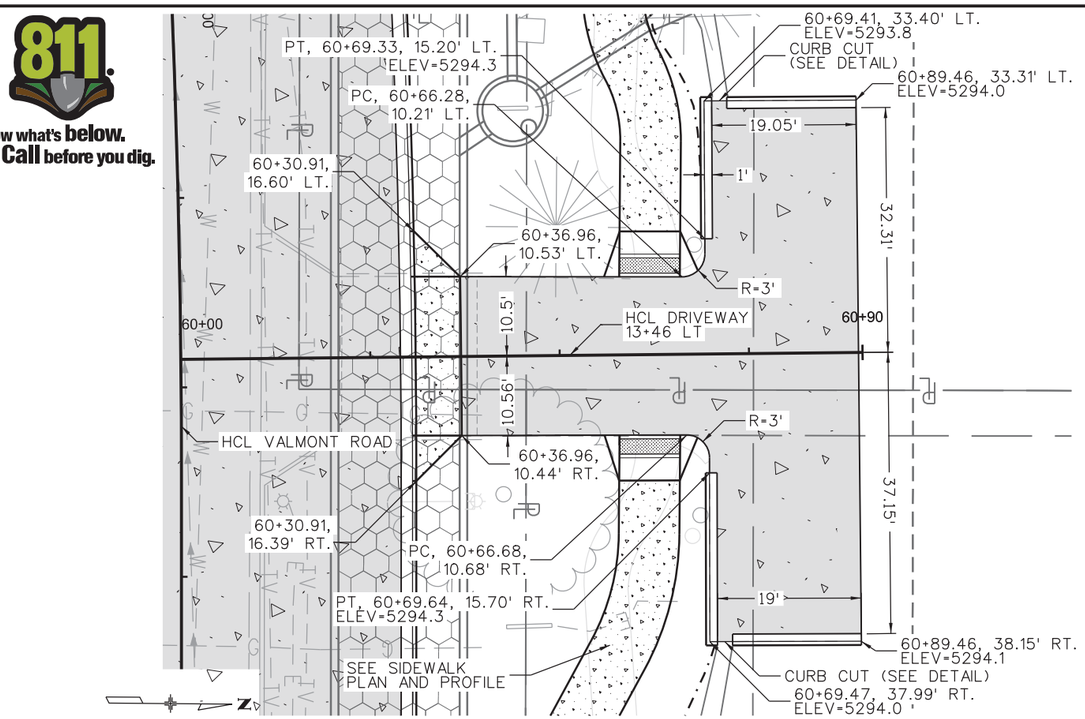
Revised:
Void:

VALMONT ROAD & 29TH STREET
DRIVEWAY PLAN AND PROFILE
DRIVEWAY 12+68 LT

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: ROADWAY
Structure Numbers
Subset Sheets: 6 of 8

Project No./Code
SHO M110-084
SA 19062
Sheet Number 37



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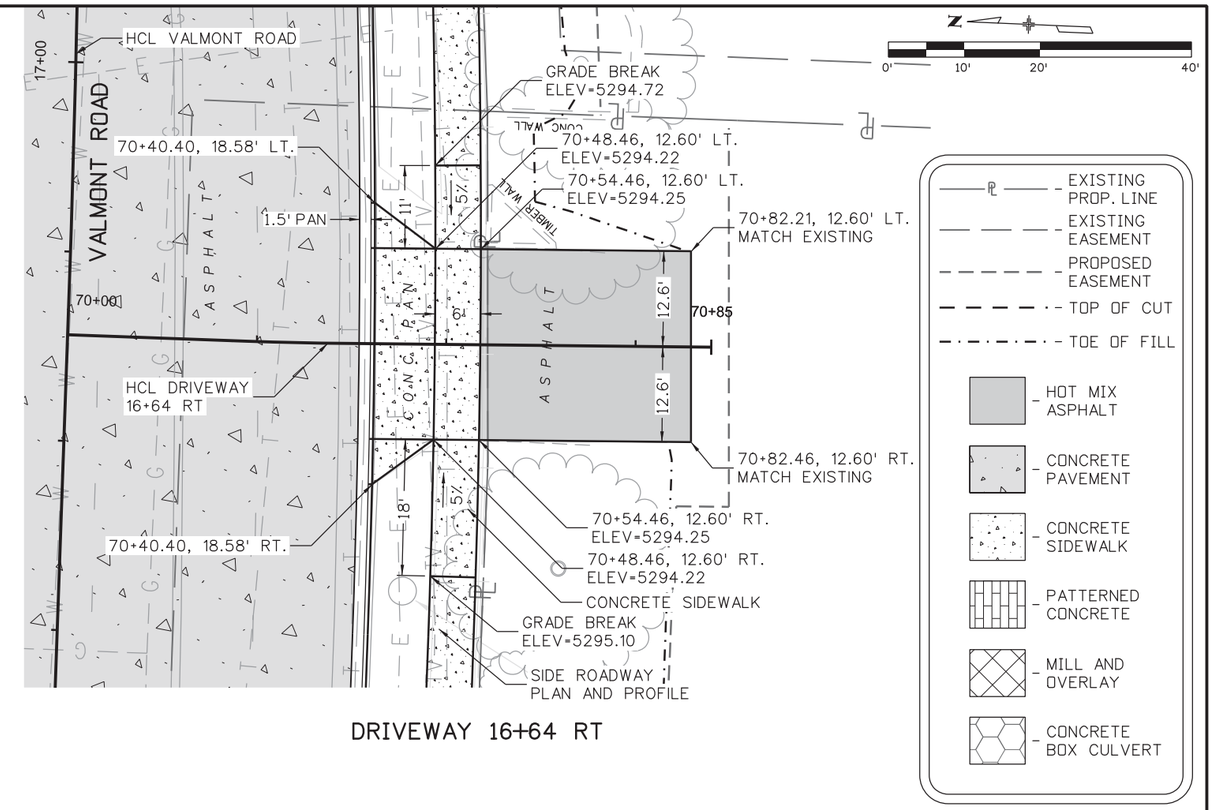
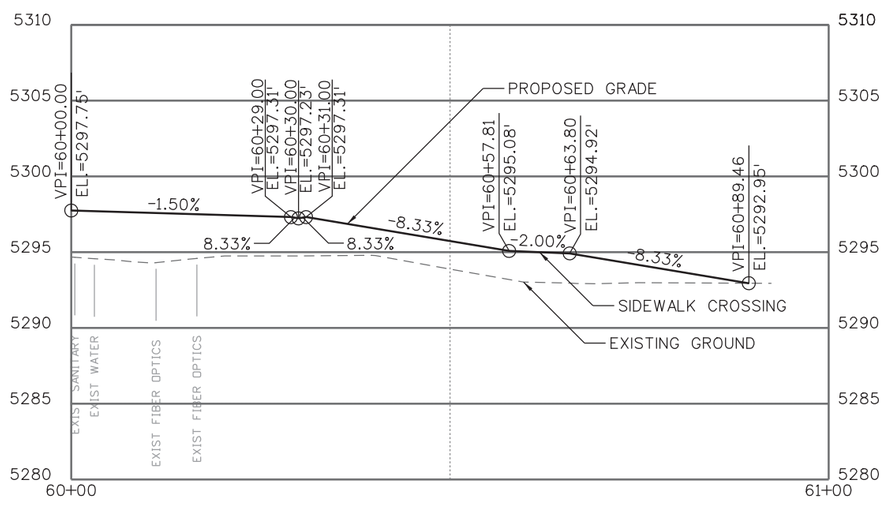
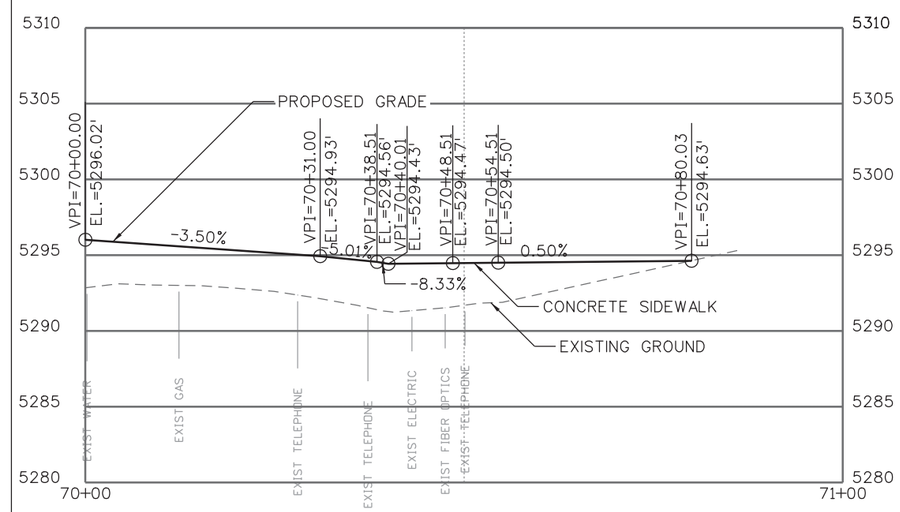


DRIVEWAY 16+64 RT





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VALMONT ROAD & 29TH STREET
DRIVEWAY PLAN AND PROFILE
DRIVEWAY 13+46 LT & 16+64 RT

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: ROADWAY
Structure Numbers
Subset Sheets: 7 of 8

Project No./Code
SHO M110-084
SA 19062
Sheet Number 38

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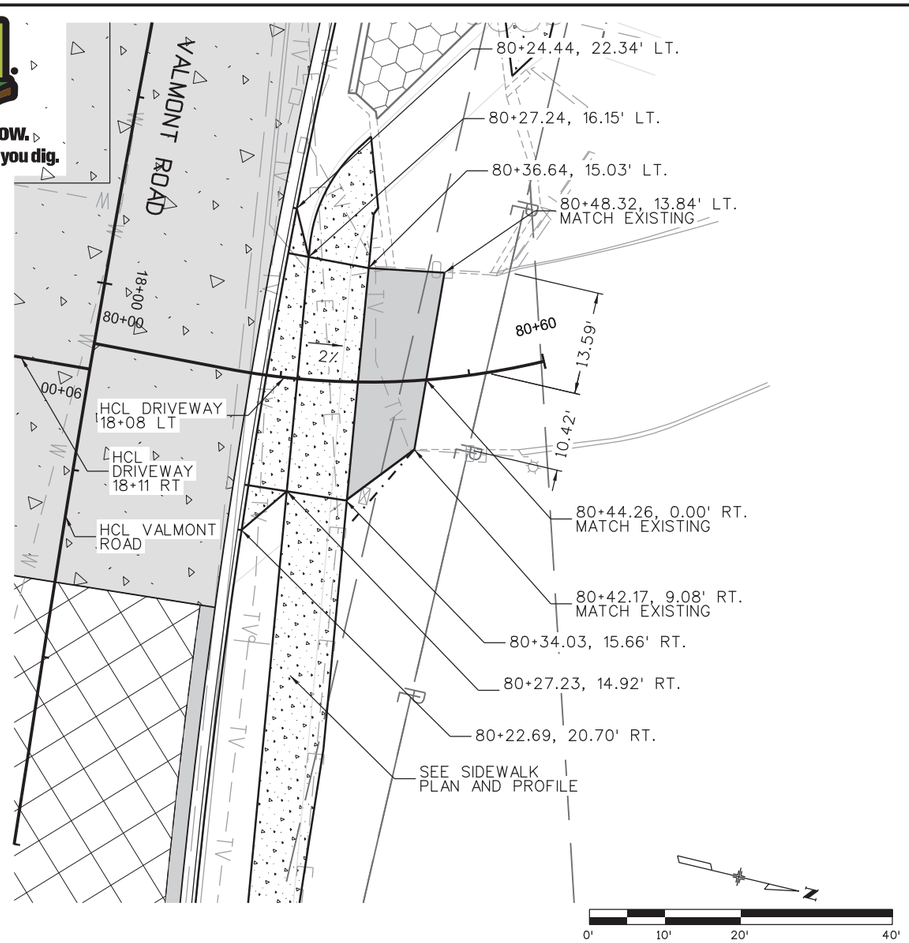

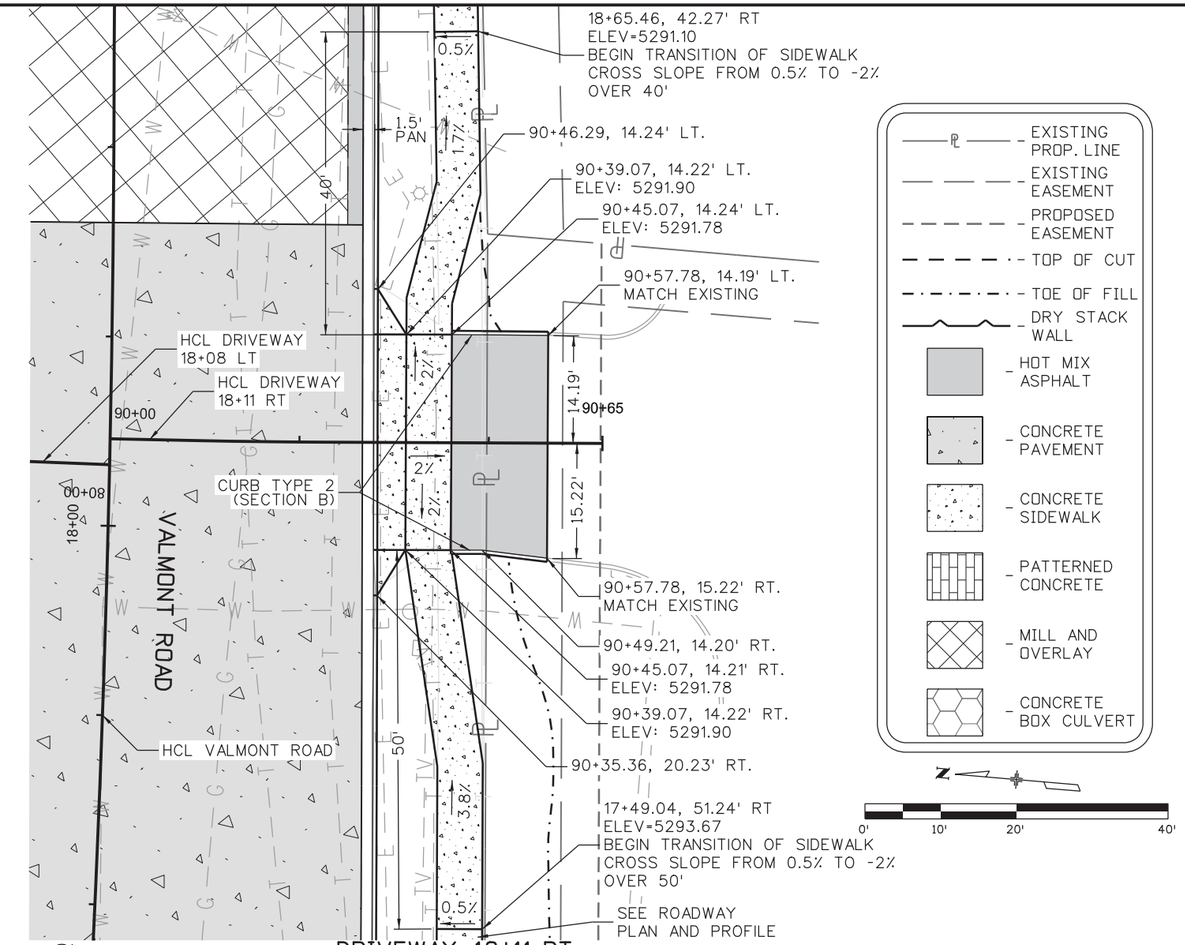

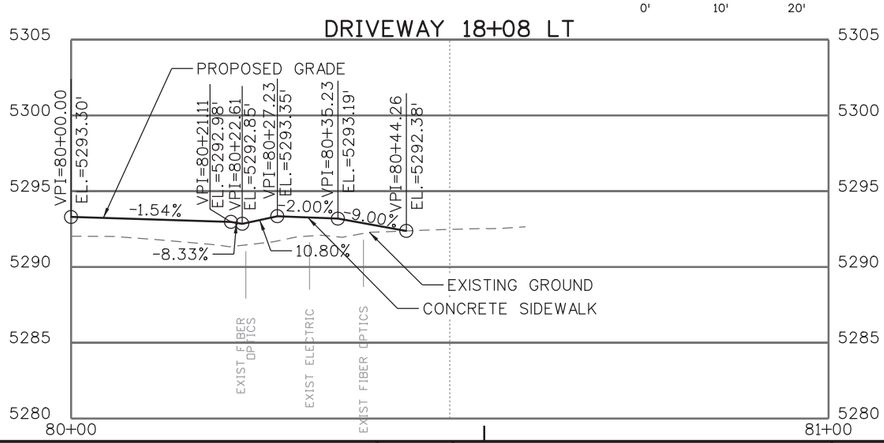

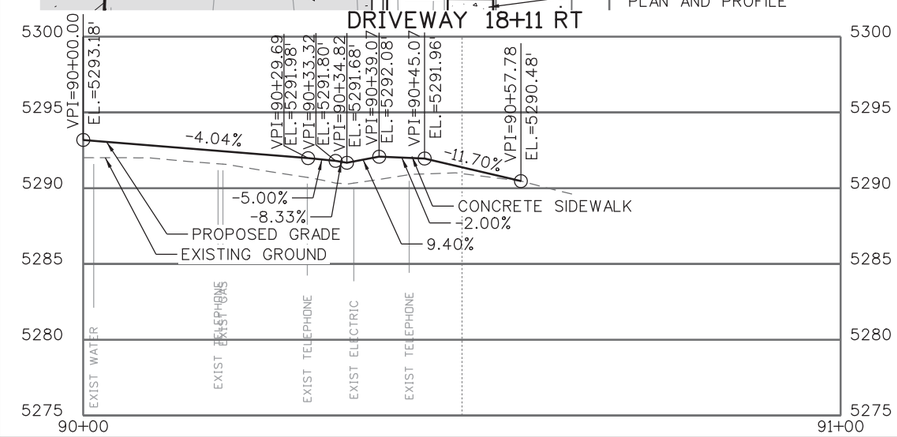

Know what's **below.** **Call** before you dig.

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Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

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VALMONT ROAD & 29TH STREET
DRIVEWAY PLAN AND PROFILE
DRIVEWAY 18+08 LT & 18+11 RT

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: ROADWAY
Structure Numbers
Subset Sheets: 8 of 8

Project No./Code
SHO M110-084
SA 19062
Sheet Number 39

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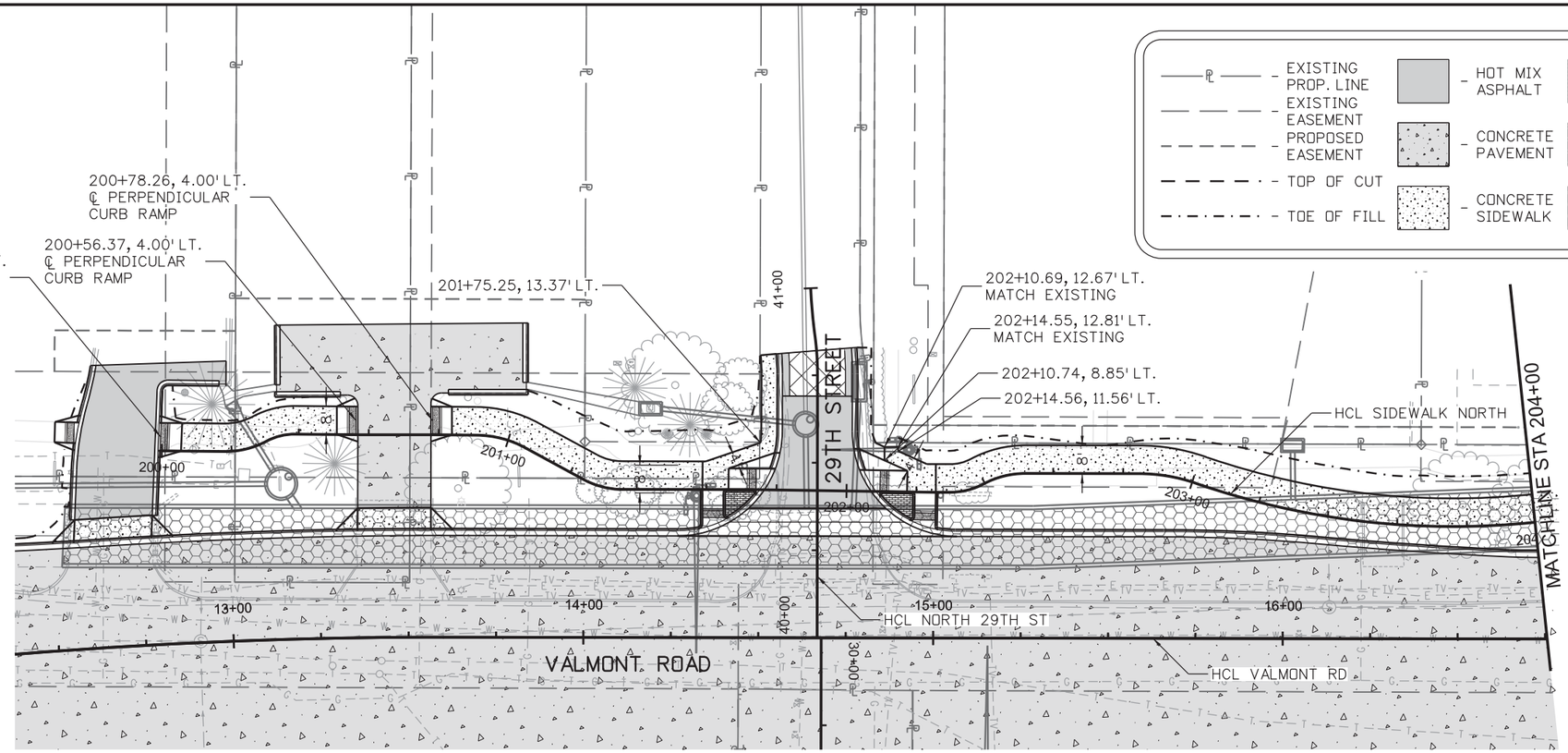

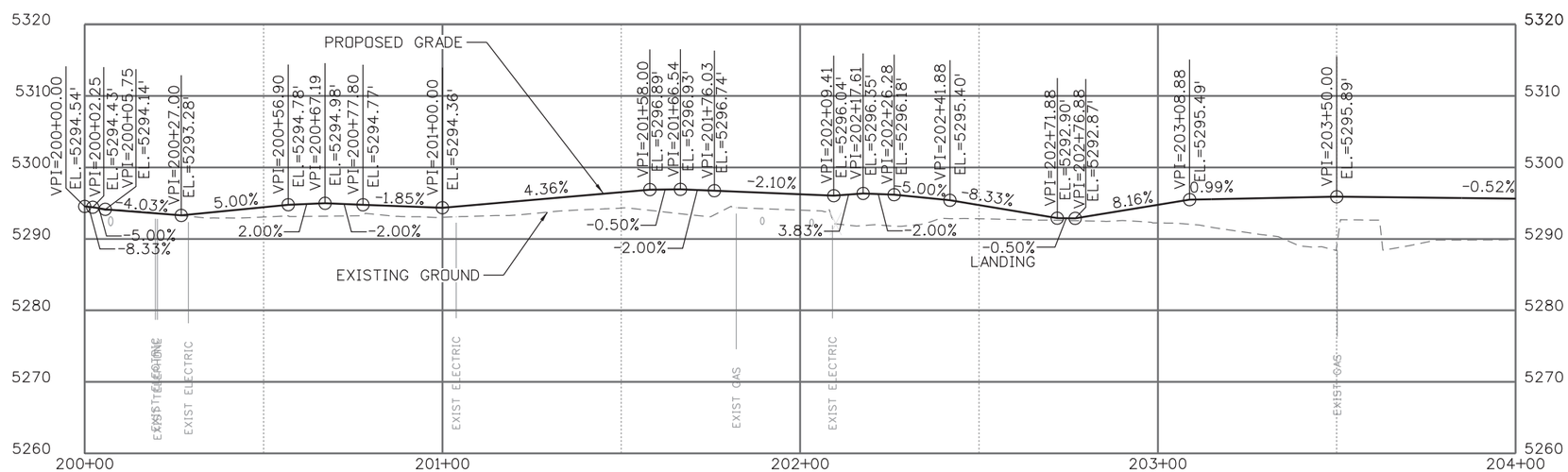

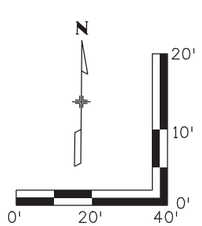

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Phone: 303-764-1520 Fax: 303-860-7139

City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

As Constructed
No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
SIDEWALK NORTH PLAN AND PROFILE
STA 200+00 TO STA 204+00

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: SIDEWALK
Structure Numbers
Subset Sheets: 1 of 2

Project No./Code
SHO M110-084
SA 19062
Sheet Number 40

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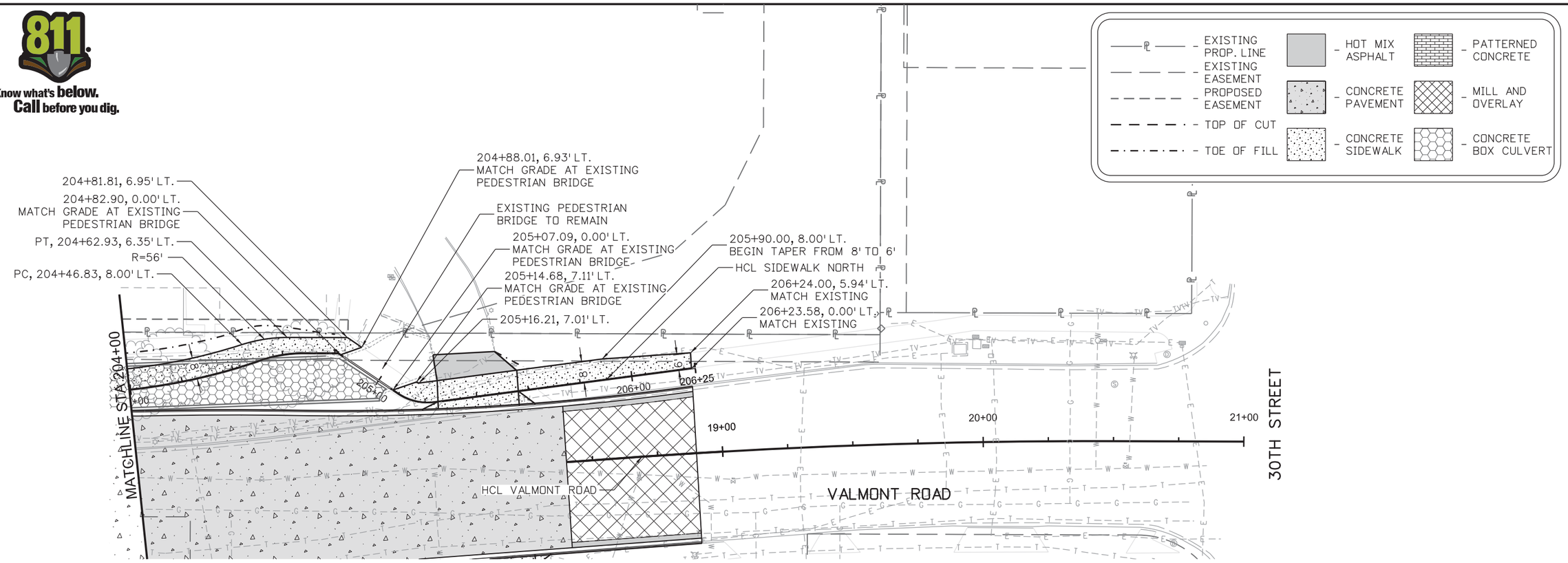

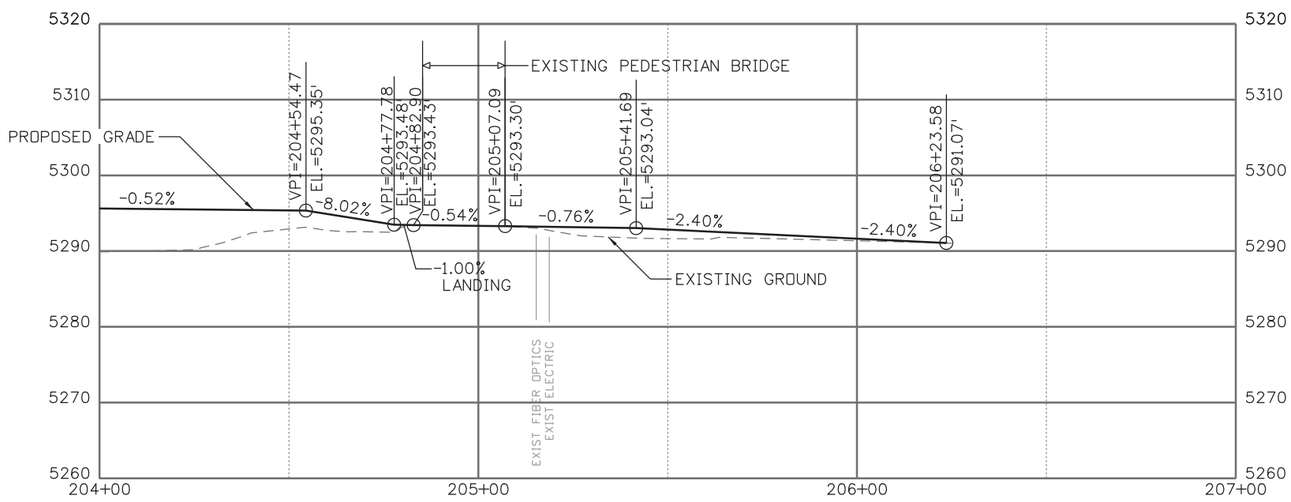

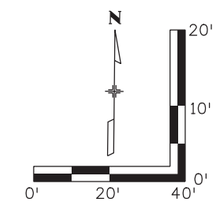

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Phone: 303-764-1520 Fax: 303-860-7139

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City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

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VALMONT ROAD & 29TH STREET
SIDEWALK NORTH PLAN AND PROFILE
STA 204+00 TO STA 207+00

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: SIDEWALK
Structure Numbers
Subset Sheets: 2 of 2

Project No./Code
SHO M110-084
SA 19062
Sheet Number 41

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1. SITE DESCRIPTION

To fulfill the CDPS-SCP (Colorado Discharge Permit System - Stormwater Construction Permit). The ECS shall update to reflect current project site conditions.

A. PROJECT SITE DESCRIPTION: The project consists of widening Valmont Road which includes construction of a new box culvert to contain an irrigation ditch, paving, excavation, landscaping, storm inlets and pipes and revegetation.

B. PROPOSED SEQUENCING FOR MAJOR CONSTRUCTION ACTIVITES: The project sequence includes clearing and grubbing grading, drainage, excavation, box culvert construction, paving and landscaping.

C. ACRES OF DISTURBANCE:
1. Total area of construction site: 2.41 acres
2. Total area of disturbance: 2.33 acres
3. Acreage of seeding: See Landscaping Plans.

D. EXISTING SOIL DATA: The soils on the site area obtained from the United States Department of Agriculture and Natural Resources Conservation Service, are Vermont Clay Loam. The hydrologic soil group is mainly Type C (100%). The Type C soils have slow infiltration rates when thoroughly wetted, and consists of soils that have a layer that impedes downward movement of groundwater and are fine in texture.

E. EXISTING VEGETATION, INCLUDING PERCENT COVER: The project site it located in an urban environment and is comprised of impermeable pavement and commercial/residential property with landscaped areas.

F. POTENTIAL POLLUTANTS SOURCES: See First Construction Activities under Potential Pollutant Sources. The ECS shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

G. RECEIVING WATER:
1. Outfall locations: The project site discharges stormwater runoff to the White Rock Irrigation Ditch and to the Bouder stormwater system. These outfalls are operated by the City of Boulder and White Rock Irrigation Company.

2. Names of receiving water(s) on site and the ultimate receiving water. The project discharges stormwater runoff to White Rock Ditch ditch which ultimately joins Wonderland Creek.

3. Distance ultimate receiving water is from project: This project directly outfalls and is adjacent to the receiving water.

H. ALLOWABLE NON-STORMWATER DISCHARGES: The ECS shall identify the location and description of any anticipated allowable sources of non-stormwater discharges.

1. Groundwater and stormwater dewatering: Discharges to the ground of water from construction dewatering activities may be authoized provided that:
   a. the source is groundwater and/or groundwater combined with stormwater that does not contain pollutants
   b. the source and BMPs are identified in the SWMP
   c. discharges do not leave the site as surface runoff or to surface waters
   d. The contractor shall protect all work areas and facilities from water at all times. Areas and facilities subject to flooding, regardless of the source of water, shall be promptly dewatered and restored at no cost to the owner. This shall include removal of any debris caused by flooding. Any dewatering shall be done in accordance with Subsection 107.25

2. If discharges do not meet the above criteria a separate CDPS permit shall be obtained by the Contractor from the CDPHE. See standard special provision 250 Hazardous Waste and Contaminated Water.

I. ENVIRONMENTAL IMPACTS:
1. Wetland Impacts: NO
2. Stream Impacts: NO
3. Threatened and Endangered Species: None anticipated on this project.

2. SITE MAP COMPONENTS:

Pre-construction

A. PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES See Roadway and Erosion Control Plans

B. ALL AREAS OF GROUND SURFACE DISTURBANCE See Limits of Disturbance on Erosion Control Plans

C. AREAS OF CUT AND FILL See cut/fill limits on Roadway and Erosion Control Plans

D. LOCATION OF ALL STRUCTURAL BMPs IDENTIFIED IN THE SWMP See Erosion Control Plans

E. LOCATION OF NON-STRUCTURAL BMPs AS APPLICABLE IN THE SWMP See Erosion Control Plans

F. SPRINGS, STREAMS, WETLANDS AND OTHER SURFACE WATER See Erosion Control Plans

G. PROTECTION OF TREES, SHRUBS, CULTURAL RESOURCES AND MATURE VEGETATION See Landscpaing Pans

H. AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS (field trailer, fueling, etc.) and BATCH PLANTS The ECS shall provide locations of these areas.

3. SWMP ADMINISTRATORS:

A. SWMP ADMINISTRATOR FOR DESIGN:

Elizabeth Staten, PE HDR Engineering, Inc

4. STORMWATER MANAGEMENT CONTROLS FIRST CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

A. POTENTIAL POLLUTANT SOURCES
Evaluate, identify and describe all potential sources of pollutants at the site in accordance with subsection 107.25 and place in the SWMP notebook. All BMPs related to potential pollutants shall be shown on the SWMP site map by the contractor's ECS.

B. BEST MANAGEMENT PRACTICES (BMPs) FOR STORMWATER POLLUTION PREVENTION
PHASED BMP IMPLEMENTATION

During Design: "BMP as Designed" boxes are marked when used in the SWMP. During construction: the ECS shall update the "In use on site" boxes to match which BMPs are currently in use on site. Clearly describe the relationship between the phases of construction and the implementation of BMP controls.

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

APPLICATION, BMP	NARRATIVE	BMP AS DESIGNED	IN USE ON SITE	BMP PHASING		
				FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	FINAL STABILIZATION
PROTECTION OF EXISTING WETLANDS Fence (plastic) and erosion logs	Fence (plastic) shall be placed in combination with erosion logs to prevent encroachment of construction traffic and sediment into state waters prior to start of construction disturbances. Fence (plastic) shall be placed adjacent to the wetlands; erosion logs shall be placed between the plastic fence and disturbance area. Logs shall be placed to direct flows away from or filter water running into wetlands from disturbance areas.			X	X	
PROTECTION OF EXISTING TREES/LANDSCAPING Fence (plastic)	Fence (plastic) shall be used in areas indicated in the plans to protect mature trees and/or existing landscaping prior to start of construction disturbances.			X	X	
CHECK DAM/DITCH CHECK Erosion log, silt berm, silt dike, rock check dam	Placed in ditches immediately upon completion of ditch grading to reduce velocity of runoff in ditch. For existing ditches, place prior to start of construction disturbances.					
TYPE R AND TYPE 16 INLET PROTECTION Storm drain inlet protection (type 1,2 and 3)	Placed prior to construction disturbances to protect existing inlets or immediately upon completion of new inlets to prevent sediment from entering the inlet throughout construction.			X	X	
CULVERT INLET/OUTLET PROTECTION Erosion logs, aggregate bags	Placed at mouth of culvert inlets and over top of culvert at inlet and outlet where disturbance may be occurring adjacent to pipe to prevent sediment laden water from entering pipe or drainage. Place prior to start of construction disturbances.			X	X	
TYPE C, TYPE D AND TYPE 13 PROTECTION Erosion logs, aggregate bags, erosion bales	Placed around inlet grate or slope and ditch paving to prevent sediment from entering inlet. Place prior to start of construction disturbances.			X	X	
STOCKPILE PROTECTION Temporary berm, erosion logs, aggregate bags*	Placed within specified distance from toe to contain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stock pile, increase control as stock pile increases size.				X	
TOE OF FILL PROTECTION Erosion logs, temporary berm, silt fence, topsoil windrow*	Place prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage.			X	X	
PERIMETER CONTROL Erosion logs, silt fence, temporary berm, topsoil windrow*	Placed prior to construction commencing to address potential run-on water from off site, and to divert around disturbed area			X	X	
SEDIMENT CONTROL/ SLOPE CONTROL Silt fence, erosion logs	Placed on the contour on a slope to contain and slow down construction runof. Place prior to start of construction disturbances.			X	X	
TEMPORARY SEDIMENT TRAP (ECS shall add locations to SWMP site maps)	Used to capture sediment laden runoff from disturbed areas < 5 acres during construction. Place prior to start of construction disturbances.			X	X	
PERMANENT SEDIMENT BASIN Extended detention basin	Constructed early in project, prior to storm sewer/ditches to capture storm flow as a temporary sediment trap. Outlet structure shall be modified for construction runoff.					
EMBANKMENT PROTECTION OR TEMPORARY SLOPE DRAIN	Placed as a conduit or chute to drain runoff down slope and to prevent erosion of slope.					
OUTLET PROTECTION Riprap, or approved other	Material placed as energy dissipater to prevent eroson at outlet structure.					
CONCRETE WASHOUT In-ground or fabricated	Construction control, used for waste management of concrete and concrete equipment cleaning. Place prior to start of concrete activities.			X	X	
VEHICLE TRACKING PAD	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to start of construction disturbances.			X	X	
SWEEPING	Source control, used to remove sediment tracked onto paved surfaces and to prevent from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be allowed.			X	X	
DEWATERING (Contractor is responsible for obtaining a permit from Colorado Department of Health and Environment.)	Shall be done in such a manner to prevent potential pollutants from entering state waters.			X	X	
TEMPORARY STREAM CROSSING	Constructed over stream or drainage to prevent discharge of pollutants from construction equipment into water					
CLEAN WATER DIVERSION	Placed to divert clean surface or ground water around disturbance area to prevent it from mixing with construction runoff			X	X	
OTHER						

NON-STRUCTURAL BMPs that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:

APPLICATION, BMP	NARRATIVE	BMP AS DESIGNED	IN USE ON SITE	BMP PHASING		
				FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	FINAL STABILIZATION
VEGETATIVE BUFFER STRIP Fence (plastic)	Filtersediment laden runoff from disturbance area. Area to be identified for preservation prior to construction starting.			X	X	X
LANDFORM (ECS shall add locations to SWMP site maps)	Existng landforms may be used as a BMP if they prevent sediment from enterng or leaving the disturbance area. If a landforn directs flow of water to a concentrated outfall point, the outfall point shall be potected to prevent erosion.					
TOPSOIL MANAGEMENT STOCKPILE/SALVAGE Windrow or stockpile	Prior to embankment work commencing, existing topsoil shall be scraped to a depth of 4 inches, and placed in stockpiles or windrows. Upon completion of slopework/final grading (less 4 inches), topsoil shall be evenly distributed over embankment to a depth of 4 inches.			X	X	
SURFACE ROUGHENING / GRADING TECHNIQUES Blading, Backhoe, Dozing, Combination Loader	Temporary stabilization of disturbance and to minimize wind and erosion.				X	
SEEDING TEMPORARY	Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction.				X	
BONDED FIBER MATRIX/HYDRAULIC MULCH (Not to be used in areas of concentrated flows, i.e. ditch lines.)	To be used in combination with surface roughening for temporary stabilization of disurbed soils, when work is temporarily halted and as approved by the Engineer. May be used as surface cover for temporary topsoil stockpiles				X	
MULCH/MULCH TACKIFIER	Temporary or Final Stabilization placed as a surfacecover for erosion control and or seeding establishment. To be installed as temporary surface cover whenwork is temporarily halted and as approved bythe Engineer				X	X
SPRAY-ON MULCH BLANKET (Not to be used in areas of concentrated flows, i.e. ditch lines.)	Temporary or Final Stabilization placed as a surfacecover for erosion control and or seeding establishment. To be installed as temporary surface cover whenwork is temporarily halted and as approved bythe Engineer				X	X
SEEDING PERMANENT	FinalStabilization of disturbance and to reduce runof and control erosion on distubed areas.					X
SOIL RETENTION BLANKET (SRB)	FinalStabilization of disturbance and to reduce runof and control erosion on distubed areas.				X	X
TURF REINFORCEMENT MAT (TRM)	FinalStabilization of disturbance and to reduce runof and control erosion on distubed areas. Placed in channels or on slopes forerosion control, channel liner and seeding establishment.				X	X
OTHER						

Erosion control devices are used to limit the amount of soil loss on site
Sediment control devices are designed to capture sediment on the project site.
Construction controls are BMPs related to construction access and staging.
BMP locations are indicated on the SWMP site map.

NARRATIVES

BMP details and narratives not covered by theSWMP or Standard Plan M-208-1 shall be added to the SWMP notebook by the ECS.

D. OFFSITE DRAINAGE (RUN ON WATER)
1. Describe and record BMPson the SWMP site map that has been implemented to address off site run-on water in accordance with subsection 208.03.

E. VEHICLE TRACKING PAD/VEHICLE TRACKING CONTROL
1. BMPs shall be implemented in accordance with subsection 208.04.

F. PERIMETER CONTROL
1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters.
2. Perimeter control may consst of vegetation buffers, berms, silt fence, erosion logs, existing landforms, or other BMPs as approved.
3. Perimeter control shall be in accordance with subsection 208.04.

5. DURING CONSTRUCTION

RESPONSIBILITIES OF THE SWMP ADMINISTRATOR/TRANSPORTATION EROSION CONTROL SUPERVISOR DURING CONSTRUCTION
The SWMP should be considered a "living document" that is continuously reviewed and modified. During construction, the following items shall be added, updated, or amended as needed by the SWMP Administrator/Erosion Control Supervisor (ECS) in accordance with Section 208.
During construction, indicate how items that have not been addressed during design are being handled in construction. If items are covered in the template or other sections of the SWMP notebook indicate below what sectionthe discussion takes place.

A. STOCKPILE MANAGEMENT - shall be done in accordance with subsection 107.25 and 208.07

B. CONCRETE WASHOUT - Concrete wash out water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.

C. SAW CUTTING - shall be done in accordance with subsection 107.25, 208.04, 208.05

D. STREET CLEANING - shall be done in accordance with subsection 208.04

6. INSPECTIONS

A. Inspections shall be in accordance with subsection 208.03 (c).

7. BMP MAINTENANCE

A. Maintenance shall be in accordance with subsection 208.04 (f).

8. RECORD KEEPING

A. Records shall be kept in accordance with subsection 208.03 (c).

9. INTERIM AND FINAL STABILIZATON

A. SEEDING PLAN: See Landscaping Plans.

B. SEEDING APPLICATION: See Landscaping Plans.

C. MULCHING APPLICATION: See Landscaping Plans.

D. SPECIAL REQUIREMENTS: See Landscaping Plans.

E. SOIL CONDITIONING AND FERTILIZER REQUIREMENTS: See Landscaping Plans.

F. SOIL RETENTION COVERING: See Landscaping Plans.

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION
Prior to final acceptance:
1. Seeded areas shall be reviewed during the 14 day inspections by the Erosion Control Supervisor for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.
2. The Contractor shall maintain seeding/mulch/tackifier, mow to control weeds or apply herbicide to control weeds in the seeded areas until Final Acceptance.

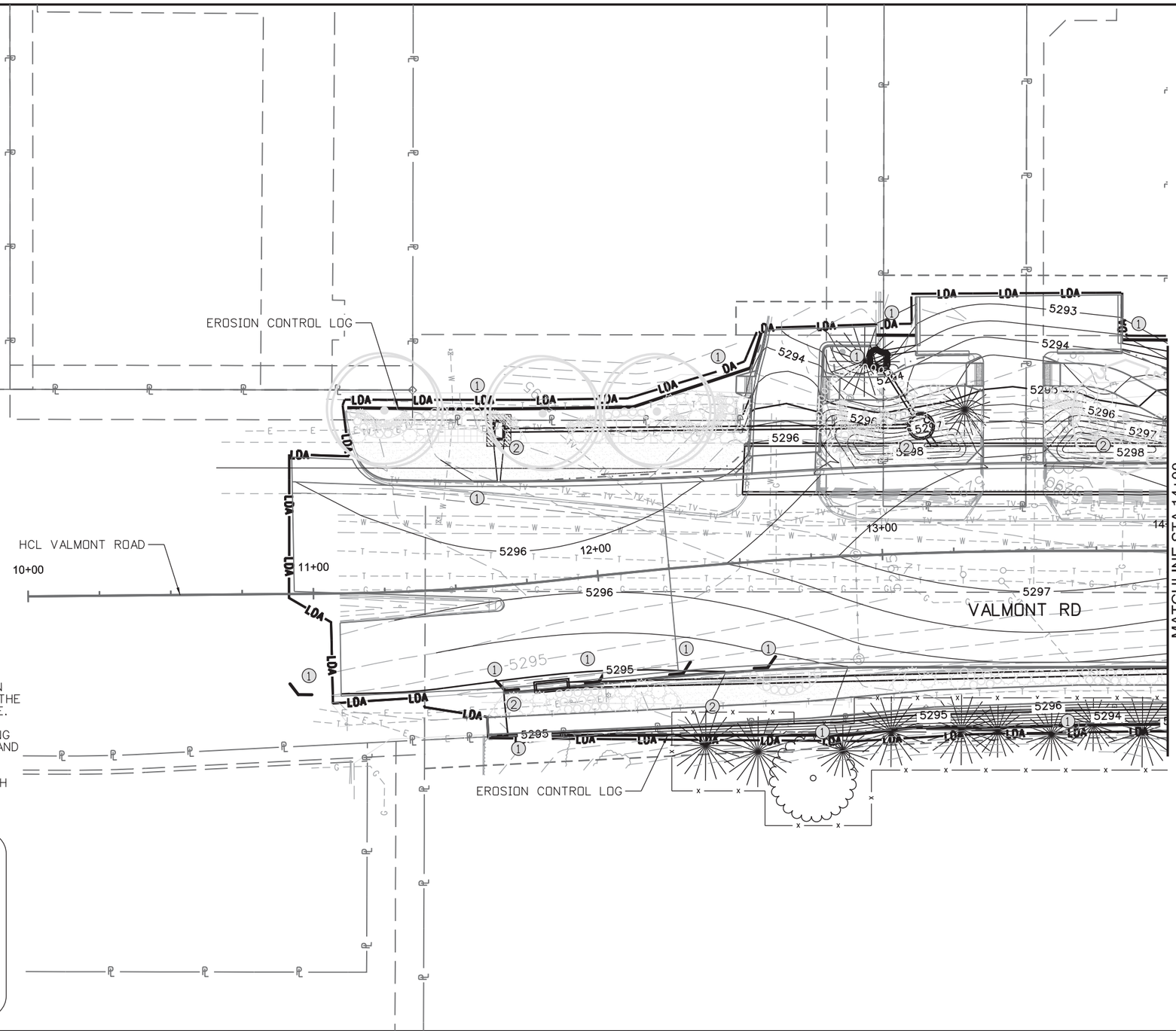
10. PRIOR TO FINAL ACCEPTANCE

A. Final Acceptance shall be in accordance with subsection 208.10 At the Partial Acceptance of the project, it shall be determined by the ECS and the Engineer which temporary BMP's shall remain until 70% reestablishment or which shall be removed.
B. At the end of the project, all ditch checks shall either consist of temporary erosion logs or permanent rip-rap.
C. All storm drains shall be cleaned prior to the end of the project. Work shall be included in 203 Clean Culvert.

11. TABULATION OF STORMWATER QUANTITIES

Pay Item	Description	Pay Unit	*Quantity
207	Top Soil	CY	105
208	Erosion Log	LF	1475
208	Aggregate Bag	LF	200
208	Concrete Washout Structure	Each	1
208	Storm Drain Inlet Protection	Each	3
208	Vehicle Tracking Pad	Each	2
208	Erosion Control Supervisor	Day	86

*It is anticipated that additional BMPs and BMP quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsection 208.03 and 208.04 (e). Quantities for all BMPs shown above are estimated, and have been increased for unforeseen Projectconditions. Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.



0' 20' 40' 80'

NOTES

1. PERIMETER CONTROL FOR THIS PROJECT IS AS FOLLOWS, INCLUDING BUT NOT LIMITED TO:
   EXISTING PAVEMENT
   VALMONT RD EB & WB
   EXISTING VEGETATION
2. ALL EXISTING INLETS IN PROJECT AREA SHALL HAVE EROSION LOG (12") OR AGGREGATE BAG DROP INLET PROTECTION FOR THE DURATION OF THE PROJECT OR UNTIL TAKEN OUT OF SERVICE.
3. VEHICLE TRACKING PADS SHALL BE PLACED AT THE BEGINNING OF FULL DEPTH PAVEMENT CONSTRUCTION FOR EACH PHASE AND AS DIRECTED BY THE ENGINEER.
4. CONCRETE WASHOUT STRUCTURES SHALL BE PLACED FOR EACH PHASE AS DIRECTED BY THE ENGINEER.
5. SEE LANDSCAPE PLANS FOR FINAL SURFACE TREATMENT ②

— ℄ —	EXISTING PROP. LINE	⌃	EROSION CONTROL LOG
— — —	EXISTING EASEMENT	▢	STORM DRAIN INLET PROTECTION
— — — —	PROPOSED EASEMENT	▬	AGGREGATE BAG
— — — ·	TOP OF CUT	①	INITIAL
—·—·—·—	TOE OF FILL	②	FINAL
—LOA—	LIMITS OF DISTURBED AREA		

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Boulder, CO 80306
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VALMONT ROAD & 29TH STREET
EROSION CONTROL & GRADING PLAN
STA 10+00 TO STA 14+00

Designer: L. STATEN
Detailer: J. MCPHAUL
Sheet Subset: SWMP
Structure Numbers
Subset Sheets: 1 of 3

Project No./Code
SHO M110-084
SA 19062
Sheet Number 44

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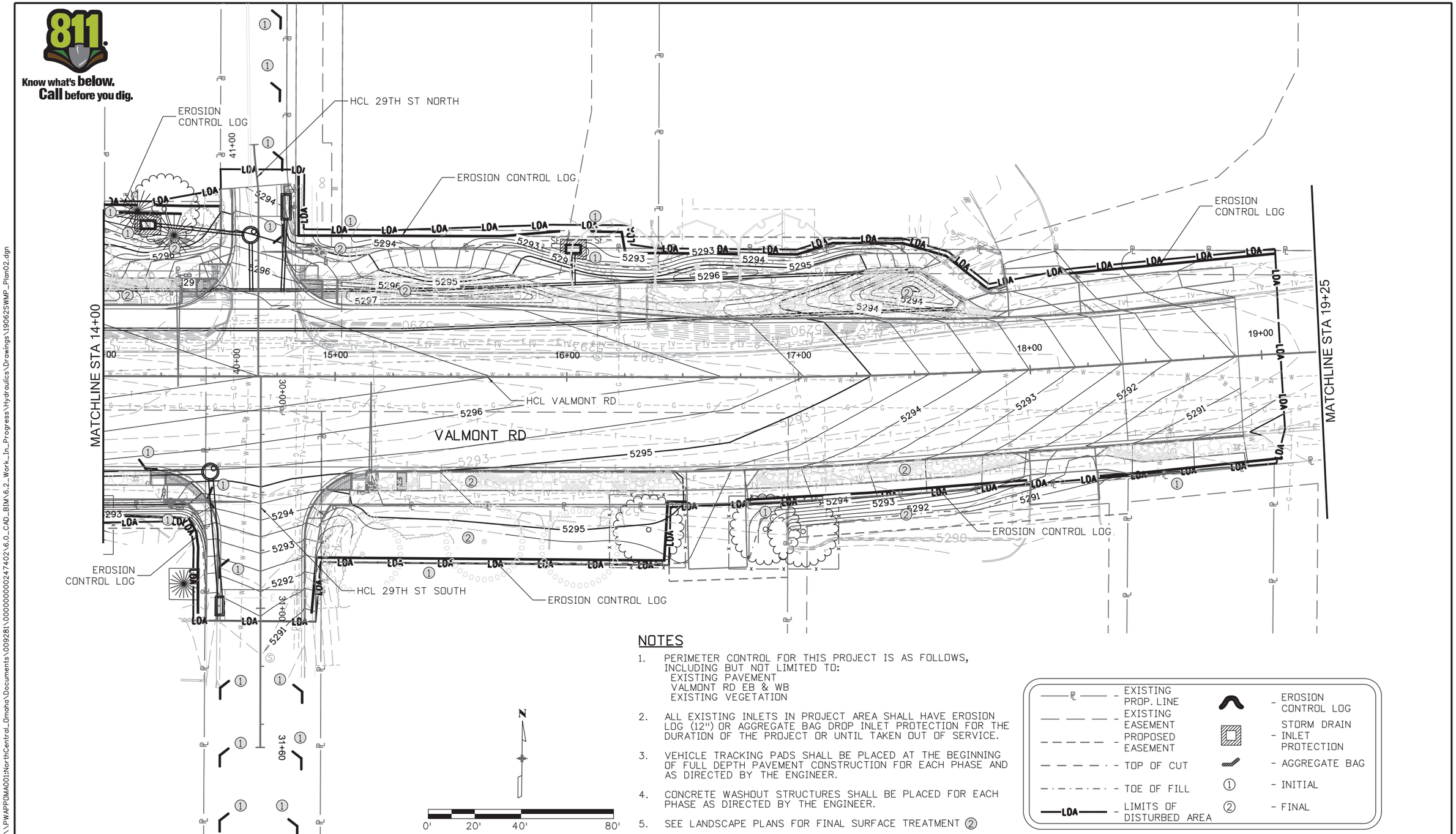

NOTES

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   EXISTING PAVEMENT
   VALMONT RD EB & WB
   EXISTING VEGETATION
2. ALL EXISTING INLETS IN PROJECT AREA SHALL HAVE EROSION LOG (12") OR AGGREGATE BAG DROP INLET PROTECTION FOR THE DURATION OF THE PROJECT OR UNTIL TAKEN OUT OF SERVICE.
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4. CONCRETE WASHOUT STRUCTURES SHALL BE PLACED FOR EACH PHASE AS DIRECTED BY THE ENGINEER.
5. SEE LANDSCAPE PLANS FOR FINAL SURFACE TREATMENT ②

——℄——	- EXISTING PROP. LINE		- EROSION CONTROL LOG
— — —	- EXISTING EASEMENT		- STORM DRAIN INLET PROTECTION
- - - -	- PROPOSED EASEMENT		- AGGREGATE BAG
— — — ·	- TOP OF CUT	①	- INITIAL
-·-·-·-	- TOE OF FILL	②	- FINAL
—LDA—	- LIMITS OF DISTURBED AREA		

Print Date: 4/22/2016
File Name: 19062SWMP_Plan02.dgn
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VALMONT ROAD & 29TH STREET
EROSION CONTROL & GRADING PLAN
STA 14+00 TO STA 19+25

Designer: L. STATEN
Detailer: J. MCPHAUL
Sheet Subset: SWMP
Structure Numbers
Subset Sheets: 2 of 3

Project No./Code
SHO M110-084
SA 19062
Sheet Number 45

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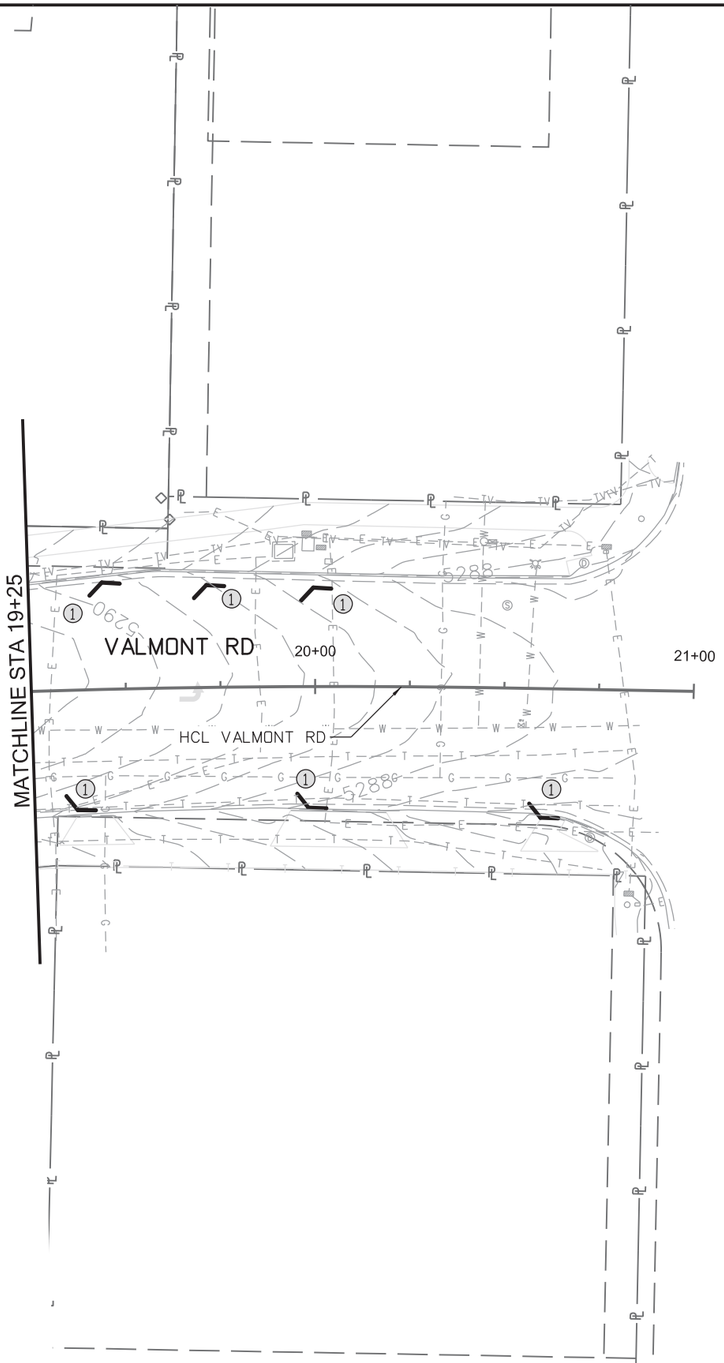

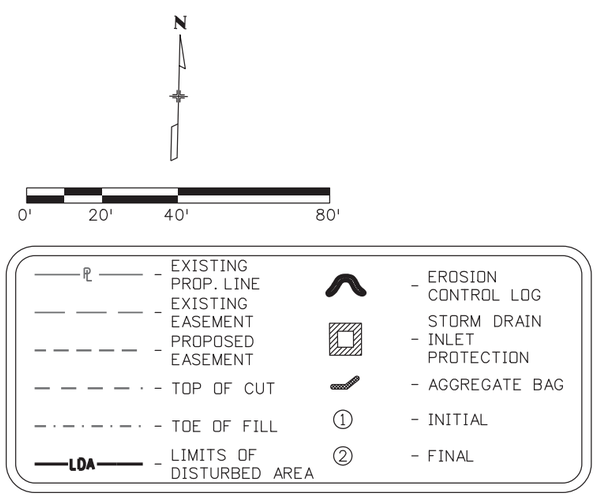

NOTES

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   EXISTING VEGETATION
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4. CONCRETE WASHOUT STRUCTURES SHALL BE PLACED FOR EACH PHASE AS DIRECTED BY THE ENGINEER.
5. SEE LANDSCAPE PLANS FOR FINAL SURFACE TREATMENT ②

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VALMONT ROAD & 29TH STREET
EROSION CONTROL & GRADING PLAN
STA 19+25 TO STA 21+00

Designer: L. STATEN
Detailer: J. MCPHAUL
Sheet Subset: SWMP
Structure Numbers
Subset Sheets: 3 of 3

Project No./Code
SHO M110-084
SA 19062
Sheet Number 46

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Know what's below. Call before you dig.

TABULATION OF MINOR DRAINAGE STUCTURES

STRUCTURE ID	STATION / LOCATION	SIDE	603 15 In RCP (CIP)	603 24 In RCP (CIP)	603 15 In RCES	603 2 In Plastic Pipe	604 Inlet Type D (5 Foot)	604 Inlet Type D (10 Ft)	604 Inlet Type 16 (Double) (5 Ft)	604 Inlet Type 16 (Triple) (5 Foot)	604 Inlet Type R L 10 (10 Foot)	604 Manhole Slab Base (10 Foot)	604 Manhole Slab Base (15 Foot)	604 Water Quality Device**	609 Gutter Type 2 (Variable)	622 Sump Pump	REMARKS
			LF	LF	EACH	LF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LF	EACH	
LINE 1																	
INLET-1	11+39.91	LT					1								15		
PIPE-1		LT	143														
MANHOLE-1	13+14.90	LT											1	2			Baffle and Pipe Hood Required
LINE 2																	
	12+98.70 TO 13+13.97	LT													18		
FES-1	13+01.80	LT			1												
PIPE-2		LT	24														
MANHOLE-1	13+14.90	LT															
PIPE-3		LT		6													
LINE 3																	
	13+84.08 TO 14+15.77	LT													33		
INLET-2	14+19.09	LT					1										
PIPE-4		LT	39														
MANHOLE-2	14+53.44	LT										1		1			Pipe Hood Only
LINE 4																	
MANHOLE-2	14+53.44	LT															
PIPE-5		LT	21														
LINE 5																	
INLET-3	14+78.77	LT									1			1			Pipe Hood Only
PIPE 6		LT	32														
LINE 6																	
INLET-4	16+02.69	LT						1						1			Pipe Hood Only
PIPE 7		LT	15														
LINE 7																	
INLET-5	11+79.98	RT								1							
PIPE-8		RT		254													
MANHOLE-3	14+16.22	RT											1	2			Baffle and Pipe Hood Required
PIPE-9		RT		52													
INLET-6	14+19.62	RT				15			1							1	
PROJECT TOTALS			274	312	1	15	2	1	1	1	1	1	2	7	66	1	

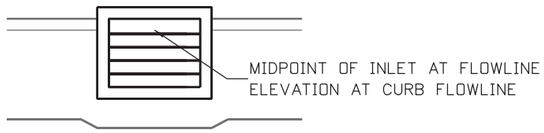
* STRUCTURE EXCAVATION, STRUCTURE BACKFILL, UNCLASSIFIED EXCAVATION, PIPE BEDDING, AND GEOTEXTILE REQUIRED FOR ALL STORM SEWER PIPES, MANHOLES, INLETS, AND OUTLET STRUCTURES WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK. GRATES FOR THE INLET TYPE C (SPECIAL) WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE WORK EMBANKMENT MATERIAL (CIP) WILL BE PAID FOR SEPERATELY WITH ALL OTHER EMBANKMENT ITEMS.

** THE BAFFLES AND PIPE HOODS SHALL BE PAID FOR AS TWO SEPERATE WATER QUALITY PAY ITEMS

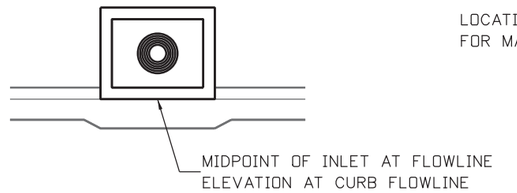
Know what's below. Call before you dig.

1. USE CDOT M&S STANDARDS & DETAILS WHERE APPROPRIATE.
2. INLET REFERENCE POINTS:

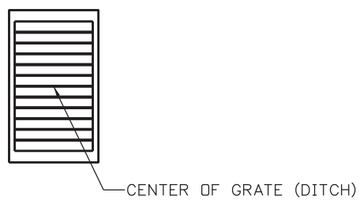
CITY AND COUNTY OF DENVER TYPE 16 INLET



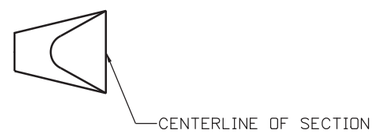
CDOT TYPE R INLET



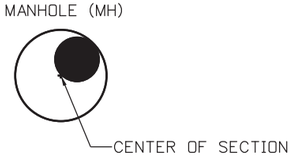
CDOT TYPE D INLET

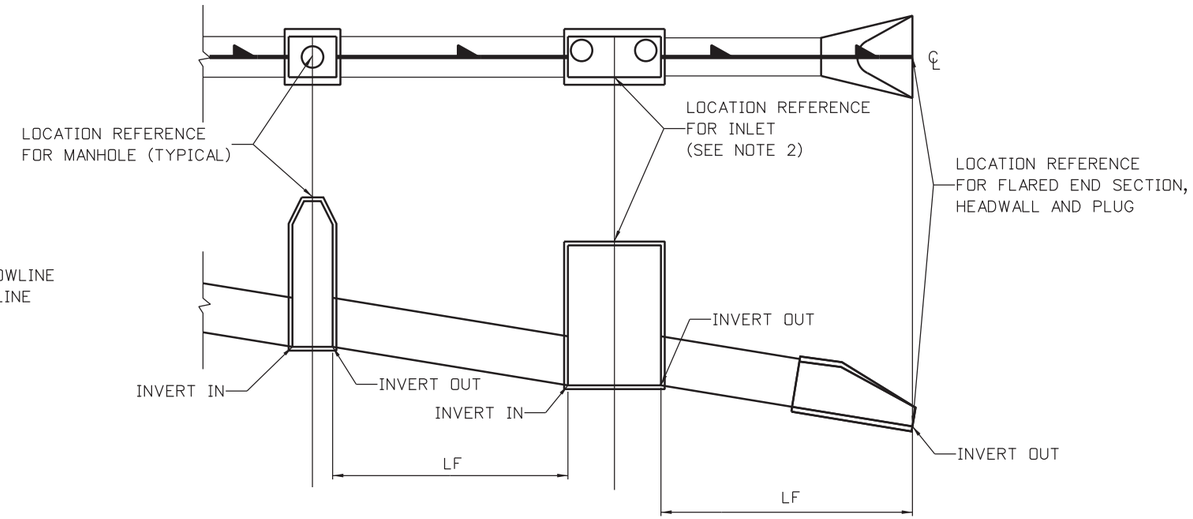


FLARED END SECTION (FES)



MANHOLE (MH)





LF = LINEAR FEET

3. DISCREPANCIES FOUND BETWEEN THE PROJECT PLANS AND THE FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER.
4. STORM DRAINS OR CULVERTS TO BE ABANDONED IN PLACE SHALL BE FILLED WITH FLOW FILL PER CDOT SPECIFICATIONS AND PLUGGED ON BOTH ENDS UNLESS OTHERWISE NOTED ON PLANS.
5. JOINTS FOR ALL CIRCULAR REINFORCED CONCRETE PIPE SHALL BE MADE WITH CONFINED RUBBER GASKETS.
6. ALL MANHOLES TO BE 5' DIAMETER AND SLAB BASE UNLESS OTHERWISE NOTED IN THE PLANS.
7. THE CONTRACTOR SHALL DETERMINE THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
8. ADJUST MANHOLE RING AND COVERS TO MEET THE FINAL GRADE OF THE FINAL ROADWAY PER CDOT STANDARD M-604-20.
9. ALL PIPES TO BE CLASS 3 RCP UNLESS OTHERWISE NOTED IN THE PLANS.

PROPOSED STORM SEWER (FLOW DIRECTION)
PROPOSED DRAINAGE DITCH (FLOW DIRECTION)
EXISTING STORM SEWER (FLOW DIRECTION)
EXISTING DRAINAGE DITCH/SWALE (FLOW DIRECTION)
STREAM FLOW DIRECTION

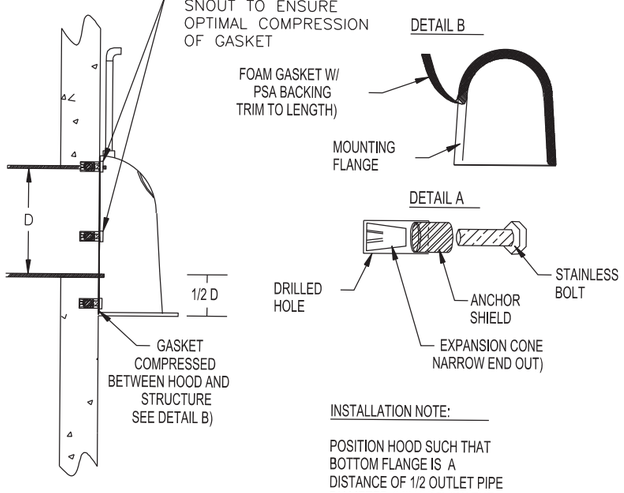
INSPECTION REQUIREMENTS:

1. CONFIGURATION: ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS DRAWN. (SEE CONFIGURATION DETAIL)
2. PIPE COVERAGE: THE SIZE OF THE HOOD SHALL PERMIT THE O.D. OF THE OUTLET PIPE TO BE COVERED COMPLETELY. THE WATER QUALITY DEVICE MUST FIT WITHIN A CDOT TYPE D INLET, CDOT TYPE R INLET, CITY OF BOULDER MANHOLE, AND CITY OF DENVER TYPE 16 INLET.
3. HOOD POSITION: THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO 1/2 THE OUTLET PIPE I.D. WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D. GREATER INSERTION DEPTH IS PERMISSIBLE.
4. ANTI-SIPHON VENT: VENT WITH ELBOW AND FEMALE ADAPTER SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 24" ACCORDING TO STRUCTURE CONFIGURATION.
5. MOUNTING SURFACE PREPARATION: THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL.
6. SNOUT/SRUCTURE INTERFACE: THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8' STAINLESS STEEL BOLTS OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER MUST BE INSTALLED TO PROVIDE PROPER SEAL. (SEE DETAIL "B")
7. ACCESSORIES. IF OIL BOOMS OR FLOW DFFLFCIORS ARE SPECIFIED, THEY MUST BE INSTALLED AND PRESENT FOR INSPECTION.
8. INSTALLATION INSTRUCTIONS: INSTRUCTIONS SHALL BE FURNISHED UPON REQUEST OF INSPECTOR WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
   INSTALLATION KIT SHALL INCLUDE:
   A. INSTALLATION INSTRUCTIONS
   B. PVC ANTI-SIPHON VENT PIPE, FEMALE ADAPTER WITH NUT, O-RING GASKETS
   C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
   D. 3/8" STAINLESS STEEL BOLTS
   E. ANCHOR SHIELDS
   F. STAINLESS NUTS AND BOLTS PLUS GASKET TO SECURE TOP AND BOTTOM OF SNOUT.

NOTES:

CONTRACTOR WILL PROVIDE A SUBMITTAL FOR SNOUT INSTALLED ON EACH MANHOLE AND DROP INLET.

INSTALLATION DETAIL

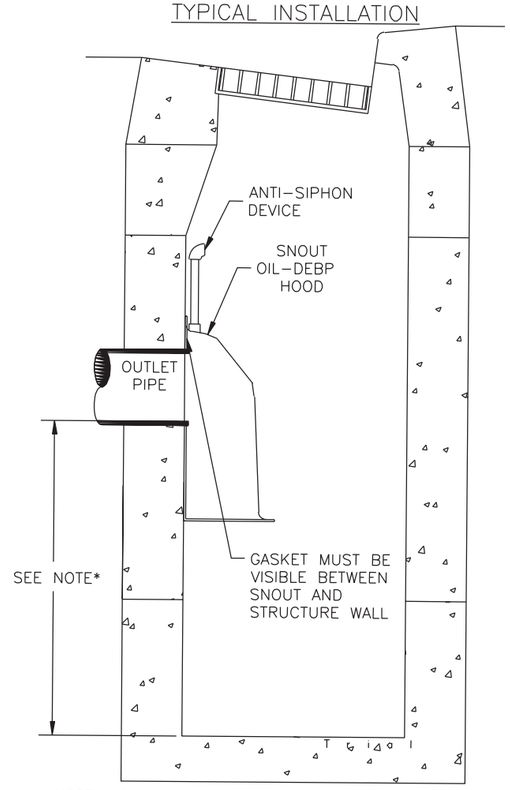


INSTALLATION NOTE:

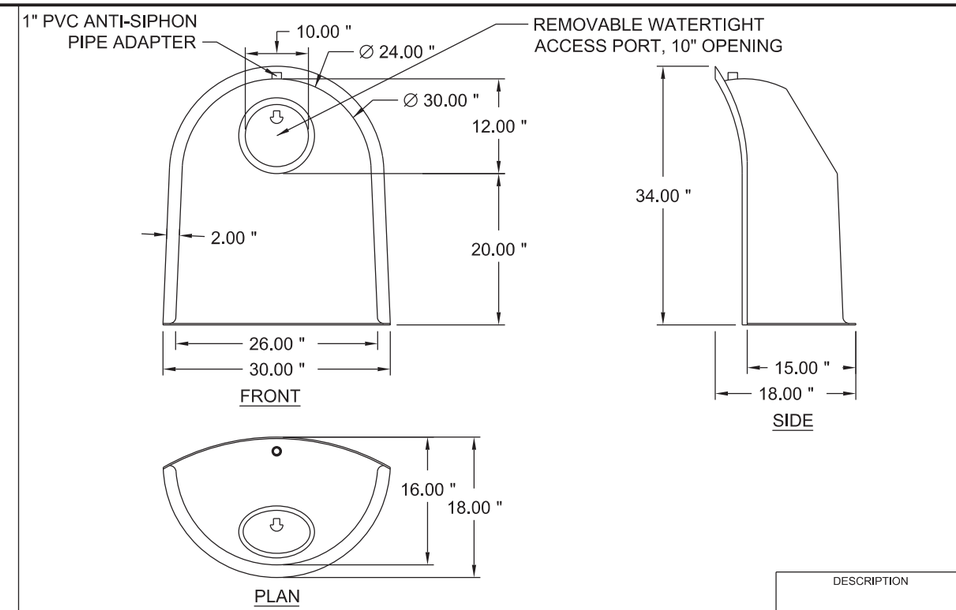
POSITION HOOD SUCH THAT BOTTOM FLANGE IS A DISTANCE OF 1/2 OUTLET PIPE DIAMETER (MIN.) BELOW THE PIPE INVERT. MINUMUM

IS 6".

TYPICAL INSTALLATION

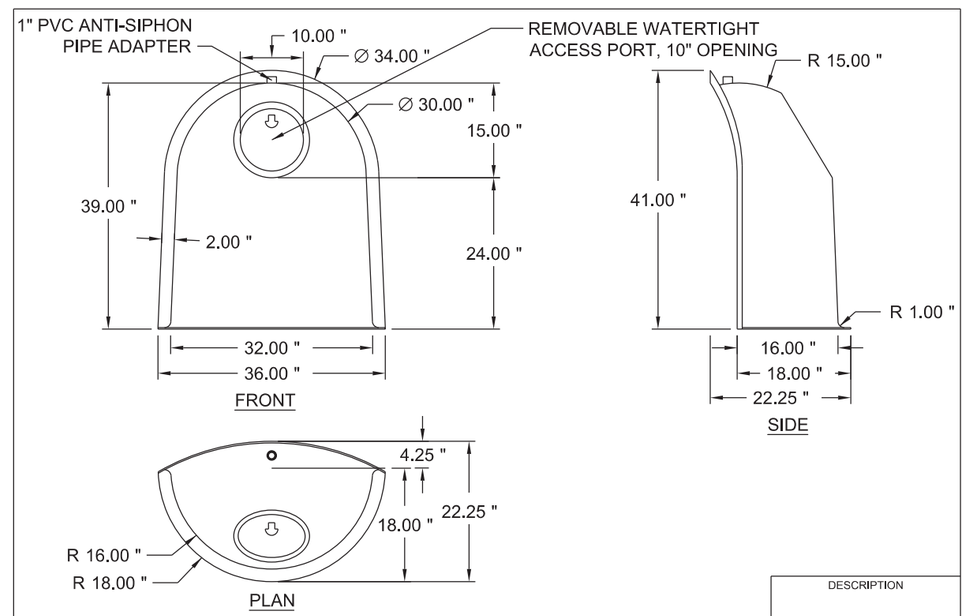


*NOTE- SUMP DEPTH TO BE MIN. OF 2.5 TIMES THE OUTLET PIPE I.D. (E.G. 24" PIPE= 5' SUMP) 3' MIN FOR PIPES 12" I.D. OR LESS.



DESIGNED TO FIT 48"-60" DIAM. STRUCTURES
RECOMMENDED MIN. SUMP DEPTH 2.5 TO 3X OUTLET PIPE I.D.

DESCRIPTION
15" PIPE HOOD



DESIGNED TO FIT 60"-72" DIAM. STRUCTURES
RECOMMENDED MIN. SUMP DEPTH 2.5 TO 3X OUTLET PIPE I.D.

DESCRIPTION
24" PIPE HOOD

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As Constructed	VALMONT ROAD & 29TH STREET DRAINAGE DETAILS			Project No./Code
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Revised:	Designer: SDA	Structure Numbers		SA 19062
	Detailer: SDA			
Void:	Sheet Subset: DRAINAGE	Subset Sheets: 3 of 9		Sheet Number 49

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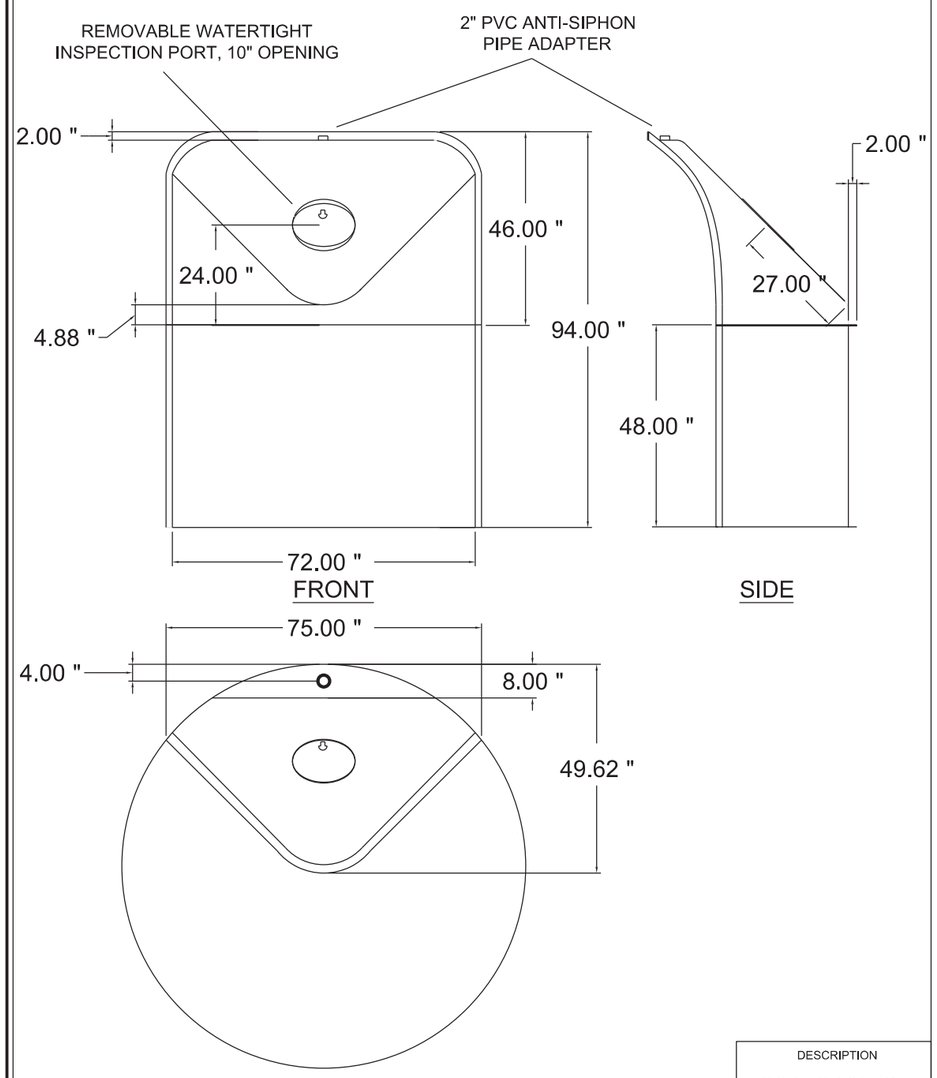
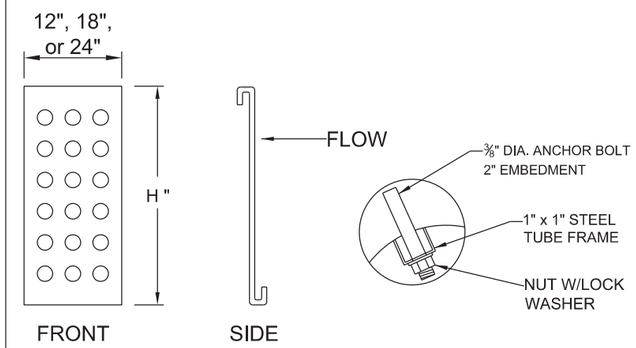


PLAN

NOTE: FITS 96" ID STRUCTURE ONLY
(MIN. SUMP DEPTH 2.5X OUTLET PIPE ID)

DESCRIPTION

HOOD FOR 96" DIAM. WQ STRUCTURE

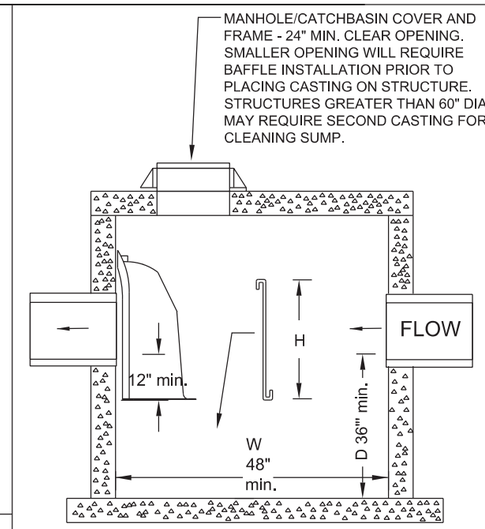


BAFFLE PANEL

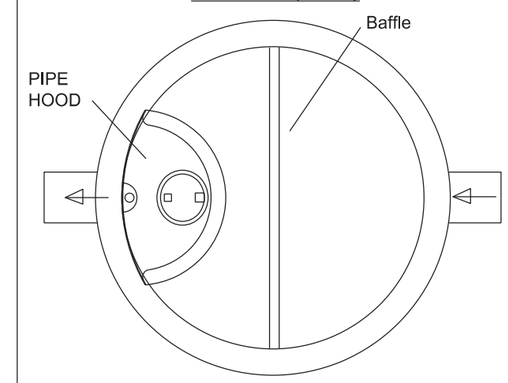
BAFFLE ATTACHMENT BOLT DETAIL

NOTES:

1. ALL BAFFLES SHALL BE CONSTRUCTED OF 11 GUAGE TYPE 304 STAINLESS STEEL MIN.
2. ALL BAFFLES SHALL HAVE A UNIT WIDTH OF 18" OR 24", AND A UNIT DEPTH OF 34", 44", OR 54" MIN. (WITH FRAME DEPTH SHALL BE 36", 46" OR 57")
3. THE SIZE AND POSITION OF THE BAFFLE SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION.
4. THE BOTTOM OF THE BAFFLE SHALL EXTEND DOWNWARD A MINIMUM DISTANCE OF 12" BENEATH OUTLET PIPE INVERT, WITH A MAXIMUM DEPTH OF 45" BENEATH PIPE INVERT.
5. THE BAFFLE SHALL BE INSTALLED PERPENDICULAR TO THE INLET PIPE, OR WITH MULTIPLE INLET PIPES, PERPENDICULAR TO THE CENTER POINT OF ALL INCOMING PIPES.
6. THE SURFACE OF THE STRUCTURE WHERE THE BAFFLE IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL. THE OUTLET AND INLET PIPES SHALL BE FINISHED FLUSH TO THE STRUCTURE WALL.
7. ALL STRUCTURE JOINTS SHALL BE SEALED AND STRUCTURE SHALL BE WATERTIGHT.
8. THE BAFFLE SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8' STAINLESS STEEL BOLTS WITH ANCHORS EMBEDDED 2" INTO STRUCTURE WALL AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT. INSTALLATION KIT SHALL INCLUDE:
   A. INSTALLATION INSTRUCTIONS
   B. BAFFLE PANELS
   C. 1"X1" SQUARE TUBULAR STAINLESS STEEL FRAME
   D. ⅞"X⅞" SQUARE TUBULAR STAINLESS STEEL FRAME CONNECTORS
   D. 3/8" STAINLESS STEEL BOLTS
   E. ANCHOR SHIELDS



BAFFLE INSTALLATION DETAIL (TYP)



BAFFLE INSTALLATION

DETAIL (TYP)
BAFFLE
SPECIFICATION FOR
WATER QUALITY STRUCTURES

DESCRIPTION

SEDIMENT BAFFLE
SPECIFICATION AND INSTALLATION
(TYPICAL)

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VALMONT ROAD & 29TH STREET DRAINAGE DETAILS

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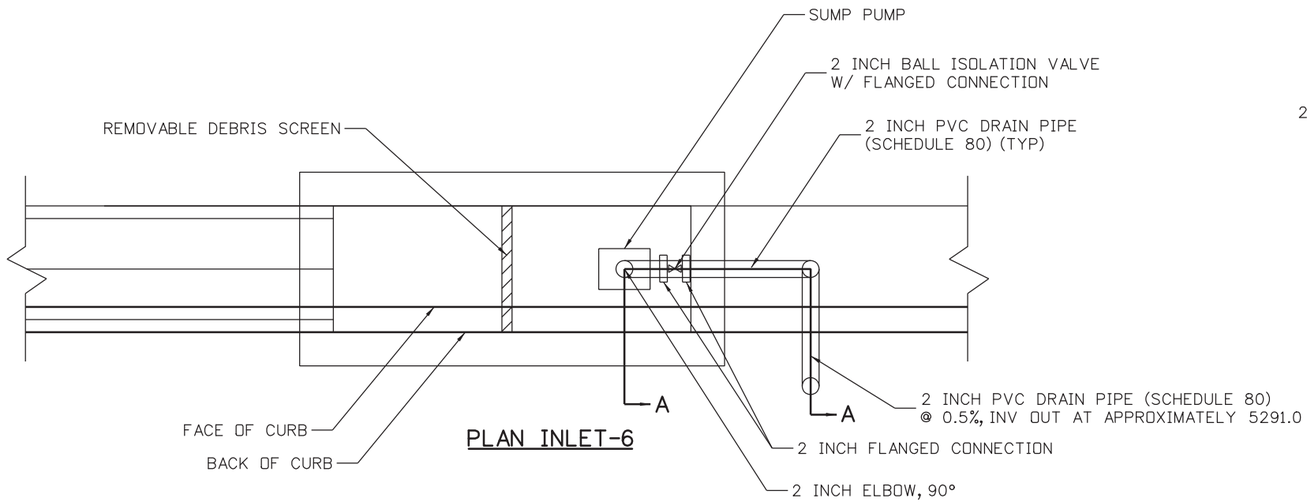
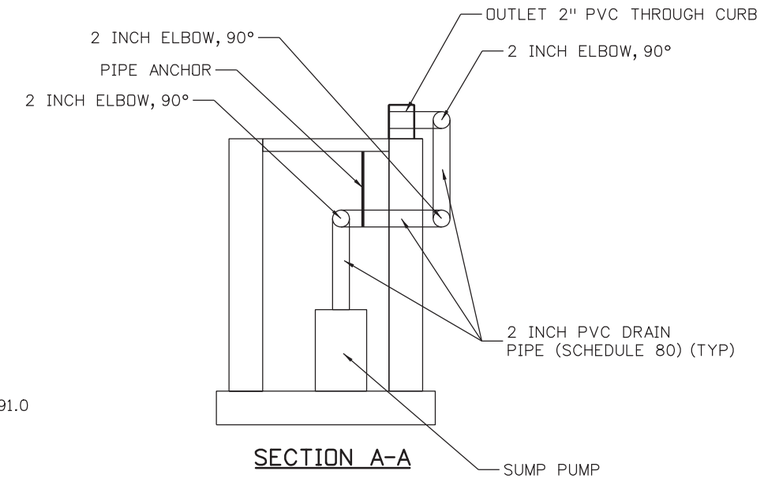
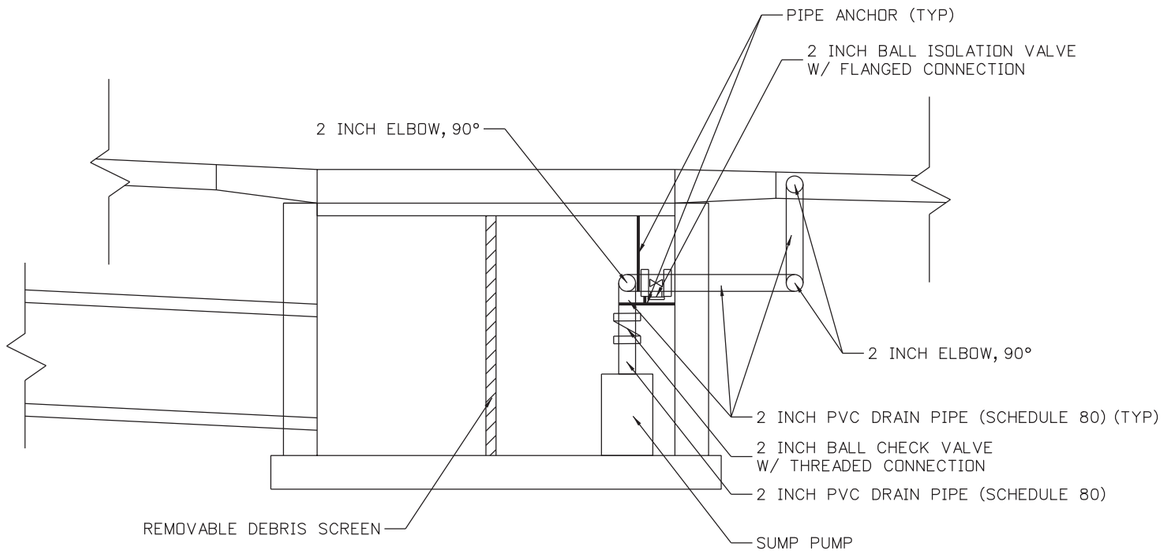


PLAN INLET-6



SECTION A-A



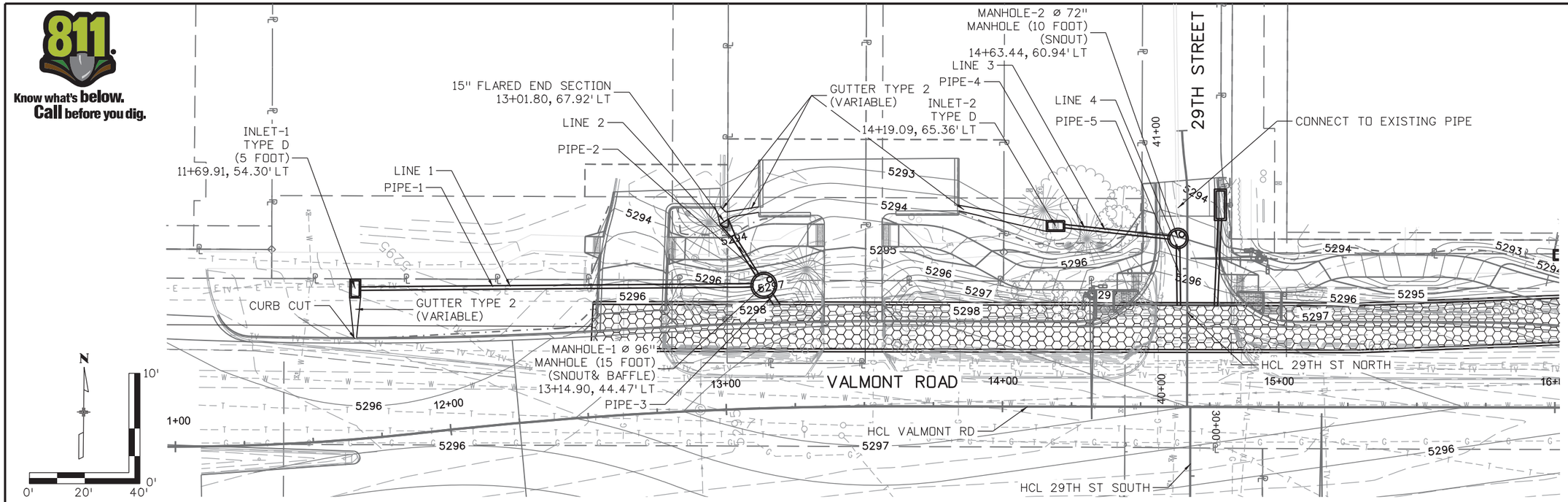
ELEVATION INLET-6

SUMP PUMP FLOAT FUNCTION

FLOAT DESIGNATIONS	POSITION
SUMP PUMP ON	UP
PUMP OFF	DOWN

NOTES:

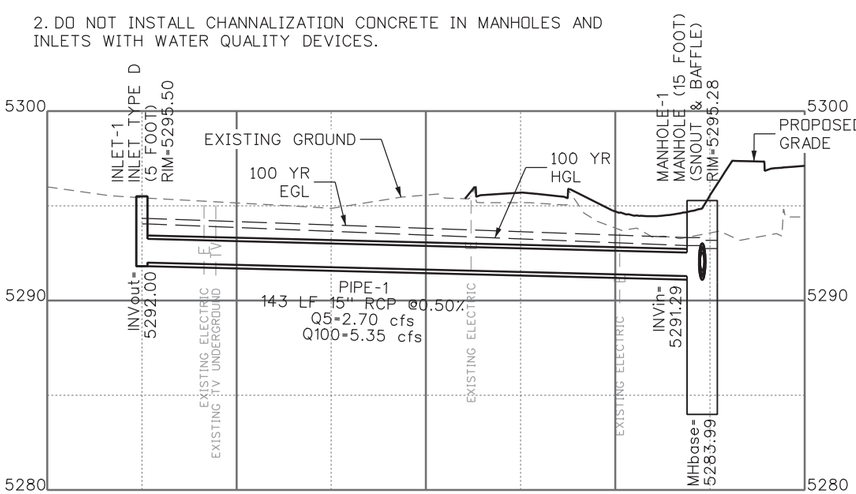
1. SEE PROJECT SPECIAL PROVISIONS FOR PUMP REQUIREMENTS.
2. REMOVABLE OR HINGED DEBRIS SCREEN WITH ¾" X 1½" (MAX) ALUMINUM EXPANDED METAL DIAMOND SCREEN TO BE 1½" (MAX) BELOW INLET GRATE AND FRAME. FRAME WITH ALUMINUM OR HOT DIPPED GALVANIZED STEEL L 1½" X 1½ X ¼" WITH CROSS MEMBER AT MID-HEIGHT. INSTALL L 1½" X 1½ X ¼" SUPPORT CLIPS AT 2-FOOT MAX SPACING ON SIDES. FASTEN FRAME TO CLIPS AT TWO POINTS EACH SIDE.



NOTES:

1. ALL PIPES EXTENDING INTO THE CONCRETE BOX CULVERT SHALL BE FLUSH WITH THE INSIDE OF WALL. REINFORCED CONCRETE PIPE SHALL BE CUT ON A SKEW, INCLUDED IN THE COST OF WORK.

2. DO NOT INSTALL CHANNALIZATION CONCRETE IN MANHOLES AND INLETS WITH WATER QUALITY DEVICES.



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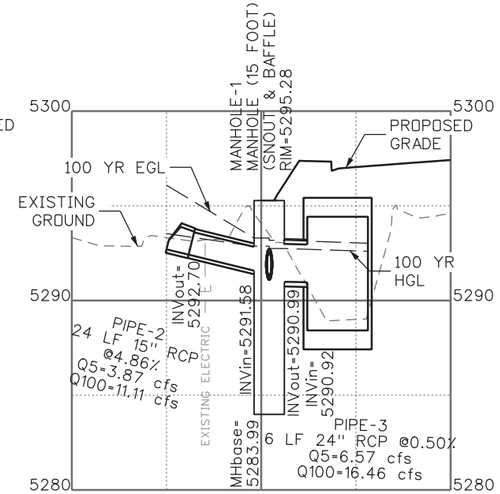

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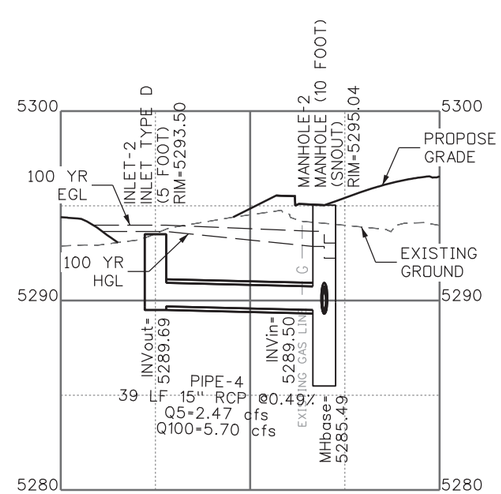

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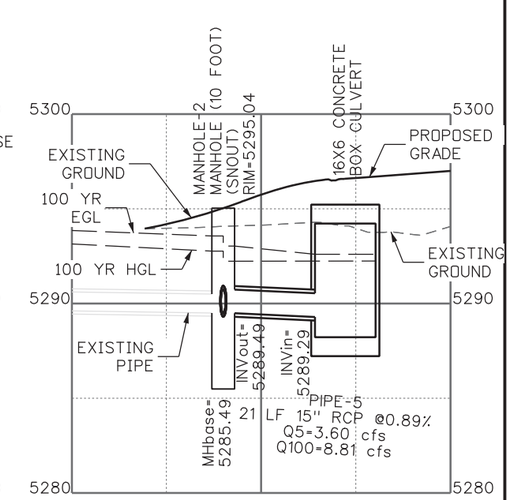

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Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

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Revised:
Void:

VALMONT ROAD & 29TH STREET
DRAINAGE PLAN AND PROFILE
LINE 1, 2, 3, AND 4

Designer: L. STATEN
Detailer: J. MCPHAUL
Sheet Subset: DRAINAGE
Structure Numbers
Subset Sheets: 6 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 52

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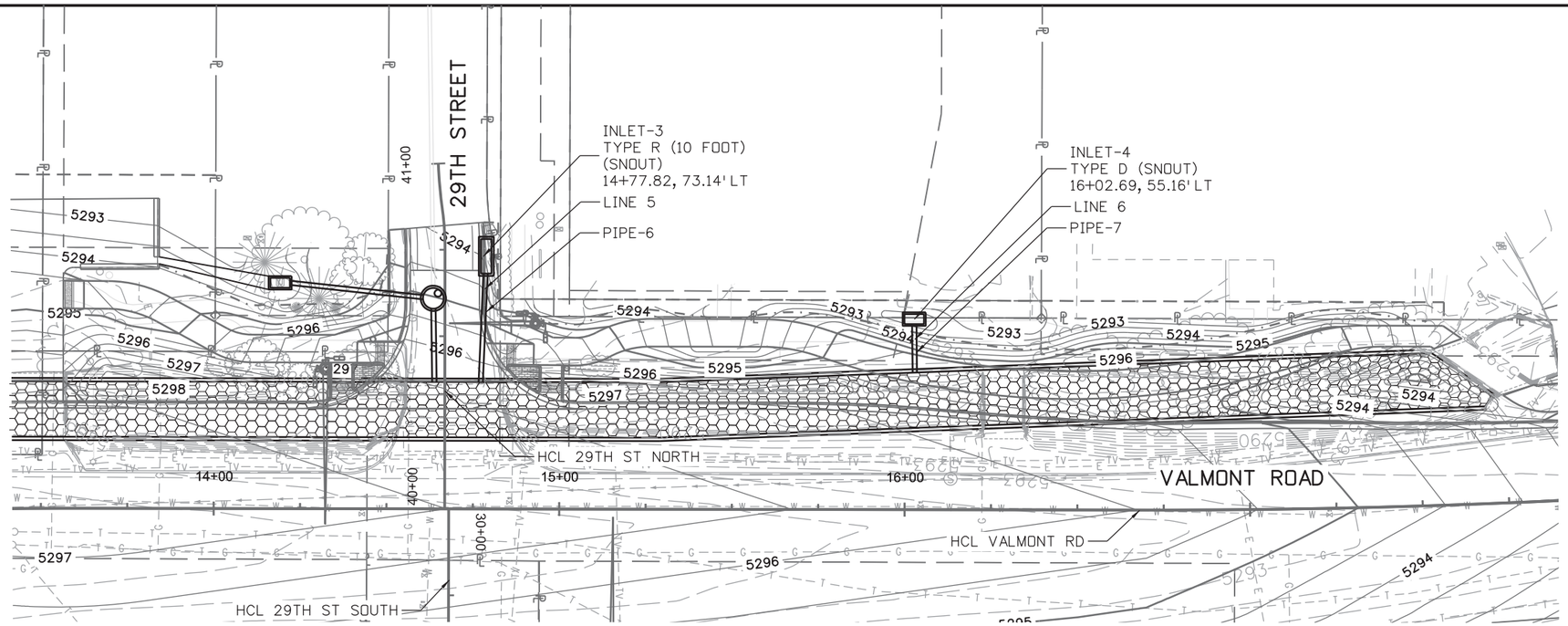
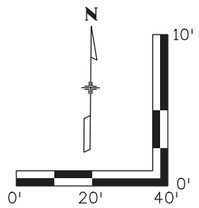
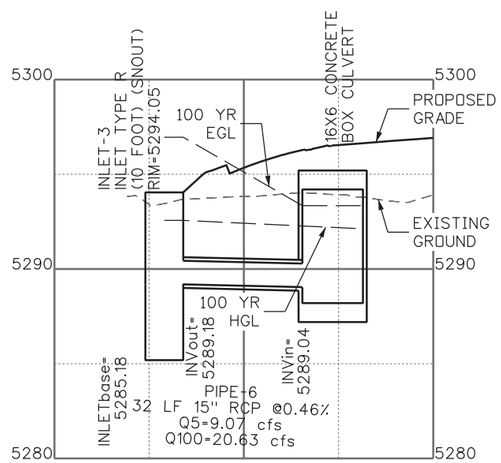




NOTES:

1. ALL PIPES EXTENDING INTO THE CONCRETE BOX CULVERT SHALL BE FLUSH WITH THE INSIDE OF WALL. REINFORCED CONCRETE PIPE SHALL BE CUT ON A SKEW, INCLUDED IN THE COST OF WORK.

2. DO NOT INSTALL CHANNALIZATION CONCRETE IN MANHOLES AND INLETS WITH WATER QUALITY DEVICES.



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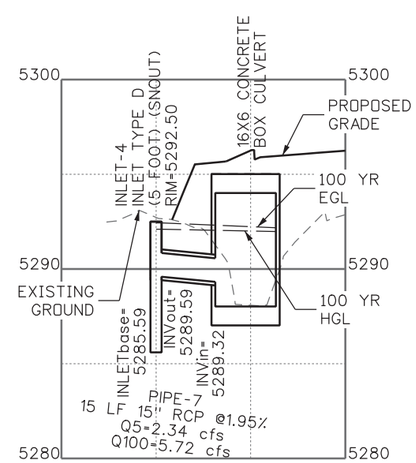

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No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
DRAINAGE PLAN AND PROFILE
LINE 5 AND 6

Designer: L. STATEN
Detailer: J. MCPHAUL
Sheet Subset: DRAINAGE
Structure Numbers
Subset Sheets: 7 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 53

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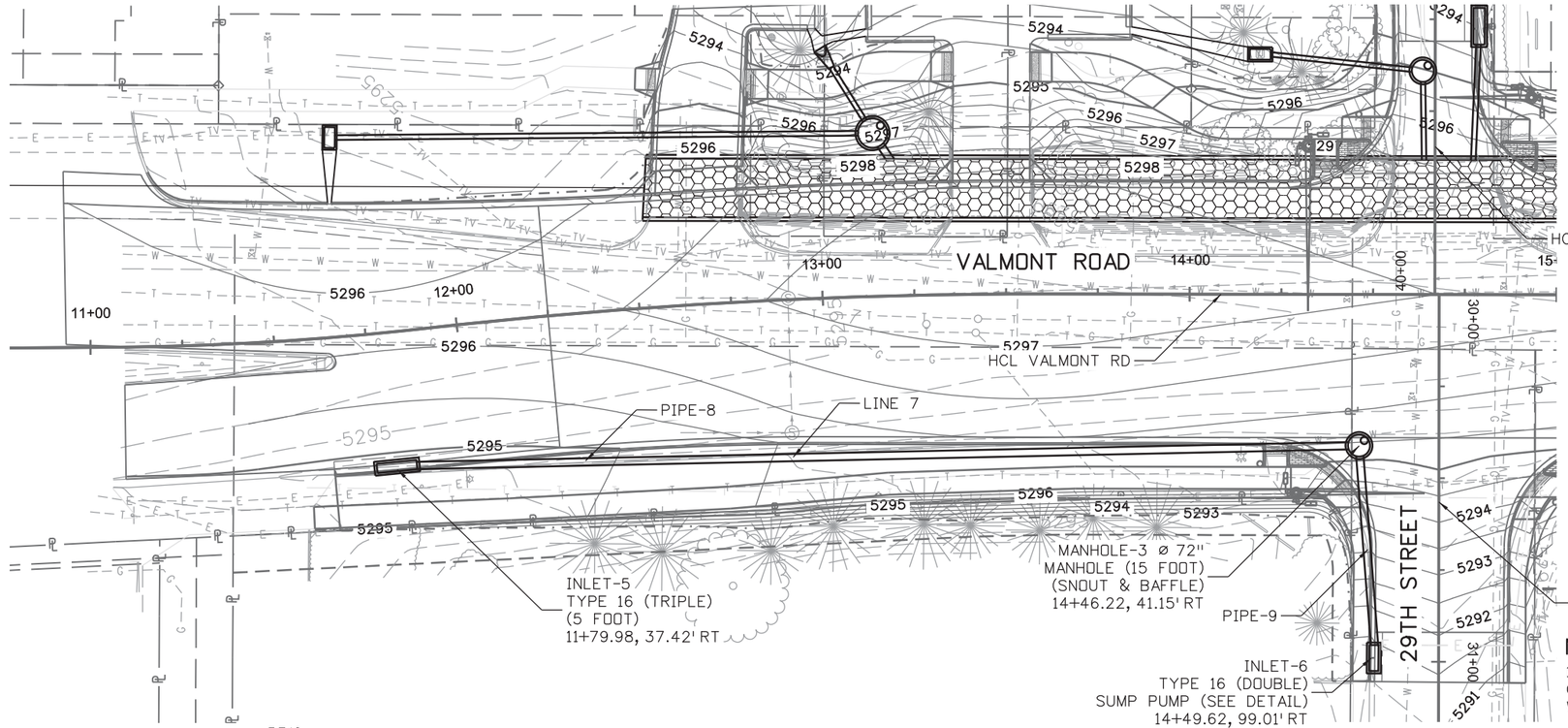
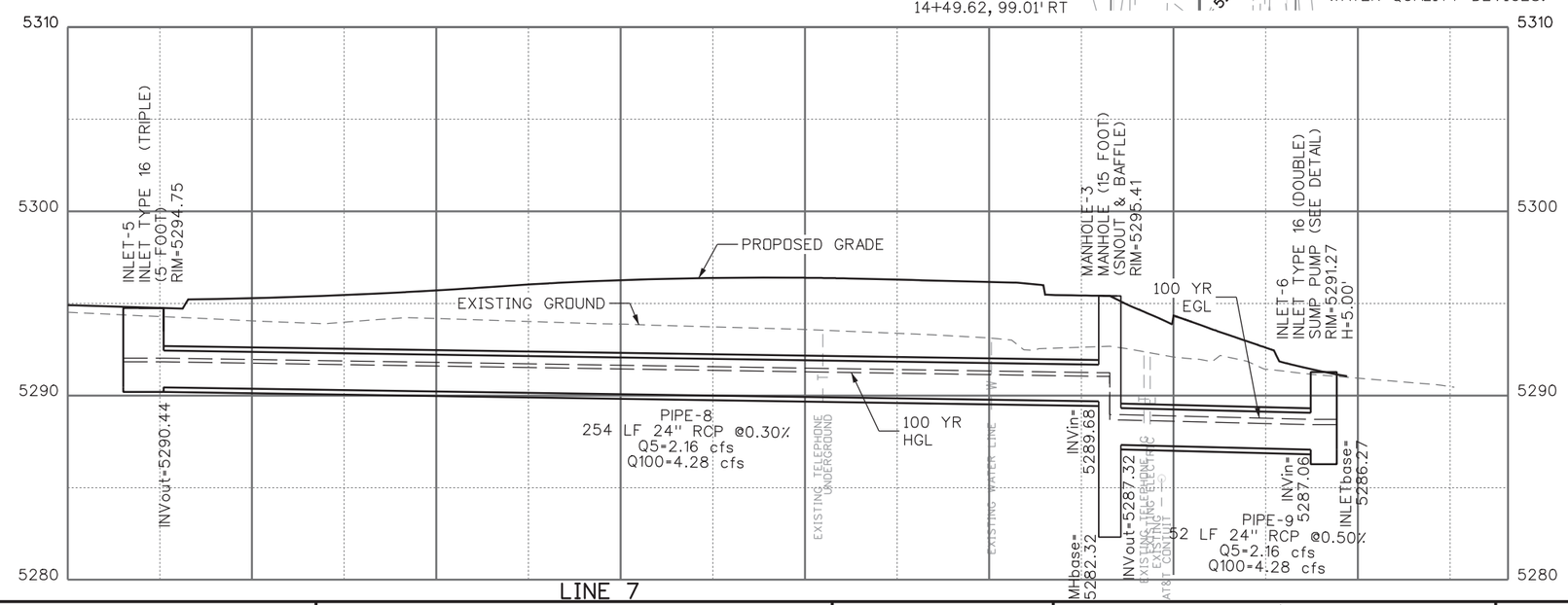
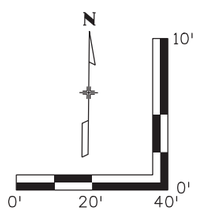


NOTES:

1. DO NOT INSTALL CHANNELIZATION CONCRETE IN MANHOLES OR INLETS WITH WATER QUALITY DEVICES.





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No Revisions:
Revised:
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VALMONT ROAD & 29TH STREET DRAINAGE PLAN AND PROFILE LINE 7

Designer:	L. STATEN	Structure Numbers	
Detailer:	J. MCPHAUL		
Sheet Subset:	DRAINAGE	Subset Sheets:	8 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 54

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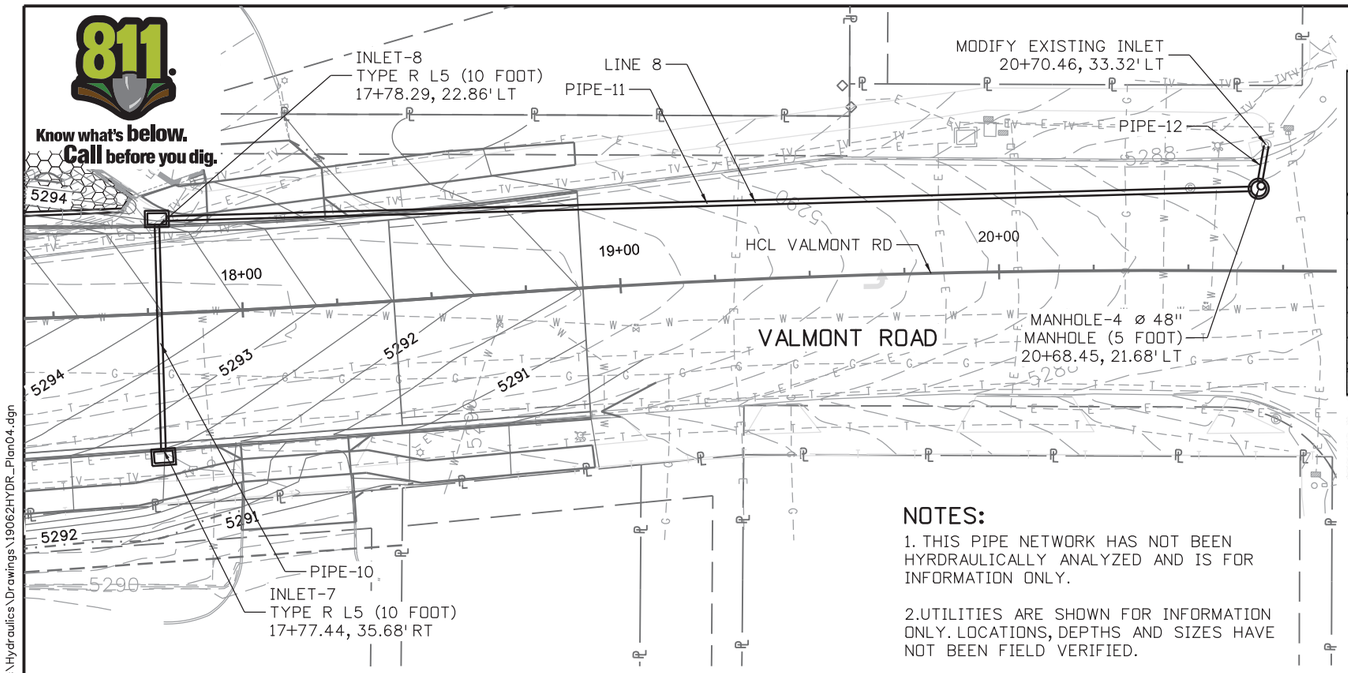
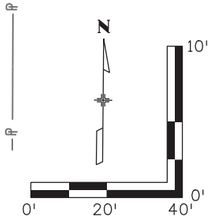


NOTES:

1. THIS PIPE NETWORK HAS NOT BEEN HYRDRAULICALLY ANALYZED AND IS FOR INFORMATION ONLY.

2. UTILITIES ARE SHOWN FOR INFORMATION ONLY. LOCATIONS, DEPTHS AND SIZES HAVE NOT BEEN FIELD VERIFIED.



TABULATION OF MINOR DRAINAGE STUCTURES

STRUCTURE ID	STATION / LOCATION	SIDE	202 Removal of Asphalt Mat	208 Aggregate Bag	210 Modify Inlet	304 Aggregate Base Course (RAP)	403 Hot Mix Asphalt (Patching) (Asphalt)	603 15 In RCP (CIP)	604 nlet Type R L 5 (10 Foot)	604 Manhole Slab Base (5 Foot)	REMARKS
			SY	LF	EACH	CY	TON	LF	EACH	EACH	
LINE8											
INLET-7	17+77.44	RT		10					1		
PIPE-10		LT/RT						60			
INLET-8	17+78.29	LT		10					1		
PIPE-11		LT	151			34	58	287			
MANHOLE-4	20+68.45	LT								1	
PIPE-12		LT			1			10			
PROJECT TOTALS			151	20	1	34	58	357	2	1	

* STRUCTURE EXCAVATION, STRUCTURE BACKFILL, UNCLASSIFIED EXCAVATION, PIPE BEDDING, AND GEOTEXTILE REQUIRED FOR ALL STORM SEWER PIPES, MANHOLES, INLETS, AND OUTLET STRUCTURES WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK. GRATES FOR THE INLET TYPE C (SPECIAL) WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE WORK. EMBANKMENT MATERIAL (CIP) WILL BE PAID FOR SEPERATELY WITH ALL OTHER EMBANKMENT ITEMS.

LINE 8

Print Date: 4/2_, 20_	Sheet Revisions	As Constructed	VALMONT ROAD & 29TH STREET DRAINAGE PLAN AND PROFILE LINE 8
File Name: 19062HYDR_Plan04.dgn	Date: / Comments / Init.	No Revisions:	Designer: L. STATEN
Horiz. Scale: 1:40 Vert. Scale: As Noted		Revised:	Detailer: J. MCPHAUL
		Void:	Sheet Subset: DRAINAGE

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SA 19062
Sheet Number 55

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GENERAL NOTES

EXCEPT AS SHOWN IN THE PLANS, STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH M-206-1 FOR CONCRETE BOX CULVERTS.

STRUCTURE EXCAVATION AND BACKFILL SHALL BE AS SHOWN ON THE PLANS, EXCEPT SHORING MAY BE REQUIRED FOR EXCAVATION ADJACENT TO THE EXISTING ROADWAY. TEMPORARY EXCAVATION SUPPORT SHALL BE PAID FOR BY ITEM 206 SHORING.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M213.

GRADE 60 REINFORCING STEEL IS REQUIRED.

ALL REINFORCING STEEL SHALL BE NON COATED UNLESS OTHERWISE NOTED.

(E) DENOTES EPOXY COATED REINFORCING STEEL.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR EPOXY COATED REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER OR LESS THAN 3" OF LATERAL COVER.

BAR SIZE:	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH FOR CLASS D CONCRETE:	1'-3"	1'-7"	2'-5"	2'-10"	3'-8"	4'-8"	5'-11"	7'-3"

WHEN THE CONTRACTOR ELECTS TO SUBSTITUTE EPOXY COATED REINFORCEMENT FOR BLACK REINFORCING BARS, THE MINIMUM LAP SPLICE SHALL BE AS DESCRIBED ABOVE.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR BLACK REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER OR LESS THAN 3" OF LATERAL COVER.

BAR SIZE:	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH FOR CLASS D CONCRETE:	1'-1"	1'-4"	1'-7"	1'-11"	2'-6"	3'-1"	3'-11"	4'-10"

THE ABOVE SPLICE LENGTHS SHALL BE INCREASED BY 20% FOR 3 BAR BUNDLES AND 33% FOR 4 BAR BUNDLES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

E.F. = EACH FACE
F.F. = FRONT FACE
B.F. = BACK FACE

FOR STRUCTURE NUMBER INSTALLATION, SEE STANDARD S-614-12.

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

ALL LONGITUDINAL AND TRANSVERSE DIMENSIONS ARE MEASURED HORIZONTALLY AND INCLUDE NO CORRECTION FOR GRADE.

THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 (1-800-922-1987) AT LEAST 3 DAYS (2 DAYS NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNITS	QUANTITY
202	REMOVAL OF PORTIONS OF PRESENT STRUCTURE	LS	1
206	STRUCTURE EXCAVATION	CY	2176
206	STRUCTURE BACKFILL (FLOW-FILL)	CY	555
206	STRUCTURE BACKFILL (CLASS 1)	CY	382
206	SHORING (AREA 1)	LS	1
206	SHORING (AREA 2)	LS	1
601	CONCRETE CLASS D (BOX CULVERT)	CY	911
602	REINFORCING STEEL	LB	191306
602	REINFORCING STEEL (EPOXY COATED)	LB	199460

INDEX OF DRAWINGS

SHEET NO.	TITLE
C1	BOX CULVERT GENERAL NOTES
C2	BOX CULVERT GENERAL LAYOUT
C3	BOX CULVERT DETAILS (1 OF 2)
C4	BOX CULVERT DETAILS (2 OF 2)

DESIGN DATA

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SEVENTH EDITION WITH CURRENT INTERIMS

DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN

LIVE LOAD: HL-93 (DESIGN TRUCK OR TANDEM, AND COLORADO PERMIT TRUCK)

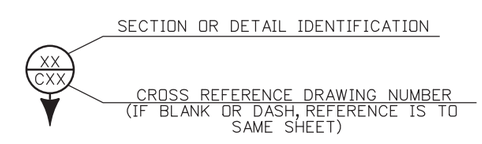
DEAD LOAD:
CONCRETE = 150 PCF
VERTICAL SOIL = 135 PCF
HORIZONTAL SOIL = 30 PCF MIN
HORIZONTAL SOIL = 60 PCF MAX

REINFORCED CONCRETE:

CLASS D CONCRETE: f'c = 4,500 PSI
REINFORCING STEEL: fy = 60,000 PSI

BRIDGE DESCRIPTION

SINGLE CELL (16'-0" X 6'-0" X 512') CONCRETE BOX CULVERT, PARALLEL TO ROADWAY WITH MINOR CROSSINGS FOR DRIVEWAYS AND 29TH STREET,
NO BRIDGE RAIL MOUNTED ON THE BOX CULVERT



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	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By			Detailed By			Quantities By		
Checked By			Checked By			Checked By		

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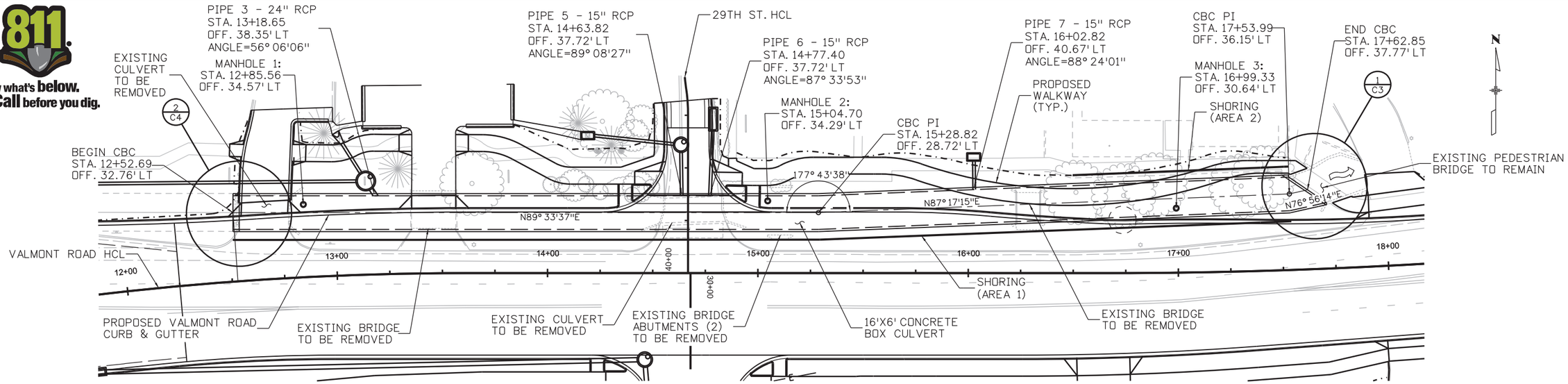
VALMONT ROAD & 29TH STREET
BOX CULVERT
GENERAL NOTES

Designer: J. ROBERTS
Detailer: V.LUERA
Sheet Subset: CULVERT
Structure Numbers
Subset Sheets: C1 of C4

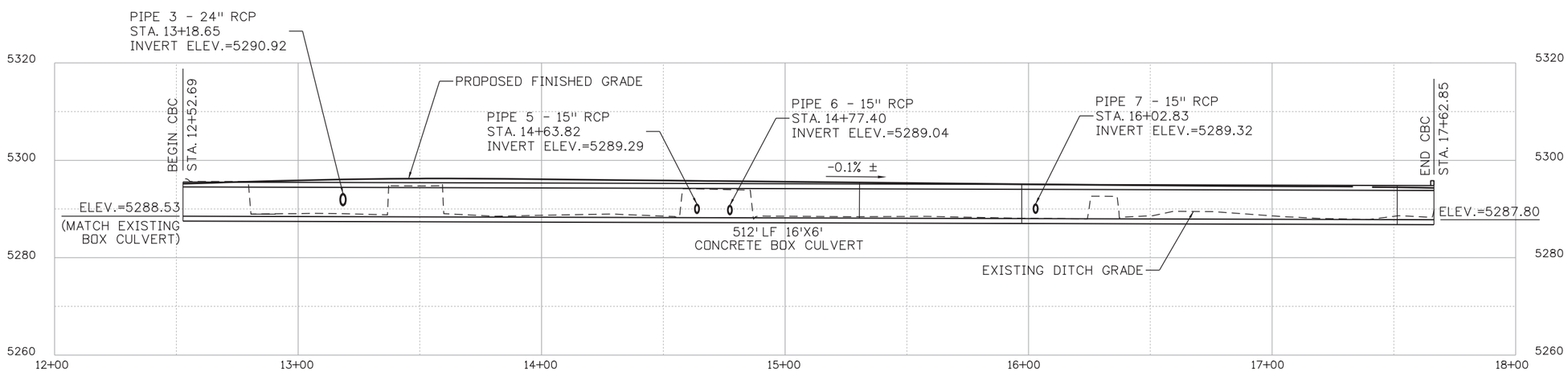
Project No./Code
SHO M110-084
SA 19062
Sheet Number 56



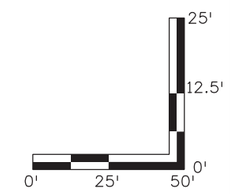
PLAN

NOTES:

TRASH RACK TO BE INSTALLED AT THE INLET TO THE 16'X6' CONCRTE BOX CULVERT LOCATED AT THE SOUTHWEST CORNER OF THE INTERSECTION OF VALMONT ROAD AND 28TH STREET. TRASH RACK DETAIL TO BE SUBMITTED TO DITCH COMPANY FOR APPROVAL PRIOR TO CONSTRUCTION.



ELEVATION



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Designed By			Detailed By			Quantities By		
Checked By			Checked By			Checked By		

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VALMONT ROAD & 29TH STREET
BOX CULVERT
GENERAL LAYOUT

Designer: J. ROBERTS
Detailer: V. LUERA
Sheet Subset: CULVERT
Structure Numbers
Subset Sheets: C2 of C4

Project No./Code
SHO M110-084
SA 19062
Sheet Number 57

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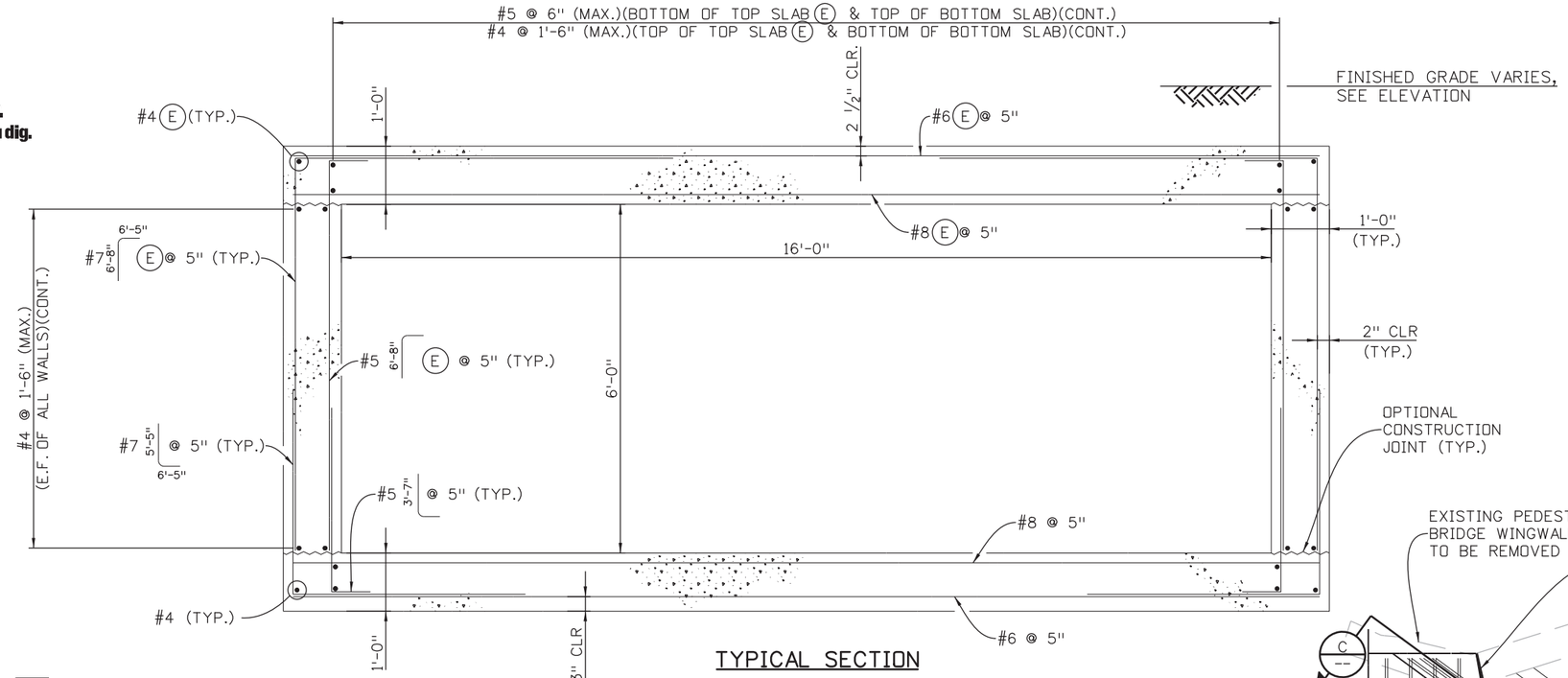
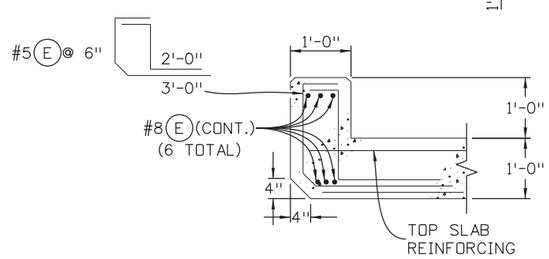
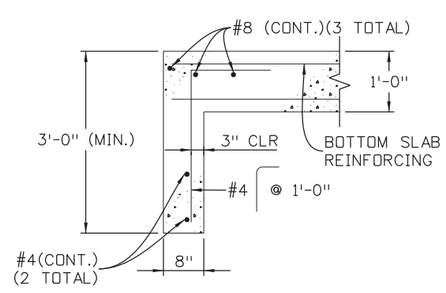
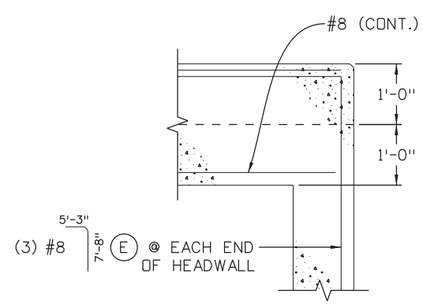


TYPICAL SECTION





SECTION A-A



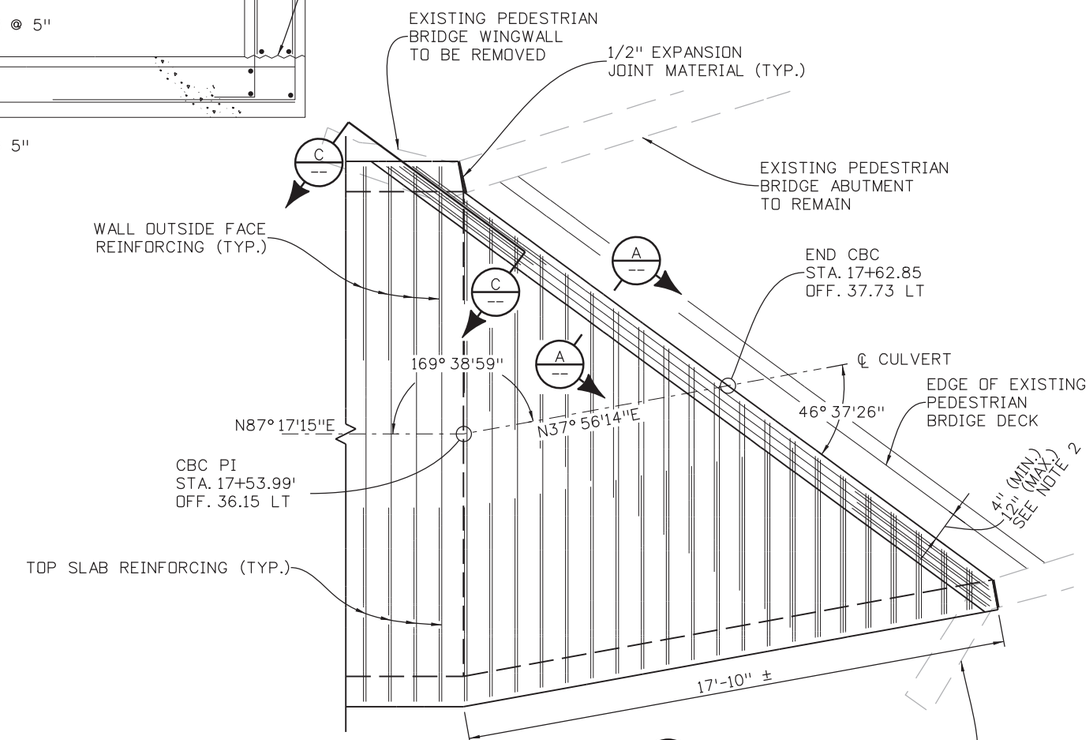
SECTION C-C

NOTES:

1. PLACE 1/2" EXPANSION JOINT MATERIAL BETWEEN EXISTING ABUTMENT AND CULVERT WALL. NAIL TO EXISTING ABUTMENT.

2. END OF CULVERT SHALL BE ADJUSTED TO PROVIDE A GAP BETWEEN THE HEADWALL AND EXISTING PEDESTRIAN BRIDGE DECK BETWEEN 4" AND 12".

3. ALL REINFORCING IN THE TOP SLAB SHALL BE EPOXY COATED.



DETAIL 1/C2
(EAST END CONCRETE BOX CULVERT)

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By			Detailed By			Quantities By		
Checked By			Checked By			Checked By		

pw:\\PWAPPDMA001:NorthCentral_Omaha\Documents\00928\000000002474026.0_CAD_BIM\6.2_Work_In_Progress\Bridge\Drawings\19062BRDG_Culvert Details (1 of 2).dgn

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Horiz. Scale: 1:40 Vert. Scale: As Noted

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Sheet Revisions		
Date:	Comments	Init.

City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

As Constructed
No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET
BOX CULVERT
DETAILS (1 OF 2)

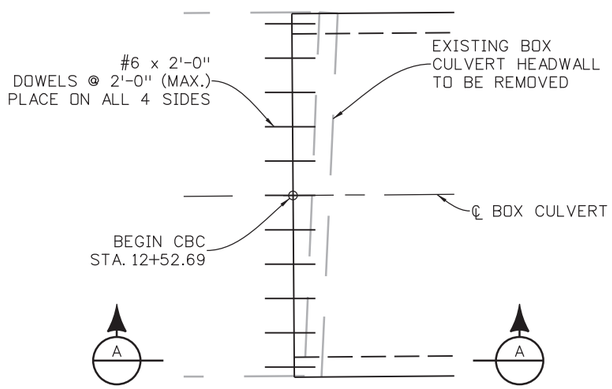
Designer:	J. ROBERTS	Structure Numbers	
Detailer:	V. LUERA		
Sheet Subset:	CULVERT	Subset Sheets:	C3 of C4

Project No./Code
SHO M110-084
SA 19062
Sheet Number 58

Know what's below. Call before you dig.

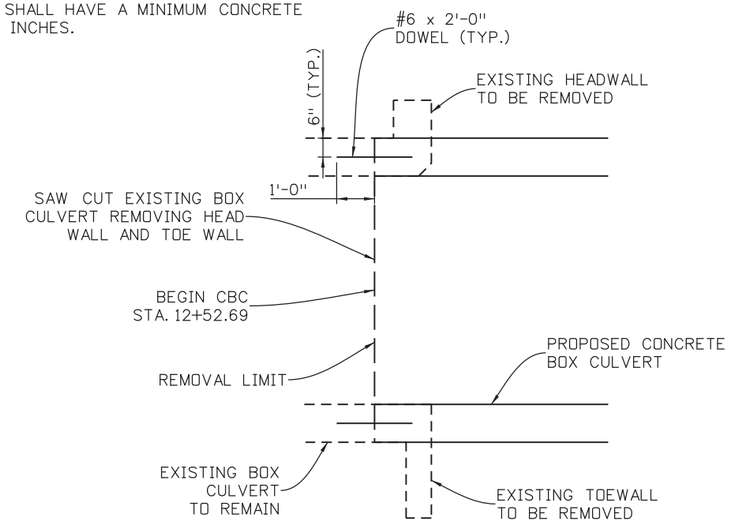
NOTES:

1. MANHOLE RING AND COVER SHALL BE PER CDOT M&S STANDARD PLAN NO. M-604-20 WITH THE USE OF GRADE RINGS OR BRICK COURSES AS NEEDED.
2. DRILL AND EPOXY DOWELS INTO EXISTING CONCRETE BOX CULVERT WITH APPROVED EPOXY.
3. SCUPPER APRON SHALL HAVE A MINIMUM CONCRETE THICKNESS OF 6 INCHES.
4. ALL SCUPPER APRON REINFORCING SHALL BE VERTICALLY CENTERED IN THE CONCRETE APRON.
5. SCUPPER APRON REINFORCING (EXCEPT THE DIAGONAL BARS) MAY BE REPLACED WITH WELDED WIRE FABRIC (MINIMUM 4"X4" D8 FABRIC).

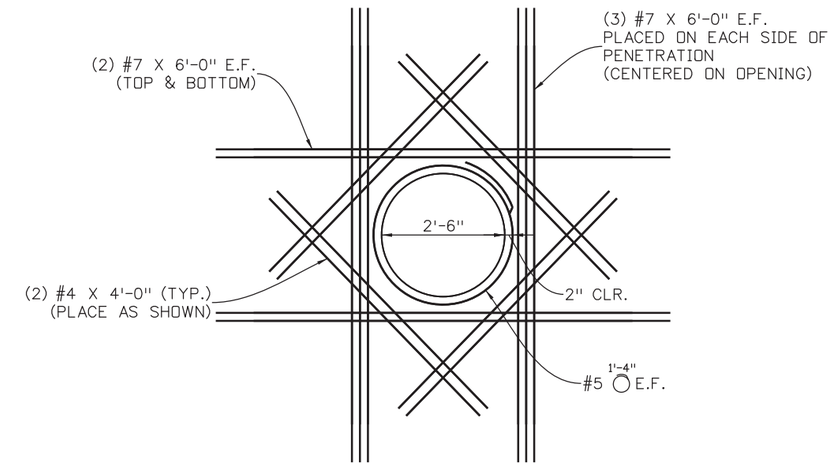


DETAIL 2/C2

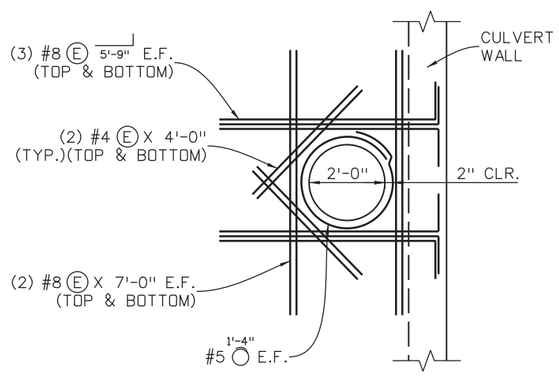
(WEST END CONCRETE BOX CULVERT)



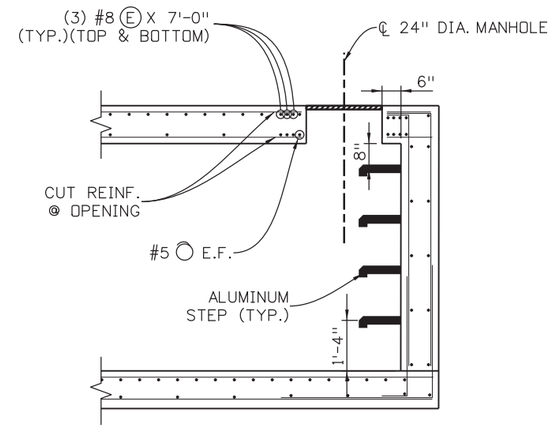
SECTION A-A



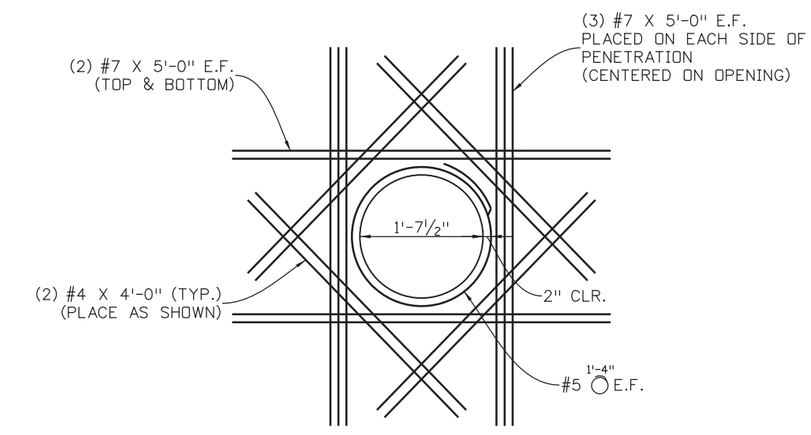
PIPE 1 - 24" ø RCP
PENETRATION DETAIL



MANHOLE OPENING PLAN



MANHOLE OPENING SECTION



PIPES 2, 3, & 4 - 15" ø RCP
PENETRATION DETAIL

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By			Detailed By			Quantities By		
Checked By			Checked By			Checked By		

pw:\\PWAPPDMA001:North\Central_Omaha\Documents\009281\000000000247402\6.0_CAD_BIM\6.2_Work_In_Progress\Bridge\Drawings\19062BRDG_Culvert Details (2 of 2) - drainage alt.dgn

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Print Date: 4/22/2016
File Name: 19062BRDG_Culvert Details (2 of 2) - drainage alt.dgn
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VALMONT ROAD & 29TH STREET
BOX CULVERT
DETAILS (2 OF 2)

Designer:	J. ROBERTS	Structure Numbers	
Detailer:	V. LUERA		
Sheet Subset:	CULVERT	Subset Sheets:	C4 of C4

Project No./Code
SHO M110-084
SA 19062
Sheet Number 59

TRAFFIC SIGNAL NOTES:

1. TRAFFIC SIGNAL MATERIALS AND INSTALLATION SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (AND CURRENT REVISIONS) COLORADO DEPARTMENT OF TRANSPORTATION, 2011; THE M & S STANDARDS (COLORADO DEPARTMENT OF TRANSPORTATION, JULY 2012) 614-40 STANDARD; THE "NATIONAL ELECTRIC CODE"; CITY OF BOULDER STANDARD SPECIFICATIONS FOR TRAFFIC SIGNAL MATERIALS AND INSTALLATION (REV. APRIL 2012), EXCEPT AS NOTED ON THESE PLANS OR SPECIAL PROVISIONS. ALL TRAFFIC CONTROL DEVICES FURNISHED AND INSTALLED ON THIS PROJECT SHALL COMPLY WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (FEDERAL HIGHWAY ADMINISTRATION, 2009).

2. THIS PLAN REPRESENTS A SCHEMATIC ONLY AND ALL ITEM LOCATIONS ARE APPROXIMATE. EXACT PLACEMENT SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

3. NO EXCAVATION SHALL BE PERMITTED UNTIL UNDERGROUND UTILITIES HAVE BEEN LOCATED TO THE SATISFACTION OF ALL PARTIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL AERIAL AND UNDERGROUND UTILITIES. CONTACT THE COLORADO 811 TO HAVE LOCATIONS OF REGISTERED LINES MARKED BY MEMBERS COMPANIES. CALLS ORIGINATING OUTSIDE THE DENVER AREA USE 1-800-922-1987. ALL OTHER UTILITIES SHALL BE LOCATED BY CONTACTING THE RESPECTIVE COMPANY. LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND NOT ALL UTILITIES ARE NECESSARILY SHOWN. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY THE CONTRACTOR'S FAILURE TO LOCATE AND PRESERVE EXISTING UTILITIES. LOCATIONS OF FOUNDATIONS FOR TRAFFIC SIGNAL POLES SHALL BE POTHOLED FOR EXISTING UTILITIES BEFORE INSTALLATION AND ADJUSTED BY THE ENGINEER IN THE FIELD IF NECESSARY.

4. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS FROM THE CITY OF BOULDER BEFORE COMMENCING WORK. CONTACT TRENT FALLICA, CITY OF BOULDER SIGNAL TECHNICIAN (303)-829-6503/DISPATCH (303)-413-7103.

5. MICROWAVE VEHICLE RADAR DETECTION EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

6. THE CONTRACTOR SHALL INSTALL THE MODEL 722 OPTICOM DETECTOR WHERE NOTED.

7. ALL CONDUITS SHALL HAVE A MULE TAPE LEFT IN THEM WHEN CONSTRUCTION IS COMPLETED. ALL OTHER CONDUIT WILL BE SCHEDULE 80 PVC.

8. ALL SIGNAL CABLE IS CONTINUOUS FROM CONNECTIONS MADE IN THE HANDHOLE COMPARTMENT OF SIGNAL POLE BASE TO THE TERMINAL COMPARTMENT IN THE CONTROLLER CABINET. SPLICING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

9. THE PEDESTRIAN PUSH BUTTONS SHALL MEET CITY OF BOULDER SPECIFICATIONS AND BE ADA COMPLIANT. A 5"x7" PEDESTRIAN PUSH BUTTON SIGN SHALL BE INSTALLED WITH EACH PEDESTRIAN PUSH BUTTON.

10. PULL BOXES WILL BE FURNISHED BY THE CITY OF BOULDER AND WILL BE AN INSTALL- ONLY ITEM FOR THE CONTRACTOR. THE CONTRACTOR SHALL FURNISH AND INSTALL A CONCRETE COLLAR (SEE PULL BOX INSTALLATION DETAIL) FOR ANY PULL BOXES THAT ARE NOT INSTALLED IN CONCRETE.

11. ALL CONDUCTORS SHALL BE COLOR -CODED AND PERMANENTLY TAGGED.

12. ALL SIGNAL AND PEDESTRIAN INDICATIONS SHALL BE INCANDESCENT APPEARANCE LED. SIGNAL HEADS SHALL BE MADE OF POLYCARBONATE MATERIAL, YELLOW IN COLOR, WITH A TUNNEL VISOR, AND HAVE A METAL LOUVERED BACK PLATE. PEDESTRIAN HEADS SHALL HAVE A BLACK BODY, SIDE OF POLE MOUNT STYLE PED HEAD. PED HEADS SHALL BE METAL.

13. SIGNAL FACES MOUNTED ON MAST ARMS SHALL USE A SKY-BRACKET MOUNT. MOUNTING HARDWARE FOR TRAFFIC SIGNAL FACES INSTALLED ON THE SIDE OF POLES SHALL BE MANUFACTURED BY PELCO OR AN APPROVED EQUAL. INDIVIDUAL COMPONENTS INCLUDE THE HUB PLATE (SE-0357B), LOWER ARM WITH T'S (SE-3001B) AND UPPER ARM WITH 90-DEGREE BENDS (SE-3000B). THESE COMPONENTS SHALL BE FACTORY COATED BLACK TO MATCH THE SIGNAL POLE.

14. ALL WORK ZONE TRAFFIC CONTROL SHALL BE IN CONFORMANCE WITH THE MUTCD. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.

15. ALL QUANTITIES ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NECESSARY TO COMPLETE THE CONSTRUCTION SHOWN ON THESE PLANS.

16. UPON COMPLETION OF WORK, CONTRACTOR SHALL SUPPLY THE CITY OF BOULDER WITH RECORD DRAWING, CORRECTED PLANS AND ANY OTHER ADDITIONAL DATA REQUIRED BY THE ENGINEER.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING THE CONDITION OF All TRAFFIC SIGNAL EQUIPMENT AND MATERIALS IN THEIR CARE UNTIL FINAL INSTALLATION.

18. THE ANTICIPATED PHASING OF THE INSTALLATION WILL INCLUDE INSTALLING THEN BAGGING ALL SIGNAL HEADS. THE CONTRACTOR IS RESPONSIBLE FOR THE INITIAL BAGGING AND LATER UNBAGGING THE SIGNAL HEADS AT THE DIRECTION OF THE CITY.

Know what's below. Call before you dig

TABULATION OF TRAFFIC SIGNAL ITEMS

ITEM NO	DESCRIPTION	UNIT	QTY
503	DRILLED CAISSON (36 INCH)	LF	30
503	DRILLED CAISSON (42 INCH)	LF	34
613	2 INCH ELECTRICAL CONDUIT (TRENCH)	LF	400
613	3 INCH ELECTRICAL CONDUIT (TRENCH)	LF	700
613	TYPE FOUR PULL BOX (INSTALL ONLY)	EACH	8
613	WIRING	LS	1
613	LUMINAIRE (LED)	EACH	4
613	CONCRETE FOUNDATION PAD	EACH	1
613	METER PEDESTAL	EACH	1
614	SIGNAL HEAD BACKPLATES	EACH	9
614	PEDESTRIAN SIGNAL FACE (16) (COUNTDOWN)	EACH	8
614	TRAFFIC SIGNAL FACE (12-12-12)	EACH	13
614	TRAFFIC SIGNAL FACE (12-12-12-12)	EACH	4
614	TRAFFIC CONTROLLER CABINET	EACH	1
614	PEDESTRIAN PUSH BUTTON	EACH	8
614	FIRE PREEMPTION UNIT	EACH	2
614	MICROWAVE VEHICLE RADAR DETECTOR	EACH	4
614	TRAFFIC SIGNAL - LIGHT POLE STEEL (1-25 FOOT MAST ARM)	EACH	1
614	TRAFFIC SIGNAL - LIGHT POLE STEEL (1-35 FOOT MAST ARM)	EACH	1
614	TRAFFIC SIGNAL - LIGHT POLE STEEL (1-45 FOOT MAST ARM)	EACH	2
614	CONTROLLER (TYPE 170E-HC11)	EACH	1
F/A	FURNISH AND INSTALL ELECTRICAL SERVICES		

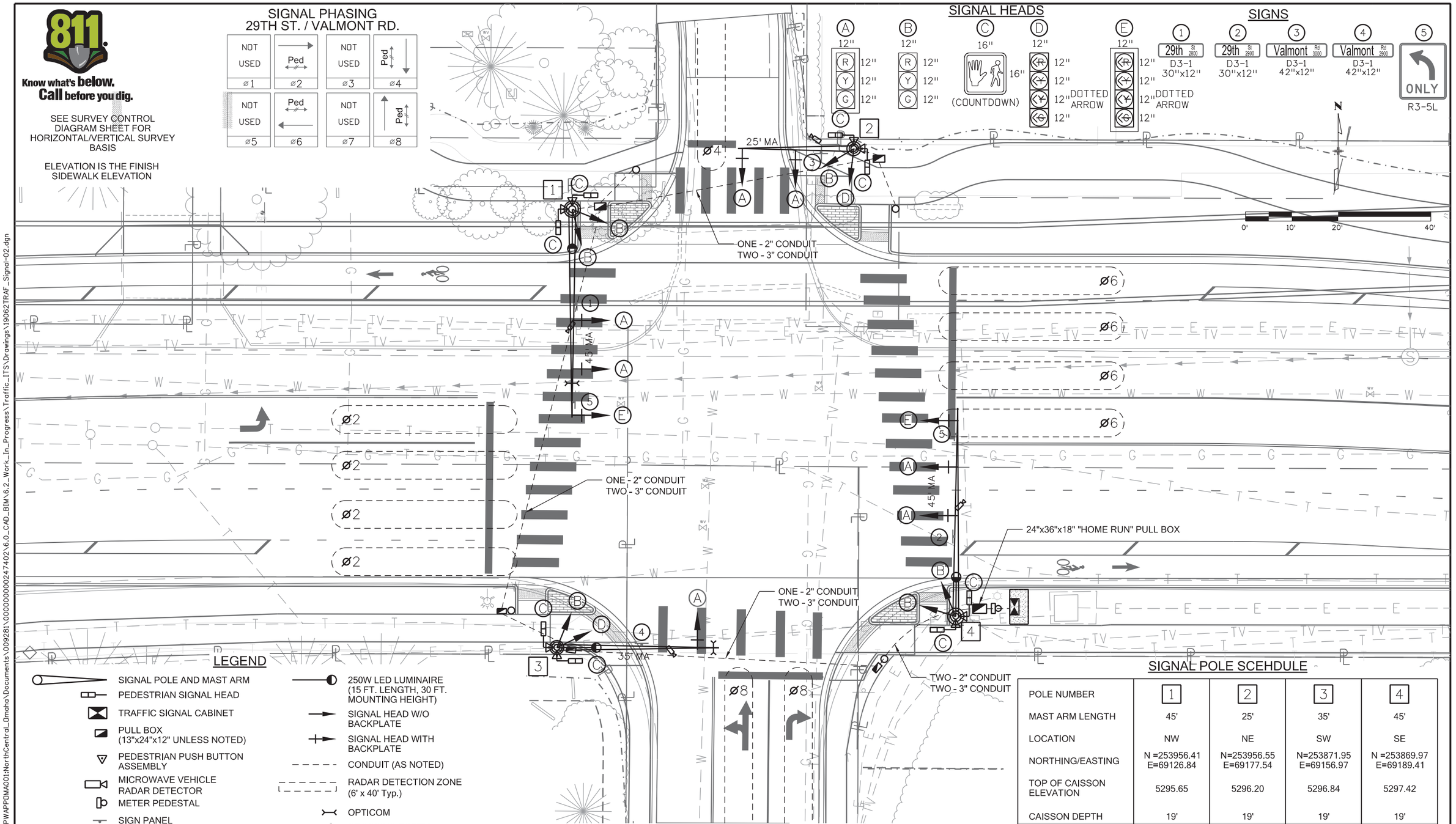
Know what's below. Call before you dig.

SEE SURVEY CONTROL DIAGRAM SHEET FOR HORIZONTAL/VERTICAL SURVEY BASIS

ELEVATION IS THE FINISH SIDEWALK ELEVATION

SIGNAL PHASING 29TH ST. / VALMONT RD.

NOT USED ø1	Ped ø2	NOT USED ø3	Ped ø4
NOT USED ø5	Ped ø6	NOT USED ø7	Ped ø8



LEGEND

- SIGNAL POLE AND MAST ARM
- PEDESTRIAN SIGNAL HEAD
- TRAFFIC SIGNAL CABINET
- PULL BOX (13"x24"x12" UNLESS NOTED)
- PEDESTRIAN PUSH BUTTON ASSEMBLY
- MICROWAVE VEHICLE RADAR DETECTOR
- METER PEDESTAL
- SIGN PANEL
- 250W LED LUMINAIRE (15 FT. LENGTH, 30 FT. MOUNTING HEIGHT)
- SIGNAL HEAD W/O BACKPLATE
- SIGNAL HEAD WITH BACKPLATE
- CONDUIT (AS NOTED)
- RADAR DETECTION ZONE (6' x 40' Typ.)
- OPTICOM
- CROSSING TOTEM

SIGNAL POLE SCEHDULE

POLE NUMBER	1	2	3	4
MAST ARM LENGTH	45'	25'	35'	45'
LOCATION	NW	NE	SW	SE
NORTHING/EASTING	N =253956.41 E=69126.84	N=253956.55 E=69177.54	N=253871.95 E=69156.97	N =253869.97 E=69189.41
TOP OF CAISSON ELEVATION	5295.65	5296.20	5296.84	5297.42
CAISSON DEPTH	19'	19'	19'	19'

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File Name: 19062TRAF_Signal-02.dgn
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Revised:
Void:

VALMONT ROAD & 29TH STREET TRAFFIC SIGNAL PLAN

Designer: R. PLENGE
Detailer: J. MCPHAUL
Sheet Subset: TRAFFIC
Structure Numbers
Subset Sheets: 2 of 8

Project No./Code
SHO M110-084
SA 19062
Sheet Number 61

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Tabulation Of Pavement Markings

Station		Side	Description	Epoxy Pavement Marking (LF)				Epoxy Pavement Marking (SF)				627 Epoxy Pavement Marking (GAL)				627 Preformed Plastic Pavement Marking (Wod-Symbol) A-270				627 Preformed Plastic Pavement Making (Xwalk-Stopline) A-270		
				Double Yellow Solid 4 in	Contrast Tape A-380I-E/S-W/R White Broken 7 in	White Solid 8 in	Contrast Tape A-380I-E/S-W/R White Broken 8 in	Double Yellow Solid 4 in	Contrast Tape A-380I-E/S-WR White Broken 7 in	White Solid 8 in	Contrast Tape A-380I-E/S-W/R White Broken 8 in	Double Yellow Solid 4 in	Contrast Tape A-380I-E/S-W/R White Broken 7 in	White Sold 8 in	Contrast Tape A-380I-E/S-W/R White Broken 8 in	Straight Arrow White 12.5 SQ FT	Left Turn Arrow White 15.5 SQ FT	Bcycle White 10.5 SQ FT	Diagonal Buffer White 8" Wide	Crosswalk White 1'x8'	Stopline White 2'x24	Bike Conflict Green
From	To			LF	LF	LF	LF	SF	SF	SF	SF	GAL	GAL	GAL	GAL	SF	SF	SF	SF	SF	SF	SF
11+15	13+37	LT & R	Center Line	222				148				1.35										
11+15	13+37	RT	Center Line	222				148				1.35										
13+37	14+24	CTR	Center Line	87				58				0.53										
15+14	20+50	RT	Center Line	536				357				3.25										
30+61	31+06	CTR	Center Line	45				30				0.27										
11+15	14+18	RT	Lane Lines		303				47				0.42									
11+15	14+18	LT	Lane Lines		303				47				0.42									
15+15	20+50	RT	Lane Lines		535				76				0.69									
15+15	20+50	LT	Lane Lines		535				76				0.69									
11+15	13+65	RT	Edge Line			251				167				1.52								
15+15	16+46	RT	Edge Line			131				87				0.79								
16+83	17+92	RT	Edge Line			109				73				0.66								
18+32	18+98	RT	Edge Line			67				44				0.40								
19+37	19+45	RT	Edge Line			9				6				0.05								
19+94	20+22	RT	Edge Line			28				18				0.16								
12+94	13+27	LT	Edge Line			33				22				0.20								
13+62	14+24	LT	Edge Line			61				41				0.37								
15+67	17+85	LT	Edge Line			218				145				1.32								
18+29	20+50	LT	Edge Line			221				147				1.34								
12+67	13+62	RT	Bike Edge			96				64				0.58								
15+16	16+46	RT	Bike Edge			130				86				0.78								
12+94	13+27	LT	Bike Edge			33				22				0.20								
13+62	14+24	LT	Bike Edge			61				41				0.37								
15+71	16+70	LT	Bike Edge			100				66				0.60								
13+65	14+17	RT	Bike Dot 6			52																
16+46	16+83	RT	Bike Dot 6			37																
17+92	18+32	RT	Bike Dot 6			40																
18+98	19+37	RT	Bike Dot 6			38																
19+45	19+94	RT	Bike Dot 6				49				6				0.05							
20+22	20+50	RT	Bike Dot 6			28																
11+15	12+94	LT	Bike Dot 6			179																
13+27	13+62	LT	Bike Dot 6			35																
15+15	15+67	LT	Bike Dot 6			52																
17+85	18+29	LT	Bike Dot 6			44																
11+15	12+38	LT	Bike Dot 4		124				10				0.09									
13+37	14+18	RT	Channel			81				54				0.49								
15+15	16+68	LT	Channel			153				102				0.93								
30+61	31+06	LT	Channel			45				30				0.27								
12+05	12+11	RT	Bike Sym														10.50					
15+37	15+43	RT	Bike Sym														10.50					
17+07	17+13	RT	Bike Sym														10.50					
10+79	10+85	RT	Bike Sym														10.50					
14+00	14+06	LT	Bike Sym														10.50					
17+16	17+22	LT	Bike Sym														10.50					
19+19	19+25	LT	Bike Sym														10.50					
12+17	12+23	RT	St Arr													12.50						
15+49	15+55	RT	St Arr													12.50						
17+19	17+25	RT	St Arr													12.50						
18+91	18+97	RT	St Arr													12.50						
13+88	13+94	LT	St Arr													12.50						
17+04	17+10	LT	St Arr													12.50						
19+07	19+13	LT	St Arr													12.50						
13+39	13+47	RT	Lft Arr														15.50					
14+09	14+17	RT	Lft Arr														15.50					
15+26	15+34	RT	Lft Arr														15.50					
16+67	16+75	RT	Lft Arr														15.50					
12+91	12+94	RT	Buffer																1.50			
13+26	13+29	RT	Buffer																2.00			
13+62	13+65	RT	Buffer																2.50			
15+16	15+20	RT	Buffer																2.50			
15+51	15+55	RT	Buffer																2.50			
15+86	15+90	RT	Buffer																2.50			
16+21	16+25	RT	Buffer																1.00			

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Sheet Revisions

Date:	Comments	Init.

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Division of Transportation
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No Revisions:
Revised:
Void:

VALMONT ROAD & 29TH STREET SIGNING AND STRIPING TABULATION

Designer: R. PLENGE
Detailer: J. MCPHAUL
Structure Numbers
Sheet Subset: TRAFFIC
Subset Sheets: 3 of 8

Project No./Code
SHO M110-084
SA 19062
Sheet Number 62

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Tabulation Of Pavement Markings

Station		Side	Description	Epoxy Pavement Marking (LF)				Epoxy Pavement Marking (SF)				627 Epoxy Pavement Marking (GAL)				627 Preformed Plastic Pavement Marking (Word-Symbol) A-270				627 Preformed Plastic Pavement Marking (Xwalk-Stopline) A-270		
				Double Yellow Solid 4 in	Contrast Tape A-380I-E/S-W/R White Broken 7 in	White Solid 8 in	Contrast Tape A-380I-E/S-W/R White Broken 8 in	Double Yellow Solid 4 in	Contrast Tape A-380I-E/S-W/R White Broken 7 in	White Solid 8 in	Contrast Tape A-380I-E/S-W/R White Broken 8 in	Double Yellow Solid 4 in	Contrast Tape A-380I-E/S-W/R White Broken 7 in	White Solid 8 in	Contrast Tape A-380I-E/S-W/R White Broken 8 in	Straight Arrow White 12.5 SQ FT	Left Turn Arrow White 15.5 SQ FT	Bicycle White 10.5 SQ FT	Diagonal Buffer White 8" Wide	Crosswalk White 1'x8'	Stopline White 2'x24	Bike Conflict Green
15+86	15+90	RT	Buffer																2.50			
16+21	16+25	RT	Buffer																1.00			
12+95	12+98	LT	Buffer																2.50			
13+26	13+30	LT	Buffer																2.50			
13+87	13+91	LT	Buffer																2.50			
14+23	14+26	LT	Buffer																2.50			
15+67	15+71	LT	Buffer																2.50			
16+01	16+04	LT	Buffer																2.00			
16+34	16+38	LT	Buffer																1.00			
14+20	15+13	LT & RT	Xwalk																	720.00		
14+20	15+13	LT & RT	Stopline																		48.00	
14+20	15+13	LT & RT	Stopline																		78.00	
14+20	15+13	LT & RT	Stopline																		24.00	
14+20	15+13	LT & RT	Stopline																		70.00	
11+15	12+38	LT	Bike Conflict																			192.00
TOTALS				1113	1800	2330	49	741	256	1215	5	7.00	3.00	12.00	1.00	88.00	62.00	74.00	30.00	720.00	228.00	192.00
TOTALS (SUMS)				5293				2218				23				254.00				1140.00		

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Date:	Comments	Init.

City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

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VALMONT ROAD & 29TH STREET
SIGNING AND STRIPING
TABULATION

Designer: R. PLENGE
Detailer: J. MCPHAUL
Sheet Subset: TRAFFIC
Structure Numbers
Subset Sheets: 4 of 8

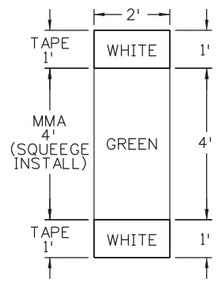
Project No./Code
SHO M110-084
SA 19062
Sheet Number 63

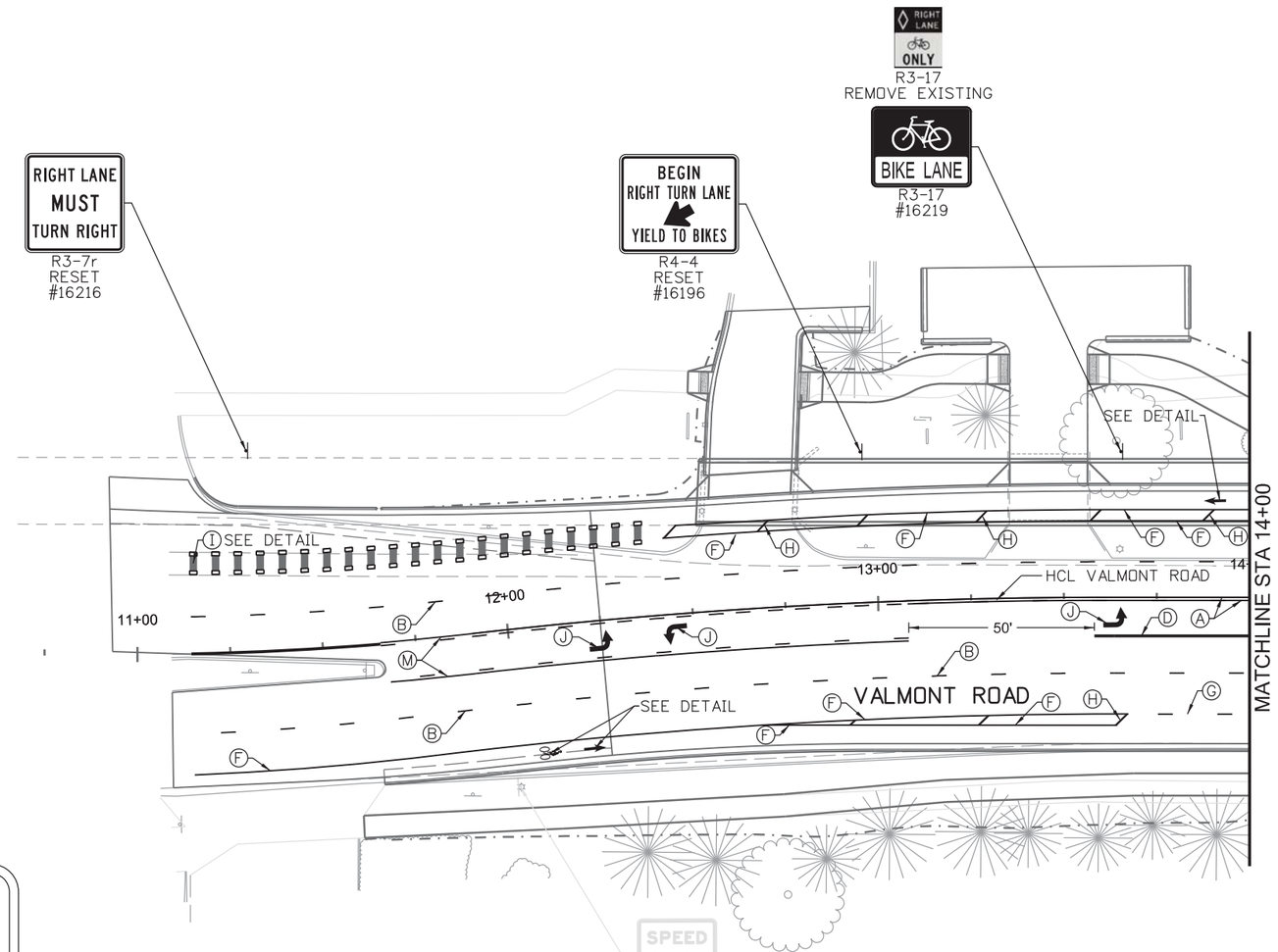
Tabulation of Signs

Sign No.	Description	Station	Sign Code	Sign Panel Size W"	x	H"	Background Color	202 Removal of Ground Sign EACH	210 Reset Ground Sign	614 Sign Panel (Class I) SF	Remarks
1	RIGHT LANE MUST TURN RIGHT	11+98	R3-7r		x				1		RESET
2	BEGIN RIGHT TURN LANE YIELD TO BIKES	12+97	R4-4		x				1		RESET
3	BICYCLE LANE ONLY (symbol)	13+65	R3-17	24	x	30	White	1		5.000	REMOVE EXISTING AND REPLACE WITH NEW STANDARD
4	Stop	14+51	R1-1		x			1			
5	29th St	14+52	D3-1		x			1			
6	29th St	14+95	D3-1		x			1			ONE ASSEMBLY SE CORNER OF 29TH AND VALMONT INTERSECTION
7	Valmont Rd	14+95	D3-1		x						
8	Stop	14+95	R1-1		x						
9	LEFT TURN ONLY	14+43	R3-5l	30	x	36	White			7.500	
9	29th St	14+43	D3-1	27	x	18	Blue			3.375	MOUNTED ON WEST MAST ARM. FONT ON SIGN TO MEET MUTCD STANDARD
10	Valmont Rd	14+47	D3-1	39	x	18	Blue			4.875	MOUNTED ON SOUTH MAST ARM. FONT ON SIGN TO MEET MUTCD STANDARD
11	Valmont Rd	14+86	D3-1	39	x	18	Blue			4.875	MOUNTED ON NORTH MAST ARM. FONT ON SIGN TO MEET MUTCD STANDARD
12	29th St	15+04	D3-1	27	x	18	Blue			3.375	MOUNTED ON EAST MAST ARM. FONT ON SIGN TO MEET MUTCD STANDARD
12	LEFT TURN ONLY	15+04	R3-5l	30	x	36	White			7.500	MOUNTED ON EAST AND WEST MAST ARMS NEXT TO FLASHING YELLOW ARROW SIGNAL HEADS
							Project Totals	4	2	37	

Know what's below. Call before you dig.

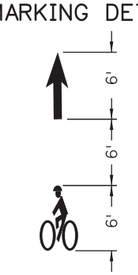
BIKE CONFLICT LANE DETAIL





- Ⓐ CENTER LINE, YELLOW, 4" WIDE
- Ⓑ LANE LINE BROKEN, WHITE, 4" WIDE
- Ⓒ CROSSWALK, WHITE, 10' x 2'
- Ⓓ CHANNELIZING LINE, WHITE, 8" WIDE
- Ⓔ STOP LINE, WHITE, 24" WIDE
- Ⓕ BIKE LANE LINE, WHITE, 8" WIDE
- Ⓖ BIKE LANE BROKEN, WHITE, 8" WIDE
- Ⓗ BUFFER DIAGONAL LINE, WHITE, 8" WIDE, 30' SPACING
- Ⓘ BIKE CONFLICT LANE, GREEN, 6' x 2', 4' SPACING
- Ⓙ LEFT TURN ARROW, WHITE, NARROW, ELONGATED
- Ⓚ RIGHT TURN ARROW, WHITE, NARROW, ELONGATED
- Ⓛ LEFT TURN AND THROUGH ARROW, WHITE, NARROW, ELONGATED
- Ⓜ CENTER LINE, YELLOW SOLID BROKEN, 4" WIDE

BIKE LANE MARKING DETAIL



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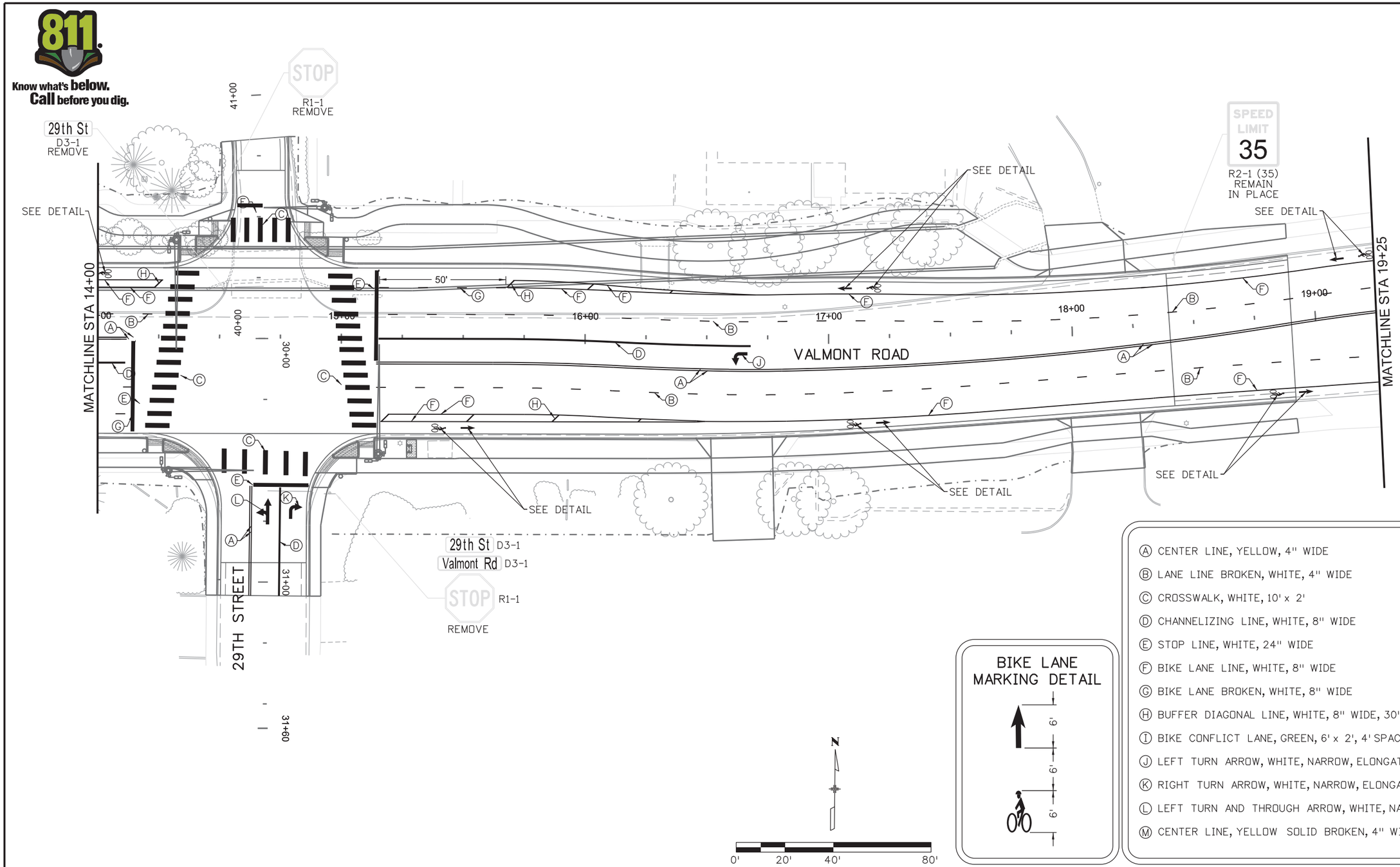
VALMONT ROAD & 29TH STREET
SIGNING AND STRIPING
STA 10+00 TO STA 14+00

Designer: R. PLENGE
Detailer: J. MCPHAUL
Sheet Subset: TRAFFIC
Structure Numbers
Subset Sheets: 6 of 8

Project No./Code
SHO M110-084
SA 19062
Sheet Number 65



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VALMONT ROAD & 29TH STREET
SIGNING AND STRIPING
STA 14+00 TO STA 19+25

Designer: R. PLENGE
Detailer: J. MCPHAUL
Sheet Subset: TRAFFIC
Structure Numbers
Subset Sheets: 7 of 8

Project No./Code
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SA 19062
Sheet Number 66

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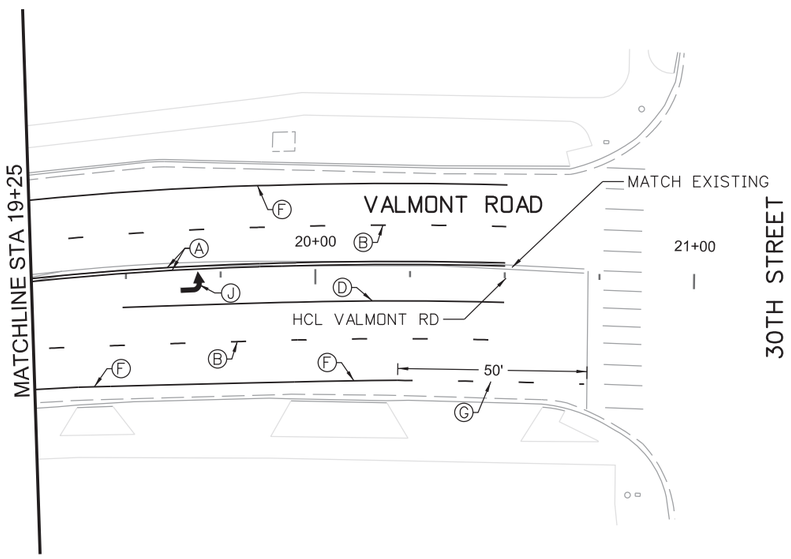

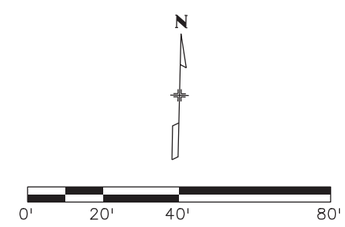

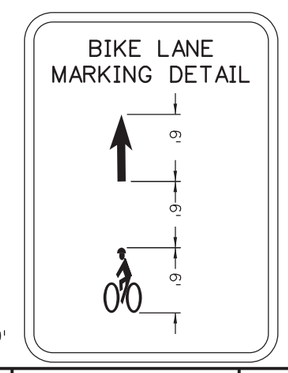

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VALMONT ROAD & 29TH STREET
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Designer: R. PLENGE
Detailer: J. MCPHAUL
Sheet Subset: TRAFFIC
Structure Numbers
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SA 19062
Sheet Number 67

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SCHEDULE OF TRAFFIC CONTROL ITEMS

621	DETOUR PAVEMENT	SY	475
630	FLAGGING	HOUR	2000
630	TRAFFIC CONTROL INSPECTION	DAY	77
630	TRAFFIC CONTROL MANAGEMENT	DAY	193
630	CONCRETE BARRIER (TEMPORARY)	LF	200
630	CONSTRUCTION TRAFFIC CONTROL	LS	1
630	PORTABLE MESSAGE SIGN PANEL	DAYS	28

CONSTRUCTION TRAFFIC CONTROL SIGNS (FOR INFORMATION ONLY)

SIGN CODE	LEGEND	DIMENSIONS	CONSTRUCTION TRAFFIC SIGN (EACH)			
			EACH			SF
			A	B	C	SPECIAL
G20-10	XYZ CONSTRUCTION THANKS YOU...	36" x 36"				18
G20-11	"ROAD WORK/DATE-DATE/FOR INFORMATION ONLY..."	36" x 36"				36
G20-5P	"WORK ZONE"	24" x 18"	2			
M4-10	"DETOUR" LEFT ARROW	24" x 12"	2			
R11-2	"ROAD CLOSED"	48" x 30"		5		
R2-1(35)	"SPEED LIMIT 35"	24" x 30"	2			
R52-6a	"BEGIN FINES DOUBLE IN WORK ZONE"	48" x 60"			2	
R52-6b	"END FINES DOUBLE IN WORK ZONE"	48" x 60"			2	
W13-1P(35)	"35 MPH"	24" x 24"	4			
W1-6(L)	LEFT ARROW	48" x 24"		2		
W1-6(R)	RIGHT ARROW	48" x 24"		2		
W1-8	CHEVRON	18" x 24"	12			
W20-1	"ROAD WORK 1000 FT"	36" x 36"	2			
W20-2	"DETOUR AHEAD"	36" x 36"	1			
W20-3	"ROAD CLOSED 500 FT"	36" x 36"	2			
W20-3	"ROAD CLOSED 1000 FT"	36" x 36"	2			
W24-1(L)	DOUBLE REVERSE CURVE (ONE-LANE) (LEFT)	36" x 36"	2			
W24-1(R)	DOUBLE REVERSE CURVE (ONE-LANE) (LEFT)	36" x 36"	2			
PHASE TOTAL			33	9	4	54

TABULATION OF TEMPORARY PAVEMENT MARKING (FOR INFORMATION ONLY)

STATION	LOCATION	627	
		EDGE	CENTER
		WHITE SOLID 4 INCH	YELLOW SOLID 4 INCH
		LN FT	LN FT
PHASE 1			
NONE			
SUBTOTALS (LN FT)		0	0
PHASE 2			
EB/WB SHIFTED SOUTH	VALMONT RD	2200	2200
SUBTOTALS (LN FT)		2200	2200
PHASE 3			
EB/WB SHIFTED NORTH	VALMONT RD	2200	2200
SUBTOTALS (LN FT)		2200	2200
PHASE 4			
NONE			
SUBTOTALS (LN FT)		0	0
PROJECT TOTALS (LN FT) (3 applications)		13200	13200
PROJECT TOTALS (LN FT)		4400	4400
PROJECT TOTALS (GAL)		44	44
TOTAL PAVEMENT MARKING PAINT (LOW VOC SOLVENT BASE) (WHITE)			44 GAL
TOTAL PAVEMENT MARKING PAINT (LOW VOC SOLVENT BASE) (YELLOW)			44 GAL

CONSTRUCTION PHASING AND TRAFFIC CONTROL GENERAL NOTES

1.ALL WORK IN PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH CITY OF BOULDER STANDARDS AND CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, AND ITS SUPPLEMENTS.

2.ALL WORK IN PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CDOT LATEST EDITION OF THE STANDARD PLANS (M & S STANDARDS), AND APPROVED PLANS AND SPECIFICATIONS.

3.NO WORK WITHIN THE PUBLIC RIGHT OF WAY IS PERMITTED ON HOLIDAYS AS DESCRIBED IN SECTION 101.36 OF CDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

4.ACCESS MUST BE MAINTAINED TO ALL PROPERTIES AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL AFFECTED PROPERTY OWNERS IN ADVANCE OF ANY WORK IN FRONT OF THEIR PROPERTY.

5.THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ADJACENT BUSINESSES, CDOT, POLICE DEPARTMENT, FIRE DEPARTMENT, EMERGENCY SERVICES, AND THE PUBLIC OF UPCOMING CONSTRUCTION ACTIVITIES INCLUDING, BUT NOT LIMITED TO, LANE CLOSURES AND DETOURS.

6.ALL WORK ZONE TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, THE CURRENT COLORADO SUPPLEMENTS, AND THE APPROVED PLANS AND SPECIFICATIONS AND THE CITY OF BOULDER SPECIFICATIONS.

7.ALL WORK ZONE TRAFFIC CONTROL DEVICES USED IN CONSTRUCTION ZONES SHALL BE REFLECTIVE AND IN ACCORDANCE WITH CDOT'S LATEST SPECIFICATIONS. ADDITIONAL SIGNING MAY BE REQUIRED AS CONDITIONS DICTATE.

8.ALL TEMPORARY PAVEMENT MARKINGS SHALL BE PAID FOR IN CONSTRUCTION TRAFFIC CONTROL LUMP SUM.

9.NO DROP-OFFS OF MORE THAN TWO INCHES ARE ALLOWED AT NIGHT, ON WEEKENDS, OR ON HOLIDAYS WITHOUT APPROVAL FROM THE ENGINEER. A MINIMUM OF A 3:1 TAPER OF FILL MATERIAL SHALL BE USED TO FILL ALL DROP-OFFS DURING THESE TIMES.

10.ALL DRUMS SHALL BE MOVED TO THE OUTSIDE EDGE OF THE ROADWAY AT NIGHT, ON WEEKENDS, AND ON HOLIDAYS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

11.THE CONTRACTOR SHALL REMOVE ANY AND ALL CONFLICTING STRIPING AND REMOVE OR MASK ANY AND ALL CONFLICTING SIGNAGE. SUCH WORK IF REQUIRED, SHALL NOT BE MEASURED OR PAID FOR BUT SHALL BE INCIDENTAL TO THE CONSTRUCTION TRAFFIC CONTROL ITEMS.

12.MINIMUM LANE WIDTHS FOR TRAFFIC THROUGH THE DURATION OF CONSTRUCTION SHALL BE NO LESS THAN 10 FOOT LANES.

13.WHEN CONSTRUCTION TRAFFIC CONTROL SIGNS ARE NOT IN USE, THEY SHALL BE MASKED, TURNED AWAY FROM TRAFFIC, OR REMOVED.

14.BASED UPON SIGHT DISTANCE AND OTHER CONSIDERATIONS, THE FINAL LOCATION OF SIGNS AND TRAFFIC CONTROL IS SUBJECT TO THE APPROVAL OF THE ENGINEER.

15.THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TEMPORARY STRIPING THROUGH THE DURATION OF THE PROJECT AND SHALL RESTRIPE AS NEEDED TO SAFELY AND ADEQUATELY ACCOMMODATE TRAFFIC. AS DETERMINED BY THE ENGINEER, FINAL SIGNING AND STRIPING SHALL BE INSTALLED ON THOSE COMPLETED ROADWAY SECTIONS IN ORDER TO COMPLEMENT CONSTRUCTION TRAFFIC CONTROL SIGNING & STRIPING.

16.THE CONSTRUCTION PHASING GRAPHICALLY DEPICTED IN THESE PLANS IS SUGGESTED ONLY. THE CONTRACTOR MAY SUBMIT A REVISED PLAN, BUT IMPLEMENTATION OF ANY REVISED PLAN MUST HAVE PRIOR APPROVAL OF THE CITY TRAFFIC ENGINEER.

17.TWENTY FOUR (24) HOUR EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED FOR ALL STREETS AND PROPERTIES WITHIN THE PROJECT LIMITS.

18.THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS WITH RTD AND CITY OF BOULDER PRIOR TO CLOSING ANY EXISTING BUS STOPS WITHIN THE PROJECT LIMITS. TEMPORARY STOPS WILL BE REQUIRED AS DIRECTED BY THE ENGINEER AND AS REQUIRED BY RTD AND CITY OF BOULDER. TEMPORARY BUS STOPS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

19.IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING FEATURES NOT DESIGNATED FOR REMOVAL INCLUDING, BUT NOT LIMITED TO, LANDSCAPING, IRRIGATION SYSTEMS, UTILITIES, FENCES, AND ENTRY SIGNS. DAMAGED FEATURES WILL BE REPLACED "IN KIND" BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT

20.THE CONTRACTOR SHALL MAINTAIN THE SAME LEVEL OF ACCESS THROUGHOUT THE PROJECT FOR PEDESTRIANS AND DISABLED PERSONS AS IS PROVIDED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ADDRESS PEDESTRIAN ACCESS IN MHT SUBMITTALS, AS APPROPRIATE.

21.TEMPORARY INSTALLATION AND MATERIAL FOR FENCING WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE COST OF THE PEDESTRIAN DETOUR.

22.CONTRACTOR SHALL PROVIDE THE TRAVELING PUBLIC A MINIMUM OF TWO WEEKS PRIOR NOTICE FOR THE TEMPORARY ROAD CLOSURE. PRIOR NOTICE SHALL BE PROVIDED USING VARIABLE MESSAGE SIGNS.

23.PORTABLE MESSAGE SIGN PANELS SHALL BE USED AS DIRECTED BY THE ENGINEER.

24.CONSTRUCTION OF THE FACILITIES SHALL BE COMPLETED IN A SAFE AND EXPEDITIOUS MANNER WITHOUT INPACTING THE STRUCTURAL INTEGRITY OF ADJACENT BUILDINGS, STRUCTURES, OR UTILITIES.

25.SAFELY COVER TRENCHES AND RESTORE TRAFFIC AND PEDESTRIAN ACCESS TO NORMAL CONDITIONS WHEN NOT WORKING IN THE AREA.

26.NO PARKING OR STAGING IN WETLAND AREAS.

27.THE CONTRACTOR WILL BE REQUIRED TO DEVELOP A METHOD OF HANDLING TRAFFIC (MHT) THAT WILL INCLUDE MAPS, DIAGRAMS, AND LISTS NECESSARY TO ILLUSTRATE THE TYPE AND LOCATION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES FOR THE SIDEWALK. AT A MINIMUM, THE MHT WILL INCLUDE:

-SIGNAGE AND OTHER CONSTRUCTION TRAFFIC CONTROL DEVICES WITHIN THE CONSTRUCTION AREA.

-METHODS AND DETAILS FOR PROTECTION OF SIDEWALK USERS FROM CONSTRUCTION ACTIVITIES.

-THE LOCATION AND PROPOSED MESSAGES FOR ADVACNCED INFORMATION SIGNAGE ON THE SIDEWALK SURROUNDING THE CONSTRUCTION AREA.

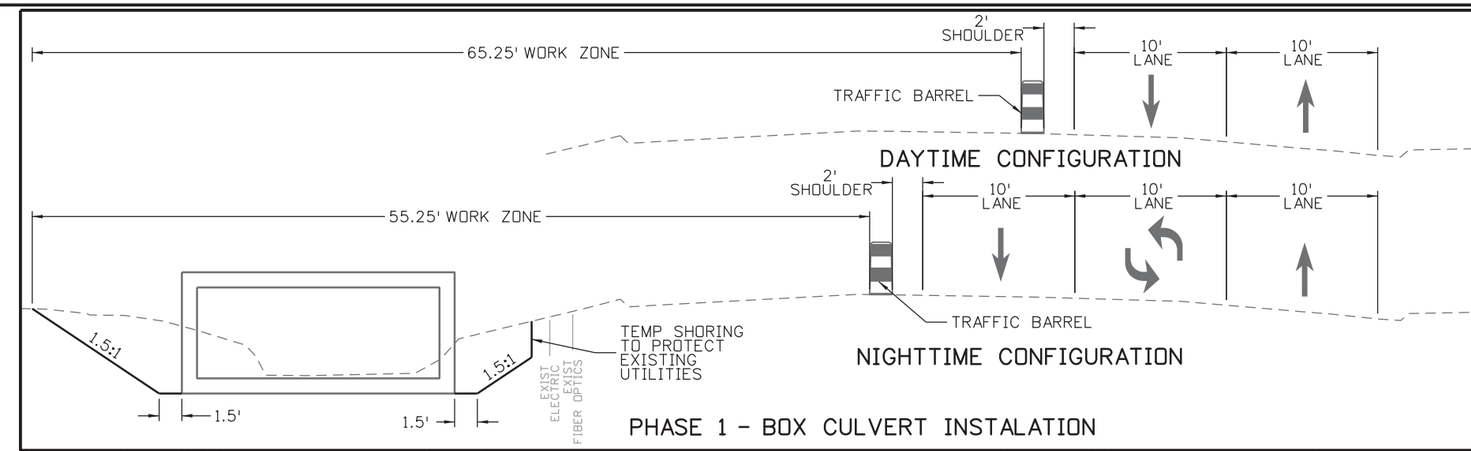
-INFORMATION REGARDING PROPOSED CONSTRUCTION ACCESS AND MOVEMENTS ACROSS THE SIDEWALK, INCLUDING THE LOCATION AND SCHEDULE FOR SPECIFIC CONSTRUCTION ACTIVITIES.

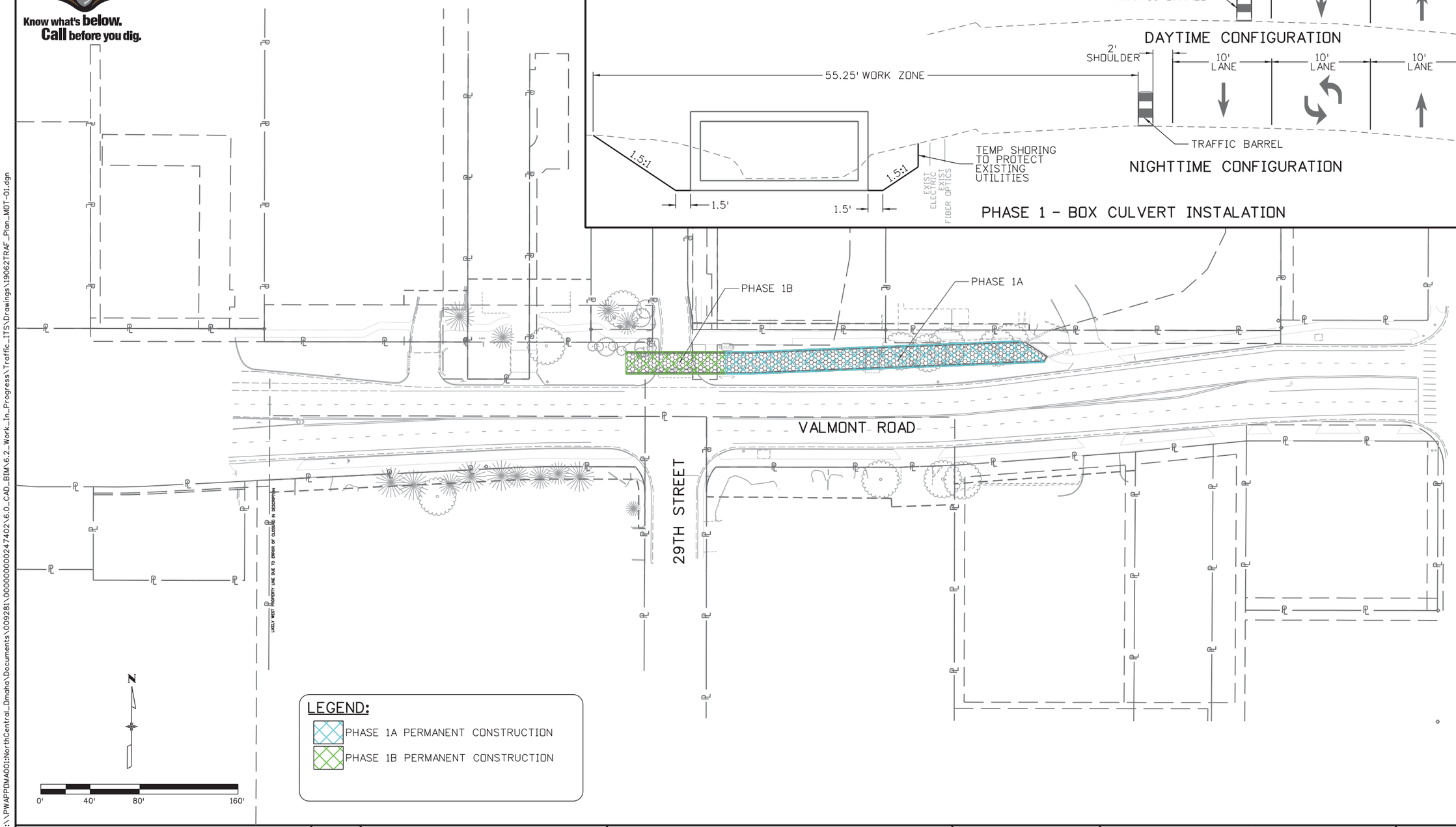
PHASE	DESCRIPTION
PHASE 1	1. REMOVE EXISTING BOX CULVERTS, BRIDGES, AND OTHER STRUCTURES TO ALLOW INSTALLATION OF PROPOSED BOX CULVERT 2. REGRADE DITCH 3. CONSTRUCT CONCRETE BOX CULVERT
PHASE 2	1. PULVERIZE EXISTING PAVEMENT 2. CONSTRUCT NORTH HALF OF ROADWAY
PHASE 3	1. PULVERIZE EXISTING PAVEMENT 2. CONSTRUCT SOUTH HALF OF ROADWAY

Know what's below. Call before you dig.

NOTES:

ACCESS TO BUSINESSES MUST BE MAINTAINED AT ALL TIMES UNLESS APPROVED BY THE ENGINEER





LEGEND:

- PHASE 1A PERMANENT CONSTRUCTION
- PHASE 1B PERMANENT CONSTRUCTION

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VALMONT ROAD & 29TH STREET
CONSTRUCTION PHASING
PHASE 1

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: PHASING
Structure Numbers
Subset Sheets: 3 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 70

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NOTES:

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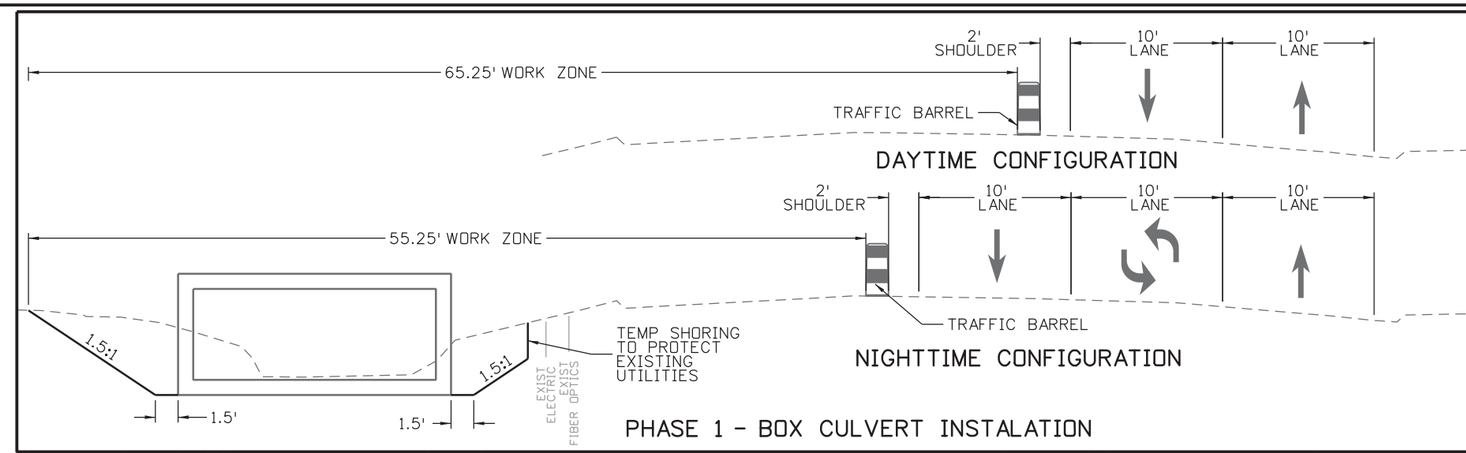
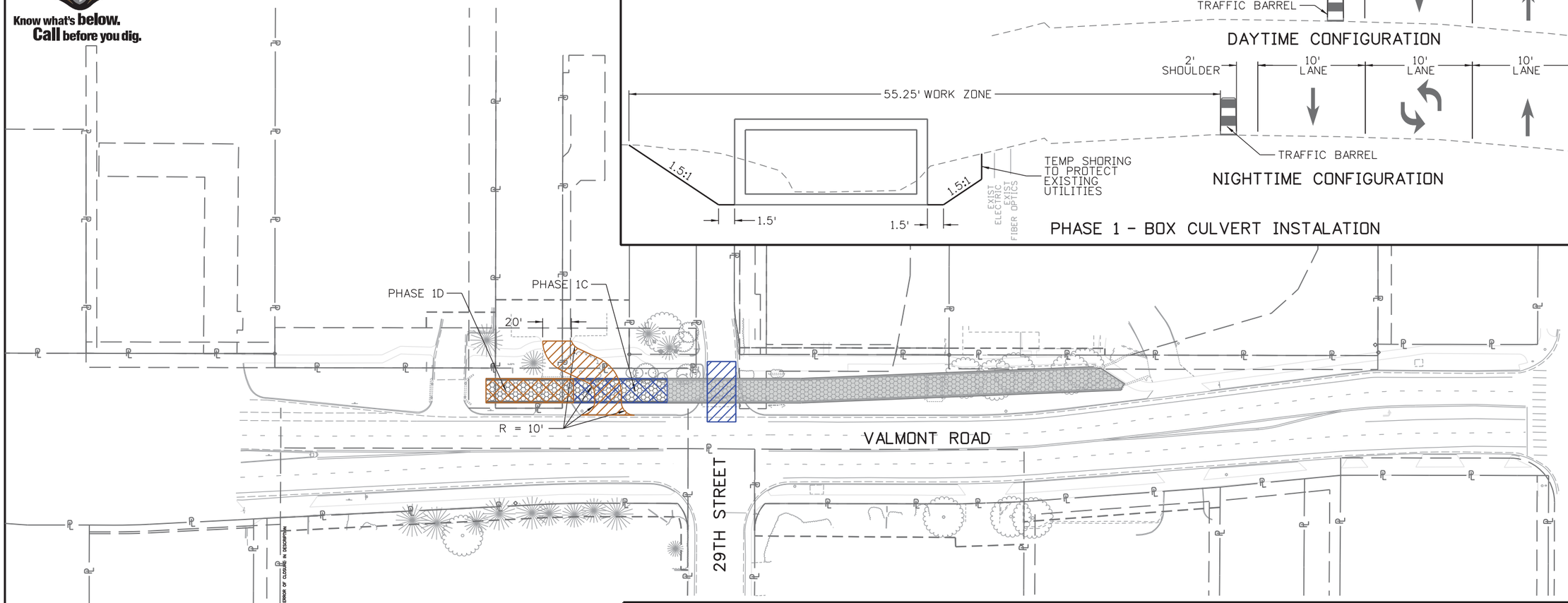
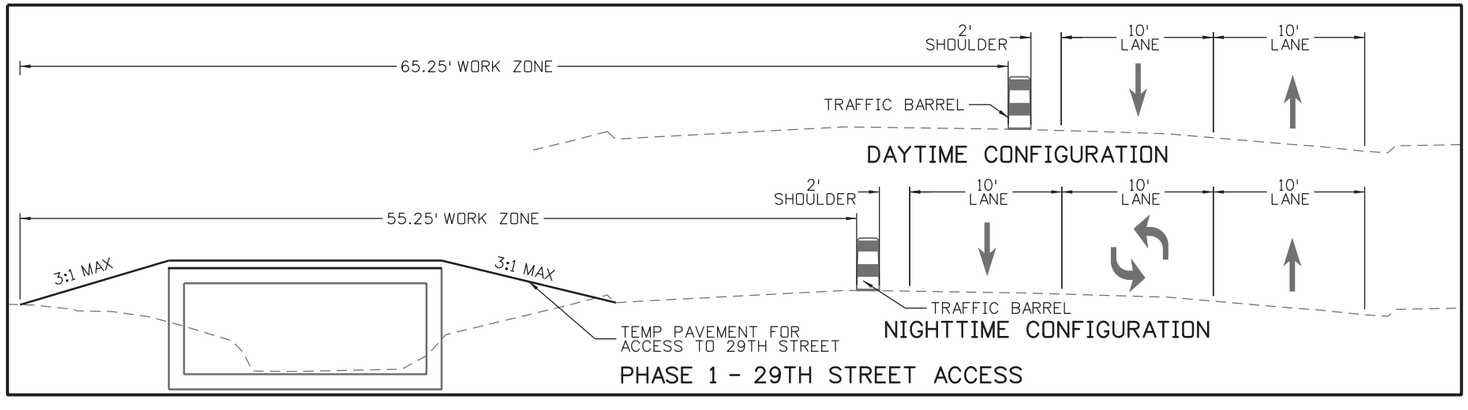


PHASE 1 - BOX CULVERT INSTALATION





PHASE 1 - 29TH STREET ACCESS

LEGEND:

- PHASE 1C PERMANENT CONSTRUCTION
- PHASE 1C TEMPORARY CONSTRUCTION
- PHASE 1D TEMPORARY CONSTRUCTION
- PHASE 1D PERMANENT CONSTRUCTION
- COMPLETED FROM PREVIOUS PHASES

N

0' 40' 80' 160'

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VALMONT ROAD & 29TH STREET
CONSTRUCTION PHASING
PHASE 1

Designer:	J. COLIP	Structure Numbers	
Detailer:	J. MCPHAUL		
Sheet Subset:	PHASING	Subset Sheets:	4 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 71

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NOTES:

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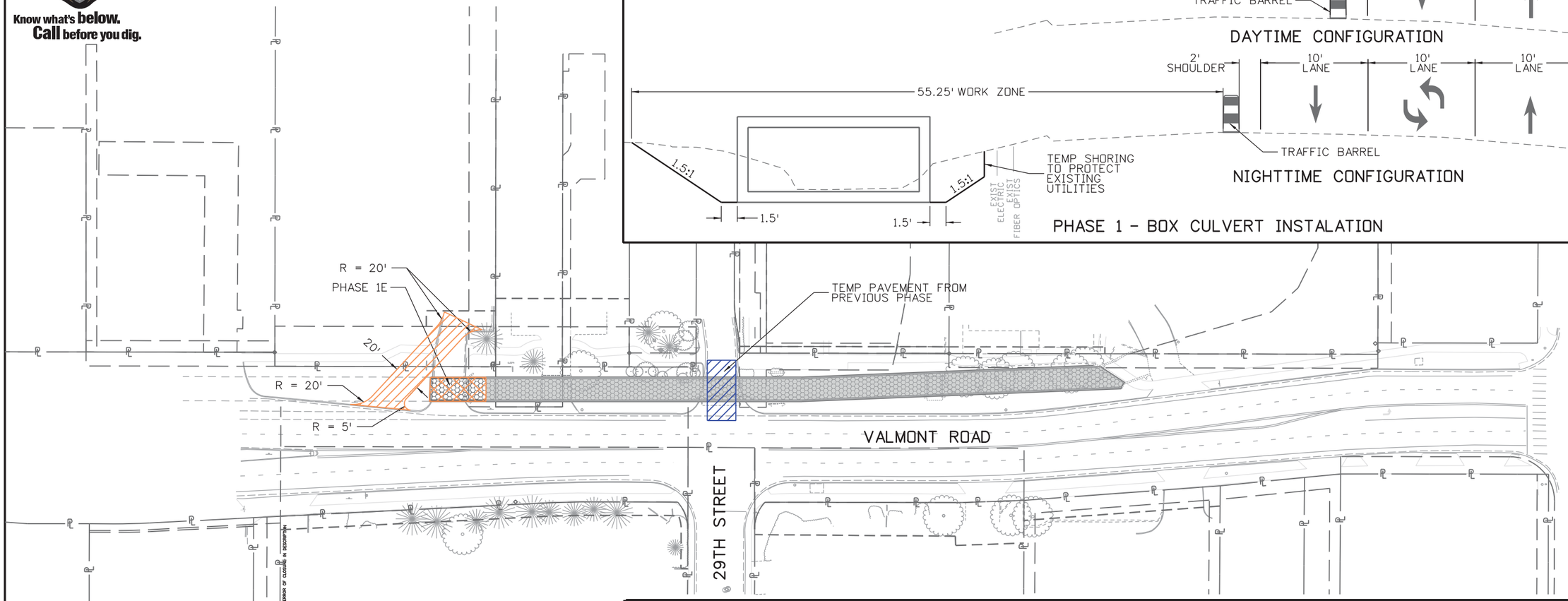

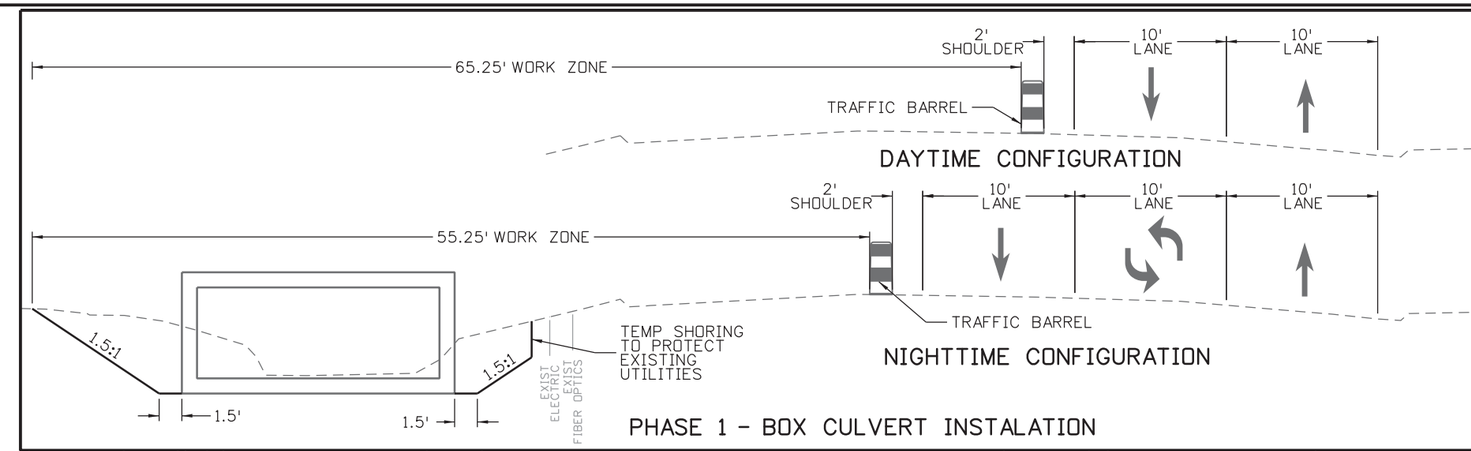

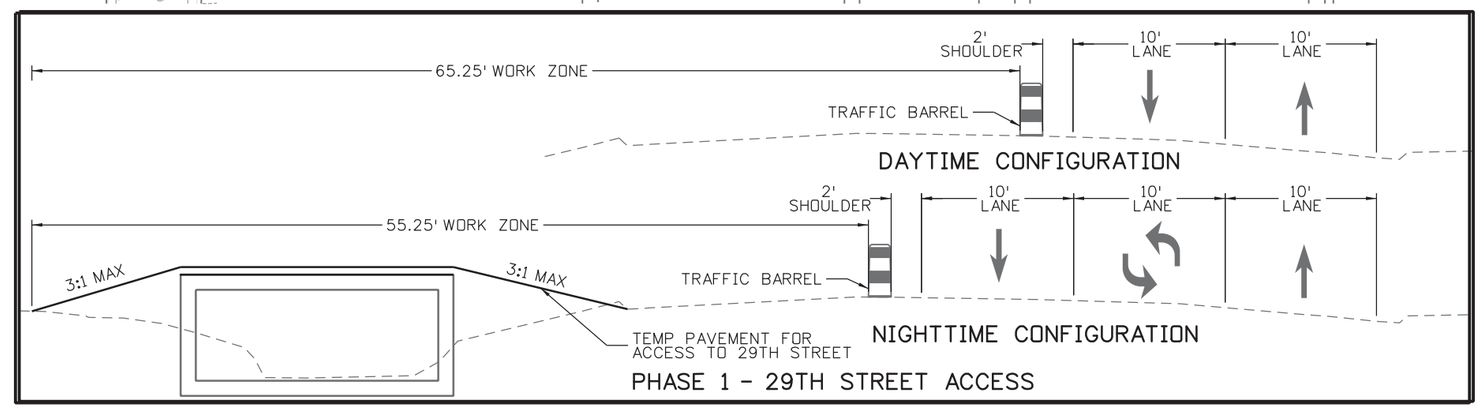

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0' 40' 80' 160'

LEGEND:

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- PHASE 1E TEMPORARY CONSTRUCTION
- COMPLETED FROM PREVIOUS PHASES

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VALMONT ROAD & 29TH STREET
CONSTRUCTION PHASING
PHASE 1

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: PHASING
Structure Numbers
Subset Sheets: 5 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 72

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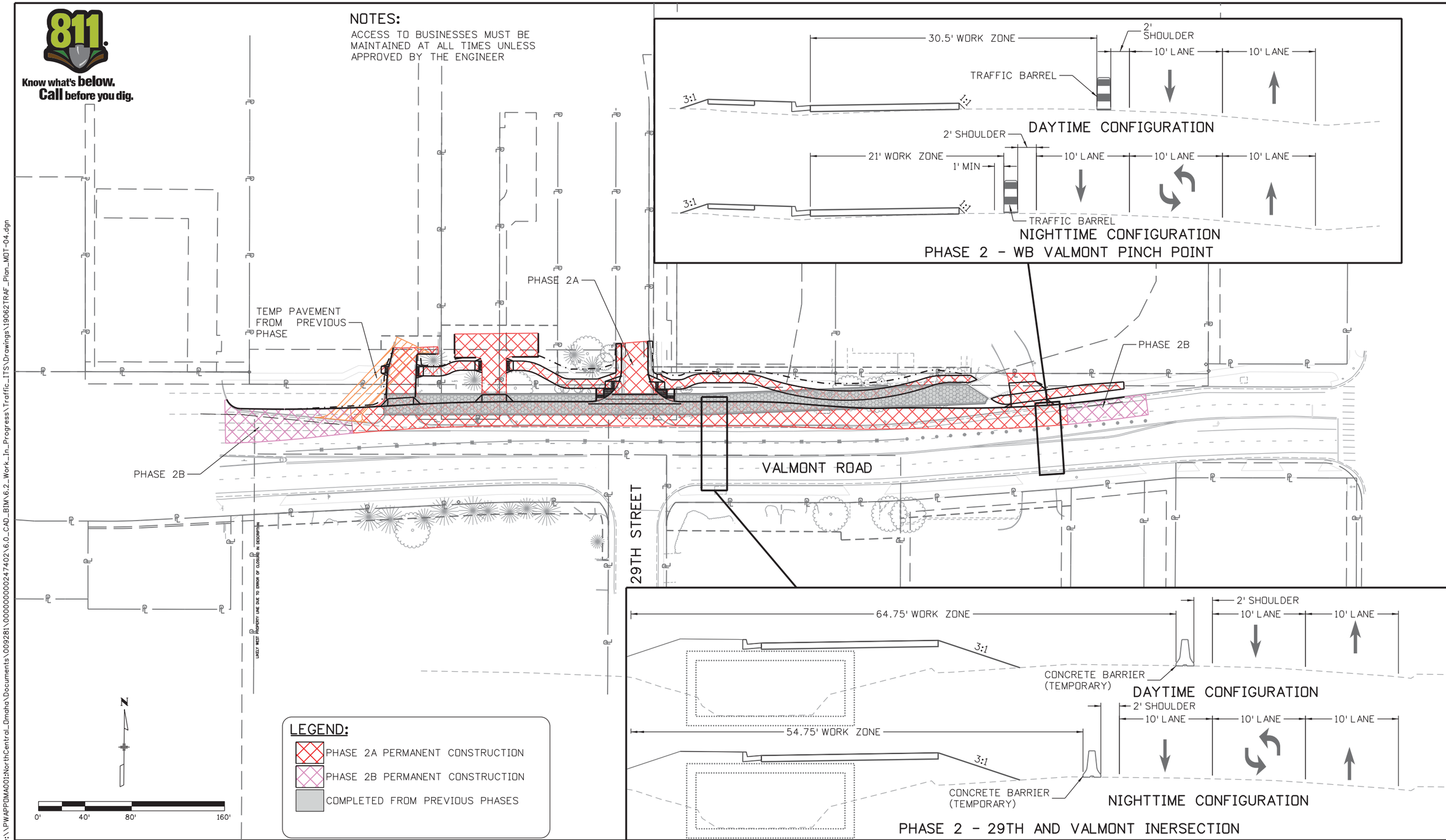

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VALMONT ROAD & 29TH STREET
CONSTRUCTION PHASING
PHASE 2

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: PHASING
Structure Numbers
Subset Sheets: 6 of 9

Project No./Code
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SA 19062
Sheet Number 73

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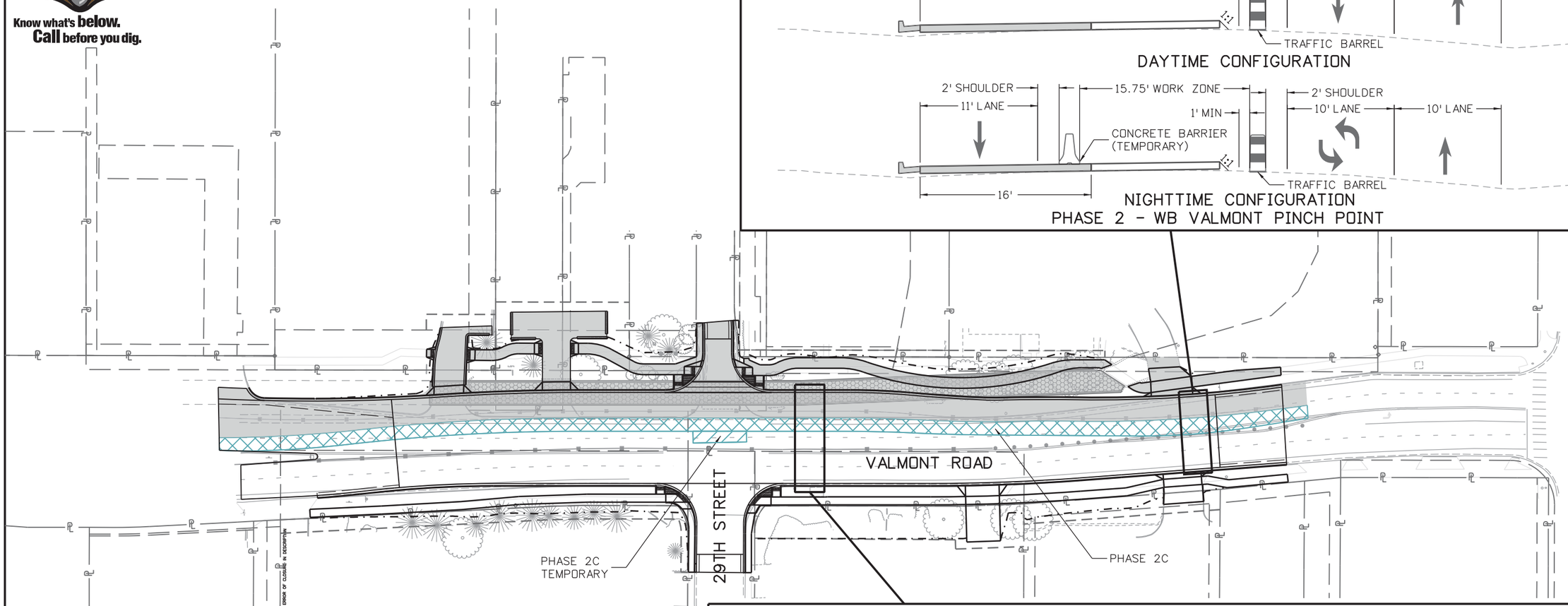

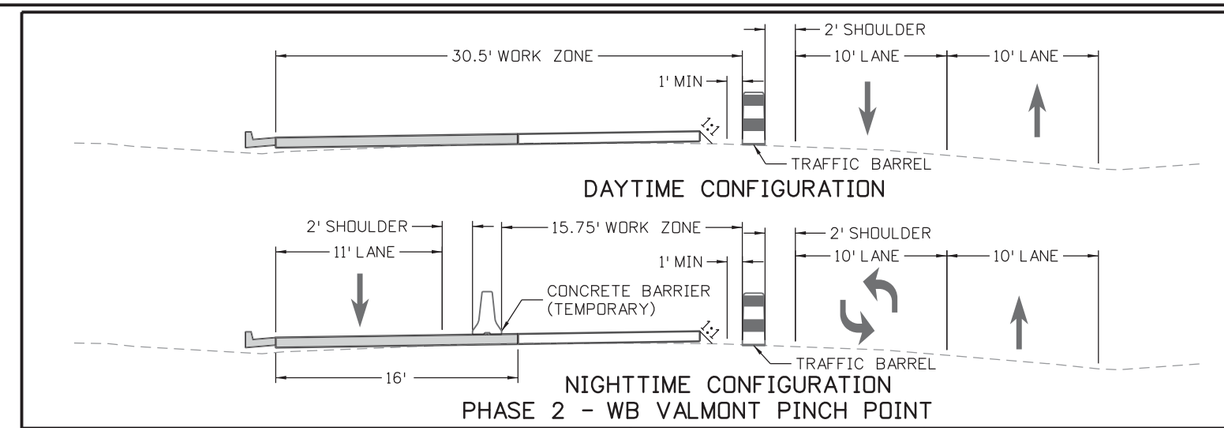

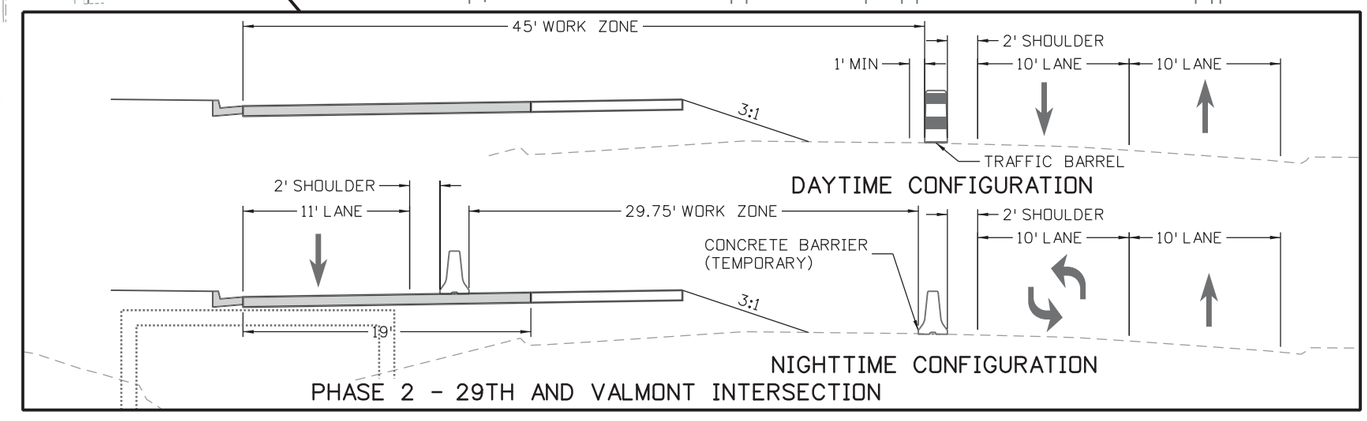

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0' 40' 80' 160'

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VALMONT ROAD & 29TH STREET
CONSTRUCTION PHASING
PHASE 2

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: PHASING
Structure Numbers
Subset Sheets: 7 of 9

Project No./Code
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SA 19062
Sheet Number 74

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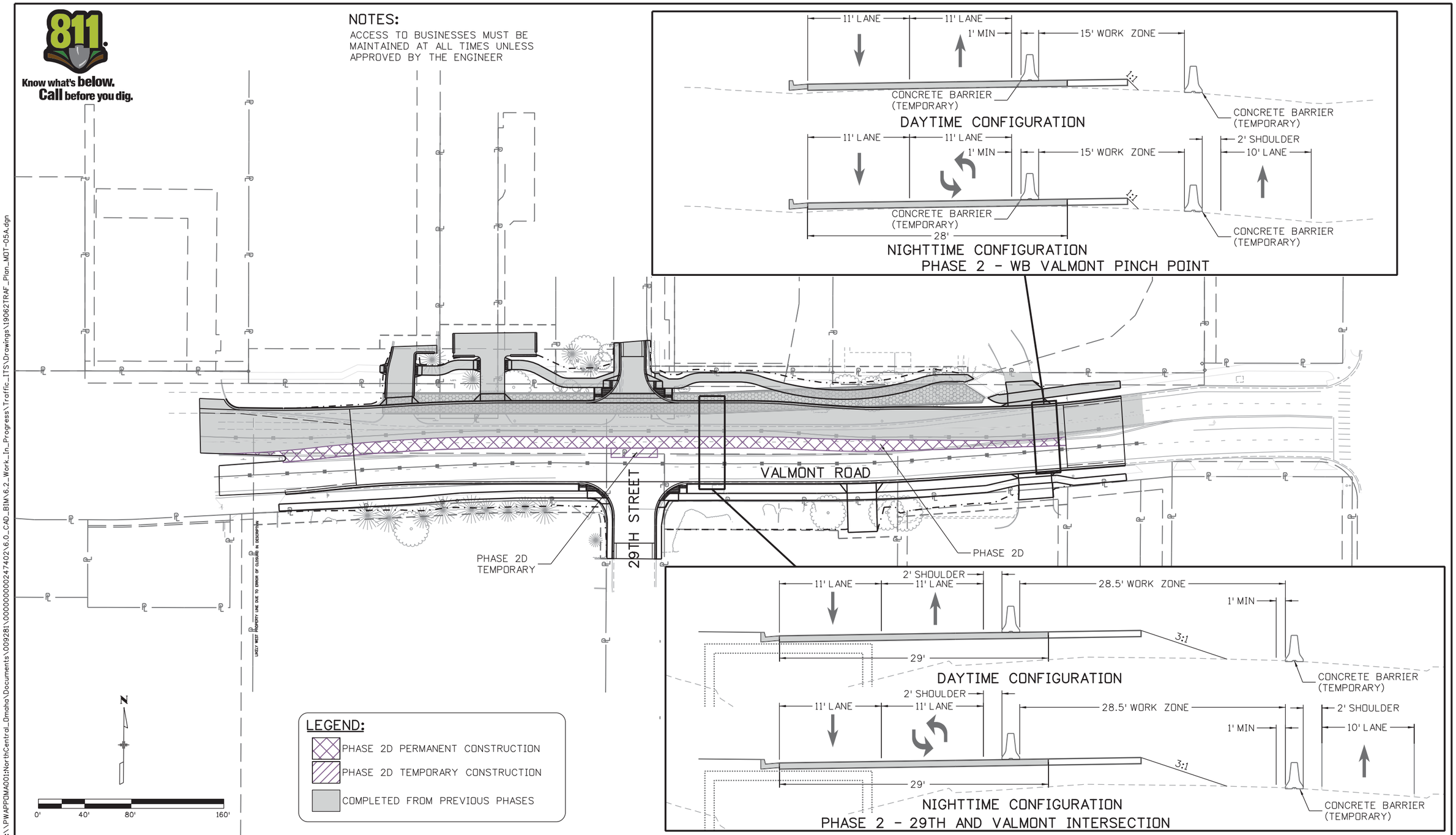

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VALMONT ROAD & 29TH STREET
CONSTRUCTION PHASING
PHASE 2

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: PHASING
Structure Numbers
Subset Sheets: 8 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 75

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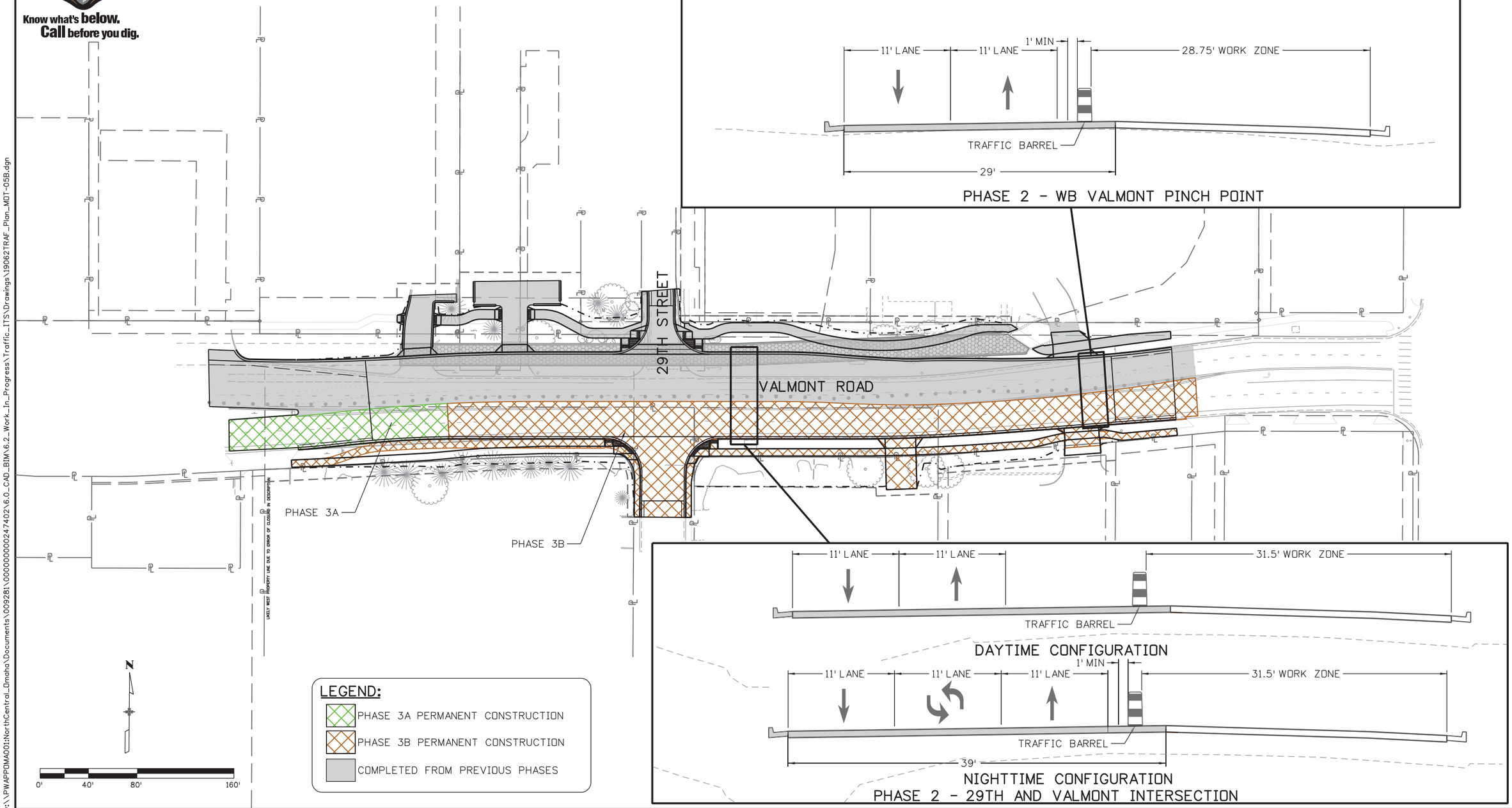

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VALMONT ROAD & 29TH STREET
CONSTRUCTION PHASING
PHASE 3

Designer:	J. COLIP	Structure Numbers	
Detailer:	J. MCPHAUL		
Sheet Subset:	PHASING	Subset Sheets:	9 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 76

GENERAL PLANTING NOTES

1. All plant materials shall meet or exceed current American Standard for Nursery Stock (ANSI Z60.1-2004) and the Colorado Nursery Act and accompanying Rules and Regulations.
2. All plants will be balled and burlapped or container grown. Bare root or spaded plants will not be accepted.
3. Supply all plant material in quantities sufficient to complete the planting bed as shown on the drawings.
4. All plants will be inspected and approved by the Owner's Representative prior to delivery to the site.
5. Any proposed substitutions of plant species shall be approved by the Landscape Architect and the Owner prior to delivery to the site.
6. Obtain Landscape Architects approval of finish grading prior to the start of planting.
7. Stake locations of all proposed trees and edges of new planting beds for approval by the Owner's Representative prior to the commencement of planting.
8. Landscape Contractor shall be responsible for becoming aware of all underground utilities, pipes and structures. The Landscape Contractor shall be held responsible for contacting all utility companies for field location of underground utility lines prior to any excavation. Landscape Contractor shall take sole responsibility for any cost of utility repair due to damage caused by his operations.
9. Do not willfully proceed with construction as designed when it is obvious that unknown obstructions and/or grade differences exist that may not have been known during design. Such conditions shall be immediately brought to the attention of the Landscape Architect, HDR at (719) 272-8811. The Landscape Contractor shall assume full responsibility for all necessary revisions due to failure to give such notification.
10. Landscape Contractor shall be responsible for any coordination with subcontractors as required to accomplish planting operations.
11. See specifications for planting requirements, soil preparation testing, materials and execution. Arrange for visit of the Landscape Architect for review and approval a minimum of 48 hours prior to installation.
12. See details and specifications for staking method, plant pit dimensions and backfill requirements.
13. Landscape Contractor shall provide per-unit costs for every size of plant materials, and by type, as called out on planting plans. Unit cost to include the plant material itself and installation, including all labor, amendments, fertilizers, etc., as detailed and specified for each size.
14. Landscape Contractor is responsible to do their own quantity takeoffs for all plant materials and sizes shown on plans.
15. The Landscape Contractor shall be responsible for positive drainage throughout the site with accurately set flow lines. No low spots or ponding of surface water will be accepted in final work.
16. Coordinate installation of large plant material with installation of wall footings and pavements. Any damage to improvements by others is the responsibility of the Landscape Contractor.
17. The Landscape Contractor shall allow for the addition of specified quantities of soil amendments, conditioners and mulch in soil preparation and finish grading.
18. Imported soil shall be used to supplement the existing soil as necessary to meet the finish grade requirements at planting areas.
19. The Landscape Contractor shall verify soil test at his expense prior to planting and will follow test recommendations and Landscape Architect's approval for soil amendments.
20. The Landscape Contractor shall receive the specified subgrade elevation, of +/- one tenth of a foot below finish grade. The Landscape Contractor shall be responsible to furnish and install amended or imported soil in any planting areas as necessary to achieve the specified finish planting grades unless otherwise noted on plans or specs.
21. The Landscape Architect reserves the right to adjust the location of plant material during installation as appropriate to the project. For trees in the right-of-way, adjustments of 5'-0" or more must have prior authorization of City Forester.
22. Contractor is to familiarize himself with the layout, grading and civil engineering documents to coordinate actual location of trees and shrubs.
23. Maintenance Statement: All landscaping shown on this plan shall be maintained in a neat and adequate manner. Required maintenance activities shall include, but not limited to, mowing of lawns, trimming of hedges, adequate irrigation, replacement of dead, diseased or unsightly landscaping, removal of weeds from planted areas, and appropriate pruning of plant materials.
24. Take all dimensions from back of curb, center line of trees, and centerline of light pole bases, unless otherwise noted.
25. Take all dimensions perpendicular to any reference line, centerline, or back of curb.
26. Written dimensions supersede scaled dimensions. Do not scale drawings, if there is a question regarding dimension, contact HDR for verification.
27. Street Trees shall be placed 5'-0" min from buried utilities.
34. Existing trees to be preserved in public ROW shall be protected per Forestry standards and practices. Tree protection shall be installed prior to issue of demolition permit, approved by Forestry, and shall remain in place throughout construction. No construction activities or storage materials shall take place within tree protection zones without prior written authorization from the Office of the City Forester.
35. Required soil remediation when removing hardscape / concrete / asphalt / pavers / etc. to plant trees; Soil analysis, bulk density testing and remediation required when removing hardscape to plant trees; including but not limited to concrete, asphalt, pavers, brick.
    a. Deep soil analysis to 24" depth required from credited, local soil analysis laboratory with experienced in local urban soils.
        i.) Analysis must determine soil texture and type, pH balance, soil salinity, organic matter(OM) percentage, and plant available nutrients.
    b. Soil Remediation required based on soil analysis.

NOTES:

1. ALL TREES SHALL BE PAID FOR AS 214 DECIDUOUS TREE (2 INCH CALIPER)
2. ALL SHRUBS SHALL BE PAID FOR AS 214 DECIDUOUS SHRUB (5 GALLON CONTAINER)
3. SNOW-IN-SUMMER SHALL BE PAID FOR AS 214 GROUND COVER SHRUB
4. MEDIUM BOULDERS SHALL BE PAID FOR AS 213 LANDSCAPE BOULDER
5. SMALL BOULDERS SHALL BE PAID FOR AS 213 LANDSCAPE BOULDER (SPECIAL)

PLANT SCHEDULE

TREES	BOTANICAL NAME/COMMON NAME	COND	SIZE	QNTY
	CELTIS OCCIDENTALIS / COMMON HACKBERRY	B&B	2" CAL	4
	QUERCUS BICOLOR / SWAMP WHITE OAK	B&B	2" CAL	4
	QUERCUS ROBUR / ENGLISH OAK	B&B	2" CAL	3

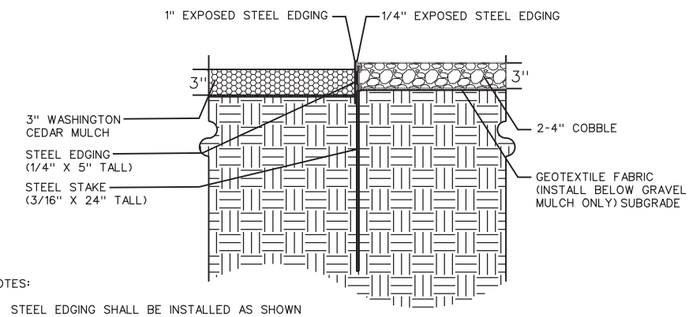
SHRUBS	BOTANICAL NAME/COMMON NAME	COND	SPACING	QNTY
	CARYOPTERIS X CLANDONENSIS 'BLUE MIST' / BLUE MIST SPIREA	#5	3' O.C.	292
	JUNIPERUS HORIZONTALIS 'BLUE CHIP' / BLUE CHIP JUNIPER	#5	5' O.C.	103
	PRUNUS BESSEYI / SAND CHERRY	#5	3' O.C.	118
	RHUS AROMATICA 'GRO-LOW' / GRO-LOW FRAGRANT SUMAC	#5	5' O.C.	52

GROUND COVERS	BOTANICAL NAME/COMMON NAME	COND	SPACING	QNTY
	BOUTELOUA DACTYLOIDES / BUFFALO GRASS	SOD	-	2564 SF
	CERASTIUM TOMENTOSUM / SNOW-IN-SUMMER	36 COUNT FLAT	18" O.C.	280; APPROX 8 FLATS
	2-4" ROCK MULCH (WEED FREE)	-	3" DEPTH	APPROX 3 TONS
	MEDIUM SIZE GRAY GRANITE BOULDERS	-	-	2
	SMALL SIZE GRAY GRANITE BOULDERS	-	-	4
	TREE PROTECTION FENCING	-	-	815 LF

ALL PLANTING BEDS UNLESS NOTED WILL BE FINISHED WITH 3" WASHINGTON CEDAR MULCH. IT SHALL BE PAID FOR AS 213 MULCHING (WEED FREE).

PROTECTION TREE: PROTECT ALL EXISTING TREES AS NOTED AND REFERENCE THE VALMONT ROAD AND 29TH STREET LANDSCAPE NOTES AND DETAILS PAGE 75 FOR PROTECTED ROOT ZONE AND DRIP LINE.

TREE REMOVAL: SEE THE VALMONT ROAD AND 29TH STREET UTILITY AND REMOVAL PLAN SHEETS 28 & 29 FOR THE TREE AND SHRUB REMOVAL.

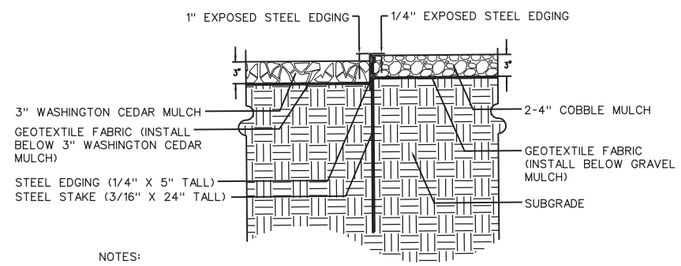


NOTES:

1. STEEL EDGING SHALL BE INSTALLED AS SHOWN ON PLAN.
2. SUBMIT MULCH, GEOTEXTILE, AND STEEL EDGING PRODUCT INFORMATION FOR APPROVAL.

COBBLE/STEEL EDGE DETAIL 1/76-77

SCALE: NTS



NOTES:

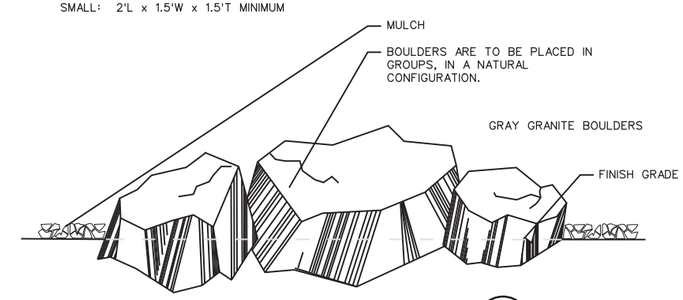
1. STEEL EDGING SHALL BE INSTALLED BETWEEN THE DIFFERENT MULCH TYPES.
2. SUBMIT MULCH, GEOTEXTILE, AND STEEL EDGING PRODUCT INFORMATION FOR APPROVAL.
3. COLOR: BROWN

MULCH/STEEL EDGE DETAIL 3/76-77

SCALE: NTS

NOTES:

1. PLACE ALL BOULDERS SUCH THAT 1/4 OF THE TOTAL MASS OF EACH BOULDER IS BELOW FINISH GRADE.
2. BOULDERS SHALL BE OF LOCALLY AVAILABLE GRANITE, GRAY IN COLOR. BOULDERS ARE TO BE SURFACE GRADE OR QUARRIED ROCK WITH NO BREAKS OR SCRATCHES; SANDSTONE IS NOT ACCEPTABLE.
3. BOULDER LOCATION, QUANTITIES, AND SIZE CATEGORIES ARE SHOWN IN THE LANDSCAPE PLAN.
4. FURNISH AND INSTALL THE FOLLOWING BOULDER SIZES:
   MEDIUM: 3'L x 2'W x 2'T MINIMUM
   SMALL: 2'L x 1.5'W x 1.5'T MINIMUM



BOULDER INSTALLATION DETAIL 6/77

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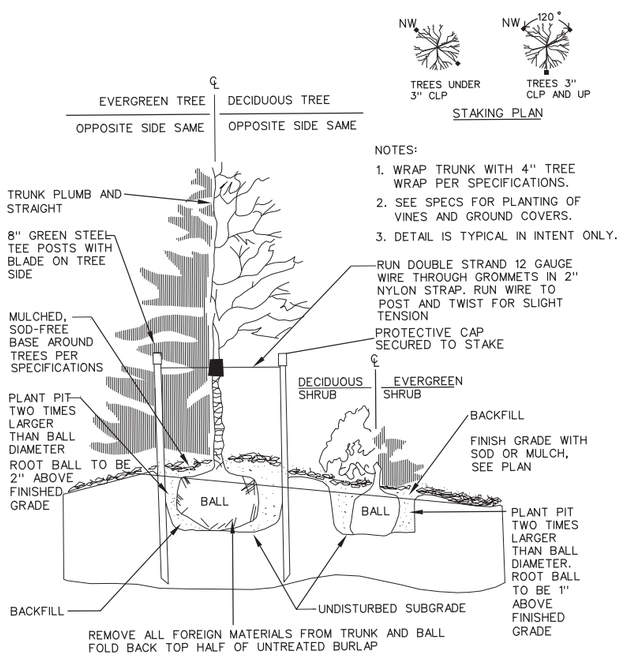

NOTES:

1. WRAP TRUNK WITH 4" TREE WRAP PER SPECIFICATIONS.
2. SEE SPECS FOR PLANTING OF VINES AND GROUND COVERS.
3. DETAIL IS TYPICAL IN INTENT ONLY.

CITY OF BOULDER, COLORADO

TREE AND SHRUBS PLANTING DETAIL 4/76-77

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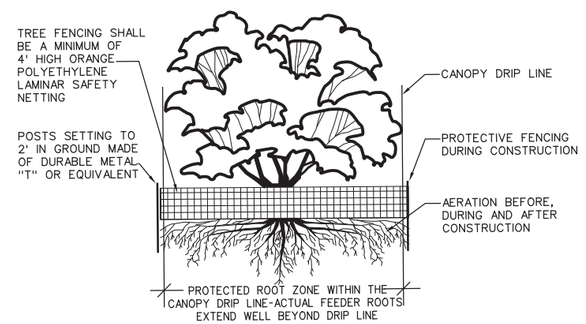

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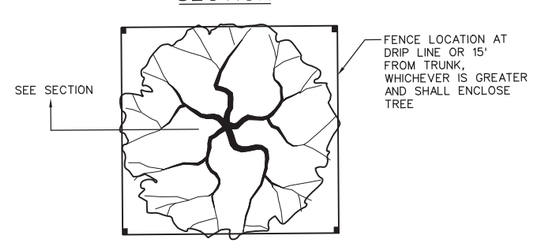
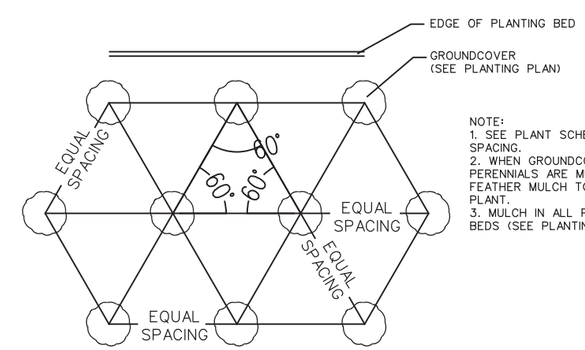


PLAN

CITY OF BOULDER, COLORADO

PROTECTED ROOT ZONE AND DRIP LINE. 5/76-77

SCALE: NTS



NOTE:
1. SEE PLANT SCHEDULE FOR SPACING.
2. WHEN GROUNDCOVER AND PERENNIALS ARE MULCHED, FEATHER MULCH TO BASE OF PLANT.
3. MULCH IN ALL PERENNIAL BEDS (SEE PLANTING PLAN)

GROUNDCOVER PLANTING DETAIL 2/76-77

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VALMONT ROAD & 29TH STREET
LANDSCAPING NOTES AND DETAILS

Designer: J. COLIP
Detailer: S. CASAGRANDE
Sheet Subset: LANDSCAPE
Structure Numbers
Subset Sheets: 2 of 4

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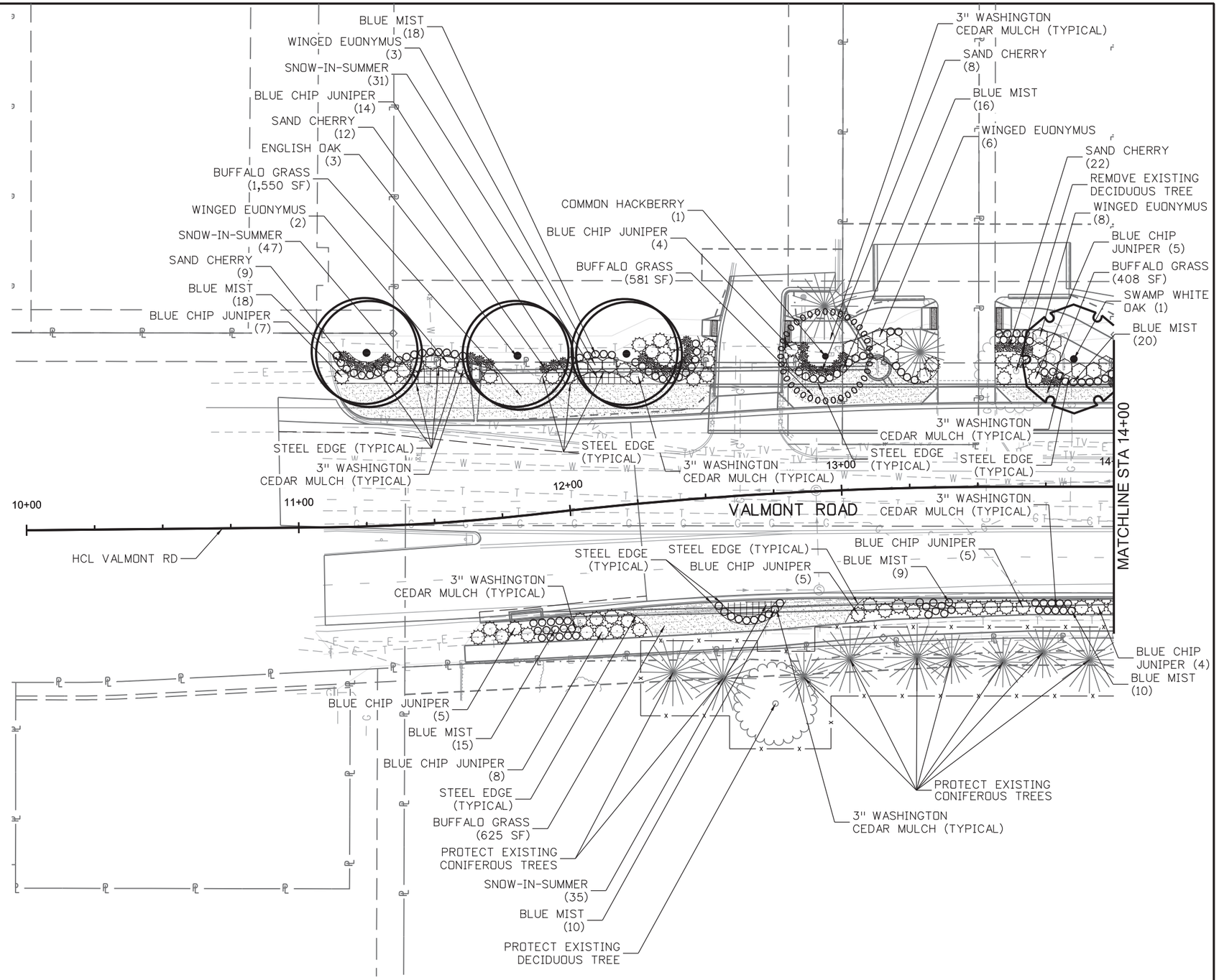
Sheet Number 78



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VALMONT ROAD & 29TH STREET
LANDSCAPE PLAN
STA 10+00 TO STA 14+00

Designer: S. CASAGRANDE
Detailer: J. MCPHAUL
Structure Numbers
Sheet Subset: LANDSCAPE
Subset Sheets: 3 of 4

Project No./Code
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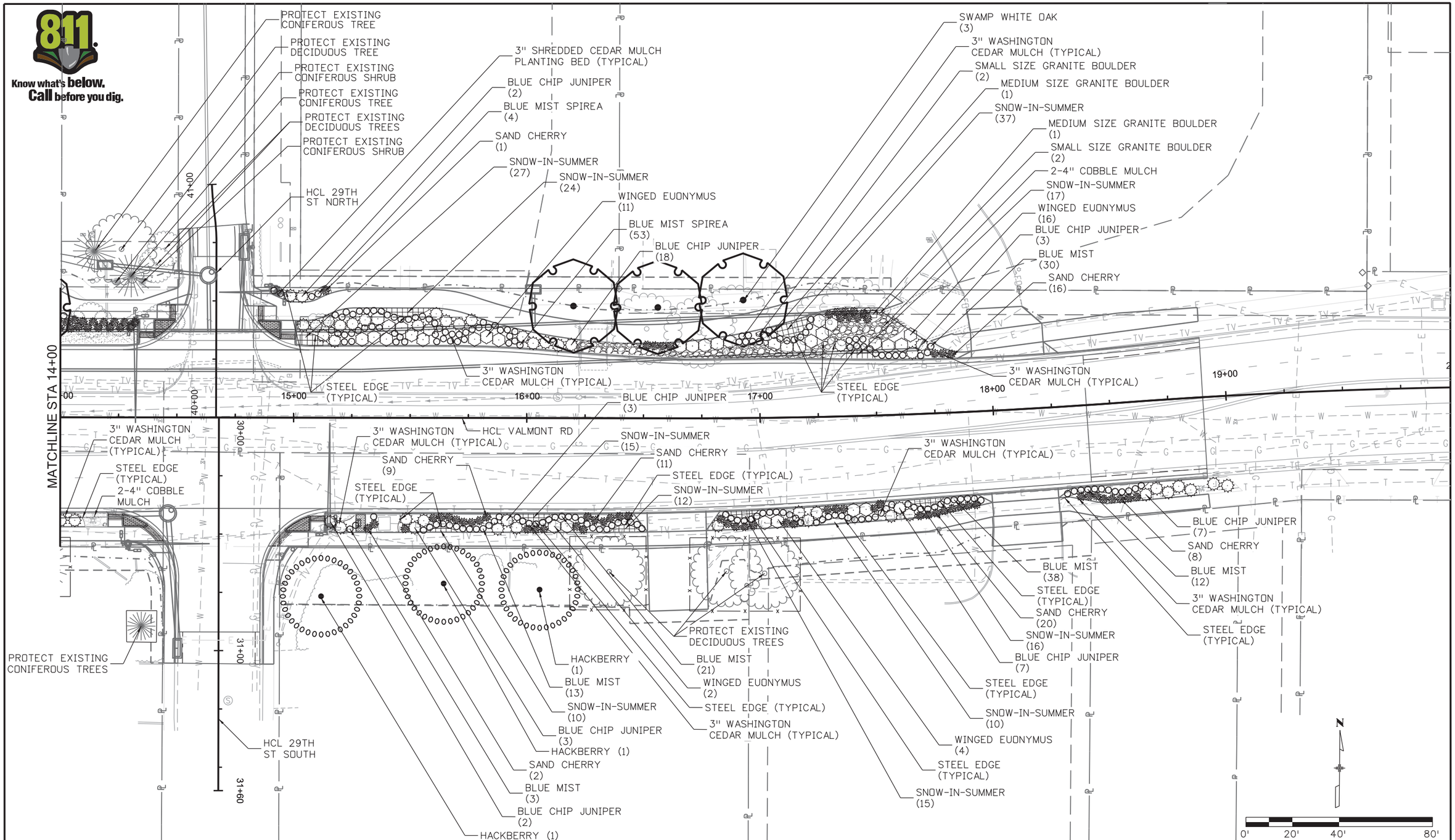

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VALMONT ROAD & 29TH STREET
LANDSCAPE PLAN
STA 14+00 TO STA 19+00

Designer: S. CASAGRANDE
Detailer: J. MCPHAUL
Sheet Subset: LANDSCAPE
Structure Numbers
Subset Sheets: 4 of 4

Project No./Code
SHO M110-084
SA 19062
Sheet Number 80

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IRRIGATION LEGEND

SYMBOL	DESCRIPTION
	EXISTING BACKFLOW PREVENTER TO REMAIN
	NEW BACKFLOW PREVENTER: FEBCO 825 YA 3/4" PER DETAIL
	DRIP CONTROL VALVE ASSEMBLY: RAINBIRD XCZ–075–PRF KIT FOR 3/4" VALVE
	QUICK COUPLER RAINBIRD 44RC
	EMITTER LATERAL PIPE: UV RADIATION RESISTANT POLYETHYLENE, 1" SIZE (ROUTING IS DIAGRAMMATIC)
	DRIP FLUSH PLUG ASSEMBLY
	MAINLINE PIPE: CLASS 200 PVC 1" BELL END
	LATERAL PIPE TO SPRINKLERS: CLASS 200 PVC PIPE (1–INCH SIZE UNLESS OTHERWISE INDICATED)
	UNCONNECTED PIPE CROSSING
	UNCONNECTED PIPE CROSSING, TWO DIFFERENT PIPES
	P.O.C. – POINT OF CONNECTION
	CLASS 200 PVC SLEEVING, 2" UNLESS OTHERWISE NOTED
A1 / 15 / 1"	INDICATES CONTROLLER AND CONTROLLER STATION NUMBER INDICATES LATERAL DISCHARGE IN GPM INDICATES REMOTE CONTROL VALVE SIZE IN INCHES
A B C D E F G H I J	EXISTING OR NEW CONTROLLER REFER TO PLANS FOR SPECIFICS ON EACH INDIVIDUAL CONTROLLER

IRRIGATION NOTES

1. Irrigation systems are designed to operate off of existing water pressure after backflow preventers. Contractor to verify pressure PRIOR TO INSTALLATION and notify OWNER of any differences. Design pressure at heads to be as noted in legend.
2. No irrigation work to begin until final grade has been approved.
3. Locate all heads 6" min. from any wall, walk, or curb, and 12" min. from any curb adjacent to parking stalls.
4. Bury all mainlines 24" underground to top of pipe. Bury all laterals 12"–24" underground to top of pipe.
5. Pipes in shared trenches are not allowed.
6. Brand all appropriate box lids with 1" minimum letters with the following abbreviations:
   QC Quick Coupler
   SV# Section Valve & Corresponding Controller Station #
   FC Drip Flush Cap
7. All pipe under pavement to be sleeved in 2" minimum PVC class 200 extend 12" beyond each edge of pavement, sloped to drain. Install prior to paving. Sleeve wires separately in 4" min. pipe.
8. All valve wire is to be 14 gauge direct burial irrigation wire. Extend 2 extra wires when running new wire.
9. Heads will be diagrammatic. Contractor to select and install correct arcs as needed for part circle heads. Adjust radii and arc as necessary for no overspray/backwash onto adjacent buildings, walls, or fences.
10. Plan has been prepared using limited on–site observation. Plan is diagrammatic and does not reflect all equipment, etc., that could be encountered during construction. All tie locations, mainline locations and lateral locations are approximate and shall require exact location by Contractor.
11. Install drip emitters as described below:

1 gallon material	Rain Bird PC–10	1 ea.
5 gallon material	Rain Bird PC–10	2 ea.
Deciduous Trees (1–1/2"–2 1/2" CAL.)	Rain Bird PC–10	3 ea.
Deciduous Trees (3"–4" CAL.)	Rain Bird PC–10	4 ea.
Evergreen Trees (6'–10')	Rain Bird PC–10	2 ea.
Evergreen Trees (11'–14')	Rain Bird PC–10	3 ea.

12. See sheet I2.0 for irrigation details.

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Irrigation Design and Landscape Architecture
233 Saint Ida Circle
Lafayette, Colorado 80026
720-273-3884

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VALMONT ROAD & 29TH STREET
IRRIGATION NOTES AND LEGEND

Designer: KJM
Detailer: KJM
Sheet Subset: IRRIGATION
Structure Numbers
Subset Sheets: of

Project No./Code
SHO M110–084
SA 19062
Sheet Number 81

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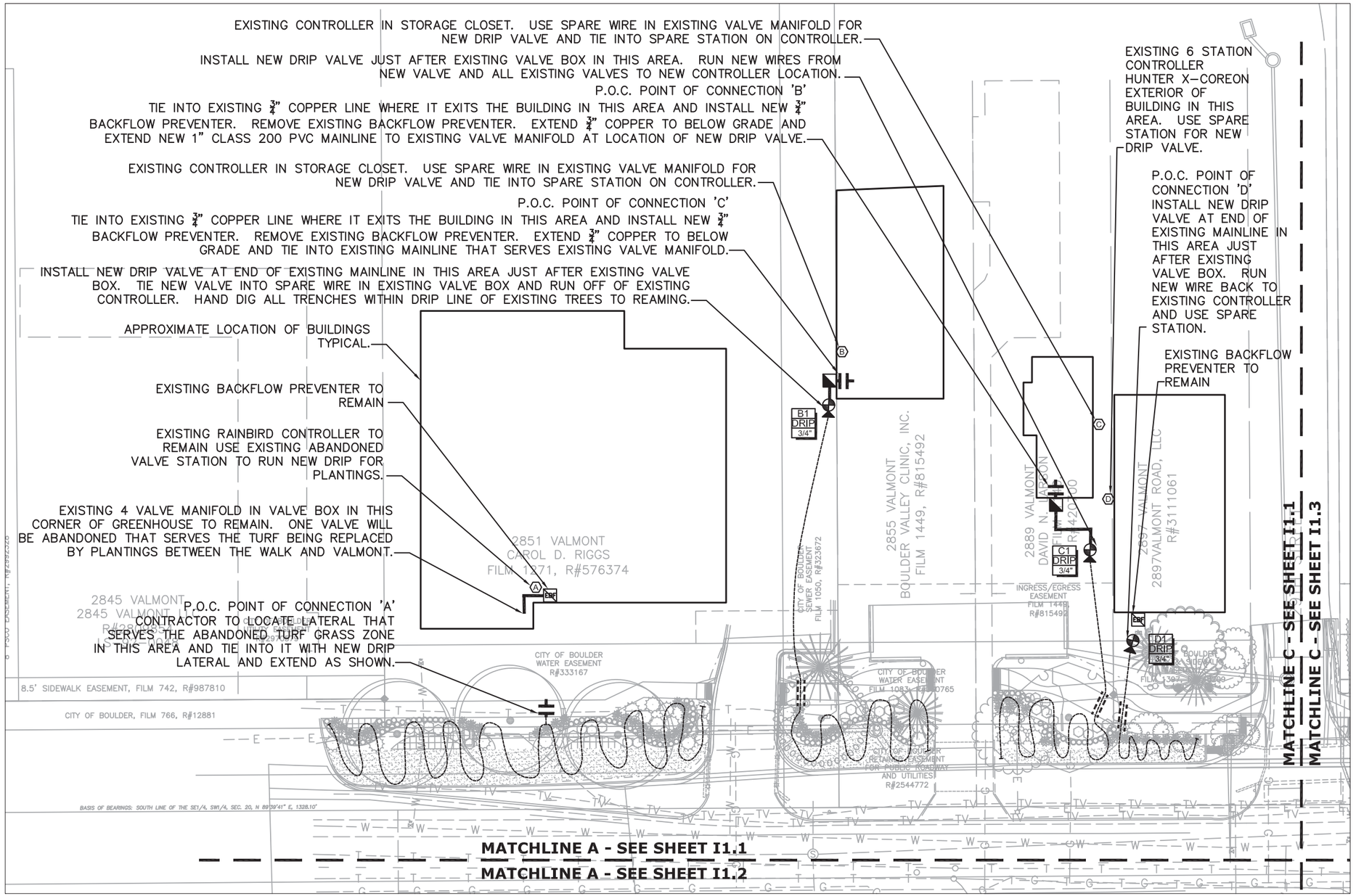

1 Irrigation Plan

Scale: 1"=40'

0 40 80 120

SCALE 1"=40'-0"

North

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720-273-3884

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VALMONT ROAD & 29TH STREET IRRIGATION PLAN

Designer:	KJM	Structure Numbers	
Detailer:	KJM		
Sheet Subset: IRRIGATION		Subset Sheets:	of

Project No./Code
SHO M110-084
SA 19062
Sheet Number 82

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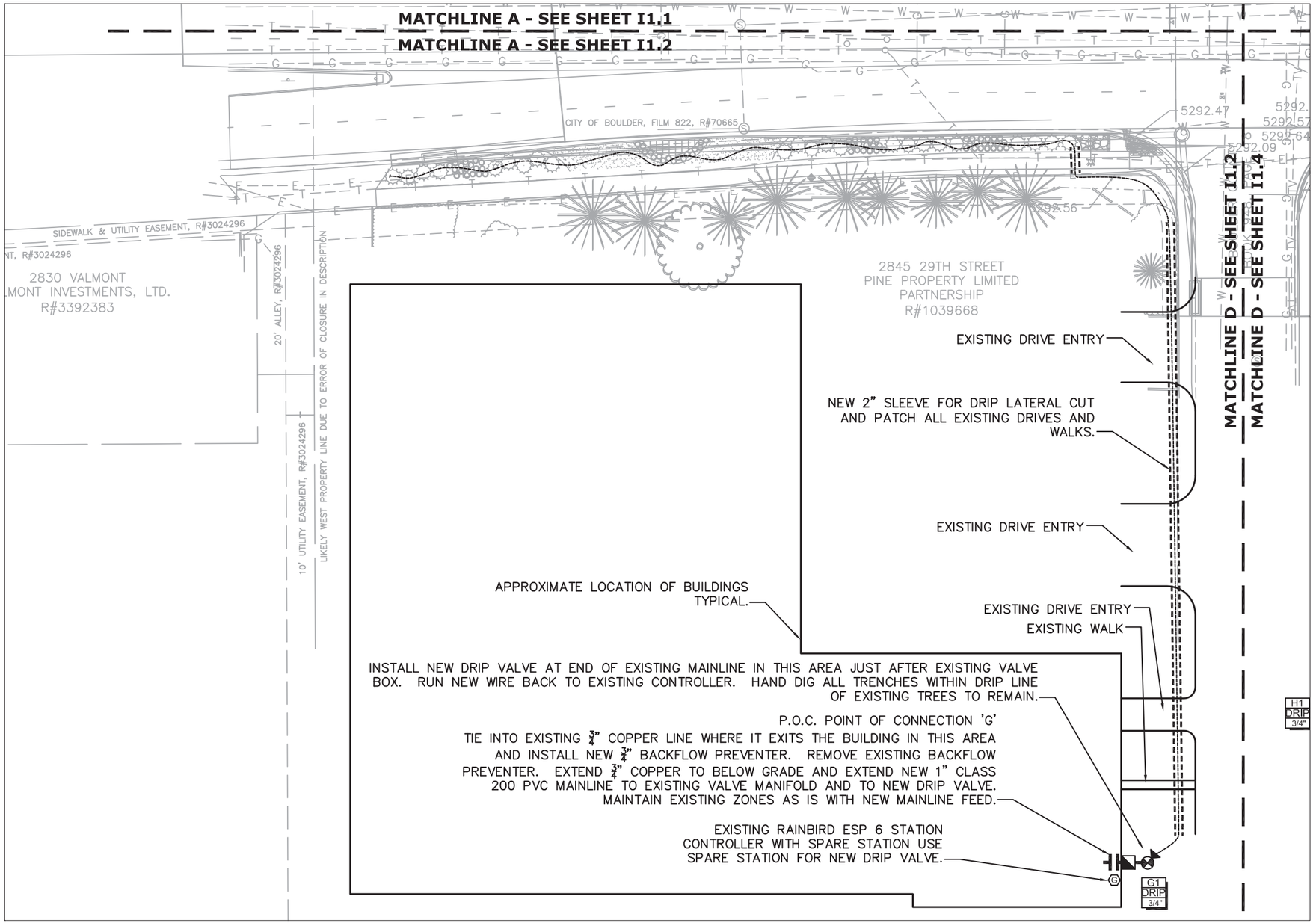

1 **Irrigation Plan**

Scale: 1"=40'

0 40 80 120

SCALE 1"=40'-0"

North

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Irrigation Design and Landscape Architecture
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	Detailer: KJM			
Void:	Sheet Subset: IRRIGATION	Subset Sheets: of		Sheet Number 83

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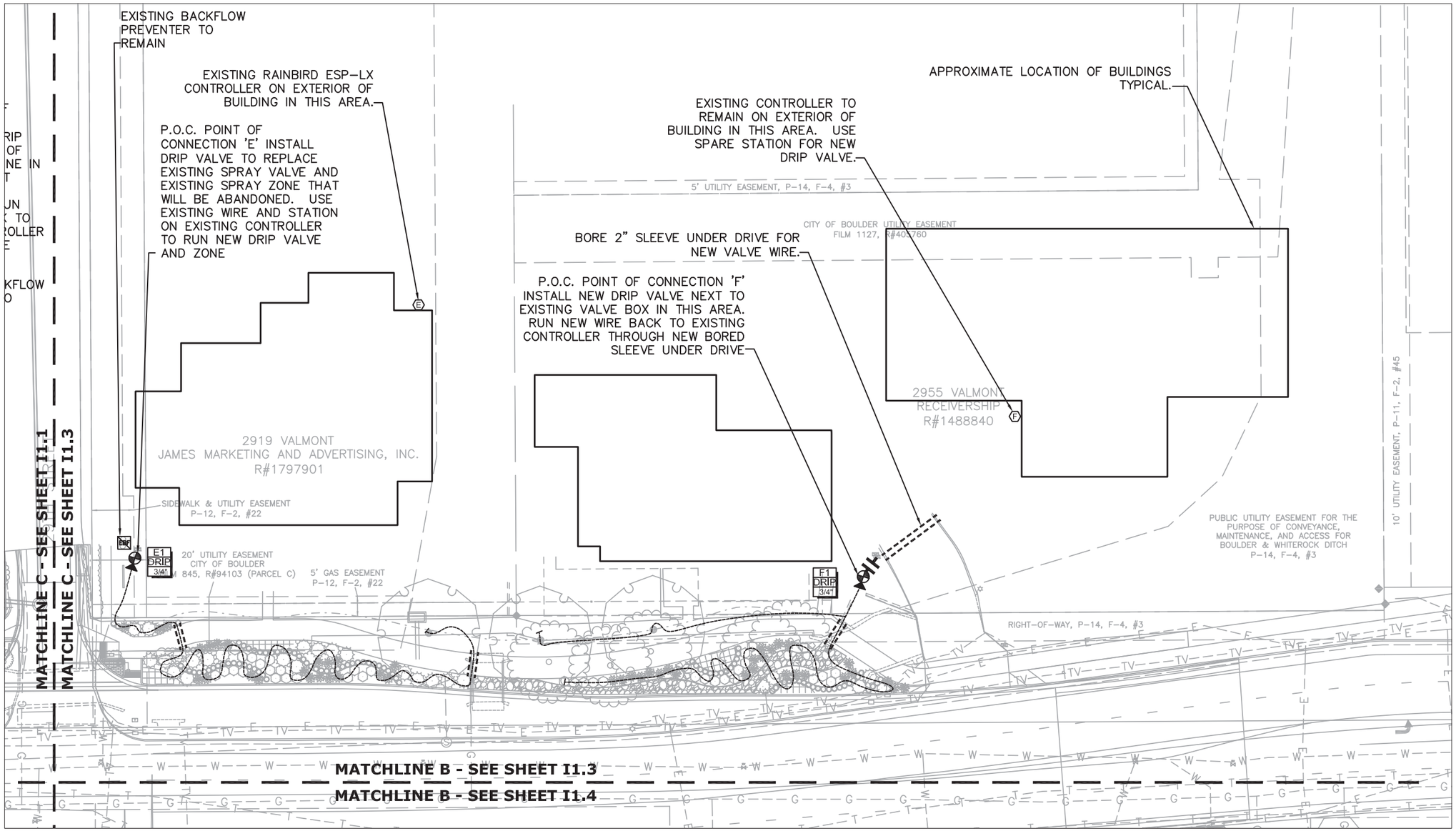

1 Irrigation Plan

Scale: 1"=40'

0 40 80 120

SCALE 1"=40'-0"

North

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VALMONT ROAD & 29TH STREET IRRIGATION PLAN

Designer: KJM | Structure Numbers
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SA 19062

Sheet Number 84

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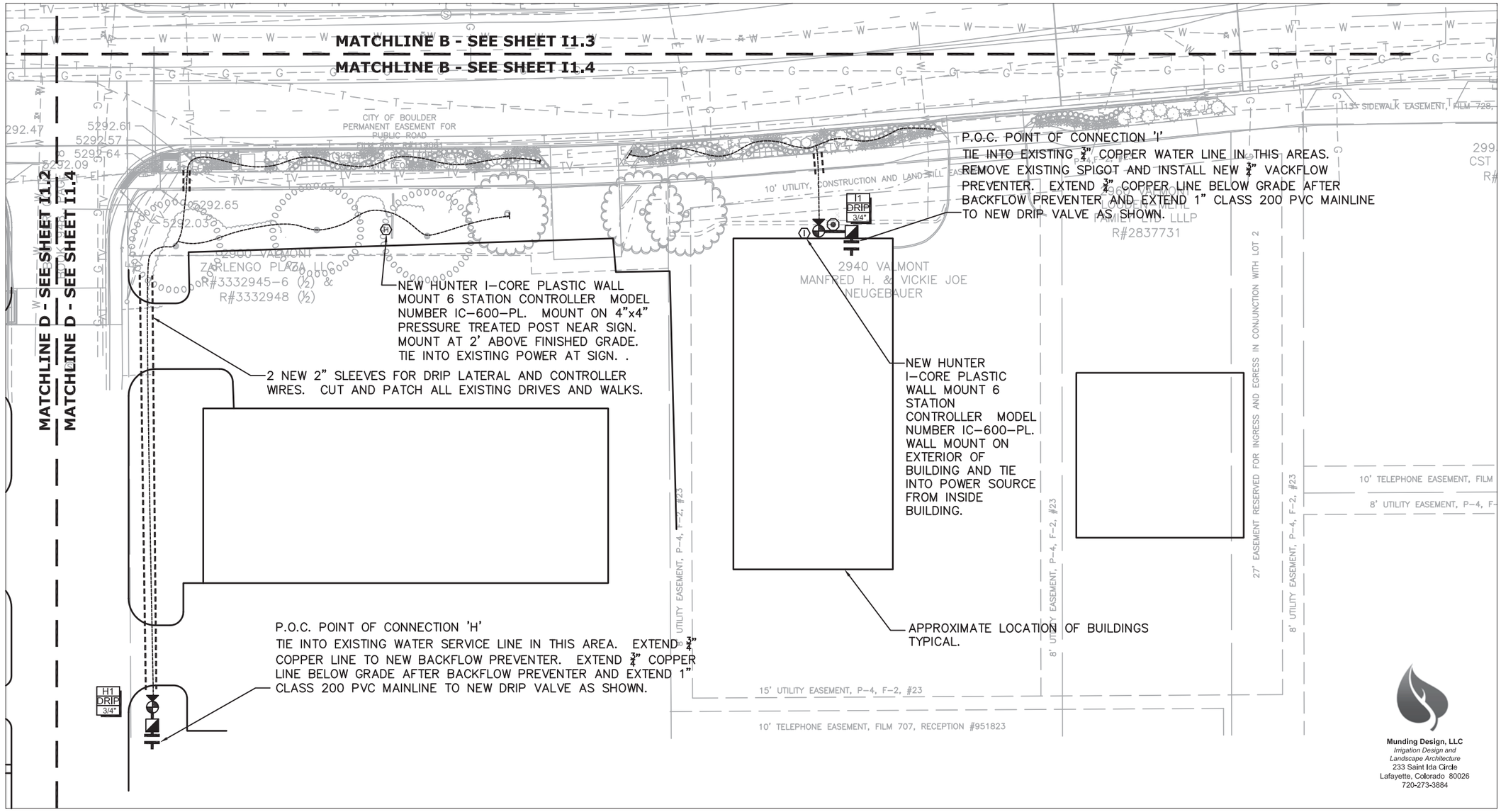

1 Irrigation Plan

Scale: 1"=40'

0 40 80 120

SCALE 1"=40'-0"

North

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Designer: KJM	Structure Numbers		SA 19062
Detailer: KJM			
Sheet Subset: IRRIGATION	Subset Sheets: of		Sheet Number 85

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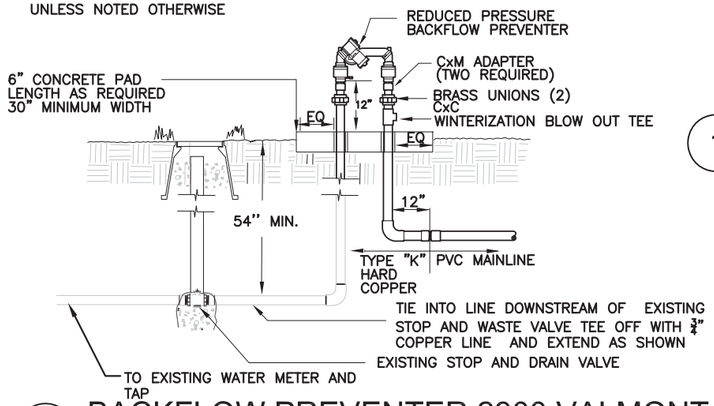
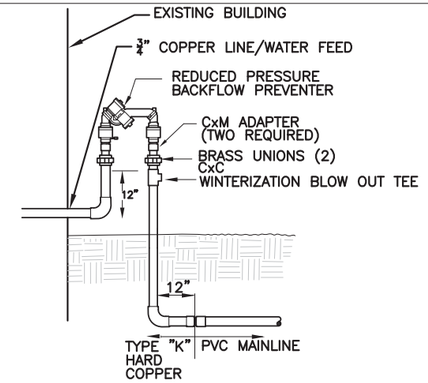
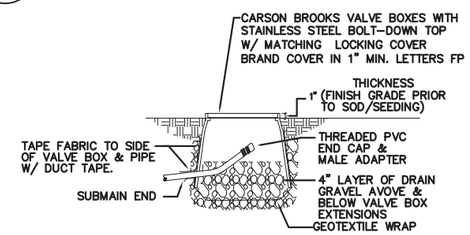
NOTE:
1. CONCRETE PAD PENETRATIONS TO BE 1" LARGER THAN TUBING DIAMETER
2. REFER TO ENCLOSURE DETAIL FOR CONCRETE PAD DIMENSIONS
3. DIAMETER OF FITTINGS AND TUBING SHALL EQUAL DIAMETER BACKFLOW PREVENTER UNLESS NOTED OTHERWISE



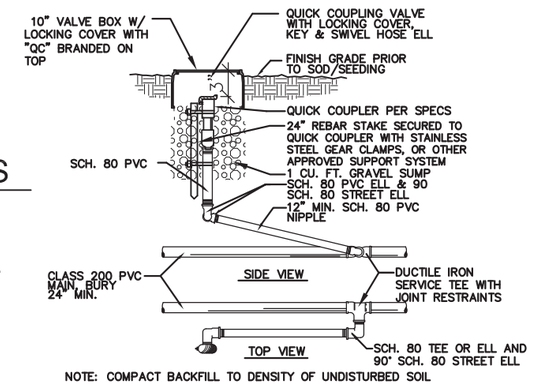
2 BACKFLOW PREVENTER 2900 VALMONT
NOT TO SCALE



1 BACKFLOW PREVENTER FOR REST OF PROPERTIES
NOT TO SCALE

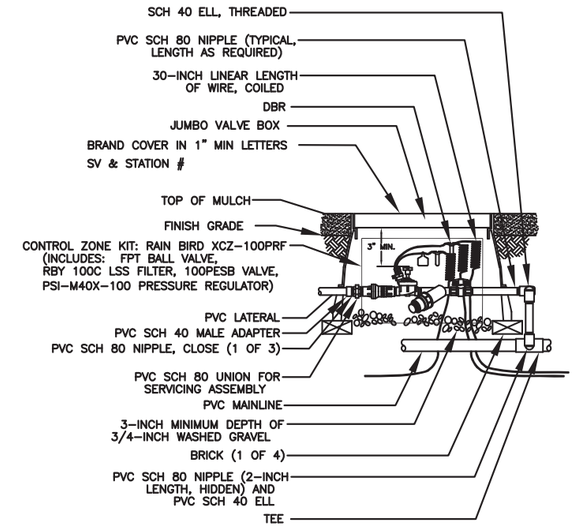


3 DRIP FLUSH VALVE
NOT TO SCALE



NOTE: COMPACT BACKFILL TO DENSITY OF UNDISTURBED SOIL

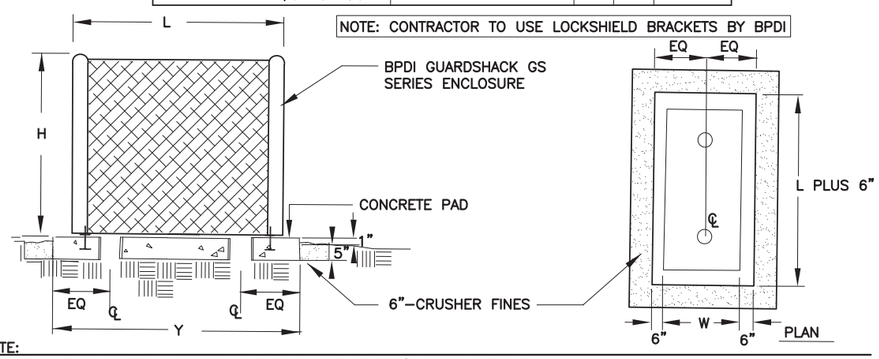
4 QUICK COUPLER
NOT TO SCALE



5 INLINE DRIP CONTROL VALVE
NOT TO SCALE

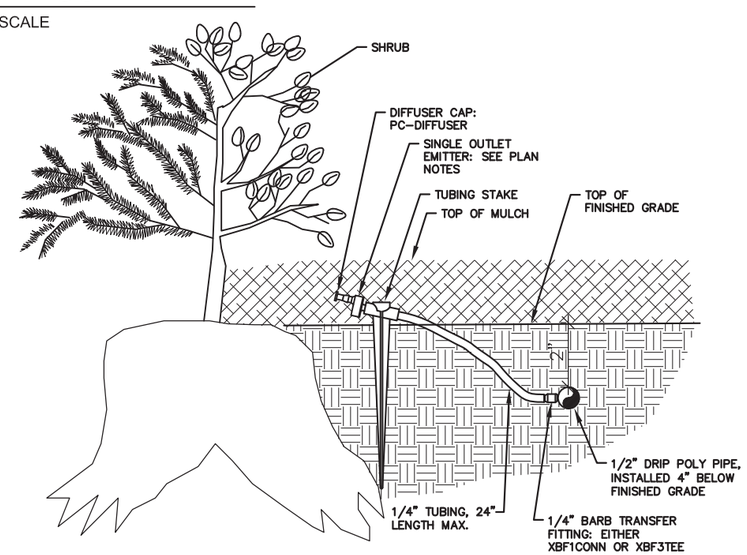
BFP MODEL/SIZE	ENCLOSURE MODEL	W	H	L
FEBCO 825YA – ¾", 1", 1¼", 2"	GS-1	10"	24"	22"

NOTE: CONTRACTOR TO USE LOCKSHIELD BRACKETS BY BPDI

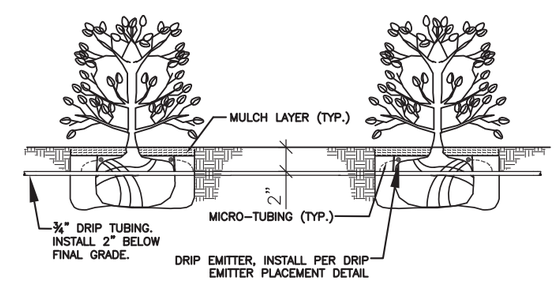


NOTE:
* INSTALL ENCLOSURE ANCHORS AS PER MANUFACTURER'S RECOMMENDATIONS.
* PROVIDE OWNER WITH KEYED PADLOCK FOR ENCLOSURE
* PROVIDE ENCLOSURE WITH STANDARD DARK GREEN POWDER COATED FINISH
* PAD PENETRATIONS FOR BACKFLOW PREVENTER RISERS TO BE 1" LARGER THAN RISER DIAMETER.
* TOP SURFACE OF CONCRETE PAD SHALL BE 1" ABOVE FINISH GRADE

6 BACKFLOW ENCLOSURE 2900 VALMONT
NOT TO SCALE



7 DRIP EMITTER PLACEMENT
NOT TO SCALE



8 SHRUB/TREE EMITTER PLACEMENT
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VALMONT ROAD & 29TH STREET IRRIGATION DETAILS

Designer: KJM
Detailer: KJM
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SHO M110-084
SA 19062
Sheet Number 86

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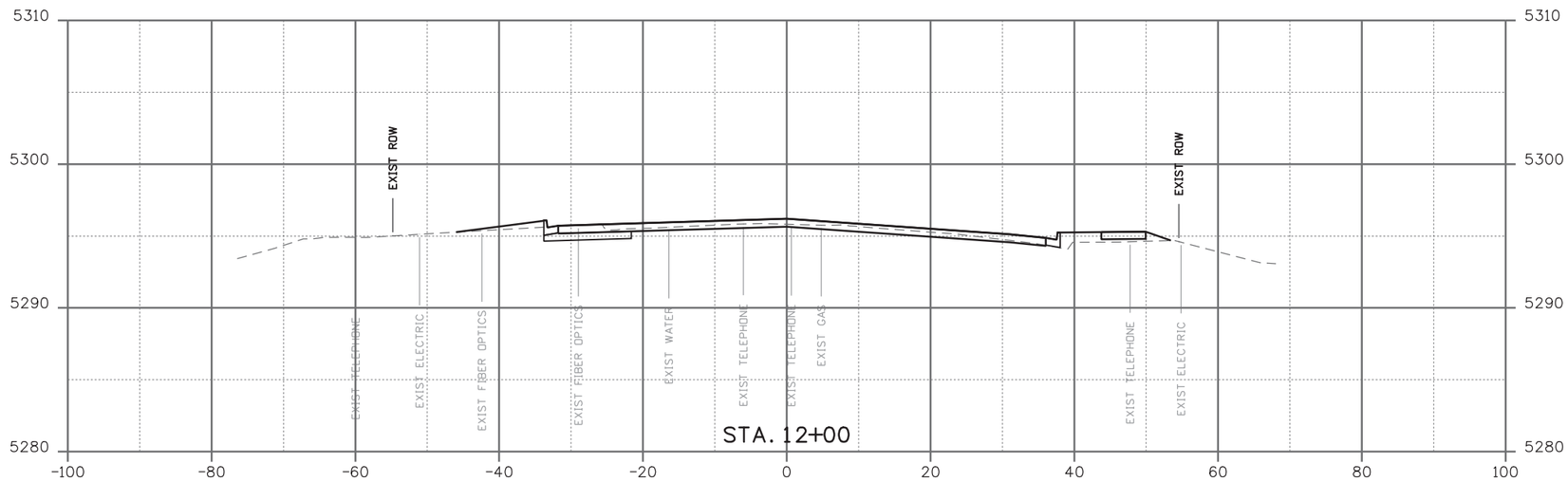

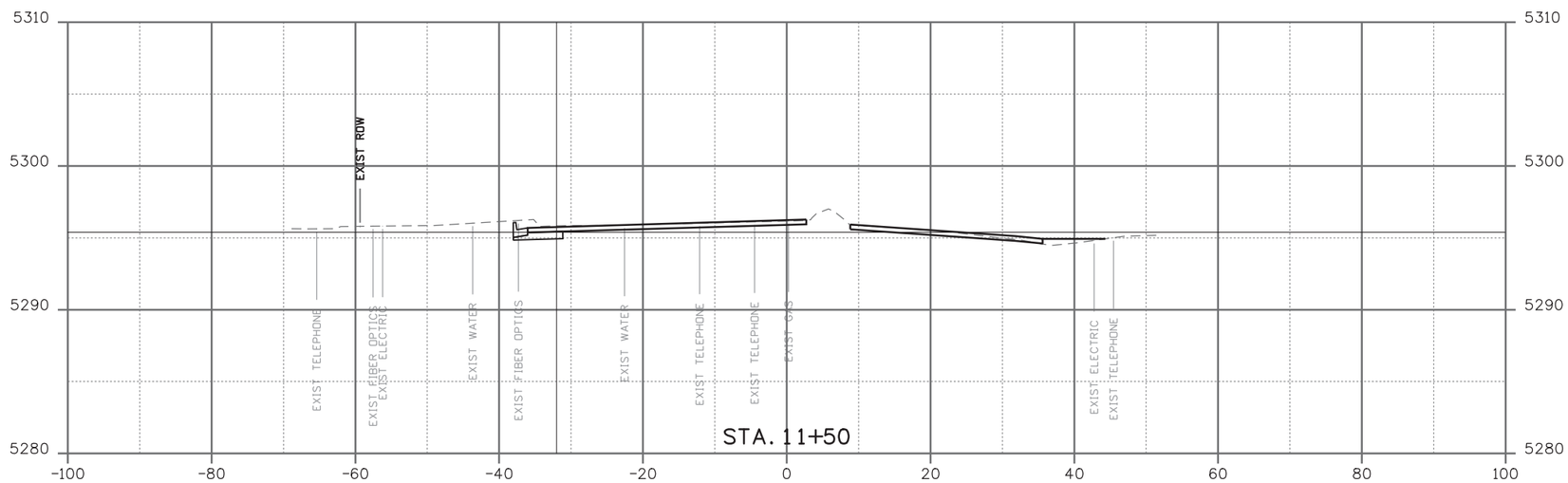

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Designer: J. COLIP	Structure Numbers		SHO M110-084
Detailer: J. MCPHAUL			SA 19062
Sheet Subset: SECTIONS	Subset Sheets:	1 of 9	Sheet Number 87

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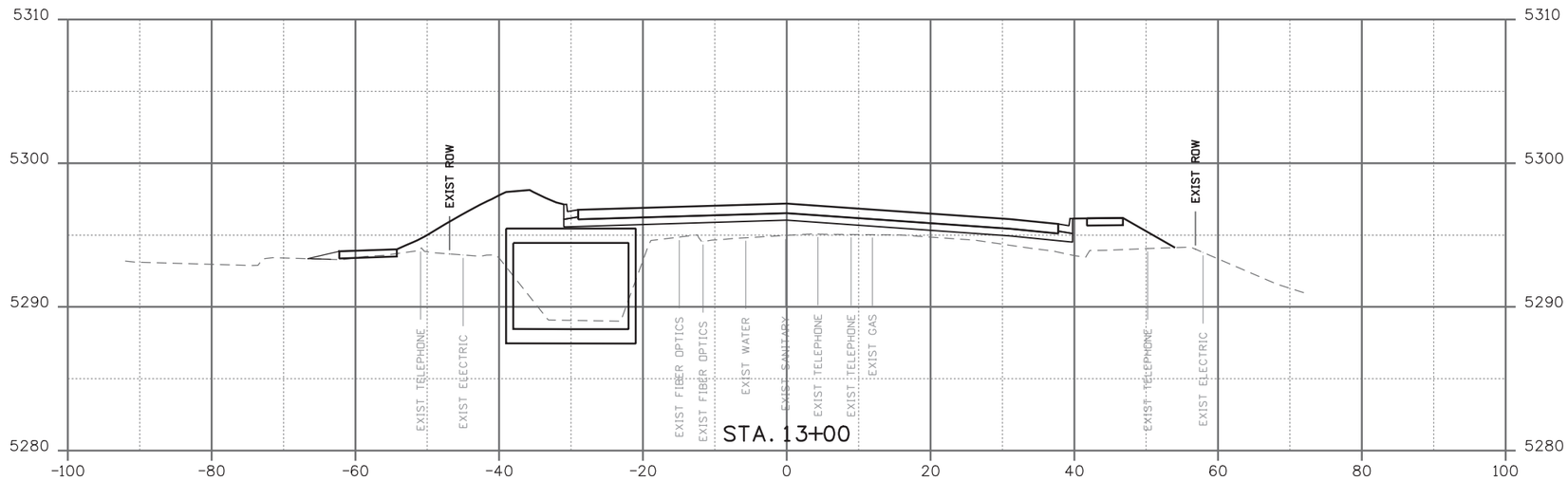

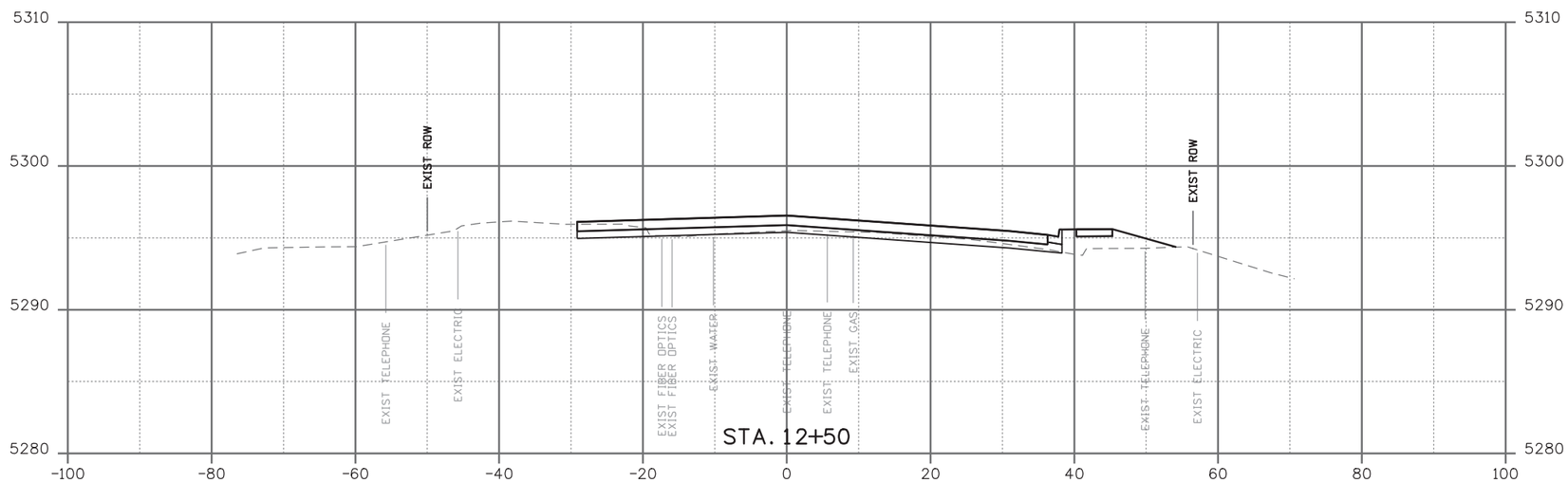

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VALMONT ROAD & 29TH STREET CROSS SECTIONS

Designer: J. COLIP
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Structure Numbers
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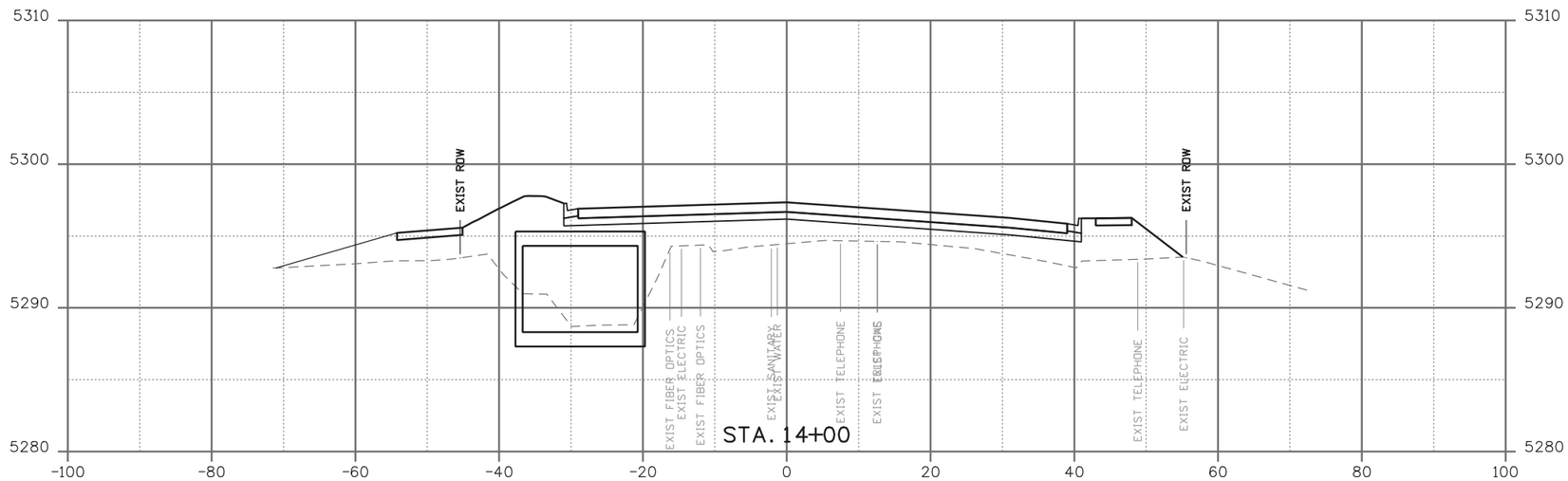

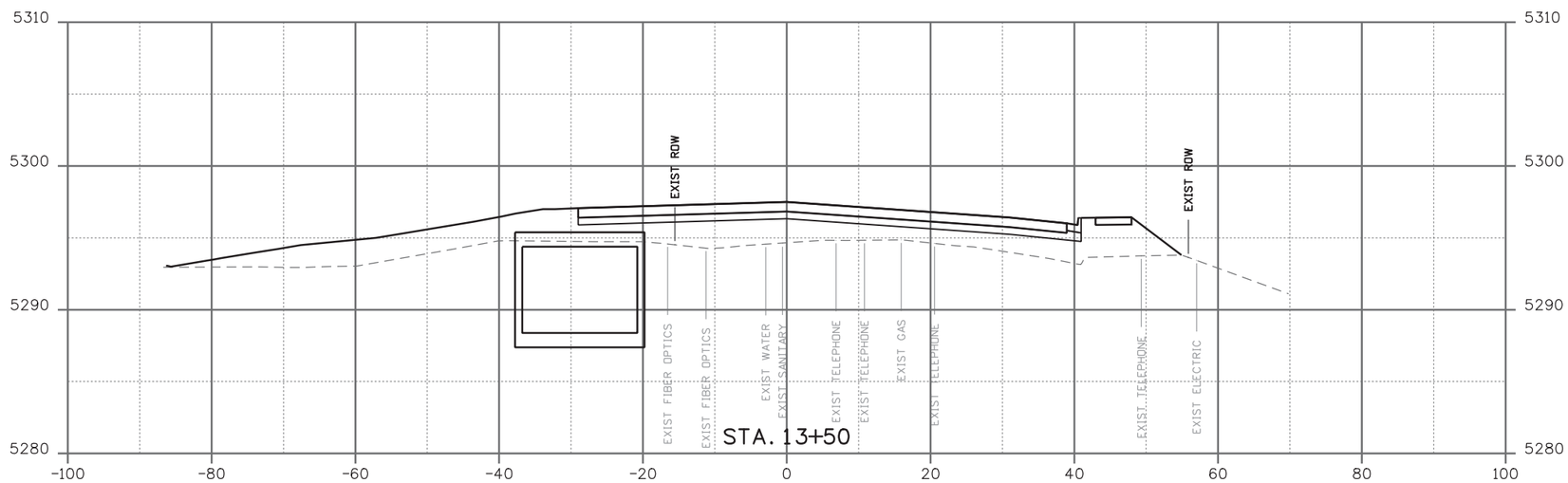

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VALMONT ROAD & 29TH STREET
CROSS SECTIONS

Designer: J. COLIP
Detailer: J. MCPHAUL
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SA 19062
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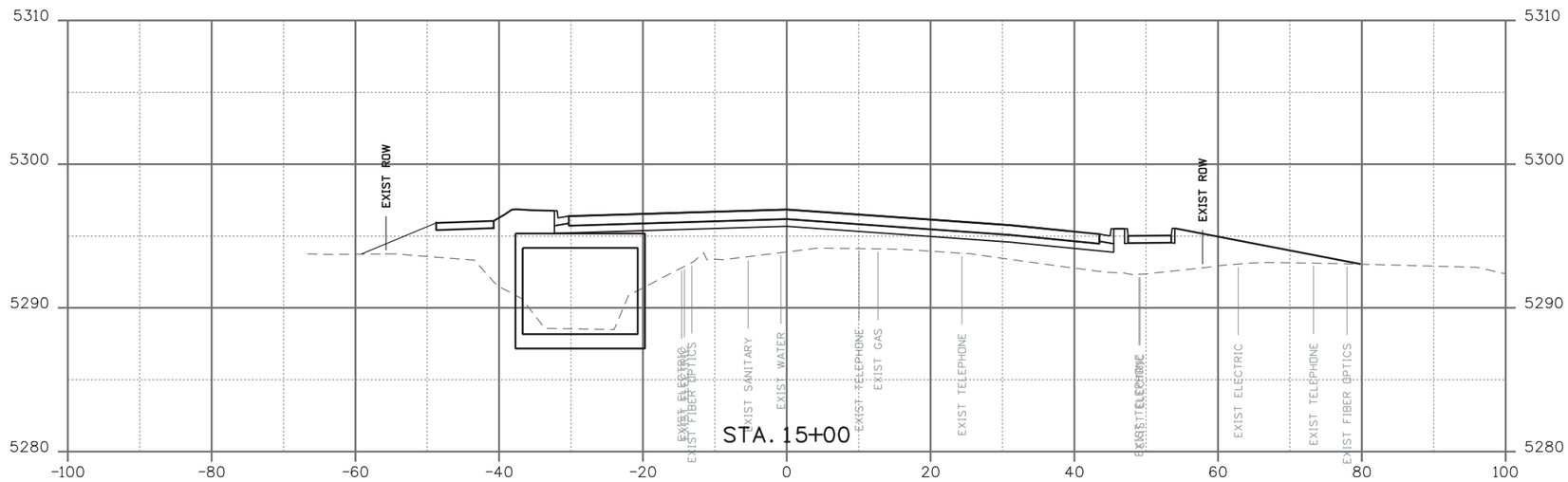

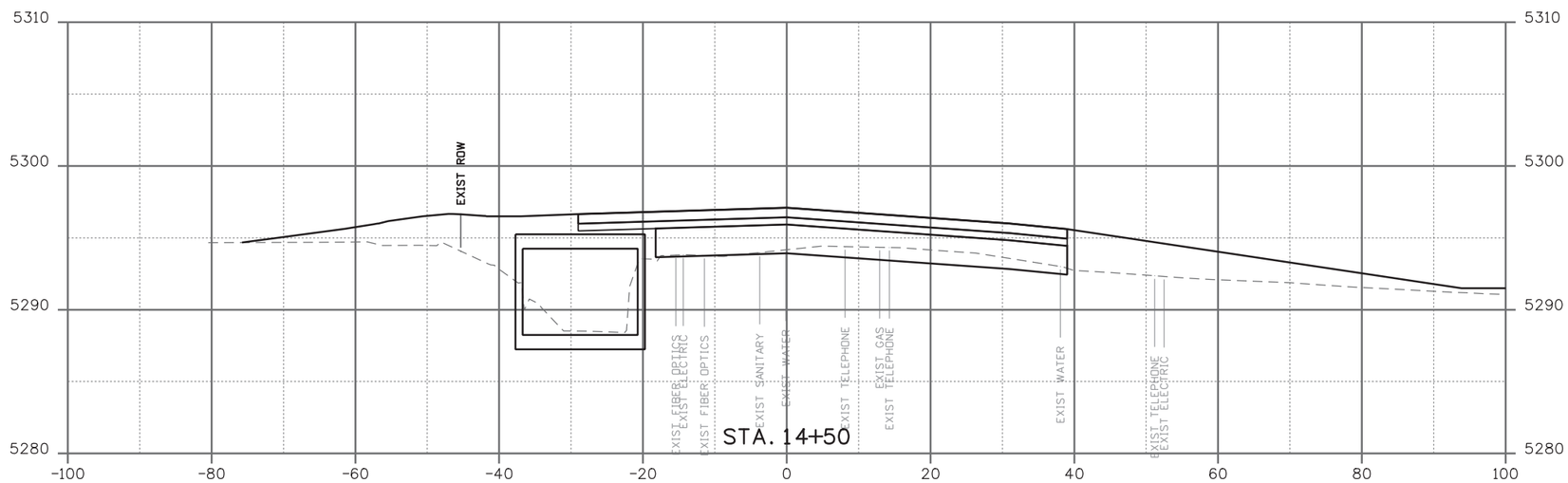

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VALMONT ROAD & 29TH STREET
CROSS SECTIONS

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Detailer: J. MCPHAUL
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Structure Numbers
Subset Sheets: 4 of 9

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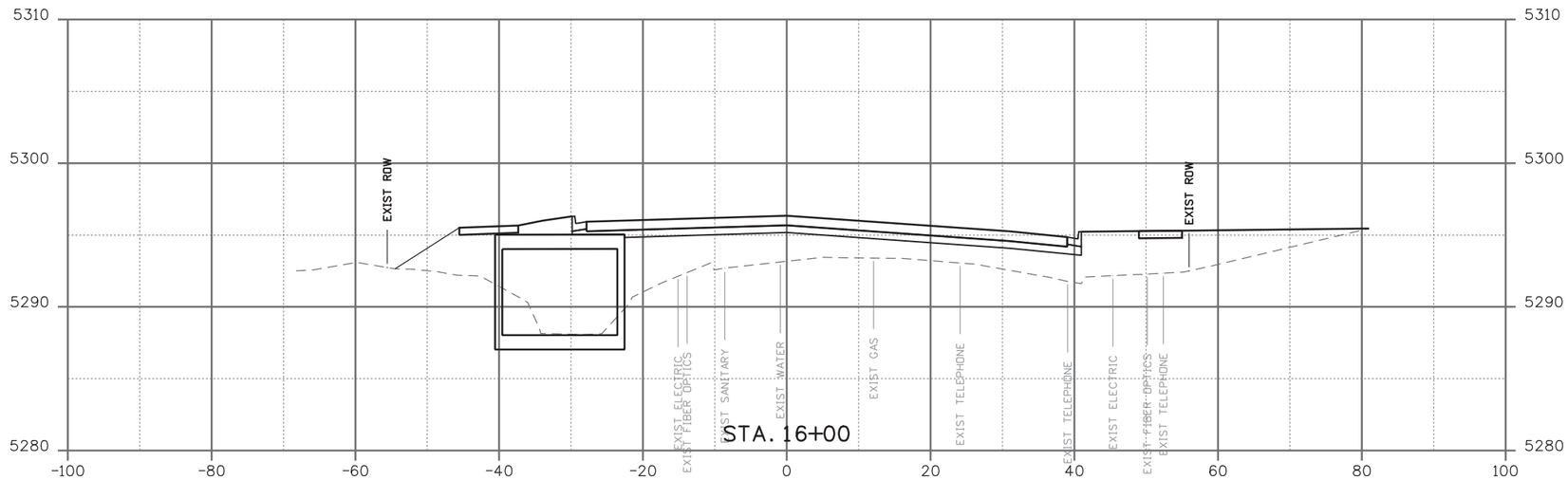

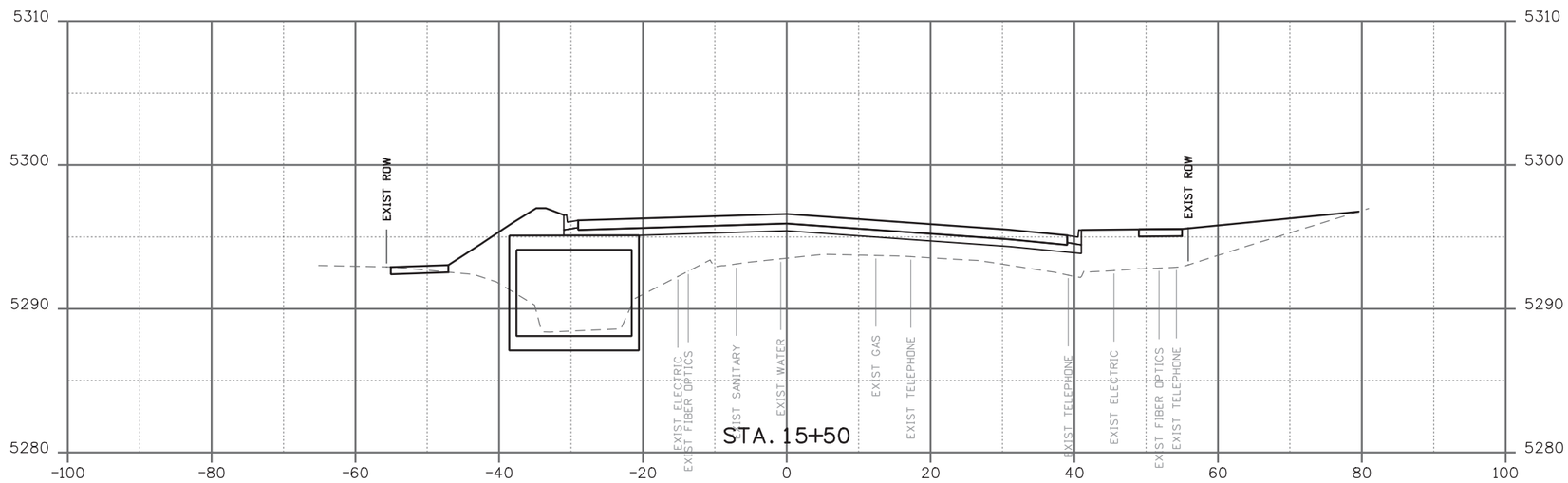

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Designer: J. COLIP
Detailer: J. MCPHAUL
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Structure Numbers
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Sheet Number 91

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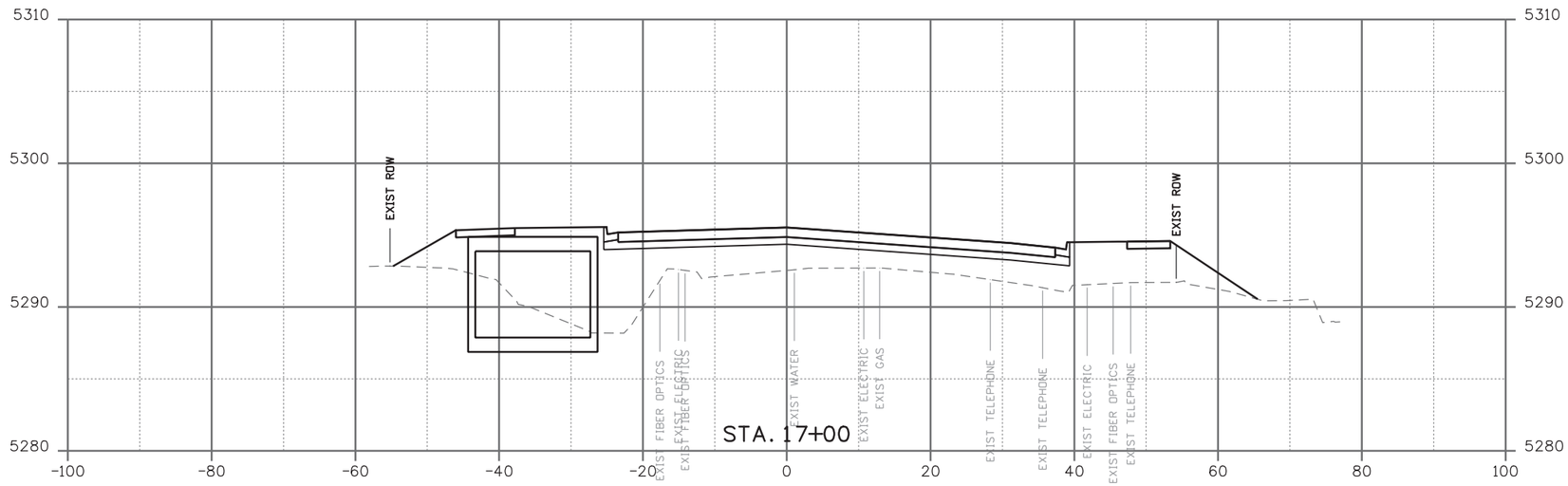

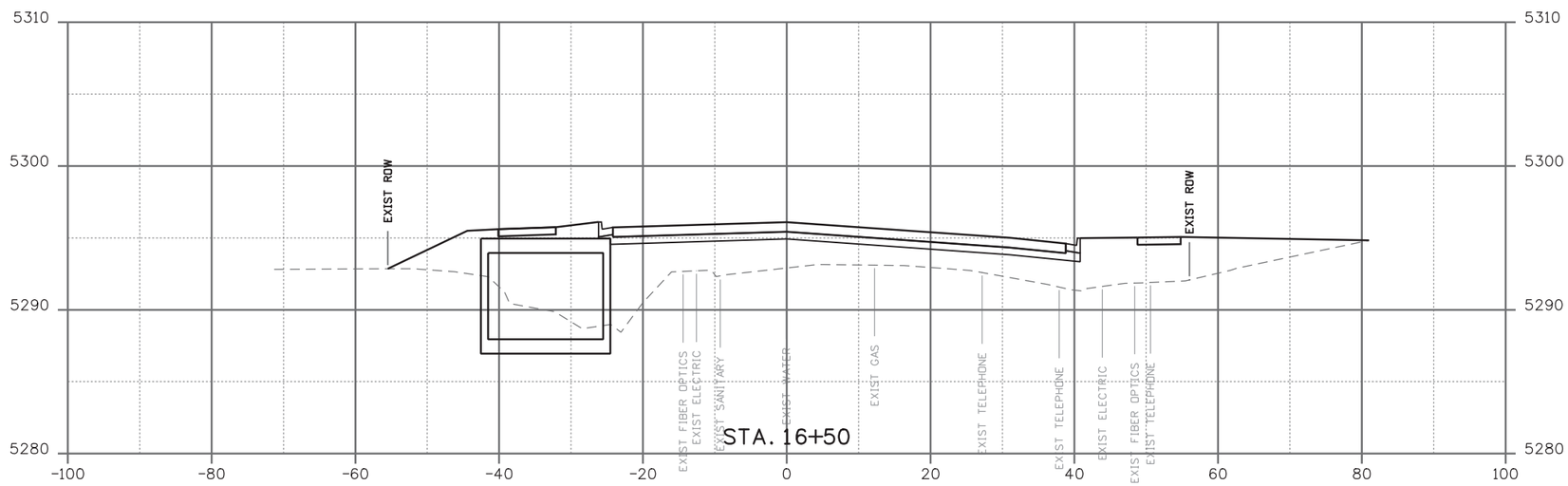

VALMONT ROAD

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Print Date: 4/22/2016
File Name: 19062DES_XSections.dgn
Horiz. Scale: 1:20 Vert. Scale: 1:10

HDR
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Phone: 303-764-1520 Fax: 303-860-7139

Sheet Revisions		
Date:	Comments	Init.

City of Boulder
Division of Transportation
1739 Broadway
Boulder, CO 80306
Phone: 303-441-3266 FAX: 303-441-4271

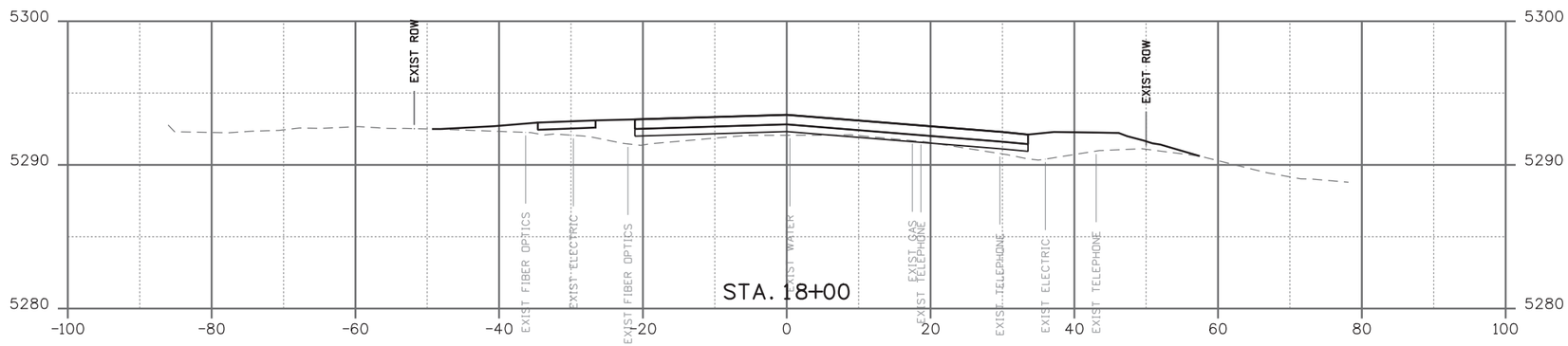
As Constructed
No Revisions:
Revised:
Void:

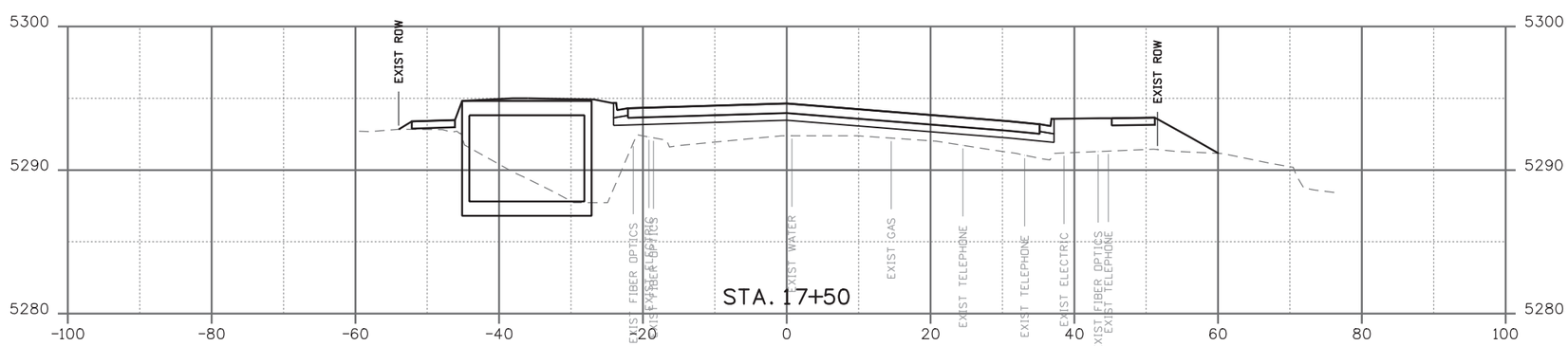
VALMONT ROAD & 29TH STREET
CROSS SECTIONS

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: SECTIONS
Structure Numbers
Subset Sheets: 6 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 92

Know what's below. Call before you dig.





VALMONT ROAD

Print Date: 4/22/2016	Sheet Revisions	City of Boulder Division of Transportation 1739 Broadway Boulder, CO 80306 Phone: 303-441-3266 FAX: 303-441-4271	As Constructed
File Name: 19062DES_XSections.dgn	Date: / Comments / Init.		No Revisions:
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VALMONT ROAD & 29TH STREET CROSS SECTIONS			Project No./Code
			SHO M110-084
Designer: J. COLIP	Structure Numbers		SA 19062
Detailer: J. MCPHAUL			
Sheet Subset: SECTIONS	Subset Sheets:	7 of 9	Sheet Number 93

JMCPHAUL 1:25:35 PM pw:\\PWAPPDMA001:NorthCentral_Omaha\Documents\009281\000000002247402\6.0_CAD_BIM\6.2_Work_In_Progress\Design\Drawings\Reference_Files\19062DES_XSections.dgn

Know what's **below.**
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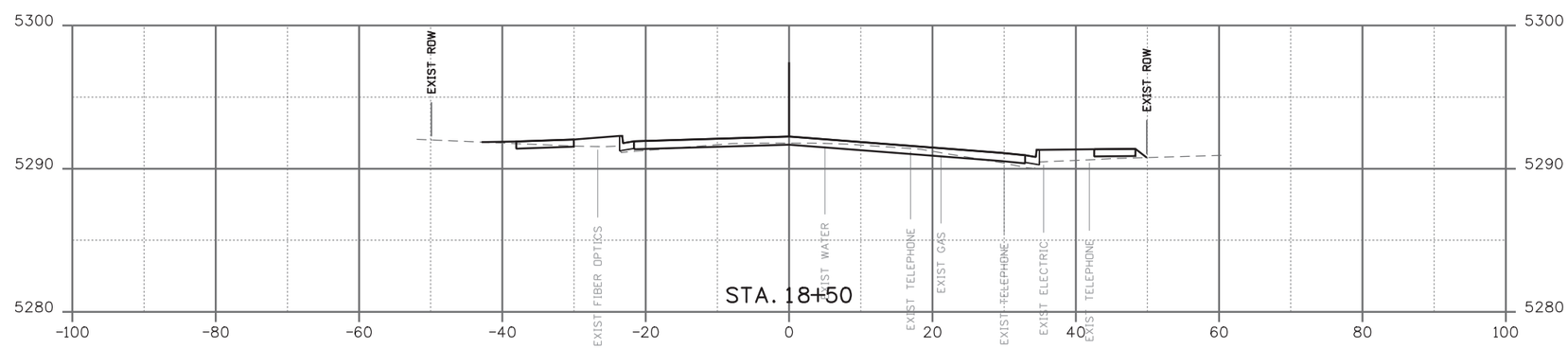

VALMONT ROAD

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File Name: 19062DES_XSections.dgn
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VALMONT ROAD & 29TH STREET
CROSS SECTIONS

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: SECTIONS
Structure Numbers
Subset Sheets: 8 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 94

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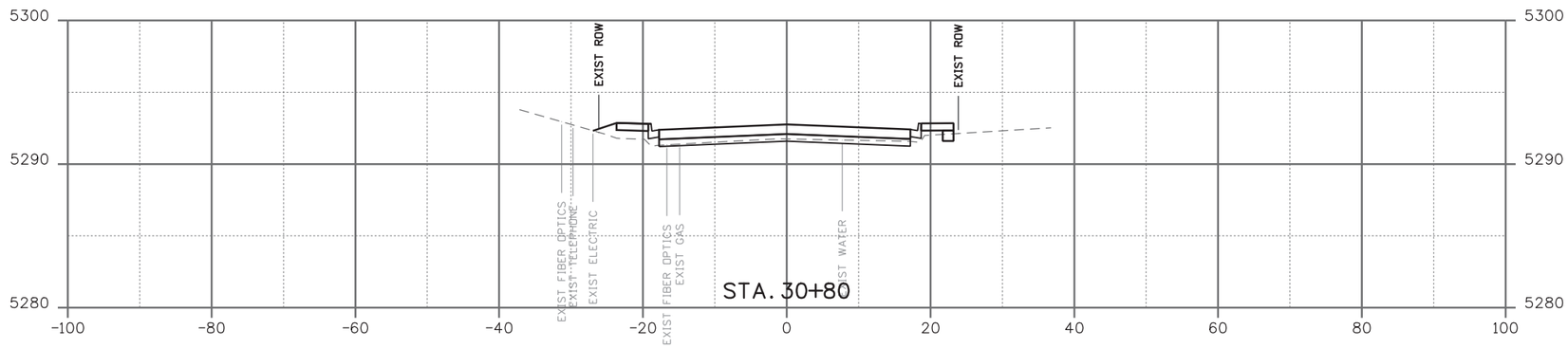
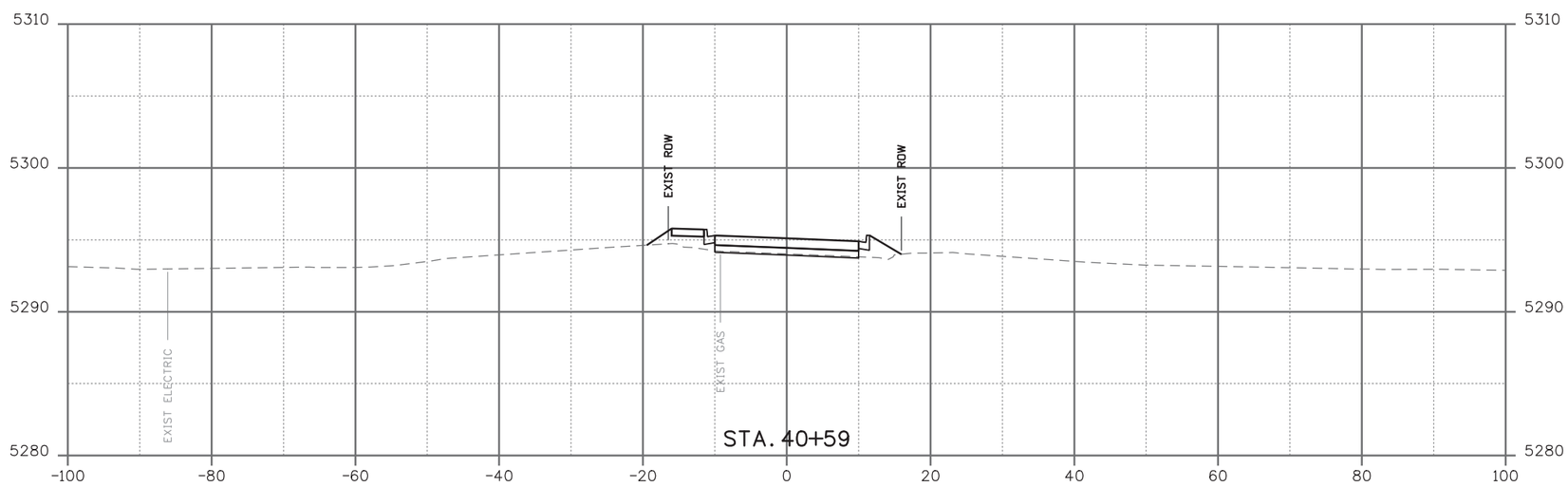


29TH STREET SOUTH



29TH STREET NORTH

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VALMONT ROAD & 29TH STREET
CROSS SECTIONS

Designer: J. COLIP
Detailer: J. MCPHAUL
Sheet Subset: SECTIONS
Structure Numbers
Subset Sheets: 9 of 9

Project No./Code
SHO M110-084
SA 19062
Sheet Number 95