



ADDENDUM NUMBER 1

DATE: December 14, 2012

TO: Prospective Bidders

OWNER: City of Town & Country
1011 Municipal Center Drive
Town & Country, Missouri 63131

ENGINEER: CDG Engineers Architects Planners, Inc.
One Campbell Plaza
St. Louis, Missouri 63139

SUBJECT: Addendum Number 1 to the
Bidding Documents for Clayton Road Improvements – Phase II
Federal Project STP-5532(609)

CDG Project No. 08019

This Addendum forms a part of the Bidding and Contract Documents and modifies the original Bidding Documents, dated November 2, 2012. **FAILURE TO ACKNOWLEDGE RECEIPT OF ADDENDUM MAY SUBJECT BIDDER TO DISQUALIFICATION.**

The purpose of this addendum is to provide clarification and make revisions to the bid documents.

CLARIFICATIONS:

1. The price for reinforced concrete pipe shall include all labor, equipment, and materials necessary to install the pipes per the Standard Specifications as shown on the plans. Saw cutting existing pavement, exiting pavement removal, full depth backfill with aggregate material, and pavement replacement with in-kind materials shall be incidental to the cost of installing the pipe.

REVISIONS:

1. Specifications:
 - a. Added Permanent Raised Pavement Markers to Table of Contents – JSP AF.
 - b. Revised Prefabricated Bridge and Abutments – Design and Installation – JSP AD. Added pre-approved bridge supplier.
 - c. Added Permanent Raised Pavement Markers to Job Special Provision - JSP AE.
 - d. Revised Itemized Proposal
 - i. Revised Bid Item 124 – Concrete Traffic Barrier Type C (Modified), revised quantity to 735 LF.
 - ii. Added Bid Item 174 – Permanent Raised Pavement Markers, quantity 10 EA.
 - iii. Added Bid Item 175 – 6" Curb at Covington Place Estates, quantity 200 LF.

2. Plans:

- a. T-001: Revised Drawing List on Cover Sheet
- b. T-005: Revised Quantities Table, Bid Items 124, 174, and 175
- c. C-115: Removed a portion of the Concrete Traffic Barrier Type C (Modified) and replaced with 6" Curb at Covington Place Estates. Added Key Notes. Added curb height and width transitions.
- d. C-213: Revised Cross Sections at Stations 155+50, 156+00, 157+00, and 157+50.
- e. C-301: Added 6" Curb at Covington Place Estates detail.
- f. C-303: Revised details
 - i. Infiltration Trench Beneath Trail at Storm Structure
 - ii. Infiltration Trench Beneath Trail Section
 - iii. Concrete Traffic Barrier, Type C (Modified)
 - iv. Infiltration Trench Beneath Trail Section Through Storm Structure
 - v. Infiltration Trench Beneath Trail at Trench Drain
- g. C-502: Removed a portion of the Concrete Traffic Barrier Type C (Modified) and replaced with 6" Curb at Covington Place Estates.
- h. ST-107 and ST-108: Removed a portion of the Concrete Traffic Barrier Type C (Modified) and replaced with 6" Curb at Covington Place Estates.
- i. R-108: Removed a portion of the Concrete Traffic Barrier Type C (Modified) and replaced with 6" Curb at Covington Place Estates.

ATTACHMENTS:

- | | |
|--|----------|
| 1. Table of Contents (Specifications) | 3-pages |
| 2. Itemized Proposal (Specifications) | 6-pages |
| 3. JSP AD - Prefabricated Bridge and Abutments –
Design and Installation (Specifications) | 2-pages |
| 4. JSP AF - Permanent Raised Pavement Markers (Specifications) | 1-pages |
| 5. Plan Sheets: T-001, T-005, C-115, C-213, C-301
C-303, C-502, ST-107, ST-108, and R-108 | 10-pages |

This Addendum consists of 2 pages with 22 pages of attachments.

Acknowledge receipt of this addendum by submitting a signed copy with the proposal. Bidders must use revised Itemized Proposal included with this Addendum.

Received: By: _____

Company: _____

Date: _____

END ADDENDUM NUMBER 1

**SPECIFICATIONS FOR CLAYTON ROAD RESURFACING AND
PEDESTRIAN ENHANCEMENTS – PHASE II
PROJECT NO. STP-5532(609)
TOWN & COUNTRY, ST. LOUIS COUNTY, MISSOURI**

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**E-VERIFY PROGRAM FOR EMPLOYMENT VERIFICATION
MEMORANDUM OF UNDERSTANDING**

ADA POST CONSTRUCTION CHECKLIST

ITEMIZED PROPOSAL

ITEM NO.	MoDOT BID ITEM	SPECIAL PROVISION	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	Total Cost
ROADWAY ITEMS							
1	401-12.11A	GSP	Bituminous Pavement Mixture PG64-22, (BP-2) (Overlay)	Ton	3799		
2	402-05.20A		Bituminous Pavement Mixture PG64-22, (Surface Leveling)	Ton	1084		
3	403-99.05		JSP D	System C Geosynthetic Interlayer (paving mat)	SY	32162	
4	407-10.05	JSP E	Tack Coat	Gal	3216		
5	603-99.99		ATG Service Covers	EA	15		
6	616-10.05		Construction Signs	SF	90		
7	616-10.25		Channelizer (Trim Line)	EA	60		
8	622-10.01		Coldmilling Bituminous Pavement (0-2 in.)	SY	13718		
Subtotal Roadway Items							
LANDSCAPING ITEMS							
9	607-99.98	JSP T	Neuwoehner School Sign	LS	1		
10	607-99.99	JSP Z	Brick Columns	EA	4		
11	803-10.00A		Turf Type Tall Fescue Sodding	SY	8670		
12	804-00.96		Soil Amendment	SY	1134		
13	804-00.97	JSP Y	Reinforced Grass Turf Infiltration Trench	SF	1982		
14	804-00.98	JSP AB	Bioretention Bed Preparation	SF	2036		
15	804-00.99	JSP G	Planting Bed Preparation	SY	1275		
16	805-00.99	JSP U	Native Grass Seeding	SF	3200		
17	806-41.29		Type 2 Turf Reinforcement Mat	SY	595		
18	808-01.09		Northern Red Oak	EA	2		
19	808-01.18		Bald Cypress	EA	8		
20	808-01.19	JSP U	Black Gum	EA	5		
21	808-01.99A	JSP U	Shumard Oak	EA	9		
22	808-01.99B	JSP U	Post Oak	EA	3		
23	808-01.99C	JSP U	Bur Oak	EA	1		
24	808-01.99D	JSP U	White Oak	EA	5		
25	808-01.99E	JSP U	Willow Oak	EA	6		
26	808-02.99	JSP U	Sweetbay Magnolia	EA	8		
27	808-01.99F	JSP U	October Glory' Maple	EA	7		
28	808-01.99G	JSP U	River Birch	EA	3		
29	808-03.03	JSP U	Redbud	EA	12		
30	808-03.04	JSP U	Dogwood	EA	2		
31	808-03.05	JSP U	Coralburst Crabapple	EA	3		
32	808-03.06	JSP U	Prairiefire Crabapple	EA	9		
33	808-04.00	JSP U	White Pine	EA	2		
34	808-04.99A	JSP U	Norway Spruce	EA	19		
35	808-04.99B	JSP U	Southern Magnolia	EA	2		

**CITY OF TOWN & COUNTRY, MISSOURI
PROJECT NO. STP-5532(609)**

**CLAYTON ROAD RESURFACING AND
PEDESTRIAN ENHANCEMENTS – PHASE II**

ITEM NO.	MoDOT BID ITEM	SPECIAL PROVISION	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	Total Cost
36	808-05.99A	JSP U	Rosy Glow Barberry	EA	10		
37	808-05.99B	JSP U	Golden Vickeryi Privet	EA	8		
38	808-05.99C	JSP U	Hydrangea tardiva	EA	6		
39	808-05.99D	JSP U	Winterberry	EA	6		
40	808-05.99E	JSP U	Virginia Sweetspire	EA	94		
41	808-05.99F	JSP U	Bailey's Red-twig Dogwood	EA	8		
42	808-05.99G	JSP U	Bloomerang Lilac	EA	2		
43	808-05.99H	JSP U	Rock Cotoneaster	EA	6		
44	808-05.99I	JSP U	Sweet Pepperbush	EA	20		
45	808-06.99A	JSP U	Prague Viburnum	EA	29		
46	808-06.99B	JSP U	Arborvitae	EA	9		
47	808-06.99C	JSP U	Foster Holly	EA	14		
48	808-06.99D	JSP U	Nellie R Stevens Holly	EA	6		
49	808-06.99E	JSP U	China Girl Holly	EA	15		
50	808-06.99F	JSP U	China Boy Holly	EA	3		
51	808-06.99G	JSP U	Green Velvet Boxwood	EA	17		
52	808-06.99H	JSP U	Hetz Midget Arborvitae	EA	8		
53	808-06.99I	JSP U	Inkberry Holly	EA	10		
54	808-99.02A	JSP U	Feather Reed Grass	EA	89		
55	808-99.02B	JSP U	Miscanthus	EA	23		
56	808-99.02C	JSP U	Fountain Grass	EA	20		
57	808-99.02D	JSP U	Prairie Dropseed	EA	402		
58	808-99.02E	JSP U	Willow Stakes	EA	541		
59	808-99.02F	JSP U	Lanceleaf Coreopsis	EA	64		
60	808-99.02G	JSP U	Gaillardia	EA	48		
61	808-99.02H	JSP U	Amsonia Ciliata	EA	67		
62	808-99.02I	JSP U	Solidago	EA	69		
63	808-99.02J	JSP U	Purple Coneflower	EA	48		
64	808-99.02K	JSP U	Amsonia Illustris	EA	36		
65	808-99.02L	JSP U	New England Aster	EA	51		
66	808-99.02M	JSP U	Oak Sedge	EA	40		
67	808-99.02N	JSP U	Yellow Fruited Sedge	EA	94		
68	808-99.02O	JSP U	Rose Turtlehead	EA	27		
69	808-99.02P	JSP U	Rose Mallow	EA	20		
70	808-99.02Q	JSP U	Copper Iris	EA	71		
71	808-99.02R	JSP U	Soft Rush	EA	79		
72	808-99.02S	JSP U	Orange Coneflower	EA	78		
73	808-99.02T	JSP U	Apple Serviceberry	EA	10		
Subtotal Landscaping Items							
BIKE/PEDESTRIAN FACILITIES							
74	201-30.00		Clearing and Grubbing	AC	3.3		
75	201-30.99	JSP H	Tree Protection	LS	1		
76	202-20.10A		Removal of Existing Asphalt Pavement	SY	1944		

ITEM NO.	MoDOT BID ITEM	SPECIAL PROVISION	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	Total Cost
77	202-20.10B		Removal of Existing Concrete Pavement	SY	253		
78	202-20.10C		Removal of Existing Brick Pavers	SY	97		
79	202-20.10D		Removal of Existing Culverts	LF	471		
80	202-20.10E		Removal of Existing Entrance Pillars	EA	4		
81	202-20.10F		Removal of Existing Concrete Island	SY	68		
82	202-20.10G		Removal of Existing Signal Pole, Mast Arm & Concrete Base	EA	1		
83	202-20.99A	JSP I	Relocate Existing Mailboxes	EA	8		
84	202-20.99B	JSP I	Relocate Existing Entrance Pillars	EA	2		
85	202-20.99C	JSP I	Relocate Existing Street Lights	EA	4		
86	202-20.99D	JSP I	Relocate Existing Planter Edging Stones	LF	18		
87	202-20.99E	JSP I	Relocate Existing Street Signs	EA	10		
88	202-20.99F	JSP I	Relocate Existing Ornamental Fence, 32" High	LF	128		
89	203-50.00	GSP	Unclassified Excavation	CY	1990		
90	203-55.00		Embankment in Place	CY	1321		
91	203-99.01	JSP AA	Re-Grade Swale at Cedar Valley	LS	1		
92	205-10.10	JSP J	Modified Subgrade	SY	3000		
93	304-05.04		Type 5 Aggregate for Base (4" Thick)	SY	40		
94	304-99.05		Type 5 Aggregate for Base (6" Thick)	SY	6753		
95	304-99.99	JSP AC	Infiltration Trench Beneath Trail	SF	7693		
96	401-12.11B		Bituminous Pavement Mixture PG64-22, (BP-2) (Trail)	Ton	1144		
97	408-10.10		Prime Coat	Gal	3211		
98	500-00.99		Brick Pavers	SF	400		
99	502-13.07		Concrete Pavement (7 in. Non-Reinforced 15 ft. Joints)	SY	100		
100	504-10.00		Concrete Approach Pavement	SY	172		
101	600-00.97	JSP K	Pet Waste Stations	EA	2		
102	600-00.99	JSP K	Trash Receptacles	EA	2		
103	603-10.99	JSP R	Irrigation Relocation	EA	20		
104	604-00.99	JSP O	Trench Drains	LF	96		
105	607-10.96	JSP L	Ornamental Pedestrian Double Swing Gate (48", 6' wide opening)	EA	4		
106	607-10.97	JSP L	Ornamental Pedestrian Fence (48")	LF	1052		
107	607-10.98	JSP L	Ornamental Pedestrian Fence (22")	LF	424		

ITEM NO.	MoDOT BID ITEM	SPECIAL PROVISION	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	Total Cost
108	607-10.99	JSP L	Ornamental Pedestrian Fence (64")	LF	670		
109	608-10.10		Concrete Curb Ramps	SY	314		
110	608-10.12		Truncated Domes	SF	558		
111	608-30.06		6 in. Concrete Median Strip	SY	108.7		
112	608-99.05		Concrete Sidewalk, 5 in.	SY	40		
113	609-10.52		6" Concrete Curb & Gutter Type B	LF	1084		
114	609-30.10		Asphalt Curb, 6" height	LF	51		
115	611-30.99	JSP S	MSD #5 Rock Blanket	CY	14		
116	613-10.14		Full Depth Pavement Saw Cut (for Perimeter and Internal Spacing)	LF	3299		
117	614-30.20	JSP S	Curb Inlet	EA	3		
118	614-99.02A	JSP S	Area Inlet	EA	4		
119	614-99.02B	JSP S	Water Quality Structure	EA	7		
120	614-99.02C	JSP S	Modify Existing Structure	EA	3		
121	614-99.02D	JSP S	Grate Inlet	EA	1		
122	614-99.02E		Bolted Grate for Drainage Scupper (Bridge)	EA	3		
123	616-10.99	JSP N	Maintenance and Revisions to Traffic Control Base Plan	LS	1		
124	617-30.00	JSP F	Concrete Traffic Barrier, Type C (Modified)	LF	735		
125	617-99.02		Concrete Parking Stop, 7 ft	EA	3		
126	618-10.00		Mobilization	LS	1		
127	620-70.01		Pavement Marking Removal	LF	3716		
128	622-30.10		Diamond Grinding (Concrete Pavement)	SY	108		
129	624-99.05	JSP J	Geogrid beneath Trail	SY	161		
130	623-30.00		Epoxy Polymer Concrete Overlay	SY	107		
131	627-40.00		Contractor Furnished Surveying and Staking	LS	1		
132	703-44.99	JSP M	Precast Concrete Safety Barrier	LF	479		
133	720-10.00		Mechanically Stabilized Earth Wall Systems	SF	915		
134	726-54.12	JSP S	12 In. Class V Reinforced Concrete Pipe Culvert	LF	2366		
135	726-54.15	JSP S	15 In. Class V Reinforced Concrete Pipe Culvert	LF	93		
136	726-54.24	JSP S	24 In. Class V Reinforced Concrete Pipe Culvert	LF	60		
137	731-00.48	JSP S	Precast Concrete Manhole 48 In.	EA	5		
138	732-06.12A	JSP S	12 In. Reinforced Concrete Flared End Section	EA	11		
139	732-06.15A	JSP S	15 In. Reinforced Concrete Flared End Section	EA	1		

ITEM NO.	MoDOT BID ITEM	SPECIAL PROVISION	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	Total Cost
140	806-10.99	JSP P	SWPPP Design, Installation, Maintenance & Removal	LS	1		
141	903-12.99	JSP Q	Removable Metal Bollard	EA	16		
142	999-99.99	JSP AD	Prefabricated Bridge and Abutments - Design and Installation	LS	1		
174	620-99.02	JSP AF	Permanent Raised Pavement Markers	EA	10		
175	609-99.03		6" Curb at Covington Place Estates	LF	200		
Subtotal Bike/Pedestrian Facilities							
SIGNALS/LIGHTING/SIGNING/STRIPING							
143	620-60.00B		4 In. White Acrylic Waterborne Pavement Marking Paint	LF	17591		
144	620-60.01B		4 In. Yellow Acrylic Waterborne Pavement Marking Paint	LF	20161		
145	620-61.22		12 In. White Acrylic Waterborne Pavement Marking Paint	LF	406		
146	620-61.24		24 In. White Acrylic Waterborne Pavement Marking Paint	LF	1004		
147	620-61.71A		Acrylic Copolymer Fast Dry Pavement Marking Paint Left/Right Arrow	EA	50		
148	620-61.73		Acrylic Copolymer Fast Dry Pavement Marking Paint Straight Arrow	EA	3		
149	620.61.74A		Acrylic Copolymer Fast Dry Pavement Marking Paint Combination Straight-Left/Right Arrow	EA	6		
150	620-99.02A		Acrylic Waterborne Pavement Marking Paint, 24 in. White, Yield Line Triangles	EA	26		
151	902-05.13		Signal Head, Type 3B	EA	2		
152	902-05.15		Signal Head, Type 5B	EA	1		
153	902-08.11		Signal Head, Type 1S, Pedestrian	EA	4		
154	902-27.08		Post, Signal 8 ft	EA	2		
155	902-27.15		Post, Signal 15 ft	EA	2		
156	902-32.50		Post, Type C, 50 ft Arm	EA	1		
157	902-49.20		Detector, Push Button	EA	4		
158	902-53.00		Conduit, 3 in., Trenched	LF	41		
159	902-73.00		Conduit, 3 in., Pushed	LF	256		
160	902-83.08		Cable, 16 AWG 2 Conductor	LF	710		
161	902-83.10		Cable, 16 AWG 5 Conductor	LF	710		
162	902-83.11		Cable, 16 AWG 7 Conductor	LF	230		
163	902-88.10		Pull Box, Preformed Class 1	EA	1		
164	902-88.11		Pull Box, Preformed Class 2	EA	1		
165	902-91.00		Base, Concrete	CY	5.2		

ITEM NO.	MoDOT BID ITEM	SPECIAL PROVISION	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	Total Cost
166	902-99.97		Cable, Video Detection	LF	150		
167	902-99.98		Base Wrap (Existing Signal Controller)	EA	1		
168	902-99.99		Pull Box, Adjust to Grade	EA	2		
169	903-12.10		Structural Steel Post (For Sign Backing Bars)	LB	22		
170	903-12.50A		U-Channel Post, 3 lb	LF	469		
171	903-50.04		TYPE SHR2L-1 SIGN	SF	247		
172	903-50.68		Signal Sign, Type SHR2L-1	SF	4		
173	910-99.01A	JSP W	Complete RRFB System - Solar Power - For Two (2) Signal Poles	EA	1		
			Subtotal Signals, Lighting, Signing, Striping				
				TOTAL			

WRITTEN TOTAL

JOB SPECIAL PROVISIONS

AD. PREFABRICATED BRIDGE AND ABUTMENTS – DESIGN AND INSTALLATION

Description:

The work under this section includes the design and construction of a prefabricated bridge and abutments, including reinforcement, concrete materials, mixture design, placement procedures, finishes, and stains and all design, labor, equipment, and materials necessary for the installation of the prefabricated bridge and abutments as shown on the drawings. The design of the bridge and any permits necessary is the sole responsibility of the contractor.

Submittals:

1. Product Data: For each type of product indicated. Provide Manufacturer's product catalog sheets with specifications. Indicate type, dimensions, conditions, junction with other materials, layout, patterns, color arrangement, finish, installation and setting details when applicable.
2. Design:
 - a. The attached geotechnical report prepared by Geotechnology Inc. shall be used in the design of the bridge and abutments.
 - b. The bridge shall be eighty (80) feet in length with an inside clear width of 10'. Clear width shall be defined as inside of railing to inside of railing.
 - c. See plan sheets for location and elevations.
 - d. The bridge shall be designed to American Institute of Steel Construction Load and Resistance Factor Design (LRFD) standards.
 - e. Bridge deck shall be concrete.
 - f. Steel truss shall have a painted black finish.
 - g. Railing shall be vertical picket.
 - h. Coordinate bridge design with retaining wall design.
 - i. The contractor shall submit two sets of detailed design calculations and final plans for approval at least two weeks prior to the beginning of bridge construction. All calculations and drawings shall be prepared and sealed by a professional engineer (P.E.) – experienced in bridge design and licensed as in the State of Missouri.

Materials:

The bridge and abutments to be installed on this project are to be designed and obtained from one of the three companies listed below, or an equivalent Manufacturer acceptable by the Owner.

1. Keystone Pedestrian Bridge by Continental Bridge
Manufacturer Contact:
Continental Bridge

8301 State Highway 29
North Alexandria, MN 56308
Phone: 1-320-852-7500

Local Supplier Contact:
Karen Hendrix
Contech Engineered Solutions
Email: khendrix@conteches.com
Phone: 636-234-4224

2. Bowstring Pedestrian Bridge by Wheeler Bridge Company

Manufacturer Contact:
Wheeler Lumber, LLC
9330 James Avenue South
Bloomington MN 55431
Phone: (800) 328-3986
Email: info@wheeler-con.com

3. Truss Pedestrian Bridge by Echo Bridge Company

Manufacturer Contact:
Wayne Brown
Echo Bridge Inc.
PO Box 89
Elmira, NY 14902
Phone: 1-888-327-4343

4. Bow Truss Bridge by Art Thureson, Inc.

Manufacturer Contact:
Jon Chaney
Art Thureson, Inc.
400 West Walton
Waterford, MI 48329
Phone: 1-248-623-8599
Email: jon@artthuresoninc.com

Construction Requirements:

Preparation: All work shall be in accordance with the plans and the manufacturers' specifications.

Payment:

Payment for work specified in this section will be lump sum and will include all appurtenances to make the units function as it has been specified. These items shall include the whole cost and expense.

JOB SPECIAL PROVISIONS

AF. PERMANENT RAISED PAVEMENT MARKERS

Description:

The work under this section consists of all labor, equipment, and materials necessary for the installation of the permanent raised pavement markers on the 6" concrete curb at Covington Place Estates.

Materials:

1. Permanent raised pavement markers shall be two-way green lens with green body. The product shall be selected from the following or other equal product submitted to the City for approval
 - a. 3M Raised Pavement Marker RPM PSA297 Green
Phone: 1-888-364-3577
Address: 3M Center
St. Paul, MN 55144
 - b. Apex Universal, Inc. Apex Model 921 Green
Phone: 562-944-8878
Address: 11033 Forest Place
Santa Fe Springs, CA 90670
 - c. Ennis Flint – Stimsonite Surface Mounted Markers Model 80 or Model 88
Contact: Mike Corrigan
Phone: 913-660-3455
Address: 115 Todd Court
Thomasville, NC 27282

Construction Requirements:

Preparation: All work shall be in accordance with the plans and the manufacturer's specifications.

Payment:

Payment for work specified in this section will be made on a per unit basis and will include all appurtenances to make the units function as it has been specified. This item shall include the whole cost and expense necessary to obtain and place the Permanent Raised Pavement Markers per the manufacturers specifications as shown on the Plans.

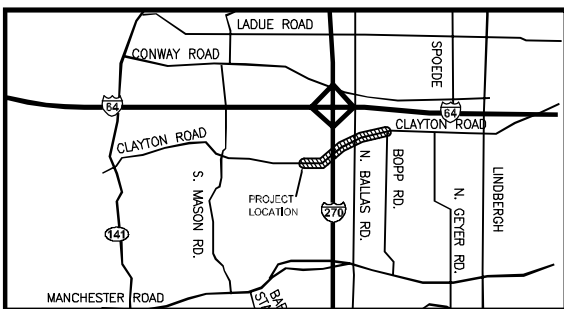
CITY OF TOWN & COUNTRY, MISSOURI

CLAYTON ROAD IMPROVEMENTS - PHASE II

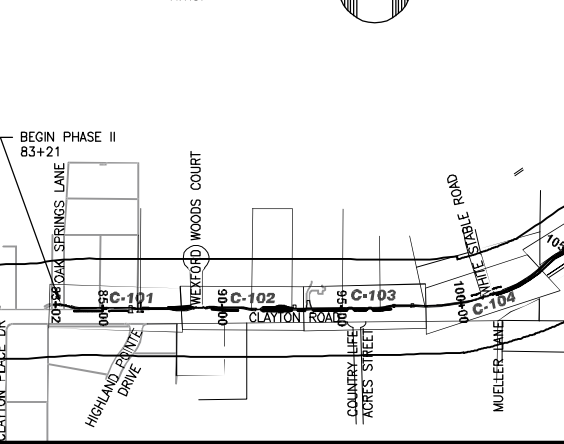
FEDERAL PROJECT STP-5532(609)

DRAWING INDEX

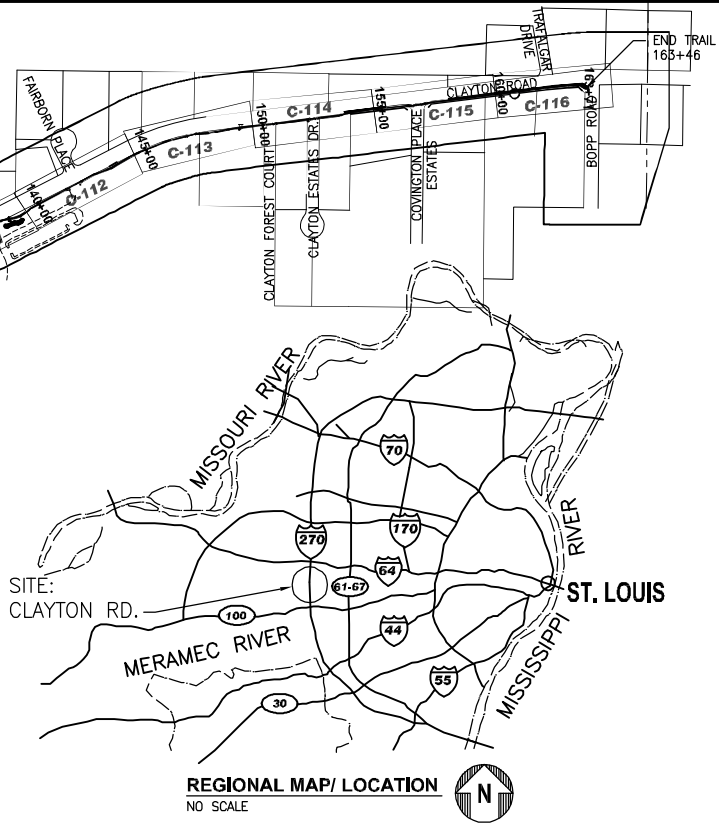
SHEET	DESCRIPTION	REV.	DATE
T-001	COVER SHEET	1	12/14/2012
T-002	GENERAL NOTES	0	11/02/2012
T-003	SURVEY CONTROL	0	11/02/2012
T-004	SUMMARY OF QUANTITIES	0	11/02/2012
T-005	SUMMARY OF QUANTITIES	1	12/14/2012
C-101	PLAN AND PROFILE	0	11/02/2012
C-102	PLAN AND PROFILE	0	11/02/2012
C-103	PLAN AND PROFILE	0	11/02/2012
C-104	PLAN AND PROFILE	0	11/02/2012
C-105	PLAN AND PROFILE	0	11/02/2012
C-106	PLAN AND PROFILE	0	11/02/2012
C-107	PLAN AND PROFILE	0	11/02/2012
C-108	PLAN AND PROFILE	0	11/02/2012
C-109	PLAN AND PROFILE	0	11/02/2012
C-110	PLAN AND PROFILE	0	11/02/2012
C-111	PLAN AND PROFILE	0	11/02/2012
C-112	PLAN AND PROFILE	0	11/02/2012
C-113	PLAN AND PROFILE	0	11/02/2012
C-114	PLAN AND PROFILE	0	11/02/2012
C-115	PLAN AND PROFILE	1	12/14/2012
C-116	PLAN AND PROFILE	0	11/02/2012
C-201	CROSS SECTIONS	0	11/02/2012
C-202	CROSS SECTIONS	0	11/02/2012
C-203	CROSS SECTIONS	0	11/02/2012
C-204	CROSS SECTIONS	0	11/02/2012
C-205	CROSS SECTIONS	0	11/02/2012
C-206	CROSS SECTIONS	0	11/02/2012
C-207	CROSS SECTIONS	0	11/02/2012
C-208	CROSS SECTIONS	0	11/02/2012
C-209	CROSS SECTIONS	0	11/02/2012
C-210	CROSS SECTIONS	0	11/02/2012
C-211	CROSS SECTIONS	0	11/02/2012
C-212	CROSS SECTIONS	0	11/02/2012
C-213	CROSS SECTIONS	1	12/14/2012
C-214	CROSS SECTIONS	0	11/02/2012
C-301	TYPICAL SECTIONS AND DETAILS	1	12/14/2012
C-302	TYPICAL SECTIONS AND DETAILS	0	11/02/2012
C-303	TYPICAL SECTIONS AND DETAILS	1	12/14/2012
C-304	RETAINING WALL PROFILE	0	11/02/2012
C-401	STORM SEWER PROFILES	0	11/02/2012
C-402	STORM SEWER PROFILES	0	11/02/2012
C-403	STORM SEWER PROFILES	0	11/02/2012
C-404	STORM SEWER PROFILES	0	11/02/2012
C-501	CROSSING AND SIGNAGE PLANS	0	11/02/2012
C-502	CROSSING AND SIGNAGE PLANS	1	12/14/2012
C-503	CROSSING AND SIGNAGE PLANS	0	11/02/2012
C-601	DRAINAGE MAP	0	11/02/2012
C-602	DRAINAGE MAP	0	11/02/2012
C-603	DRAINAGE MAP	0	11/02/2012
C-604	DRAINAGE MAP	0	11/02/2012
ST-101	OVERLAY AND STRIPING PLANS	0	11/02/2012
ST-102	OVERLAY AND STRIPING PLANS	0	11/02/2012
ST-103	OVERLAY AND STRIPING PLANS	0	11/02/2012
ST-104	OVERLAY AND STRIPING PLANS	0	11/02/2012
ST-105	OVERLAY AND STRIPING PLANS	0	11/02/2012
ST-106	OVERLAY AND STRIPING PLANS	0	11/02/2012
ST-107	OVERLAY AND STRIPING PLANS	1	12/14/2012
ST-108	OVERLAY AND STRIPING PLANS	1	12/14/2012
TCP-101	TRAFFIC CONTROL PLAN	0	11/02/2012
TCP-102	PED TRAFFIC CONTROL PLAN	0	11/02/2012
TS-101	TRAFFIC SIGNAL PLAN	0	11/02/2012
TS-102	TRAFFIC SIGNAL PLAN	0	11/02/2012
TS-103	TRAFFIC SIGNAL PLAN	0	11/02/2012
TS-104	TRAFFIC SIGNAL PLAN	0	11/02/2012
TS-105	TRAFFIC SIGNAL PLAN	0	11/02/2012
TS-106	TRAFFIC SIGNAL PLAN	0	11/02/2012
TS-107	TRAFFIC SIGNAL PLAN	0	11/02/2012
TS-108	TRAFFIC SIGNAL PLAN	0	11/02/2012
TS-109	TRAFFIC SIGNAL PLAN	0	11/02/2012
TS-110	TRAFFIC SIGNAL PLAN	0	11/02/2012
TS-111	TRAFFIC SIGNAL PLAN	0	11/02/2012



VICINITY MAP
N.T.S.



SITE MAP
PEDESTRIAN TRAIL
N.T.S.



REGIONAL MAP/ LOCATION
NO SCALE

LEGEND:

MH	MANHOLE
ST	STREET SIGN
FH	FIRE HYDRANT
WM	WATER METER
PP	POWER POLE
TS	TREE (SIZE)
CI	NEW CATCH INLET
---	EXISTING CONTOUR LINE
---	NEW CONTOUR LINE
---	EXISTING FENCE
---	EXISTING UNDERGROUND TELEPHONE LINE
---	EXISTING ELECTRICAL LINE
---	EXISTING WATER LINE
---	EXISTING GAS LINE
---	EXISTING SEWER LINE
---	STORM SEWER LINE
---	EXISTING RIGHT OF WAY
---	EXISTING FEATURES
---	NEW FEATURES
---	CENTER LINE
---	PROPERTY LINE
---	EXISTING GUARD RAIL
---	NEW GUARD RAIL
---	NEW FENCE
---	NEW SILT FENCE
---	CATCHLINES/LIMITS OF DISTURBANCE

ABBREVIATIONS

ASPH	ASPHALT	PVMT	PAVEMENT
ATG	ADJUST TO GRADE	ROW	RIGHT OF WAY
CI	CURB INLET	RT	RIGHT
CONC	CONCRETE	SA	SANITARY
ELEC	ELECTRIC	STA	STATION
ELEV	ELEVATION	TBR	TO BE REMOVED
EXIST.	EXISTING	TBR&	TO BE REMOVED & REPLACED
FES	FLARED END SECTION	TBR&	TO BE REMOVED & REPLACED
FL	FLOWLINE	TBR&	TO BE REMOVED & REPLACED
GI	GRATE INLET	TELE	TELEPHONE
IP	IRON PIPE	UIP	USE IN PLACE
LT	LEFT		
MH	MANHOLE	20GSI	TWO GRATE INLET WITH SIDE INTAKE

BI	BIORETENTION AREA HATCH
NR	NON-ROOFTOP RUNOFF DISCONNECTION AREA WITH AMENDED SOILS HATCH
RG	REINFORCED GRASS TURF INFILTRATION TRENCH HATCH
AP	ASPHALT PAVEMENT HATCH
CP	CONCRETE PAVEMENT HATCH
RB	ROCK BLANKET HATCH

LENGTH OF PROJECT:

BEGIN RIGHT OF WAY PROJECT STATION	83+34.64
END RIGHT OF WAY PROJECT STATION	163+53.01
BEGIN PEDESTRIAN ENHANCEMENT CONSTRUCTION PROJECT STATION	83+02.00
END PEDESTRIAN ENHANCEMENT CONSTRUCTION PROJECT STATION	163+71.79
LENGTH OF PEDESTRIAN ENHANCEMENT PROJECT	8069.79 FEET
LENGTH OF RESURFACING PROJECT	7375 FEET

ROADWAY DESIGN DESIGNATION

FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL
ADT (2008)	9468
ADT (2028)	9468
CURRENT POSTED	35 MPH
DESIGN	35 MPH
TERRAIN	ROLLING

DESIGN CRITERIA:

AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, EDITION 1999
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), EDITION 2009
AASHTO GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (GREEN BOOK), EDITION 2004

BENCHMARK

ST. LOUIS COUNTY BENCHMARK
NO. 13-222 670.03 - "STANDARD ALUMINUM DISK" STAMPED SL-63 1992.
DISK IS SET AT THE SOUTHWEST CORNER OF CLAYTON ROAD AND CHAPEL HILL ESTATES; 29' SOUTH OF THE CENTERLINE OF CLAYTON ROAD AND 26' WEST OF THE CENTERLINE OF CHAPEL HILL ESTATES.

* PLAN SHEETS NOT INCLUDED WITH SUBMITTAL TO MSD

NOTES:

1. ANY FUTURE LAND DISTURBNACE AND/OR INCREASE IN IMPERIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN)
2. CLAYTON ROAD OVERLAY INVOLVES NO CHANGE TO IMPERVIOUS PAVEMENT AREAS. NO MSD STRUCTURES ARE IN THE OVERLAY AREAS. MSD APPROVAL FOR TRAIL PORTION OF PROJECT ONLY, AS SHOWN ON THESE PLANS.
3. TOTAL DISTURBED AREA = 3.4 ACRES
4. ALL SEWER CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009.

LOCAL UTILITY COMPANIES

SEWER	ELECTRIC
METROPOLITAN ST. LOUIS	AMEREN MISSOURI
SEWER DISTRICT	4440 N. UNION AVE
2350 MARKET STREET ST. LOUIS, MO. 63103 (314) 768-6200	ST. LOUIS, MO. 63115 (314) 342-1111
TELEPHONE	GAS
AT&T	LACLEDE GAS CO.
402 N. THIRD STREET	720 OLIVE STREET
ST. CHARLES, MO. 63301 (314) 235-9800	ST. LOUIS, MO. 63101 (314) 342-0500
WATER	CABLE
MO. AMERICAN WATER COMPANY	CHARTER COMMUNICATIONS
727 CRAIG ROAD	941 CHARTER COMMONS
ST. LOUIS, MO. 63141 (314) 991-3404	ST. LOUIS, MO. 63017 (636) 387-6633

LOCAL AGENCY

CITY OF TOWN AND COUNTRY, MISSOURI
Graig J. Wilde 11/2/12
GRAIG J. WILDE DATE
Director of Public Works
TITLE

THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

KEI KOWELMAN ENGINEERING, INC.
770 North Second St., Ste. 520 St. Louis, Mo 63102 (314) 241-2601



ACCESS ENGINEERING, LLC

11820 Tesson Ferry Rd., Ste 203
St. Louis, MO 63128 (314) 849-8445

REV.	DATE	DESCRIPTION	APPROVED
1	12/14/12	ADDENDUM NO. 1 - REMOVED BARRIER	MWB
0	11/02/12	ISSUED FOR CONSTRUCTION	MWB

CITY OF TOWN AND COUNTRY
CLAYTON ROAD IMPROVEMENTS PHASE II
FED. PROJ. NO. STP-5532(609)
COVER SHEET

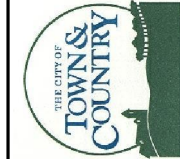
PROJECT NO.

10114

DRAWING NO.

T-001

CDG ENGINEERS
CDG Engineers Architects Planners Inc.
One Campbell Plaza
St. Louis, Missouri 63139
T. 314.781.7770
F. 314.781.9075
Missouri State Certificate of Authority # 1271



STATE OF MISSOURI
MICHAEL J. CARUSO
Professional Engineer
PE-2010019515
Michael J. Caruso-Engineer
MO# PE-2010019515

DRAWN BY

RJ

CHECKED BY

ART

SCALE

NOT TO SCALE

DATE

10/25/2010

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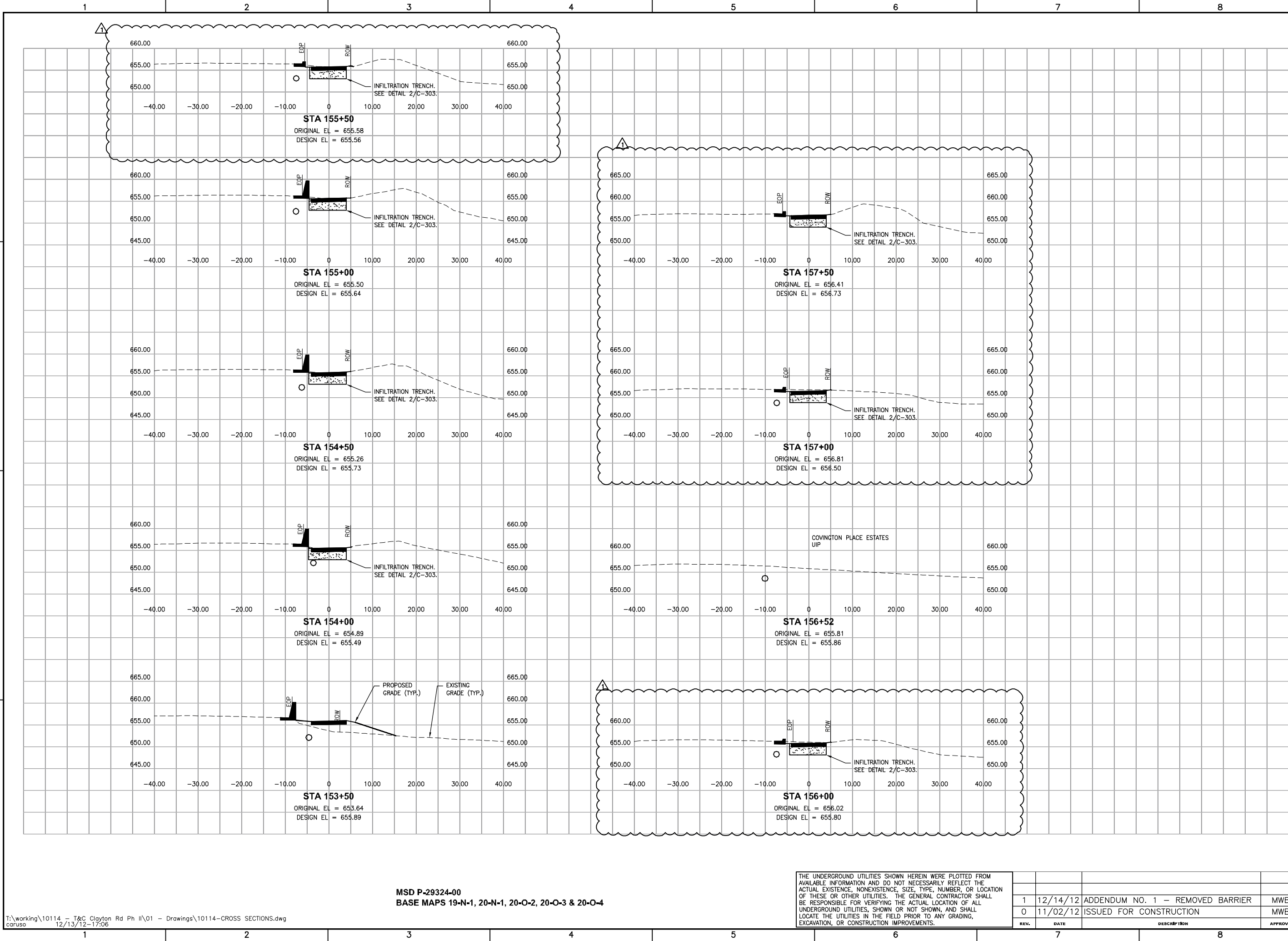
1	12/14/12	ADDENDUM NO. 1 – REMOVE BARRIER	MWB
0	11/02/12	ISSUED FOR CONSTRUCTION	MWB
REV.	DATE	DESCRIPTION	APPROVED

A

B

C

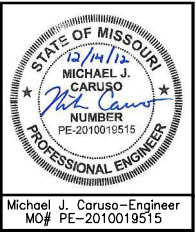
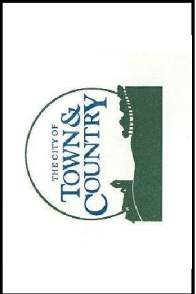
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MSD P-29324-00
BASE MAPS 19-N-1, 20-N-1, 20-O-2, 20-O-3 & 20-O-4

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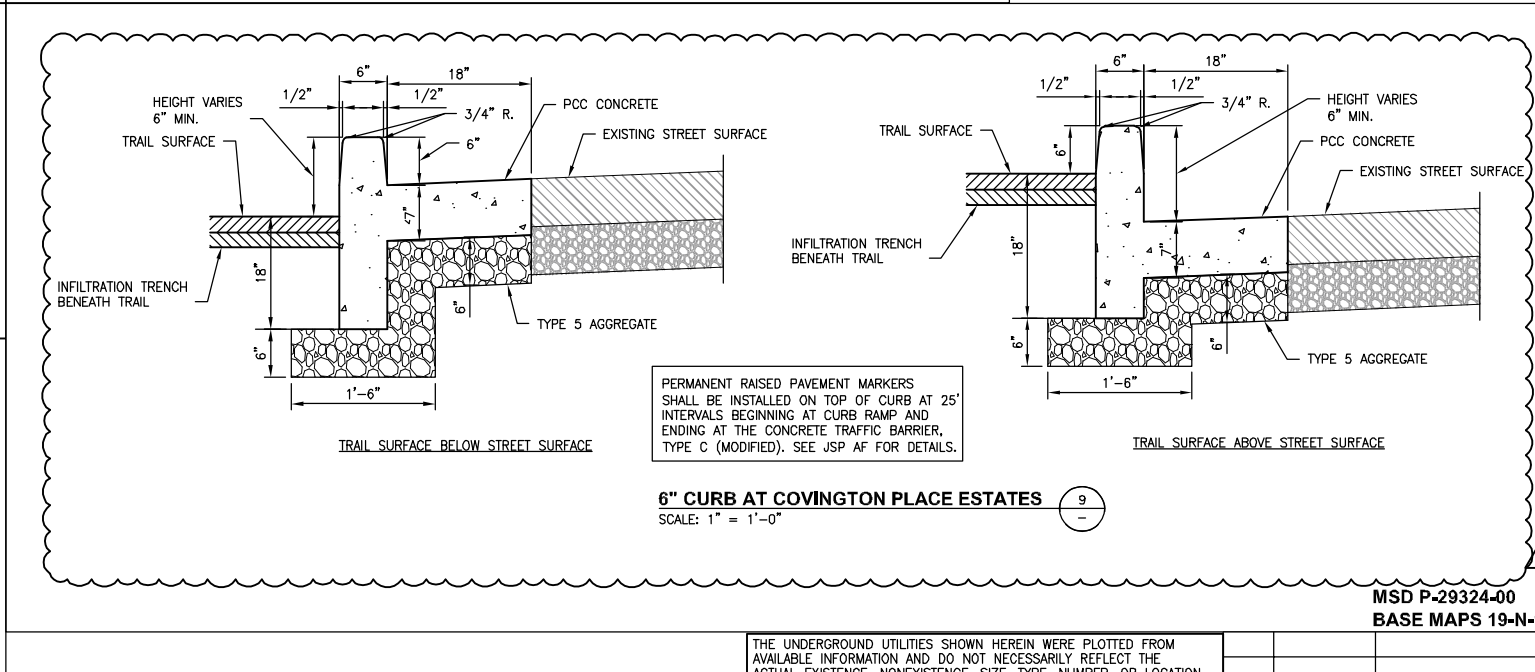
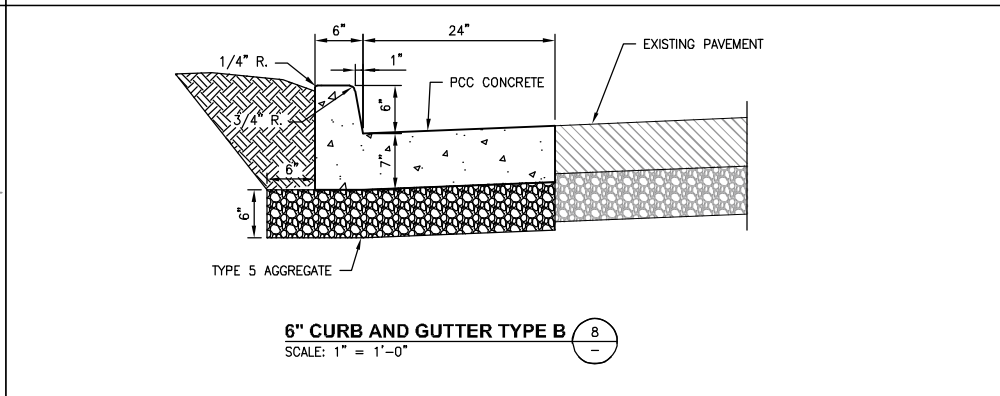
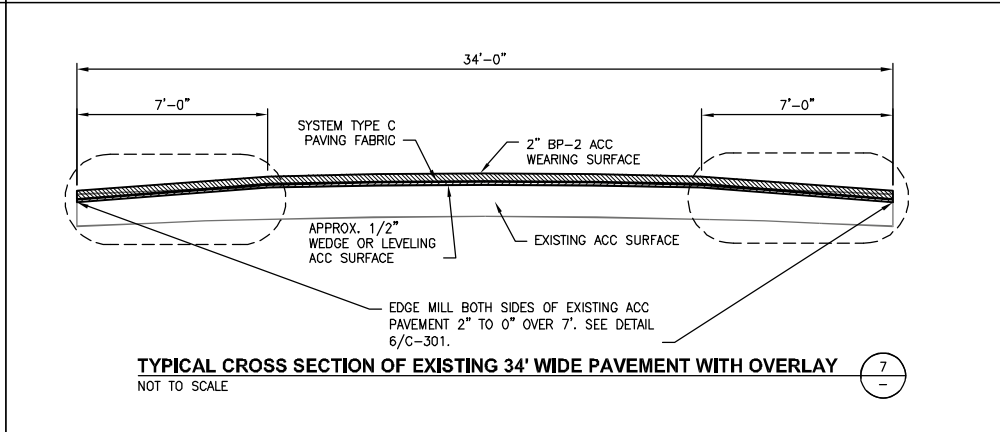
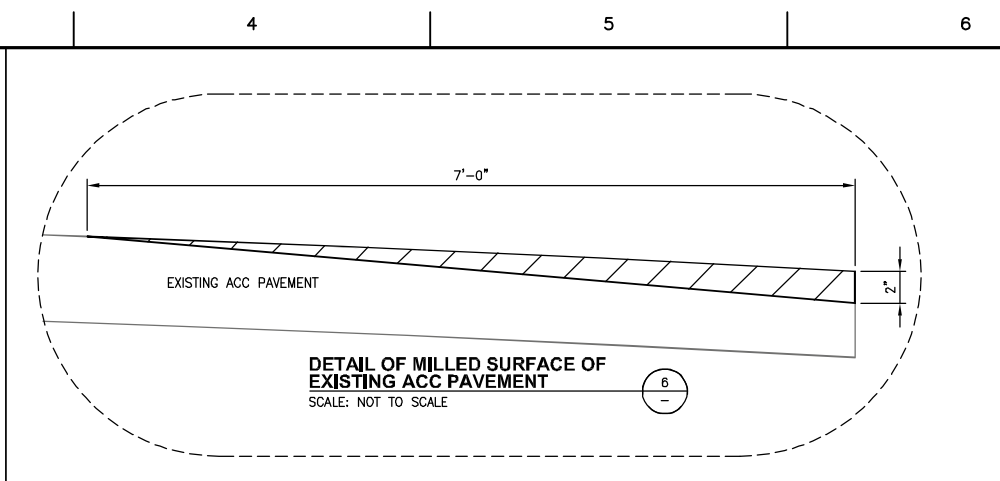
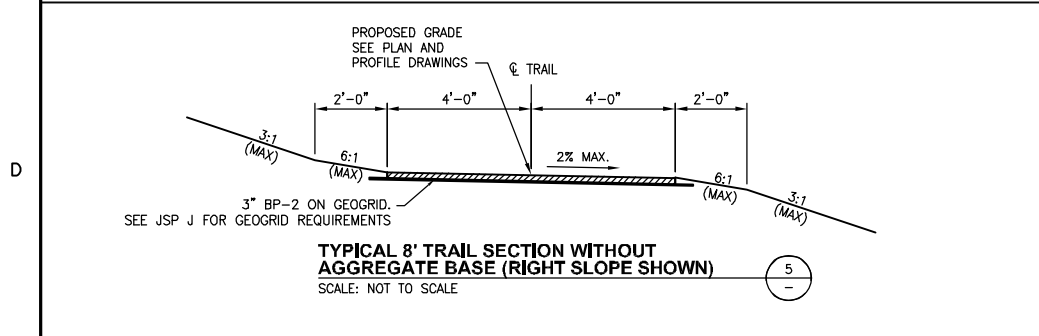
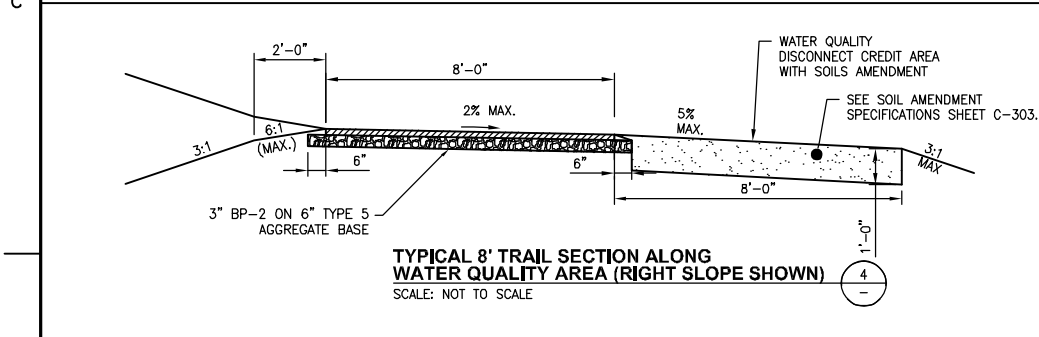
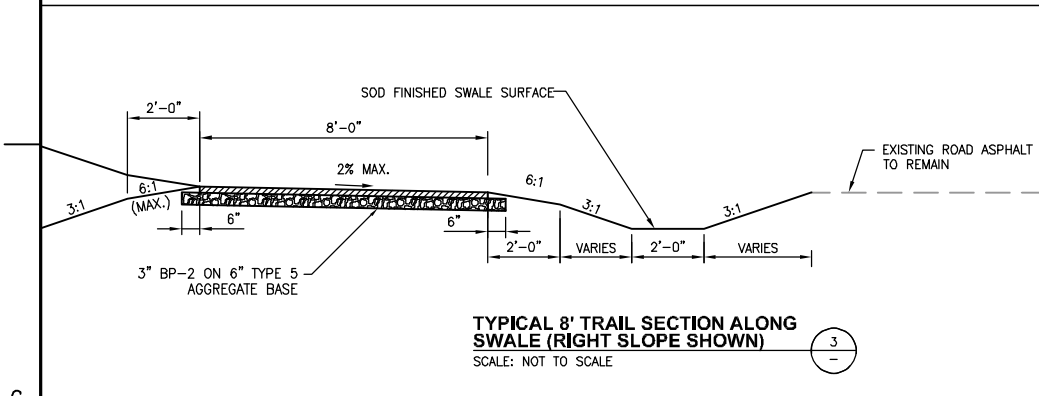
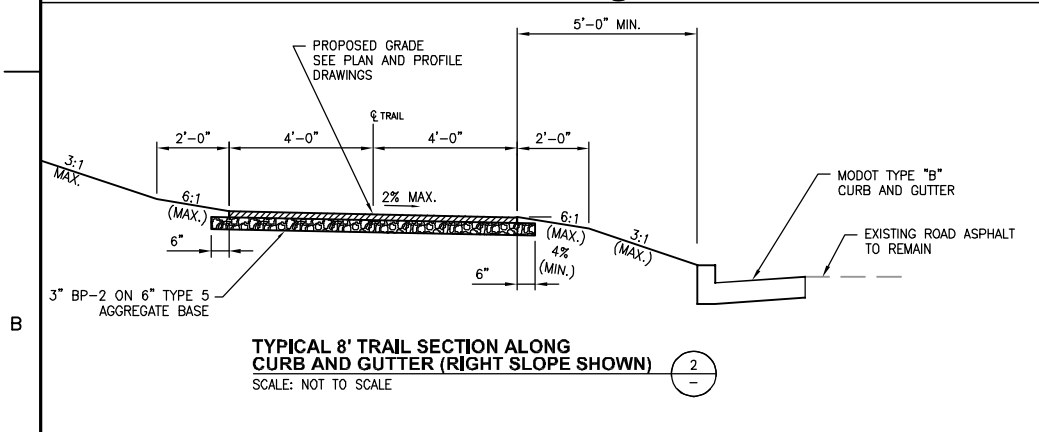
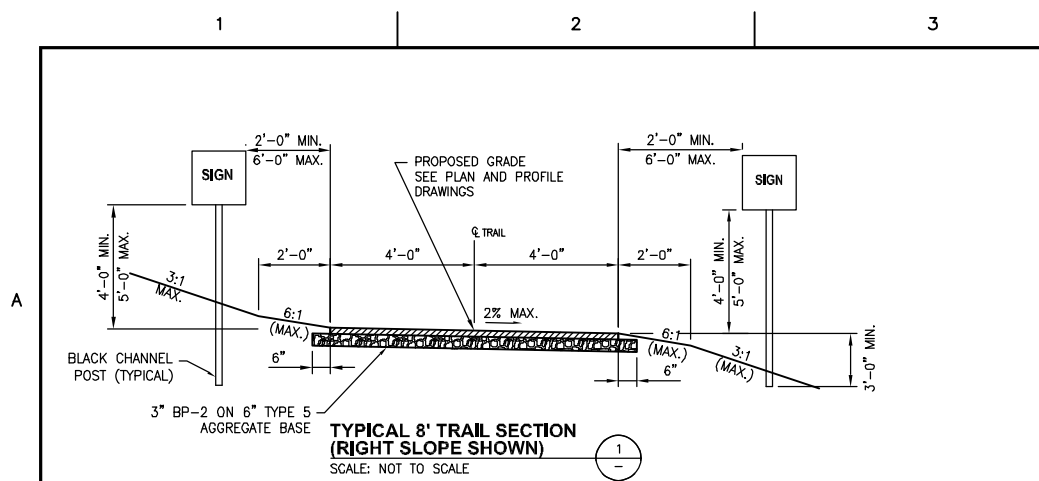
THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.			
1	12/14/12	ADDENDUM NO. 1 - REMOVED BARRIER	MWB
0	11/02/12	ISSUED FOR CONSTRUCTION	MWB
REV.	DATE	DESCRIPTION	APPROVED



DRAWN BY DMM
CHECKED BY MJC
SCALE 1"=10' ON 22"X34"
DATE 12/10/2010

CITY OF TOWN AND COUNTRY
CLAYTON ROAD IMPROVEMENTS PHASE II
FED. PROJ. NO. STP-5532(609)
CROSS SECTIONS

PROJECT NO. 10114
DRAWING NO. C-213



TYPICAL TRAIL SECTION SCHEDULE	
STATION	TRAIL SECTION
83+27 TO 83+65	TYPICAL 8' TRAIL SECTION - SLOPE RIGHT
83+65 TO 86+40	TYPICAL 8' TRAIL SECTION ALONG SWALE - SLOPE RIGHT
86+40 TO 86+70	TYPICAL 8' TRAIL SECTION - SLOPE LEFT
86+70 TO 86+95	TYPICAL 8' TRAIL SECTION ALONG WALL - SLOPE LEFT
86+95 TO 87+75	PEDESTRIAN BRIDGE
87+75 TO 88+67	TYPICAL 8' TRAIL SECTION ALONG WATER QUALITY AREA - SLOPE LEFT
88+67 TO 88+79	TYPICAL 8' TRAIL SECTION - SLOPE LEFT
88+79 TO 89+34	WEXFORD WOODS COURT CROSSING
89+34 TO 90+98	TYPICAL 8' TRAIL SECTION ALONG SWALE - SLOPE RIGHT
90+98 TO 97+23	TYPICAL 8' TRAIL SECTION ALONG CURB AND GUTTER - SLOPE RIGHT
97+23 TO 100+90	TYPICAL 8' TRAIL SECTION ALONG SWALE - SLOPE RIGHT
100+90 TO 101+42	WHITE STABLE ROAD CROSSING
101+42 TO 105+55	TYPICAL 8' TRAIL SECTION ALONG SWALE - SLOPE RIGHT
105+55 TO 106+91	MUNICIPAL CENTER DRIVE CROSSING
106+91 TO 107+26	TYPICAL 8' TRAIL SECTION - SLOPE LEFT
107+26 TO 112+04	I-270 BRIDGE CROSSING
112+04 TO 112+25	TYPICAL 8' TRAIL SECTION - SLOPE LEFT
112+25 TO 113+11	CLAYTON ROAD CROSSING
113+11 TO 117+57	TYPICAL 8' TRAIL SECTION ALONG SWALE - SLOPE LEFT
117+57 TO 117+95	LONG MEADOWS LANE CROSSING
117+95 TO 124+01	TYPICAL 8' TRAIL SECTION ALONG SWALE - SLOPE LEFT
124+01 TO 126+39	TYPICAL 8' TRAIL SECTION ALONG WATER QUALITY AREA - SLOPE LEFT
126+39 TO 127+04	TURNBERRY PARK LANE CROSSING
127+04 TO 132+50	TYPICAL 8' TRAIL SECTION ALONG WATER QUALITY AREA - SLOPE RIGHT
132+50 TO 134+82	TYPICAL 8' TRAIL SECTION - SLOPE RIGHT
134+82 TO 135+81	BALLAS ROAD CROSSING
135+81 TO 136+50	TYPICAL 8' TRAIL SECTION ALONG CURB AND GUTTER - SLOPE LEFT
136+50 TO 138+19	8' TRAIL SECTION WITH 6" CURB AND GUTTER - SLOPE LEFT
138+19 TO 147+23	TYPICAL 8' TRAIL SECTION ALONG SWALE - SLOPE LEFT
147+23 TO 149+04	TYPICAL 8' TRAIL SECTION WITHOUT AGGREGATE BASE - SLOPE LEFT
149+04 TO 150+09	TYPICAL 8' TRAIL SECTION ALONG SWALE - SLOPE LEFT
150+09 TO 150+57	CLAYTON FOREST COURT CROSSING
150+57 TO 151+94	TYPICAL 8' TRAIL SECTION ALONG SWALE - SLOPE LEFT
151+94 TO 152+32	CLAYTON ESTATES DRIVE CROSSING
152+32 TO 153+48	TYPICAL 8' TRAIL SECTION ALONG SWALE - SLOPE LEFT
153+48 TO 155+19	8' TRAIL SECTION WITH CONCRETE TRAFFIC BARRIER AND INFILTRATION TRENCH BENEATH TRAIL - SLOPE LEFT
155+19 TO 156+18	8' TRAIL SECTION WITH 6" CURB AT COVINGTON PLACE ESTATES AND INFILTRATION TRENCH BENEATH TRAIL - SLOPE LEFT
156+18 TO 156+85	COVINGTON PLACE ESTATES CROSSING
156+85 TO 157+84	8' TRAIL SECTION WITH 6" CURB AT COVINGTON PLACE ESTATES AND INFILTRATION TRENCH BENEATH TRAIL - SLOPE LEFT
157+84 TO 163+40	8' TRAIL SECTION WITH CONCRETE TRAFFIC BARRIER AND INFILTRATION TRENCH BENEATH TRAIL - SLOPE LEFT
163+40 TO 163+61	TYPICAL 8' TRAIL SECTION ALONG CURB AND GUTTER - SLOPE LEFT

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1	12/14/12	ADDENDUM NO. 1 - REMOVED BARRIER	MWB
0	11/02/12	ISSUED FOR CONSTRUCTION	MWB
REV.	DATE	DESCRIPTION	APPROVED

SOIL AMENDMENT SPECIFICATIONS

Description:

This work shall consist of incorporating compost within the root zone as shown on the plans to improve soil quality, plant viability and soil hydraulic conductivity. (See Comment 1)

Materials:

Compost shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock may include, but is not limited to: agricultural, food or industrial residuals; Class A biosolids as defined in the EPA CFR Title 40, Part 503, yard trimmings, or source-separated municipal solid waste. The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight. The product shall possess no objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids. The moisture level shall be such that no visible water or dust is produced when handling the material.

Testing:

The results of compost analysis shall be provided by the compost supplier. Maturity testing should be performed on site after the compost is delivered. Compost maturity test kits can be ordered from a number of commercial sources. Before delivery of the compost, the supplier must provide the following documentation:

- feedstock percentage in the final compost product
- a statement that the compost meets federal and state health and safety regulations
- a statement that the composting process has met time and temperature requirements
- a copy of the lab analysis, less than four months old, performed by a Seal of Testing Assurance Certified Laboratory verifying that the compost meets the physical requirements as described.

Table 1 - Physical Requirements for Compost

Parameter	Range	Testing Method
pH	5.0-8.5	TMECC 4.11-A
Soluble Salt Concentration	< 10dS/m	TMECC 4.10-A
Moisture	30-60% wet weight basis	SMEVVW 2540B
Organic Matter	30-65% dry weight basis	TMECC 5.07-A
Particle Size	98% pass through 5/8" screen or smaller	TMECC 2.02-B
Stability (Carbon Dioxide evolution rate)	> 80% relative to positive control	TMECC 5.08-B
Maturity (Seed emergence and seedling vigor)	> 80% relative to positive control	TMECC 5.05-A
Physical Contaminants (mammalian feces)	< 1% dry weight basis	TMECC 3.08-A
Chemical Contaminants	Meet or exceed US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3 levels	
Arsenic	< 4.1 ppm	TMECC 4.06-AS
Cadmium	< 39 ppm	TMECC 4.06-CD
Copper	< 1,500 ppm	TMECC 4.06-CU
Lead	< 300 ppm	TMECC 4.06-PB
Mercury	< 17 ppm	TMECC 4.06-HG
Molybdenum	< 75 ppm	TMECC 4.06-MO
Nickel	< 420 ppm	TMECC 4.06-NI
Selenium	< 100 ppm	TMECC 4.06-SE
Zinc	< 2,800 ppm	TMECC 4.06-ZN
Biological Contaminants (pathogens)	Meet or exceed US EPA Class A standard, 40 CFR § 503.32(a) levels	
Fecal Coliform	< 1,000 MPN per gram, dry weight basis	TMECC 7.01

Recommended compost testing methodologies and sampling procedures are provided in Test Methods for the Examination of Composting and Compost (TMECC)1, and Standard Methods for the Examination of Water and Wastewater2.

Soil Evaluation:

Prior to soil amendment, existing soils must be sampled and evaluated to determine amendment quantities and plan the amending process. In addition to compost, soil analysis may reveal the need for other soil amendments, such as lime, gypsum and specific nutrients. Contact your local Cooperative Extension for soil testing information. (See Comment 2)

Determining Compost Quality:

Compost shall uniformly be applied over the entire area to a depth of two (2) inches, and incorporated into the soil a minimum depth of six (6) inches. Where tree roots or other natural features limit the maximum depth of incorporation, compost quantities should be adjusted. Required volume of compost may be estimated using the following approximation: one (1) inch compost spread over 1000 square feet = three (3) cubic yards. The Designer may specify different compost application rates depending upon soil conditions.

Compost Application Procedure:

- Rototill to a depth of 6"-8". If the soil is too dense for a rototiller, the soil should first be broken up into large aggregates using a soil ripper.
- Clear surface obstructions. The soil surface shall be reasonably free of large clods, roots, stones greater than 2 inches, and other material which will interfere with planting and subsequent site maintenance.
- Distribute compost evenly to a depth of two inches over the soil surface. For small areas, compost may be spread by hand with a shovel and raked evenly over the soil. For larger areas, use a tractor-mounted spreader or other similar device.
- Spread lime and nutrients as indicated by soil testing.
- Re-rototill several times in perpendicular directions to incorporate compost and other soil amendments.
- Vegetate the amended area in accordance with the MSD Standard Construction Specifications for Sewers and Drainage Facilities, 2009.

Alternatives for Deep Compaction:

If soil is compacted deeper than 6 inches, alternative techniques, such as trenching, may yield better results.

Slope Limitations:

On steep slopes, increasing soil moisture could potentially cause soil instability. In general, composted amendment is not recommended for slopes steeper than 3:1 (horizontal:vertical). Special care should be taken during installation on steep slopes. Installation should be performed during dry weather, and early enough in the year to permit the establishment of vegetation before the onset of winter.

Tree and Shrub Considerations:

Care must be taken around existing trees and shrubs to prevent root damage during soil amendment. Soil distribution should be avoided entirely within the tree's drip line (the outer limits of the branches). A tree's roots may extend well beyond the drip line. Some trees and shrubs will recover from a certain amount of root disturbance. It is important to consult with a professional arborist for guidelines regarding specific tree and shrub species.

Seeding/Vegetation:

Vegetation should be installed immediately after compost application. Follow published guidelines for seeding, sodding or planting

References:

- Test Methods for the Examination of Composting and Compost. 2002. USDA and U.S. Composting Council.
- Standard Methods for the Examination of Water and Wastewater. 1992. 18th Edition, American Public Health Association, 1015 Fifteenth Street, NW, Washington, DC 20005.
- Chollak, T. and Rosenfeld, R. 1998. Guidelines for Landscaping with Compost-amended soils. Prepared for City of Redmond Public Works, Redmond, WA. Available at <http://depts.washington.edu/cwms>.

Comments:

Comment 1: Soil quality improvements include:

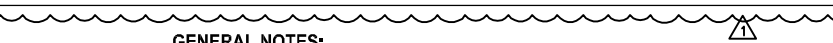
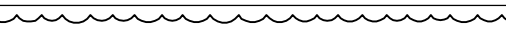
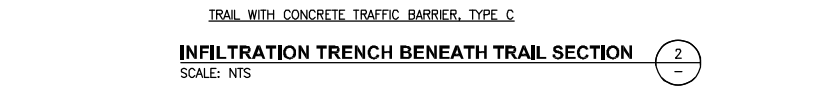
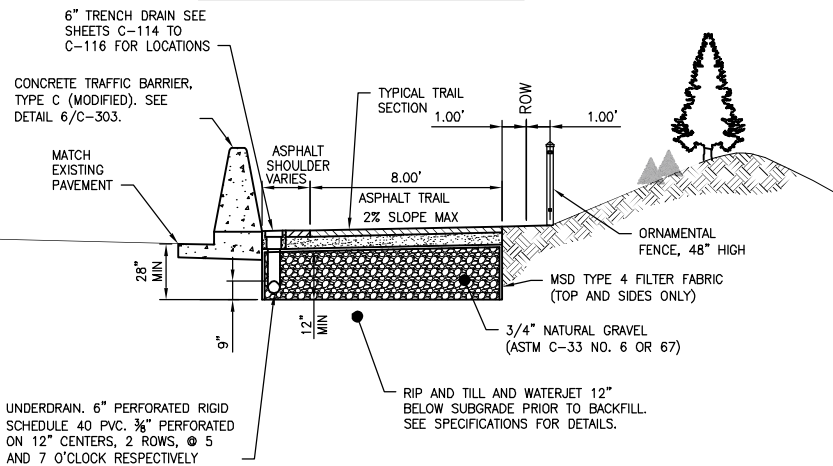
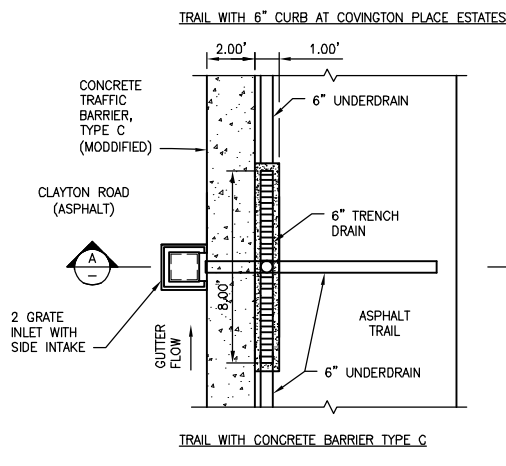
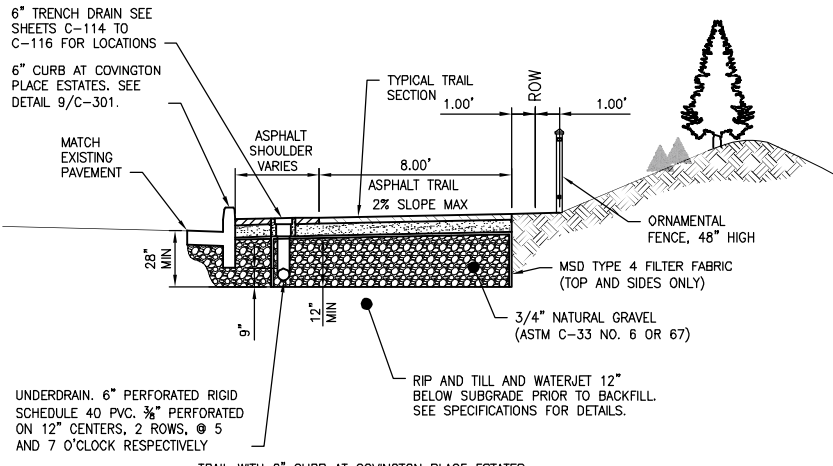
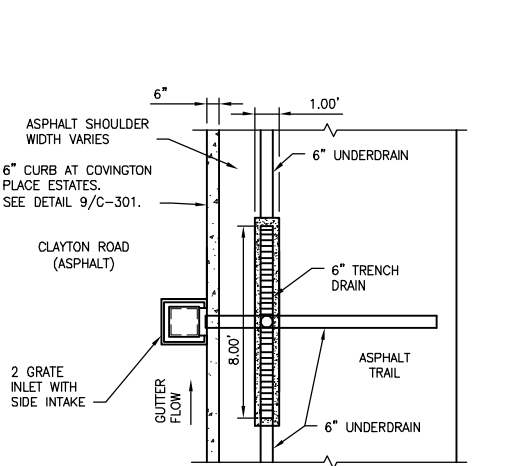
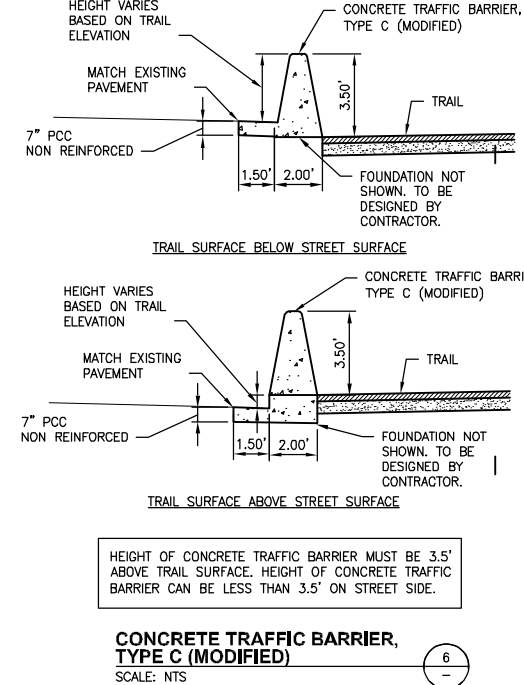
- ability of soil to enhance biological activity
- ability of soil to attenuate environmental contaminants
- increased moisture holding capacity
- improved soil structure

Comment 2: Micronutrients will be supplied by the compost, but macronutrients (N, P, K, S, Mg, and Ca) may need to be supplemented. If soil pH is below 6.0, pelletized lime dolomite should be incorporated during the amendment process. Typical application rate: 50-100 pounds per 1000 square feet.

If nitrogen is needed, it should be supplied in a slow release, water insoluble form. Compost may supply all necessary nitrogen for a least the first year after application. After the first year, annual nitrogen requirements range from 2 to 8 pounds per 1000 square feet. Gypsum can be used to add calcium and sulfur to the soil without increasing pH. In sandy soils, it can help to displace sodium ions. It can also help to bind clay particles, increasing macropore abundance. 50-100 pounds of gypsum per 1000 square feet should be incorporated into heavy clay soils.

Method of Measurement and Basis of Payment:

The quantity shall be measured to the square yard of amended soils. This shall include the whole cost and expense necessary to excavate and place the amended soils as shown on the plans using the methods described herein.



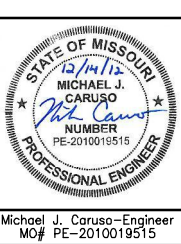
GENERAL NOTES:
1. INFILTRATION BED: TO PREVENT CONSTRUCTION SEDIMENT FROM CLOGGING INFILTRATION BEDS, AT NO TIME MAY CONSTRUCTION SEDIMENT ENTER THESE FACILITIES. ADDITIONALLY, THESE FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL SURROUNDING AREA THAT DRAINS TO THEM IS FULLY STABLE/ESTABLISHED.
2. SHOP DRAWING REVIEW: SHOP DRAWINGS SHALL BE SUBMITTED TO THE MSD DIVISION INSPECTOR FOR REVIEW PRIOR TO CONSTRUCTION.

MSD CONTACT: BRIAN DUNN
PHONE NUMBER: 314-335-2072

THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

REV.	DATE	DESCRIPTION	APPROVED
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0	11/02/12	ISSUED FOR CONSTRUCTION	MWB

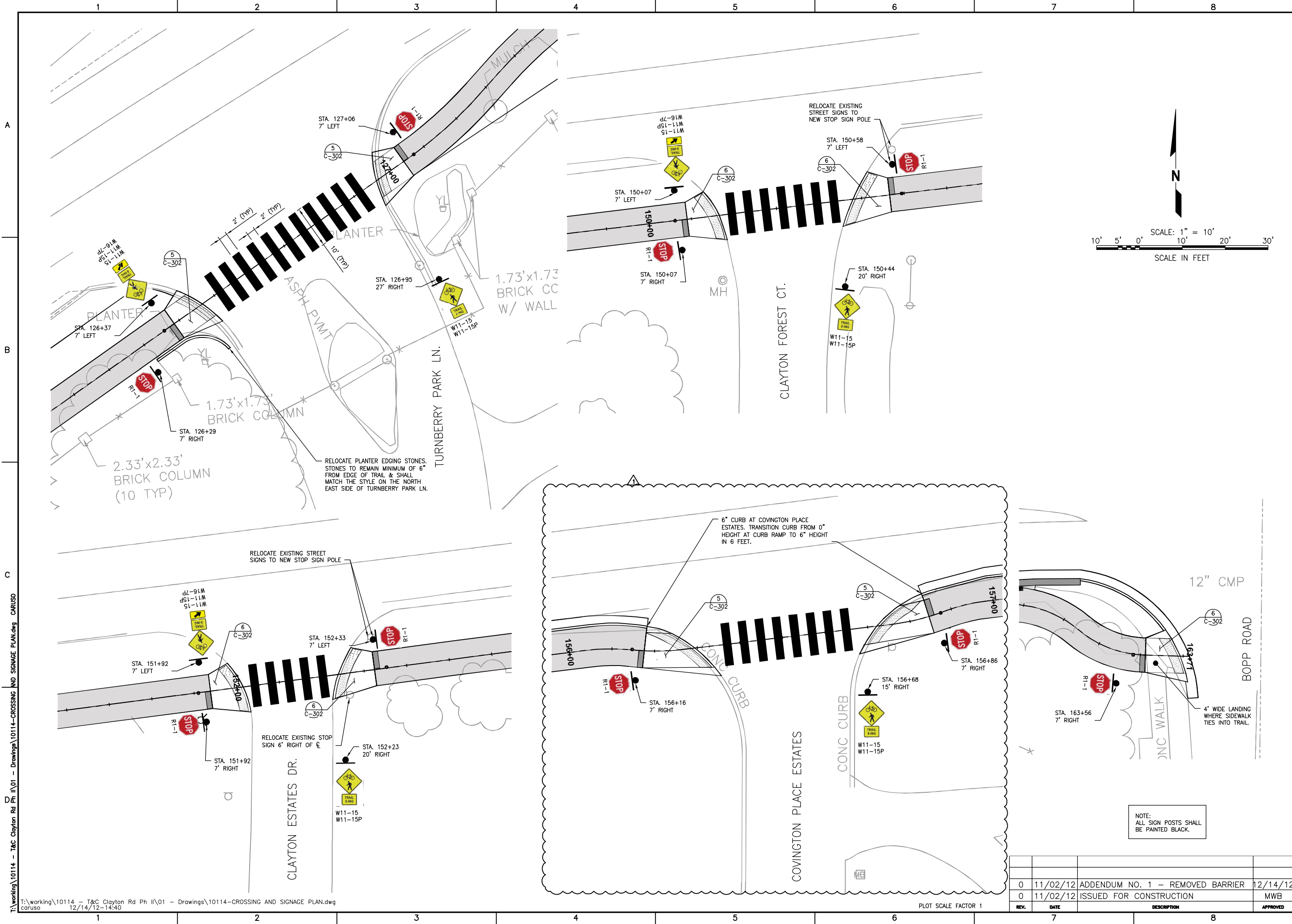
MSD P-29324-00
BASE MAPS 19-N-1, 20-N-1, 20-O-2, 20-O-3 & 20-O-4



DRAWN BY
DMM
CHECKED BY
MJC
SCALE
AS SHOWN
DATE
12/10/2010

CITY OF TOWN AND COUNTRY
CLAYTON ROAD IMPROVEMENTS PHASE II
FED. PROJ. NO. STP-5532(609)
TYPICAL SECTIONS AND DETAILS

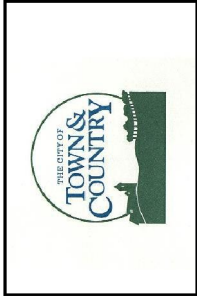
PROJECT NO.
10114
DRAWING NO.
C-303

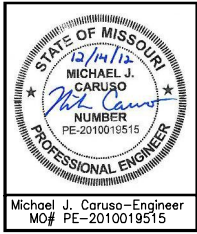


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CDG ENGINEERS
CDG Engineers Architects Planners Inc.
One Campbell Plaza
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Missouri State Certificate of Authority # 1271





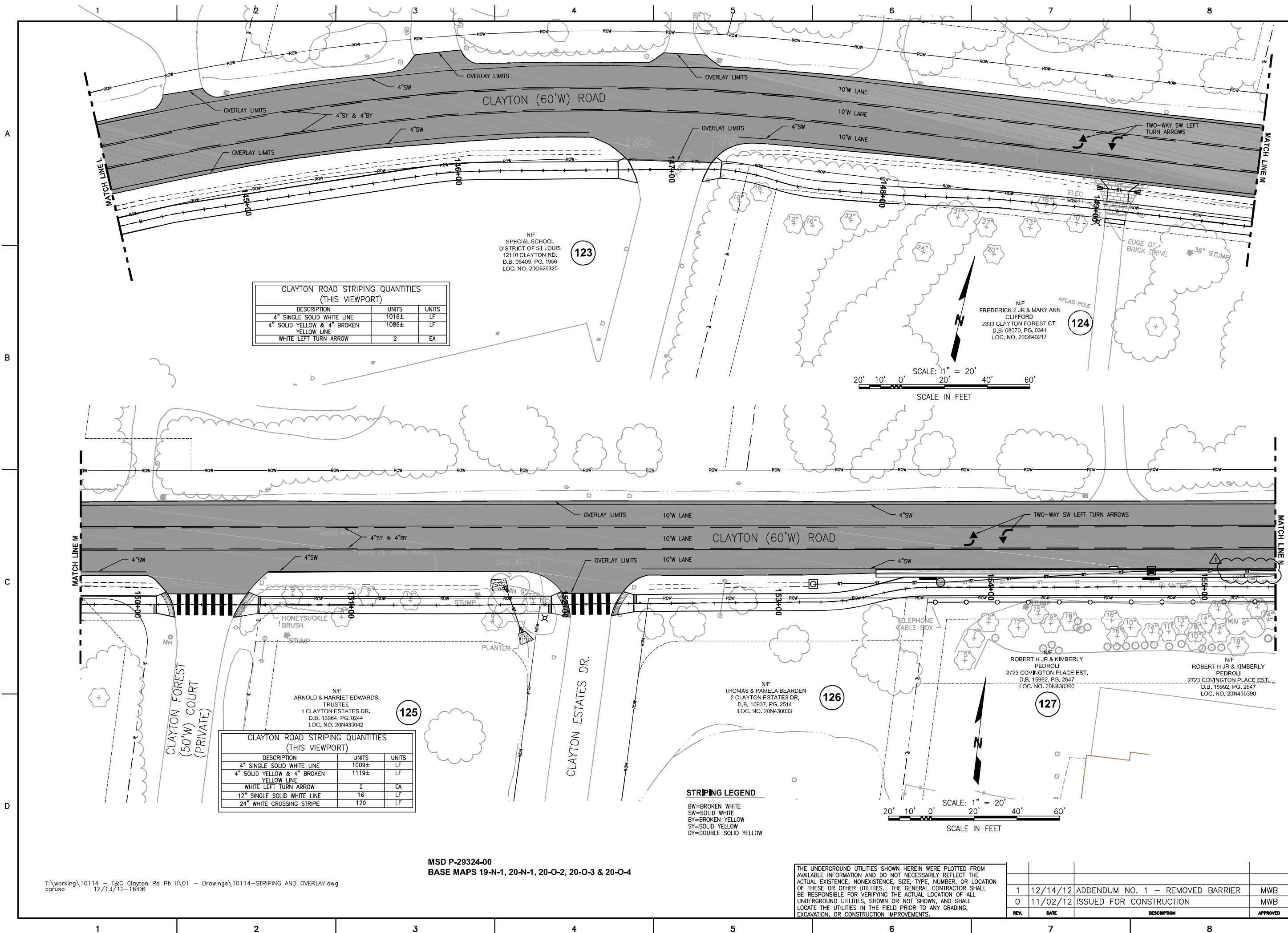
STATE OF MISSOURI
12/14/12
MICHAEL J. CARUSO
NUMBER
PE-2010019515
PROFESSIONAL ENGINEER
Michael J. Caruso-Engineer
MO# PE-2010019515

DRAWN BY	BMG
CHECKED BY	ART
SCALE	1" = 10'
DATE	12/5/11

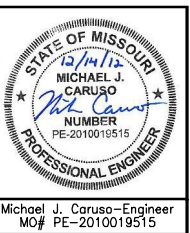
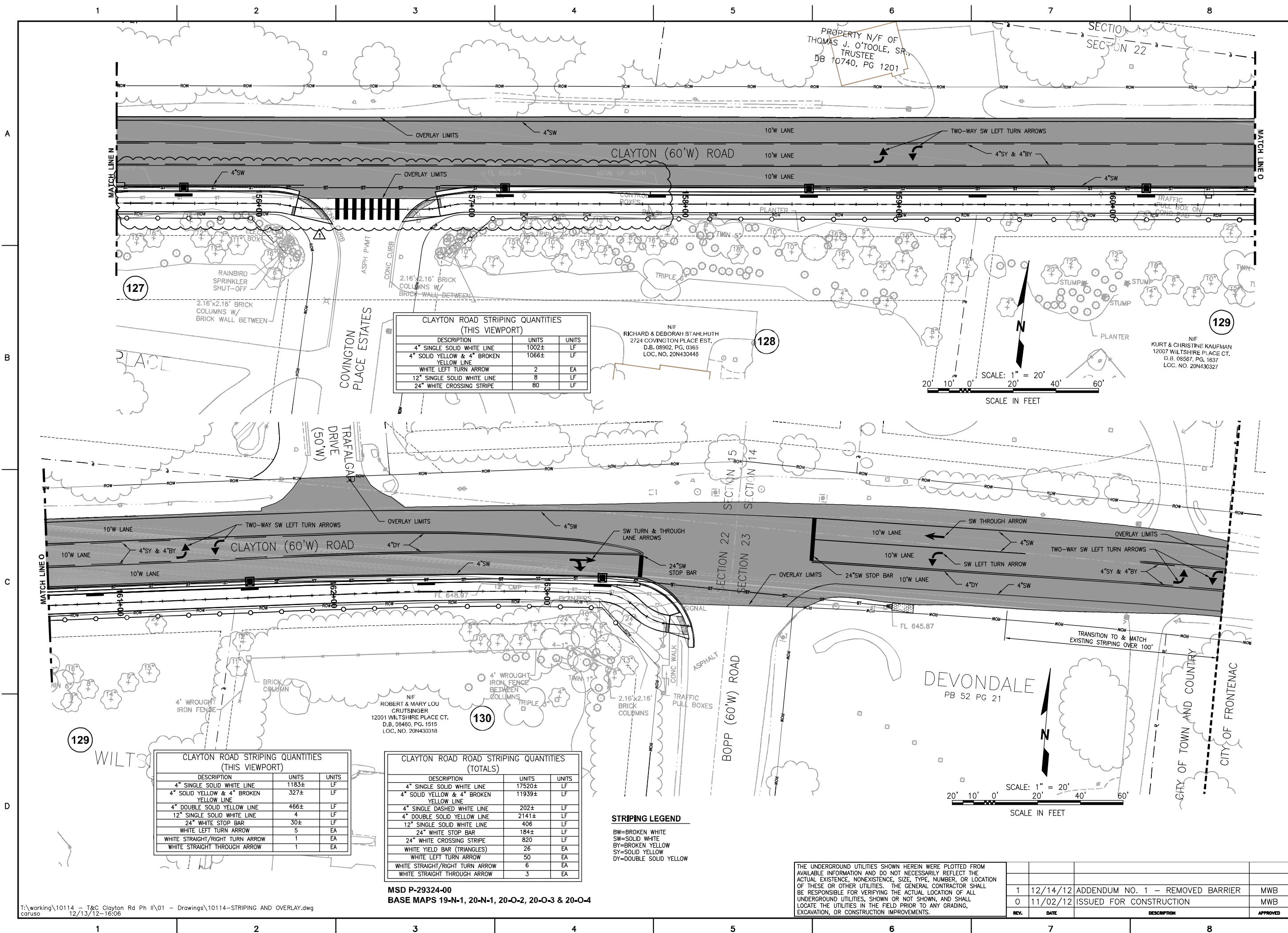
CITY OF TOWN AND COUNTRY
CLAYTON ROAD IMPROVEMENTS PHASE II
FED. PROJ. NO. STP-5532(609)
TRAIL CROSSING AND SIGNAGE PLAN

PROJECT NO.	10114
DRAWING NO.	C-502

REV.	DATE	DESCRIPTION	APPROVED
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0	11/02/12	ISSUED FOR CONSTRUCTION	MWB



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DRAWN BY
JSP

CHECKED BY
MJC

SCALE
1"=20' ON 22"x34"

DATE
12/05/11

CITY OF TOWN AND COUNTRY
CLAYTON ROAD IMPROVEMENTS PHASE II
FED. PROJ. NO. STP-5532(609)
OVERLAY AND STRIPING PLANS

PROJECT NO.
10114

DRAWING NO.
ST-108

