City of
MARYLAND HEIGHTS

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DATE: January 9, 2017

ADDENDUM NO. 2

Notice to All Persons and Firms proposing to Submit a Bid or Furnish Materials for City of Maryland Heights **McKelvey Woods Trail Phase II Bid No. 2017-02 (Federal Project No. STP5401 (659)**

The City of Maryland Heights is making the following and/or clarification to the specifications for this project.

1. Bid opening date has changed.

The bid date is being revised to Thursday January 19, 2017 at 10:00 AM.

2. Can polypropylene pipe be considered as an equal alternative to the specified reinforced concrete pipe and the PVC sanitary sewer pipe?

Polypropylene pipe as approved by The Metropolitan St. Louis Sewer District can be considered as an alternative to the specified reinforced concrete pipe and sanitary sewer pipe.

3. Sheet C-302 of the contract drawings shows a block wall. In JSP 59, Section 01.B states that the work includes installing a concrete MSE wall, Section 01.F provides the name of approved LIVING WALL SYSTEMS. Section 02 states MSE wall system shall be wire face. What is required, block wall, concrete wall, living wall or wire wall? Please provide a typical cross-section of the required wall. Please provide the limits of the planting mix that needs to be placed behind the wall face. What is the required design life of the required wall?

Wall 2B (5 Degree Batter) is a MSE Wall System and shall be constructed using a Living Wall System. Section 01.B of JSP will be amended to reflect the design requirement by removing the word "Concrete". Sheet C-302 will be amended to note Wall 2B to be constructed using a MSE Wall System and remove the word "Block".

The limits of the planting mix needing to be placed behind the wall face shall be determined by the Wall Designer to facilitate plant life on the face of wall.

The required design life of the MSE Wall System shall follow requirements and guidance published by AASHTO and the Missouri Department of Transportation Specifications.

Revisions to plan sheet C-302 and JSP 59 are part of this addemdum.

4. Page 465 of the Bid Specs Vol 1 continues to describe the topographic surveys. What areas (A, B, C, D, E) are to be included in topographic survey 3, all 5 of them?

For Topographic Survey 2 to be completed in areas C & D. For Topographic Survey 3 to be completed in areas C & D.

5. Is Fossil Industries an approved equal to iZone and Folia for the CHPL (High Pressure Laminate) signs?

Approved manufacturers of High Pressure Laminate for any MUTCD signage shall include: Folia, i-Zone, Trespa and Fossil. All wayfinding signage shall be obtained from Image Manufacturing Group as per JSP 47, page 7.

6. I just noticed that on sheet L-108 at about station 47+25 right, a tree labeled NS"NS" is indicated. There is no "NS" in the landscaping schedule.

A revised sheet L-108 is part of this addendum reflecting the correct tree designation.

7. On plan sheet l-101 just left of station 11+00 2 trees are called out and labeled as "AR". On plan sheet L-001 the plant schedule does not list any "AR" trees.

The plant schedule on sheet L-001 is correct. A revised sheet L-101 is part of this addendum.

8. Where is the breakout of seeding species located?

The breakout of the seeding mix by species can be found in the Job Special Provisions under A-JSP-329200.10 Native Grasses and Wildflowers.

9. Regarding plants, can Coreopsis lanceolate be substituted for Coreopsis verticillata?

Bidders are to bid based on the plant schedule. The successful bidder may submit plant substitutions that will be evaluated by the City.

10. In Volume 1 on page 112; there is Testing Section 60 that states:

Materials Testing and Inspection Service: The City will employ and pay for a qualified independent materials and geotechnical testing laboratory to perform testing and inspection services, not performed by City personnel, during construction operations.

On page 293 of Volume 1 is JPS 19:

JSP 19 - CONTRACTOR QUALITY MANAGEMENT AND QUALITY CONTROL, which states:

1.1 The contractor shall provide Quality Control (QC) of the work and material, as specified herein, to ensure all work and material is in compliance with contract requirements. QC staff shall perform and document all inspection and testing. The QC inspectors and testers may be employed by the contractor, sub-contractor, or a qualified professional service provided by the contractor.

Who is hiring the testing firm for quality control?

The City shall be responsible for all Quality Control testing of the work and material. JSP 19 will not be used for this project.

11. Will flood insurance be required for this project?

Flood insurance is not required on the project.

12. Sheet C-103 is missing from some plan sets.

Sheet C-103 is included with this addendum.

13. Is there any way possible for the engineer to provide a (unofficial) B-sheet list of all the Incidental Removal items on the plans in the B-Sheets? There is a vast amount of removals and many are not shown on the demolition sheets. If we had an informal listing that was not all inclusive that would greatly aid us for estimating purposes.

Removal of improvements is a lump sum item. Removals are anticipated to be utilities, asphalt, concrete and other ancillary items. Demoliton sheets have been provided as a tool for this item. Project has provided stand alone pay items for house removal and clearing/grubbing. Contractor's advised to use the drawings to develop their bid as-is for this item.

14. There is a large amount of temporary orange barrier fence on the project. some is listed and paid for per LF by Item #98 and some is interspersed all over the plans and specs. Is there anyway the owner would consider just paying the contractor for all of this work with Item #98 per Lineal Foot?

Quantity updated to include miscellaneous temporary orange barrier. See attached revised 2B sheet and bid form for the new aggregate quantity. Locations of temporary orange barrier have been tabulated in JSP-89 attached to this addendum.

15. Are the retaining walls going to be paid per Square Foot of "Exposed Face" or "Total Square Foot" pending final designs and Topo surveys?

The pay item is paid for total square foot of wall including unexposed wall face. Quantities are adjusted see attached 2B sheet, wall profiles and revised bid form.

16. Regarding the retaining wall designs. The plans show general outlines and quantities but the specs require the contractor to generate his own signed & sealed designs. In order to correctly estimate these walls we need design criteria.(grid lengths, poor subgrade, rock type, etc) Is it the owners intent for the contractor to assume "Standard" design criteria for these walls for bidding purposes? Then when we perform the TOPO survey we will verify if the soils are acceptable and Global Stability does not govern the design? If the ground is unsuitable and extra remediation is necessary will the owner accept our change order request for any over excavation, additional grid length, etc?

Design team was unable to access wall sites with drill rigs during design. The contractor is to assume "standard" design criteria when estimating the walls. If unsuitable materials are encountered during construction a change order will be negotiated.

17. Is Filter Fabric required for Item 38 & 39 Type 1 Rock Blanket?

Filter fabric shall be included in Items 38 & 39.

18. At station 85+00 there is extensive clearing and also extensive low hanging power lines on a very steep slope. Will Ameren UE drop these lines so that the contractor can clear this area safely?

No, power lines will not be dropped for tree clearing. Ameren Missouri will relocate power lines after Contractor has cleared the trees. Contractor required to coordinate with AmerenMO as per JSP-104.

Contractor shall carbon copy Rachel M. Sponsler instead of Felicia Childs in JSP-104, page 2. Complete contract information is as follows:

Rachel M. Sponsler
Associate Engineer
Phone: (314) 344-9560
e-mail: RSponsler@ameren.com

19. From Station 58+00 to Sta 72+00 there is a wetland swamp with 1 to 3 feet of standing water that drains to nowhere up against railroad tracks. Where will the contractor be allowed to drain or pump this area to so that we can perform the compacting embankment per the specifications? We cannot run hoses over the railroad tracks or a nearby road and the entire area has no outfall for thousands of feet. Even if we utilized Lime Stabilization we need to drain this area first in order to work. Please provide an area where we can drain to legally.

Contractor may discharge to Louiselle Creek to dewater this area at station 61+00. Water discharged shall be as per requirements of permits from United States Army Corp of Engineers, Howard Bend Levee District and other agencies having jurisdiction.

20. Line item number 113 “Soft Spot Mitigation” seems to be the work item we are supposed to perform on the entire subgrade from Sta 58+00 to Sta 72+00 prior to performing filling operations. Please clarify.

Soft spot mitigation will be performed within identified station range as designated by the construction manager.

21. At station 85+00 there is large amount of rock excavation and the specs provide us with a blasting permit form. Approximately 140 feet away is a business (Bastian Robotics) that very likely has an extremely low tolerance to vibrations. Can the City provide the maximum amount of Vibrations allowed by this business until they begin sustaining property damage?

Blasting permit is under the jurisdiction of Saint Louis County. City is unable to provide a maximum amount of vibration.

22. Item #100 Mulch Berm. Will the contractor be allowed to spread out the mulch in place upon completion of the grading prior to erosion blanket establishment?

Yes, contractor is encouraged to spread out mulch berm material prior to placing erosion control blankets.

23. Several areas of clearing required for the project are not shown inside the clearing limits on the demolition sheets or picked up in the quantities.

Exhibits for tree clearing limits not shown on plans have been added to JSP 21 attached to this addendum. The aggregate quantity of tree clearing area has been increased to include these areas, see attached 2B sheet and revised bid form.

24. There is a note on sheet C-511 that says “Contractor to install sanitary sewer after Wick Drain is installed & settlement stabilized.” That would mean we would have to bore that sewer pipe through the Wick Drain and under the 20’ tall retaining walls once built. Please clarify.

Wick drains may be removed and not replaced when embankment settlement is completed. Intent is to install sanitary sewer after settlement of embankment is completed by Contractor. Settlement to be monitored by City as per Order of Work JSP-01C, page 4. Note: wick drains shall not be removed until approved by City.

25. There are storm sewers, waterlines, & sanitary sewers to be constructed that run through the wick drain. Please clarify how these sewers are to be installed without damaging the Wick Drain or other adjacent facilities.

See response to number 23 above. Ancillary items are intended to be installed after settlement is complete. Wick drains are permitted for removal to install the ancillary items.

26. On sheet U-115 the rock excavation for the waterline is located directly below the power lines and power poles. Will Ameren UE extend the limits of their relocation and move their poles prior to this rock excavation so the contractor can safely install the rock excavation in trench?

This power pole is to remain in place. Contractor shall provide temporary shoring if the existing power pole is within 5-feet of the excavation. Temporary shoring shall be incidental to the project as per JSP 314000. Meeting minutes from utility coordination meeting in December 2016 is attached for Contractor’s informational use.

27. The Rock excavation in Trench will include the existing 16” ductile iron water main. Will MAWC cap out their main prior to the Rock excavation so that we can perform the work? will the contractor be required to haul & dispose of the existing abandoned 16” water main?

Yes, Missouri American Water will cap the water main prior to the Contractor completing excavation on the project. The existing water main may remain in place if undisturbed by the project. See JSP-105 for details and contractor requirements of the Missouri American Water Main Replacement work. Contractor shall be required to stake the existing water main easement throughout the Fred Weber owned parcel.

28. Will the MAWC backfill their own waterline trench with the rock spoils?

Yes, Missouri American Water Company (MAWC) will backfill their trench after installing the new water main. Backfill to be brought up to finish grade elevation by MAWC. Contractor shall be responsible for finish grading after MAWC completes their work.

29. Will the rock excavation in trench be field measured or be paid for by some type of pay line width?

Rock excavation will be field measured, see JSP 68, page 1.

30. Where is the rock excavation(not shown) on sheet U-121 for the 3” irrigation waterline paid for? That hole relocation has Class “C” rock for the rough grading so surely the waterline is in rock as well.

Rock excavation for the 3-inch water line is not anticipated. The design intent is to install the water line adjacent to the existing cart path. Project assumes existing cart path is placed on fill when the rock excavation was done for the cart path. If rock is encountered it will be compensated as part of Rock Excavation in Trench per JSP 68.

31. Is it the engineer's intention for the entire project site to be balanced grading wise? If a haul off is necessary will there be a fill location provided to haul to?

The design intent is to balance the site. Waste area will be provided on site. If excess fill is encountered then:

- **intent is to shrink the compensational storage/intermittent wetland area excavation between stations 23+00 to 32+00 or potentially shrink other excavation areas on the project to place excess fill.**
- **The minimum amount of compensational storage area in this station range is 15,785 cubic yards.**
- **Project anticipates borrowing approximately 21,887 cubic yards of material from this area to balance the site.**

32. What kind of turf restoration will be required for the 750' long asphalt path incidental removal through the Frisbee Golf Course? The plans say to remove the trail and re-grade. Does this area have to be sodded?

No, the area does not require sod.

33. The existing. Golf Cart Path on sheet C-121 from the new Tee Box back to the trail grading limits will be destroyed by our drill rigs, and large excavation equipment, etc. Will the engineer consider adding that asphalt pavement replacement to the pavement limits shown on sheet C-121? There is not really another way for us to get back there without running over that exist. Cart path. Especially trenching in the new 3" PVC waterline.

An overlay of this path is not currently in the project in this area, however, City will consider this request after bid is awarded. Contractor will not be responsible to restore this path pavement as major construction is anticipated in the area.

34. According to our demolition contractors. They have to have an environmental report supplied prior to bidding asbestos abatement accurately on the houses TBA. Typically this is supplied in the specs. Would the engineer consider adding a contingency lump sum for Asbestos removal so that we can just bid the demolition and environmental report and then figure out the limits of the Asbestos abatement after the bid?

No asbestos survey has been completed. Contractor to include cost for asbestos survey and structure demolition. If asbestos is found a change order will be used for asbestos mitigation.

35. The 3" PVC waterline for the irrigation shown on sheet C-121 JSP 69 says that excavation is included. Since that area is highly likely to be rock excavation. Will the rock in the 3" PVC trench be incidental to that pay item?

Non-rock excavation is incidential to the pay item. If rock is encountered the amount of excavation will be measured and paid for directly as part of "Rock Excavation in Trench" pay item.

36. Can the engineer possibly provide us with the flow rates from MSD for the 15" existing clay sewer through the Wick Drain area for the purpose of estimating pump capacities for Bypass Pumping? This will help us know what size pump and generator that will be adequate to use during the 90-120 day settlement duration.

Flow rates for the existing 15-inch sewer are unavailable.

37. What are the anticipated MSD permit fees?

The estimated fee from MSD is $3,296.39.

38. How much surcharge is recommended to be loaded on the wick drains to introduce settlement?

The design team completed a settlement model. Details of the settlement model are included in volume 2 of the project manual. The settlement model assumed that the trail would be constructed approximately to the finished profile grade for the sur-charge. The amount of sur-charge is to be determined by the Contractor.

39. The sanitary sewer through the wick drain area is existing. How will the existing sewer work while the ground settles?

How sewer flow is maintained during the settlement period shall be determined by Contractor. A pay item for sanitary sewer by-pass pumping is included in the project as a potential method to maintain flow.

40. The Stormwater Credit pay items name implies that a credit will be provided by Contractor, please clarify?

The Stormwater Credit names are from MSD. A credit is not expected by City on these items. See revisions deleting the word credit from these items.

41. The Stormwater Credit pay items are Lump Sum on bid form and 2B sheets. The JSP lists this pay item as paid by area. Please clarify.

Stormwater credits were not quantified by area on this project. 2B sheets and Bid Form show them as Lump Sum items. The specification will be amended to reflect that same methodology. Revised JSP's are included as part of this addendum.

42. The order of work JSP appears to have references that are off, please clarify.

The order of work JSP has been revised and is part of this addendum

43. The scale on sheet C-601 appears to be miss-represented, please check.

Scale is correct as shown. Sheet has a 30 scale bar on it currently. Plots are intended to be at half size for the project as mentioned at the pre-bid.

44. Can the golf course tee box work occur in 2018 instead of 2017?

Yes, the work on the golf course tee box can occur in 2017 or 2018. The work is limited to be completed in the golf season off-season. The order of work JSP to be re-issued will clarify this item.

45. The following bridge suppliers shall be added to the list of pre-qualified in JSP 85.

a. **Excel Bridge Manufacturing**
12001 Shoemaker Avenue
Santa Fe Springs, CA 90670
Contact: Jodi Seidl
E-mail: jodiseidl@excelbridge.com
Phone: (320) 762-1368

b. **Pioneer Bridges**
701 63rd Street NE
Fort Payne, AL 35867
Contact: Scott Dempsey
E-mail: sdempsey@pioneerbridges.com
Phone: (800) 477-7320

46. The following attachments are supplemental information to Addendum 2.

A. Bid Form
B. Utility Coordination Mtg Minutes (attach to addendum for information use only)
C. Sheet C-013 (no changes from Issue for Bid, included in addendum as reported missing from at least one bidder)
D. Updated 2B sheets – retaining wall profiles
E. Revised Clearing & Grubbing JSP
F. Revised Temporary Barrier JSP
G. Updated Order of Work JSP
H. Revised Demo JSP
I. Updated JSP table of contents, page 4
J. Revised Sheet Flow to Buffer JSP
K. Revised Grass Channel JSP
L. Revised Amended Soil JSP
M. Revised Landscaping Sheets
N. MSD Anticipated Permit Fee
O. Additional Bridge Suppliers Pre-Qualified
P. Pre Bid Meeting Notes
R. Revised Sheet C-302
S. Revised JSP 59

CITY OF MARYLAND HEIGHTS

Cliff Baber, P.E.
Construction Manager

BID FORM: McKelvey Woods Trail - Phase II - Addedum No. 2

ITEM NO.	BID ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	ITEM COST
1	JSP-20	DEMOLITION AND REMOVAL OF BUILDINGS	EACH	2		
2	JSP-21	CLEARING AND GRUBBING	ACRE	20.4 ~~17.6~~		
3	JSP-22	TEMPORARY TREE PROTECTION	EACH	15		
4	JSP-23	REMOVAL OF IMPROVEMENTS	L.S.	1		
5	JSP-24	FULL DEPTH SAW-CUT	L.F.	281		
6	JSP-25	CLASS "A" EXCAVATION (MoDOT Standard Drawing 203.00E)	C.Y.	54,306		
7	JSP-26	CLASS "C" ROCK EXCAVATION	C.Y.	8,397		
8	JSP-27	SETTLEMENT GAUGES (StL Co H&T Standard Drawing C204.00)	EACH	4		
9	JSP-28	COMPACTING EMBANKMENT (MoDOT Standard Drawing 203.00E)	C.Y.	56,777		
10	JSP-29	CLASS 3 EXCAVATION	C.Y.	2,585		
11	JSP-30	DITCHING	STA.	2.4		
12	JSP-31A	TYPE 5 AGGREGATE BASE (4-INCH THICK)	S.Y.	603		
13	JSP-31B	TYPE 5 AGGREGATE BASE (6-INCH THICK)	S.Y.	14,725		
14	JSP-31C	TYPE 5 AGGREGATE BASE (8-INCH THICK)	S.Y.	887		
15	JSP-32	GRAVEL (A)	TON	537		
16	JSP-33A	TYPE "C" BITUMINOUS PAVEMENT(2-INCH SURFACE)	TON	1,460		
17	JSP-33B	CLASS C PARTIAL DEPTH PAVEMENT REPAIR	S.Y.	15		
18	JSP-33C	TYPE "X" BITUMINOUS PAVEMENT (4-INCH BASE)	TON	2,970		
19	JSP-34	PRIME COAT	GAL	1,473		
20	JSP-35	10-INCH NON-REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	S.Y.	245		
21	JSP-36A	MSD AREA INLET (StL Co H&T Standard Drawing C604.31)	EACH	6		
22	JSP-36B	MSD MANHOLE (StL Co H&T Standard Drawing C604.30)	EACH	7		
23	JSP-37A	TYPE 1 ROCK LINING	C.Y.	18		
24	JSP-37B	TYPE 2 ROCK LINING	C.Y.	75		
25	JSP-38	REPLACE EXISTING CHAIN-LINK FENCE GATE	EACH	1		
26	JSP-39	DECORATIVE PEDESTRIAN GUARDRAIL	L.F.	3,238		
27	JSP-40	ALUMINUM HANDRAIL FOR STEPS	L.F.	208		
28	JSP-41A	8' GALVANIZED CHAIN-LINK FENCE	L.F.	934		
29	JSP-41B	8' GALVANIZED CHAIN-LINK FENCE WITH BARBED WIRE	L.F.	1,158		
30	JSP-41C	12' VINYL COATED CHAIN-LINK FENCE WITH MESH SCREEN	L.F.	104		
31	JSP-41D	GALVANIZED CHAIN-LINK DOUBLE SWING GATE WITH BARBED WIRE (8-FOOT HEIGHT)	EACH	2		
32	JSP-41E	VINYL COATED CHAIN-LINK SINGLE SWING GATE (12-FOOT HEIGHT)	EACH	1		
33	JSP-43	CONCRETE ADA RAMP (7-INCH THICK)	S.Y.	105		
34	JSP-44	DETECTABLE WARNING PANELS (StL Co H&T Standard Drawing C608.40)	S.F.	60		
35	JSP-45A	CONCRETE CURB	L.F.	50		
36	JSP-45B	CONCRETE SIDEWALK (6-INCH THICK)	S.Y.	230		
37	JSP-45C	CONCRETE STEPS	S.F.	204.0		
38	JSP-46A	FURNISHING MoDOT TYPE 1 ROCK BLANKET	C.Y.	2,745		
39	JSP-46B	PLACING MoDOT TYPE 1 ROCK BLANKET	C.Y.	2,745		
40	JSP-47A	TRAIL SIGNS	EACH	20		
41	JSP-47B	ROADWAY SIGNS	EACH	17		
42	JSP-48	TEMPORARY CONCRETE TRAFFIC BARRIER (MoDOT Standard Drawing 617.20C)	L.F.	150		
43	JSP-49	MOBILIZATION	L.S.	1		
44	JSP-50A	24" PERMANENT WHITE PAVEMENT MARKING	L.F.	457		
45	JSP-50B	6" PERMANENT WHITE PAVEMENT MARKING	L.F.	475		
46	JSP-50C	SOLID GREEN PAVEMENT MARKING	S.F.	1,120		
47	JSP-51	PIEZOMETERS	EACH	2		
48	JSP-52	DISC GOLF TEE AND HOLE RELOCATION	EACH	9		
49	JSP-53	CONSTRUCTION STAKEOUT	L.S.	1		
50	JSP-54	TOPOGRAPHIC SURVEYS	L.S.	1		

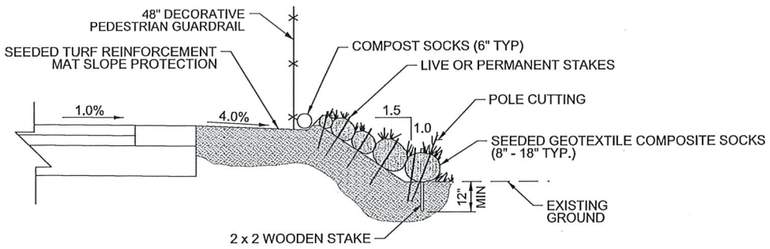
BID FORM: McKelvey Woods Trail - Phase II - Addedum No. 2

ITEM NO.	BID ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	ITEM COST
51	JSP-55	GEOTECHNICAL BORINGS FOR WALLS AND SLOPES	EACH	12		
52	JSP-56A	LIVING REINFORCED SLOPE SYSTEM (Walls 1 and 5) (20 DEGREE BATTER)	S.F.	19,284 ~~16,982~~		
53	JSP-56B	LIVING REINFORCED SLOPE SYSTEM IN ROCK CUT (Wall 3) (20 DEGREE BATTER)	S.F.	11,564 ~~11,220~~		
54	JSP-57A	SLOPE STABILIZATION WALL (Wall 2A) (56 DEGREE BATTER)	S.F.	4,356 ~~3,914~~		
55	JSP-57B	SEVERE SLOPE STABILIZATION WALL (Wall 4) (45 DEGREE BATTER)	S.F.	1,254 ~~993~~		
56	JSP-58A	CELLULAR CONFINEMENT WALL (Walls 9, 10, 11 and 12) (BATTER VARIES 8 DEGREES TO 63 DEGREES)	S.F.	727		
57	JSP-58B	CELLULAR CONFINEMENT WALL (Walls 13 and 14) (Includes compost socks) (68 DEGREE BATTER)	S.F.	2,980 ~~3,571~~		
58	JSP-59	MSE WALL (Wall 2B) (5 DEGREE BATTER)	S.F.	11,333 ~~10,295~~		
59	JSP-60	CLASS "C" ROCK EXCAVATION FOR WALLS	C.Y.	3,658		
60	JSP-61A	GREEN GABION SYSTEM	LF	334		
61	JSP-61B	GREEN GABION SLOPE PROTECTION	EACH	172		
62	JSP-62	WICK DRAINS	L.S.	1		
63	JSP-63	12-INCH SAND BASE	S.Y.	5,371		
64	JSP-64	UNDERDRAIN SYSTEM FOR WICK DRAINS	L.S.	1		
65	JSP-65A	12-INCH CLASS III RCP	L.F.	95		
66	JSP-65B	18-INCH CLASS III RCP	L.F.	1,193		
67	JSP-65C	24-INCH CLASS III RCP	L.F.	48		
68	JSP-65D	36-INCH CLASS III RCP	L.F.	126		
69	JSP-65E	42-INCH CLASS III RCP	L.F.	66		
70	JSP-66A	15-INCH POLY-VINYL CHLORIDE PIPE	L.F.	452		
71	JSP-67	BY-PASS PUMPING FOR SANITARY SEWER	L.S.	1		
72	JSP-68	ROCK EXCAVATION IN TRENCH	C.Y.	1,335		
73	JSP-69A	2" PVC SDR 35 WATER LINE	L.F.	520		
74	JSP-69B	3" PVC SDR 35 WATER LINE	L.F.	380		
75	JSP-70A	18-INCH PRE-CAST CONCRETE FLARED END SECTION (StL Co H&T Standard Drawing C732.00)	EACH	24		
76	JSP-70B	24-INCH PRE-CAST CONCRETE FLARED END SECTION (StL Co H&T Standard Drawing C732.00)	EACH	2		
77	JSP-70C	36-INCH PRE-CAST CONCRETE FLARED END SECTION (StL Co H&T Standard Drawing C732.00)	EACH	1		
78	JSP-70D	42-INCH PRE-CAST CONCRETE FLARED END SECTION (StL Co H&T Standard Drawing C732.00)	EACH	2		
79	JSP-71A	18-INCH CHECK VALVE AND HEADWALL (MoDOT Standard Drawing 604.10E)	EACH	1		
80	JSP-71B	36-INCH CHECK VALVE AND HEADWALL (MoDOT Standard Drawing 604.13E)	EACH	1		
81	JSP-72	CLASS 4 EXCAVATION	CY	255.0		
82	JSP-73	GRANULAR BACKFILL	CY	55		
83	JSP-74	CLASS B-1 CONCRETE (CULVERTS)	CY	60.5		
84	JSP-75	REINFORCING STEEL (BRIDGES)	LB	13,080		
85	JSP-76	CLASS 1 EXCAVATION	CY	59		
86	JSP-77	BRIDGE APPROACH SLAB	SY	33		
87	JSP-78	STRUCTURAL STEEL PILES (12 IN)	LF	784		
88	JSP-79	PILE POINT REINFORCEMENT	EA	12		
89	JSP-80	CLASS B CONCRETE (SUBSTRUCTURE)	CY	30.8		
90	JSP-81	SLAB ON STEEL	SY	88		
91	JSP-82	PROTECTIVE COATING - CONCRETE BENTS AND PIERS (EPOXY)	LS	1		
92	JSP-83	EXPANSION DEVICE (FLAT PLATE)	LF	20		
93	JSP-84	VERTICAL DRAINS AT END BENTS	EA	2		
94	JSP-85	PEDESTRIAN TRUSS SUPERSTRUCTURE	SF	792		
95	JSP-86	WASHDOWN STATION (StL Co Sediment and Erosion Control Manual Standard Drawing 806-46.00)	EACH	2		
96	JSP-87	CONSTRUCTION ENTRANCE (StL Co Sediment and Erosion Control Manual Standard Drawing 806-46.00)	EACH	5		
97	JSP-88	TEMPORARY SEEDING AND MULCHING	ACRE	17.8		
98	JSP-89	TEMPORARY BARRIER	L.F.	27,140 ~~3,825~~		
99	JSP-90	STORM WATER POLLUTION PREVENTION PLAN (SWPPP)	LS	1		
100	JSP-91A	MULCH BERM	L.F.	18,945		

Calculated by: Birke/Koscielski
Checked by: Koscielski

BID FORM: McKelvey Woods Trail - Phase II - Addedum No. 2

ITEM NO.	BID ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	ITEM COST
101	JSP-91B	COMPOST SOCK SILT FENCE (StL Co Sediment and Erosion Control Manual Standard Drawing 806-70.00)	L.F.	3,240		
102	JSP-92	INLET PROTECTION	EACH	10		
103	JSP-93	ROCK CHECK DAM (StL Co Sediment and Erosion Control Manual Standard Drawing 806-35.00)	EACH	76		
104	JSP-94A	COMPOST (SOCK) DITCH CHECK	EACH	73		
105	JSP-94B	COMPOST SOCK (6" DIAMETER)	L.F.	1,288		
106	JSP-95	SEDIMENT REMOVAL	C.Y.	346		
107	JSP-96	CROSS VANE	EACH	2		
108	JSP-97A	BENCHES	EACH	5		
109	JSP-97B	SHADE STRUCTURE	EACH	1		
110	JSP-97C	TRASH OR RECYCLING RECEPTACLE	EACH	5		
111	JSP-97D	BIKE RACKS	EACH	4		
112	JSP-98	DRIVEABLE GRASS	S.Y.	68		
113	JSP-111	SOFT SPOT MITIGATION	S.Y.	150		
114	JSP-329310	SHEET FLOW TO BUFFER STORMWATER **BMP** ~~CREDIT~~	L.S.	1		
115	JSP-329311	GRASS CHANNEL STORMWATER **BMP** ~~CREDIT~~	L.S.	1		
116	JSP-329312	AMENDED SOIL STORMWATER **BMP** ~~CREDIT~~	L.S.	1		
117	A-JSP-329-200	SEEDING-TYPE 1	ACRE	10.6		
118	A-JSP-329-200.10A	SEEDING-TYPE 2	ACRE	3.1		
119	A-JSP-329-200.10B	SEEDING-TYPE 3	ACRE	2.6		
120	A-JSP-329-200.10C	SEEDING-TYPE 4	ACRE	0.5		
121	A-JSP-329-200.10D	SEEDING-TYPE 5	ACRE	3.5		
122	A-JSP-329-200.10E	SEEDING-TYPE 6	ACRE	0.2		
123	A-JSP-150	PERMANENT EROSION CONTROL BLANKET	S.Y.	1,920		
124	A-JSP-329-300A	TREES	EACH	176		
125	A-JSP-329-300B	EVERGREEN TREES	EACH	13		
126	A-JSP-329-300C	ORNAMENTAL TREES	EACH	127		
127	A-JSP-329-300D	SHRUBS	EACH	213		
128	A-JSP-329-302	TURF REINFORCEMENT MAT (TRM)	S.Y.	5,385		
129	A-JSP-329-303	OUTLET PROTECTION MAT	S.F.	768		
130	A-JSP-329-304	EROSION CONTROL BLANKETS (ECB)	S.Y.	75,490		
131	A-JSP-151	COMPOST SOCKS	L.F.	396		
132	A-JSP-152	PERENNIALS	EACH	209		
133	A-JSP-153	REFORESTATION SEEDLINGS	ACRE	2		
134	A-JSP-154	PLANTING MAINTENANCE AND WARRANTY EXTENDED FROM ONE-YEAR TO TWO-YEARS	LS	1		
135	A-JSP-155	PLANTING MAINTENANCE AND WARRANTY EXTENDED FROM TWO-YEARS TO THREE-YEARS	LS	1		
136	A-JSP-156A	GREAT RIVERS GREENWAY THERMOPLASTIC LOGO	EACH	5		
137	A-JSP-156B	CITY OF MARYLAND HEIGHT THERMOPLASTIC LOGO	EACH	3		
138	A-JSP-156C	SAINT LOUIS COUNTY PARKS DEPARTMENT THERMOPLASTIC LOGO	EACH	2		
139	A-JSP-158	GROUTED COMPOST RIP-RAP	LS	1		
140	B-JSP-100A	CONSTRUCTION SIGNS	S.F.	59		
141	B-JSP-100B	CHANNELIZER	EACH	34		
142	B-JSP-100C	TYPE III MOVABLE BARRICADE	EACH	15		
				TOTAL BID AMOUNT =		

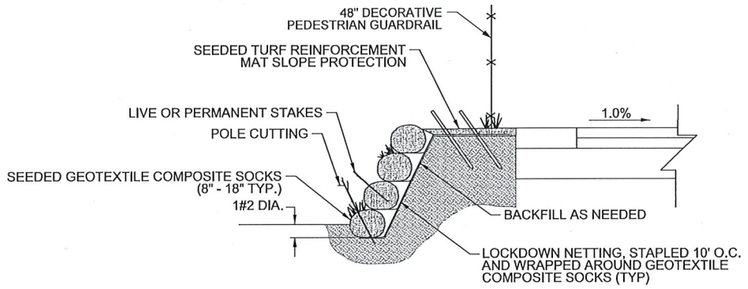


SLOPE STABILIZATION WALL

(NOT TO SCALE)
(WALL 2A)

NOTE:

1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
2. GEOTEXTILE COMPOSITE SOCKS FILL TO MEET APPLICATION REQUIREMENTS.
3. ALL GEOTEXTILE COMPOSITE SOCKS TO BE SEEDED PER LANDSCAPE ARCHITECTS SPECIFICATIONS.

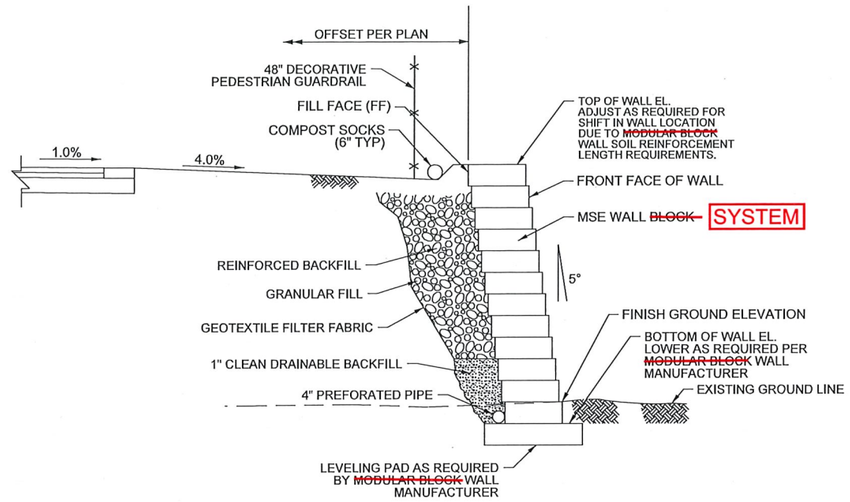


SEVERE SLOPE STABILIZATION WALL

(NOT TO SCALE)
(WALL 4)

NOTE:

1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
2. GEOTEXTILE COMPOSITE SOCKS FILL TO MEET APPLICATION REQUIREMENTS.
3. ALL GEOTEXTILE COMPOSITE SOCKS TO BE SEEDED PER LANDSCAPE ARCHITECTS SPECIFICATIONS.
4. BACKFILL TO BE PLACED PER ENGINEER'S REQUIREMENTS.
5. LOCKDOWN NETTING TO BE WRAPPED AROUND GEOTEXTILE COMPOSITE SOCKS AND SECURED PER ENGINEER'S SPECIFICATIONS.

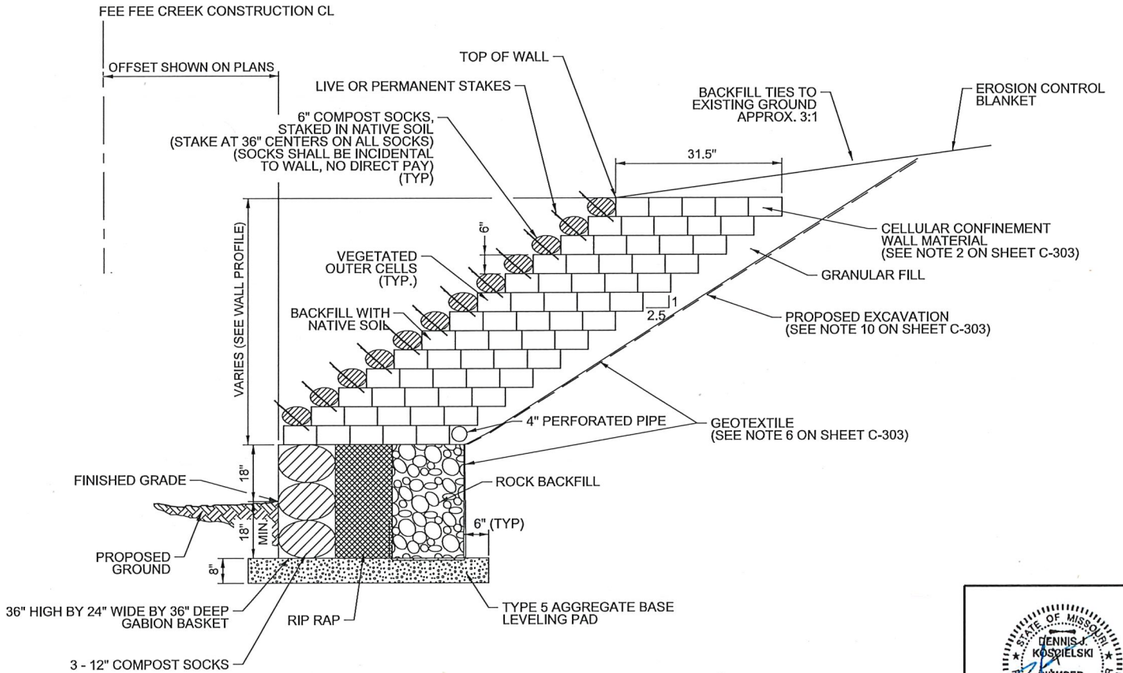


MSE WALL

(NOT TO SCALE)
(WALL 2B)

NOTE:

RETAINING WALL SHALL BE DESIGNED, DETAILED AND CONSTRUCTED PER ~~MODULAR BLOCK WALL~~ MANUFACTURER'S REQUIREMENTS. CONTRACTOR SHALL SUBMIT WALL DESIGN, SEALED BY A REGISTERED ENGINEER IN THE STATE OF MISSOURI, TO THE ENGINEER.



CELLULAR CONFINEMENT WALL DETAIL
2.5:1 OR FLATTER (HORIZONTAL TO VERICAL)

(NOT TO SCALE)
(WALLS 13 AND 14)

no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

MSD PROJECT NO: P-0030175-00 MSD BASE MAP NO: 12O, 12P, 13O, 13P

STP-5401 (659) / TIP #5461-11

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATIONS OF ALL UNDERGROUND UTILITIES AS EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS, AND SHALL BE LOCATED PRIOR TO CONSTRUCTION.

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

BURNS McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

WALL DETAILS

project	contract
65679 / 78691	

drawing **C-302** — rev. **0**

file: EGI\GREAT_RIVERS_GREENWAY\65679 Cad\Ch B\Sheets\xl_C-302_WALL.dgn

STATE OF MISSOURI
DENNIS J. KOSCIELSKI
NUMBER PE-2005000712
PROFESSIONAL ENGINEER
10/21/2015

DENNIS J. KOSCIELSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005000712

Scale For Microfilming: Millimeters / Inches

JSP 59 – MSE WALL – WALL 2B (5-DEGREE BATTER)

01. SCOPE

This work shall include all labor, materials and equipment necessary to "**MSE Wall – Wall 2B (5-degree Batter)**."

This work shall include all labor, materials and equipment necessary to "**MSE Wall – Wall 2B (5-degree Batter)**." Wall system proposed shall have a green living face and be able to withstand settlement up to 14-inches.

A. Geotechnical Investigation report completed is provided for informational use in the Project Manual.
B. Work includes furnishing and installing ~~concrete~~ MSE Wall Systems to the lines and grades designated on the construction drawings and as specified herein.
C. Engineer to issue Issued for Construction MSE Wall Layout drawings for this wall. These will be issued after Contractor completes the topographic surveys. See JSP-54 for details of the survey.
D. Contractor provided design and drawings to be completed using Engineer furnished Issued for Construction Reinforced Slope Layout Drawings. See JSP-55B and JSP-55C for details on wall and slope design.
E. Contractor provided wall design to include global stability analysis and design. See JSP-55B and JSP-55C for details on global stability.
F. Contractor shall submit manufacturer cut sheets for approval on this project. Pre-approved living wall systems acceptable for use on this project include:
    - Filtrexx, Trinity
    - Tensar, Sierrascape
    - Filtrexx, GreenGabion
    - Reinforced Earth, TerraTrel
G. Any existing utilities in conflict with the proposed retaining wall shall be mitigated by the Contractor. Mitigation shall include relocation or adjustment as per acceptance and approval of Engineer. See JSP-104, JSP-105 and JSP-106 for additional details.
H. Contractor shall include poly sleeves for pedestrian guardrail installation in the reinforced slopes. Sleeves to be used to reserve a location to anchor pedestrian guard rail in the backfill zones of the reinforced slopes.

02. MATERIALS

Description:

The MSE Wall System shall be a wire face and include plantings.

Work shall include:

a. Submittals.

b. Foundation.
d. Wire face.
e. Backfill.
f. Drainage.
g. Compaction.
h. Plantable unit infill (amended soil).
Note: certifications confirming compliance with US Composting Council Guidelines shall be submitted.
i. Geosynthetic Reinforcement.
k. Native plantings.
l. Related system accessories per specification.

03. REFERENCES

a. Module or Block: ASTM C 1372-03 and C 140, ASTM D 698.
b. Geosynthetic reinforcement: ASTM D 4355, D 4595, D 5262 D 5397, D 6637.
c. Blended Media as Plantable Unit Infill: USEPA CFR 503, USCC TMECC 04.11B and 02.02B.

04. DEFINITIONS

a. MSE Wall System Design: a design that includes geotechnical, structural, general civil engineering and landscape architectural elements that blends a slope structure into the environment by covering completely with native plantings. Design will include all drainage elements required to maintain the system and include global stability analysis.
b. Wire Face: galvanized or stainless steel wire facing that is mechanically attached to geosynthetic reinforcement.
c. Geosynthetic Reinforcement: polymeric strapping reinforcement material mechanically connected to modules per engineering design.
d. Plantable Unit Infill: Blended growth media, appropriate to the site and the plant list, placed in each facing module, in accordance with the planting plan and in compliance with USCC guidelines.
e. Drainage aggregate: Free-draining, easily compacting material similar to AASHTO #57 stone, behind the modules and/or under reinforced backfill zone.
f. Filter Fabric: Used to separate soils, aggregates and/or around drain pipes.
g. Backfill (Reinforced) Zone: Area behind the plantable facing that is backfilled with design compliant material, reinforced as required by wall designer, and compacted to specified density.
h. Backfill material: Missouri limestone aggregate will be used as the backfill material on the project.
i. Native Plantings: Contractor will control the planting and maintenance of the wall. Contractor will be responsible for installing and backfilling blocks as well as a temporary planting matrix, if required. Contractor

will handle the planting of the permanent matrix and maintenance. Plants native to the state of Missouri or Illinois and suitable for the location and micro-climate of the Living Retaining Wall System shall be used. Refer to the list supplied in this specification. Seeds shall come from within a 250-mile radius of this project.

05. <u>SUBMITTALS</u>

a. Shop Drawings: Plan views, elevation views, and details for retaining walls prepared and sealed by a registered Professional Engineer having five plus years of experience designing a living retaining wall system. Wall designer shall retain in project files for a period of five years the design calculations, including global stability, internal stability and external stability calculations. Wall designer shall supply copies of project files available to Engineer, Owner or Construction Manager for use at any time during the five year period.
b. MSE Wall systems maybe located in areas of soil settlement. When subject to settlement the reinforced slopes shall be coordinated to absorb the settlement. Shop drawings shall indicate plan for settlement.
c. Shop Drawing shall indicate the location of the Guardrail Fence used at the top of the Living Retaining Wall System. Guardrail foundations shall be considered with the Living Retaining Wall Design.
d. Product Data: Material description for to include, composition, Material Safety Data Sheets, manufacturer certifications and installation information for each product specified as part of the system. Include information for poly material used for guardrail post foundations.
e. Installer's Qualification Information.
f. Planting Plan: The following components shall be placed on the planting plan:
    i. Plant list with elevation views.
    ii. Seasonal requirements for planting shall be as follows: April 1st through June 15th and September 1st through October 30th.
    iii. Plant coverage target shall be 100% (75% for temporary matrix and 100% for permanent matrix).
    iv. Methods of measurement to determine 100% grown out plant coverage.
    v. Erosion control plans addressing living retaining wall site runoff during and after construction.
    vi. Maintenance plan: plan to address number of maintenance visits, intervals and what the work is planned to be performed at that time.
    vii. Consider minimum planting coverage of 100% when completing this Planting Plan.
g. Native grasses and plantings are approved for use on this item. Contractor shall use a diverse planting selection and may include the following. Contractor shall determine placement based upon exposure of the structure.

Code	Scientific Name	Common Name	Exposure
BOUGRA	Bouteloua gracilis	Hairy Grama	Sun
ERASPE	Eragrostis spectabilis	Purple love grass	Sun
SPOHET	Sporobolus heteroplepis	Prairie Dropseed	Sun
ANDSCO	Andropogon Scoparius	Little Bluestem	Sun
CXPRA	Carex Pragracilius	Tollway Sedge	Sun

Note: ***Contractor may use other native plantings and native vines approved through the submittal process*****.**

06. DELIVERY, STORAGE AND HANDLING:

Contractor shall check the materials upon delivery to assure the proper materials have been received.

Exposed faces of concrete modules are to be free of chips, cracks, stains and other imperfections and additional materials are free of defects.

Contractor shall protect the materials from damage, as damaged materials shall not be used in the project (ASTM C 1372).

07. EXECUTION

Contractor shall carefully perform MSE Wall System work indicated on the plans and at locations designated by Engineer.

Contractor shall utilize Issued for Construction wall layout drawings to execute this item. Execution details include the following:

Excavation:

a. Contractor shall excavate to the lines and grades shown on the construction drawings.
b. Use care when excavating to prevent disturbance of the base beyond the lines shown.
c. Contractor shall follow all local, state, and federal laws regarding earthwork.

Leveling Pad:

Contractor shall design, supply and construct leveling pad. Below are minimum requirements for the Leveling Pad:

a. Foundation soil shall be excavated as required for the leveling pad to the depths and locations shown on the plan sheet or as directed by the design engineer.
b. The exposed foundation soil shall be observed by the on-site soils engineer prior to construction to verify that the exposed material is suitable for the net design bearing pressure and that the base of the excavation is free of loose soil, non-compacted fill, water, or frozen material.
c. Contractor shall undercut any unsuitable soil.
d. Undercut areas shall be filled with crushed limestone and compacted to at least 95% of the material's standard Proctor maximum dry density.
e. Construct the crushed rock leveling pad to the lines and grades as indicated in the Living Retaining Wall design completed as part of this work.

Base Course:

Contractor shall design, supply and construct the slope facing. Below are minimum requirements for the base course.

a. Base pad itself should be leveled such that modules placed on it are level.
b. Install the first course of modules on the leveling pad.
c. Wire Baskets shall be level side-to-side and front-to-back.
d. Fill below grade units and spaces between units, with free draining granular infill to a level even with the tops of the side rails in accordance with manufactures installation guidelines.

Unit Installation:

Unit design, supply and Installation shall be the responsibility of the Contractor. Below are minimum requirements to be applied.

a. Units shall be installed according to Manufacturer requirements. These requirements include the following:
    i. On any given lift, always fill the entire course of wire panels with plantable unit infill before placing mass backfill.
    ii. On reinforced courses care must be taken to ensure straps are flat, without wrinkles and lay horizontal to the connection elevation at the rear of the module.
    iii. Backfill and compact behind the modules to the cut embankment or ends of the straps and continue construction in sequence per site specific design and plans.
    iv. Each course of modules must be stacked and completely backfilled before the next course is placed.
    v. No stacking of multiple courses before filling shall be allowed.
    vi. Drain pipes are to be installed as specified and run to daylight at low points and/or periodically along wall alignment as shown on plans.

Reinforcement:

Reinforcement Design, Supply & Construction shall be responsibility of Contractor. Below are minimum requirements:

a. Reinforcement shall be installed according to Manufacturer requirements. These requirements include the following:
   i. Where reinforcement is required include a true connection through the module itself (no need for additional pins, rods, pipes, or other means of attachment).
   ii. Once the modules of a reinforced course have been placed on the wall column, Straps shall be pulled evenly and horizontal into the backfill zone for each connected module on the course, at the elevations shown on the plans.
   iii. In order to prevent vertical forces on the straps and tails of modules, great care must be taken to ensure that the straps lay horizontal at the same elevation as the top surface of the connection aperture inside of trough (as per the Manufacturer's requirements). This may be facilitated by placing a minimum 12" of easily compacted material directly behind the facing column.
   iv. Units shall be filled with plantable unit infill and appropriate rock then mass backfill shall be placed and /or pushed in a rearward direction, starting from the modules moving toward the rear of the fill zone.

<u>Backfill:</u>

Backfill design, supply and installation shall be the responsibility of the Contractor. Below are minimum requirements to be applied for backfill.

a. Backfill zone material shall be placed in maximum 8" lifts and compacted to at least 95% of the material's maximum dry density as determined by the standard Proctor method.
b. Backfill shall be placed, spread and compacted in such a manner that minimizes wrinkles and movement of the reinforcement.
c. Contractor Provided Field density testing shall be conducted by a qualified soils technician to verify that the minimum degree of compaction is being obtained.
   i. Tests shall be performed on the backfill placed behind each row of block.
   ii. A soils technician shall be present during the entire back filling operation and provide documentation that the wall was constructed in accordance with the designer's plans and specifications.
   iii. Documentation includes daily field reports with a description of the work performed on the wall and the results of compaction tests for each lift.
   iv. Testing to be provided by Contractor.
d. The finished grade above the structure should include a drain swale where indicated on the issued for construction wall layout and must be sloped in such a manner to drain all water away from the wall and to prevent water from running over the face of the wall.

e. Contractor shall include the installation of poly-tubes suitable for inclusion in the retained fill and the top fill for the purpose of guardrail / handrail supports in accordance with the shop drawings.

Planting:

MSE Walls to be designed from their inception to be planted and grown over.

Live plants should be centered in the "sun receiving" area of the system.

a. Plants must be watered in accordance with the project plans and drip irrigation is acceptable.
b. Maintenance of the plant material shall be completed through substantial completion of the project.

Irrigation:

a. Irrigation may be included in this MSE Wall System and if included must be installed in continuous runs along the wall length and be installed in each course of wire panels.

Maintenance:

a. Maintenance shall be completed through substantial completion.

08. METHOD OF MEASUREMENT

Each section of **"MSE Wall – Wall 2B (5-degree Batter)"** completed shall be measured by the nearest square foot and shall include all design, global stability, labor, equipment, incidentals, materials, etc. necessary to install the **"MSE Wall – Wall 2B (5-degree Batter)**." Measurement will be completed to the face of the completed slope system from top of leveling pad to top of MSE wall system.

This work shall include all design, global stability, labor, materials and equipment necessary to "**MSE Wall – Wall 2B (5-degree Batter)**."

09. BASIS OF PAYMENT

Payment for **"MSE Wall – Wall 2B (5-degree Batter)**" will be made at the square yard contract unit bid price, and paid for under item number: **JSP-59**. Cost for "**MSE Wall – Wall 2B (5-degree Batter)**" shall include all costs for design, global stability, excavation, rock excavation, shoring, dewatering, blocks, straps, utility coordination, utility relocation coordination, footings, submittals, backfill, etc.

<< End of JSP-59 >>

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Project: McKelvey Woods Phase II	Meeting Date: January 6, 2016; 10:00 am
Subject: **Pre-Bid Meeting**	Meeting Chairperson: Cliff Baber/Dennis Koscielski
Meeting Location: Maryland Heights Govt Center, Council Chambers	Meeting Number: 74

The McKelvey Woods Phase II project is a project sponsored by three entities. The three entities are as follows:

- City of Maryland Heights
- Great Rivers Greenway District
- Saint Louis County

Burns & McDonnell Engineering was retained to complete the design of the project and was present at the meeting to discuss the project.

Approximately 40 pre-bid attendees were present at the pre-bid meeting. The attendees are documented in the attached meeting attendance sheet. A presentation was used to present the project to the meeting attendees by Burns & McDonnell. A copy of the presentation is attached to these meeting notes.

Meeting began at 10:00 am and was completed by 10:45 am.

The following items were discussed in today's meeting:

Introductions – *Please sign in on the attendance sheet*

A. City of Maryland Heights.
B. Great Rivers Greenway District.
C. Saint Louis County.
D. Burns & McDonnell.
E. MoDOT (if present).
    a. Note: MoDOT was not present at today's meeting.

2. Project Overview

A. Description of the Scope of Work:

(i) 2-0 mile trail for the Fee Fee Greenway.
(ii) Earthwork.
(iii) Retaining Walls.
(iv) Bridges.
(v) Pavements (asphalt).
(vi) Other Projects.

B. Time required completing the project.
(i) 225 Working Days.

C. All questions/inquiries shall be submitted in writing via email, fax or letter form.
Contact Person: Bryan Pearl, P.E.
Email: bpearl@marylandheights.com

D. Questions to be received by: January 12, 2017 by 5:00 pm CST.

E. Electronic bid submittal via Bid Express.
Note: MoDOT bid express registration number shall not work for this project. Bidders are advised to visit bid express and follow registration instructions for a City of Maryland Heights project. Bidders are advised to get registered as soon as possible.

F. CAD available of project – see JSP 100.

3. Right-of-Way Status

Right-of-way is cleared for the project and ready to go to construction.

4. Federal & State Wage Rates

Project shall follow all federal and state requirements as it is an STP funded project.

5. DBE Participation

A. Goal: 12.0%

B. On the Job Trainee: 1

C. Minimum Good Faith Effort:
Bidder must demonstrate that they made good faith efforts to achieve participation with DBE firms. This requires that the bidder show that it took all necessary and reasonable steps to secure participation by certified DBE firms.

Actions constituting evidence of good faith efforts are described in Appendix A to 49 CFR Part 26. Such actions include but are not limited to:

- Soliciting DBE participation through all reasonable and available means. This may include public advertisements and phone calls/faxes to known certified DBE firms.
- Consult State Department of Transportation office to obtain a list of certified DBE firms.
- Selecting portions of the work that increases the likelihood that DBE firms will

be available to participate.

- Providing DBE firms with sufficient information and time to review the project plans and specifications.
- Document all contacts with DBE firms. This includes name, address, phone number, date of contact, and record of conversation/negotiation.

6. Keys to Construction

A. Coordination with Construction Manager and Engineer.
B. Do not disturb any existing wetlands outside limits of construction shown on plans.
C. Order of Work JSP.
D. Tree Clearing by March 31.
E. Shop Drawings.
F. Retaining Wall Topographic Survey.
G. Retaining Wall Geotechnical.
H. Contractor Furnished Retaining Wall Design.
I. Rock excavation.
J. Earthwork settlement.
K. Earthwork balance.
L. Golf course tee area work completed in off-season.
M. Stormwater BMP's.
N. ADA.
O. Disc Golf Course (tees/baskets relocated)

7. Utility Relocation Status

A. AmerenMO & MO American Water
B. Others with no conflict
C. MSD Sewer Replacement by Contractor after Settlement is completed.

8. Job Special Provisions

A. Adoption of St Louis County/MoDOT/MSD standards.
B. Permits Obtained (HBLD, USACE Individual 404 & MDNR Land Disturbance Permit).
C. Contractor shall obtain a new MDNR Land Disturbance (existing one expires in early 2017)
D. Blasting if Used: Permit by Contractor.
E. Volume 1
F. Volume 2 (contains geotech permit and permitting documents)
G. Addendum 1
H. Addendum 2 (not issued yet)
Note: Addendum 2 expected to be distributed to bidders the week of February 9, 2017. An Addendum 3 maybe issued by City to address any final questions from bidders.

9. Contractor Questions

A. Questions/inquiries shall be submitted no later than 5:00 P.M., January 12, 2017.

B. The following questions and answers occurred at today's meeting.

Question 1: How much surcharge is recommended to be loaded on the wick drains to introduce settlement?

Response 1: The design team completed a settlement model. Details of the settlement model are included in volume 2 of the project manual. The settlement model assumed that the trail would be constructed approximately to the finished profile grade for the sur-charge. The amount of sur-charge is to be determined by the Contractor.

Question 2: The sanitary sewer through the wick drain area is existing. How will the existing sewer work while the ground settles?

Response 2: How sewer flow is maintained during the settlement period shall be determined by Contractor. A pay item for sanitary sewer by-pass pumping is included in the project as a potential method to maintain flow.

Question 3: The Stormwater Credit pay items name implies that a credit will be provided by Contractor, please clarify?

Response 3: The Stormwater Credit names are from MSD. A credit is not expected by City on these items. A future addendum will be issued that replaces the name Credit with BMP to clarify.

Question 4: The Stormwater Credit pay items are Lump Sum on bid form and 2B sheets. The JSP lists this pay item as paid by area. Please clarify.

Response 4: Stormwater credits were not quantified by area on this project. 2B sheets and Bid Form show them as Lump Sum items. We will amend the spec's to reflect that same methodology and send fresh JSP's to insert in the addendum to take out any confusion.

Question 5: The order of work JSP appears to have references that are off, please clarify.

Response 5: The order of work JSP will be re-issued in future addendum. The references will be corrected in this re-issue.

Question 6: The scale on sheet C-601 appears to be miss-represented, please check.

Response 6: Scale is correct as shown. Sheet has a 30 scale bar on it currently. Plots are intended to be at half size for the project as mentioned at the pre-bid.

Question 7: Can the golf course tee box work occur in 2018 instead of 2017?

Response 7: Yes, the work on the golf course tee box can occur in 2017 or 2018. The work is limited to be completed in the golf season off-season. The order of work JSP to be re-issued to clarify this item.

<< end of meeting notes >>

Federal Project Number: STP-5401(659)

ATTENDANCE SHEET

PRE-BID MEETING
McKelvey Woods Phase II
Location: Maryland Heights Government Center
Date Meeting Held: January 6, 2017

	Name	Company	Email
1	L.G. Loos	City of Maryland Heights	lloos@marylandheights.com
2	Cliff Baber	City of Maryland Heights	cbaber@marylandheights.com
3	Bryan Pearl	City of Maryland Heights	Bpearl@MarylandHeights.com
4	Mark Vogl	Great Rivers Greenway District	mvogl@grgstl.org
5	Paul Andrew	Saint Louis County Parks Dept	PAndrew@stlouisco.com
6	Dennis Koscielski	Burns & McDonnell Engineering	dkoscielski@burnsmcd.com
7	Matt McGrath	City of Maryland Heights	mmcgrath@marylandheights.com
8	Patrick Buttner	Spencer Contracting	Pat.buttner@spencercontracting.com
9	Rich Elliott	JTL Landscaping LLC	eoliarrich@gmail.com
10	John Luecke	JTL Landscaping LLC	JtllandscapingLLC@gmail.com
11	Nick Hilton	Millstone Weber	Nick.hilton@millstoneweber.com
12	Bill Vondera	Millstone Weber	Bill.vondera@millstoneweber.com
13	Chris Cruse	Millstone Weber	Chris.cruse@millstoneweber.com
14	Nicholas Krekeler	Land Design	nick@lan-design.net
15	Ken Byrne	Hansen's	ken@hansenstree.com
16	Gary Bailey	C. Rallo Contracting	garyb@crallo.com
17	Gordon Raney	Kozeny Wagner	graney@kozenywagner.com
18	Darrell Tucker	Pangea Group	dtucker@pangeagroup.com
19	Darrell Lunsford	Pangea Group	dlunsford@pangeagroup.com
20	Tom Huster	KCI Construction	tomhuster@kciconstruction.com

Federal Project Number: STP-5401(659)

ATTENDANCE SHEET

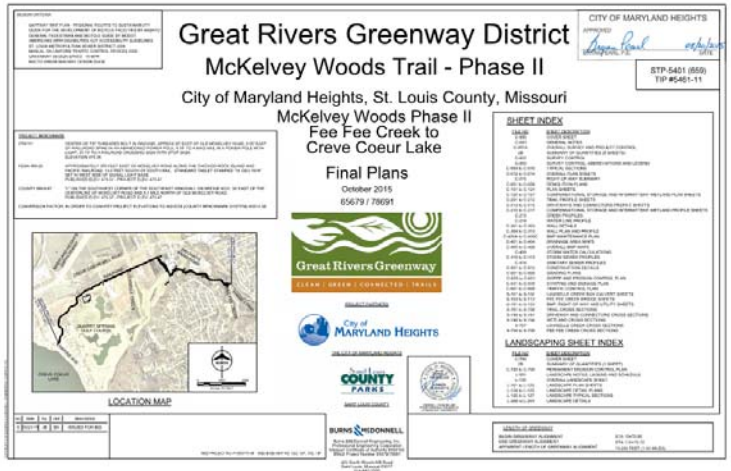
PRE-BID MEETING
McKelvey Woods Phase II
Location: Maryland Heights Government Center
Date Meeting Held: January 6, 2017

	Name	Company	Email
21	Rob Taylor	Land Design	robert@lan-design.net
22	Mike Gershenson	Gershenson Construction	mgershenson@gershenson.com
23	Justin Stout	Braik Brothers	Justin@BraikBrothers.com
24	Eric Hellwig	Bazan Painting	Ehellwig@bazanpainting.com
25	Anthony Scharf	Allen's Tree Service	info@allenstreeservice.com
26	Scott Sherbut	The Clayton Engineering Company	ssherbut@claytoneng.com
27	David Mudd	Midwest Block	dmudd@midwestblock.com
28	Colleen Autry	DJM Ecological	Cautry@djmecological.com
29	Becky McMahon	DJM Ecological	bmcmahon@djmecological.com
30	Mark Joersz	Advanced Drainage Systems	Mark.Joersz@ads-pipe.com
31	Mark Lea	Phillips Hardy	mlea@phillipshardy.com
32	David Killion	Clipper T&L	dave@clippertreeservice.com
33	Ted Smick	Clipper T&L	teds@clippertreeservice.com
34	Tanner Search	Castle Contracting	Tanner.serarch@digcastle.com
35	Brian Carlson	Castle Contracting	Brian.carlson@digcastle.com
36	Shawn Garland	Eco Constructors	shawn@eco-constructors.com
37	Brendan Davis	Agricycle	bdavis@agricycle.com
38	Chuck Caverly	Native Landscape Solutions	chuckc@nativelandscape.biz
39	Steve Cavin	Native Landscape Solutions	steve@nativelandscape.biz
40	Anthony Berra	Infrastructure Management	sevensack@yahoo.com

McKelvey Woods Trail Phase II

Fee Fee Greenway

Pre-Bid Meeting



DESIGN CRITERIA

- GATEWAY BIKE PLAN - REGIONAL ROUTES TO SUSTAINABILITY
- GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES BY AASHTO
- GENERAL PEDESTRIAN AND BICYCLE GUIDE BY MODOT
- AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES
- ST. LOUIS METROPOLITAN SEWER DISTRICT 2009
- MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009
- GREENWAY DESIGN SPEED: 15 MPH
- NACTO URBAN BIKEWAY DESIGN GUIDE

Great Rivers Greenway District

McKelvey Woods Trail - Phase II

City of Maryland Heights, St. Louis County, Missouri

McKelvey Woods Phase II
Fee Fee Creek to
Creve Coeur Lake

Final Plans

October 2015

65679 / 78691

CITY OF MARYLAND HEIGHTS

APPROVED

Bryan Pearl 08/20/2015

BRYAN PEARL, P.E. DATE

STP-5401 (659)
TIP #5461-11

PROJECT BENCHMARK

CP#101	CENTER OF 7/8" THREADED BOLT IN GROUND, APPROX 20' EAST OF OLD MCKELVEY ROAD, 6.09' EAST OF RAILROAD SPIKE IN AN ABANDONED POWER POLE, 4.35' TO A MAG NAIL IN A POWER POLE WITH LIGHT, 37.73' TO A RAILROAD CROSSING SIGN WITH STOP SIGN. ELEVATION 473.38
FEMA RM-26	APPROXIMATELY 350 FEET EAST OF MCKELVEY ROAD ALONG THE CHICAGO-ROCK ISLAND AND PACIFIC RAILROAD, 13.6 FEET SOUTH OF SOUTH RAIL. STANDARD TABLET STAMPED "16 GEU 1974" SET IN WEST SIDE OF SIGNAL LIGHT BASE. PUBLISHED ELEV: 473.57 - PROJECT ELEV: 473.47
COUNTY RM-S-67	"L" ON THE SOUTHWEST CORNER OF THE SOUTHEAST WINGWALL ON BRIDGE #231; 30' EAST OF THE CENTERLINE OF MCKELVEY ROAD AND 0.1 MILE NORTH OF OLD MCKELVEY ROAD. PUBLISHED ELEV: 473.37 - PROJECT ELEV: 473.47

CONVERSION FACTOR: IN ORDER TO CONVERT PROJECT ELEVATIONS TO NGVD29 (COUNTY BENCHMARK SYSTEM) ADD 0.39'.

LOCATION MAP

Great Rivers Greenway

CLEAN | GREEN | CONNECTED | TRAILS

PROJECT PARTNERS

City of MARYLAND HEIGHTS

THE CITY OF MARYLAND HEIGHTS

Saint Louis COUNTY PARKS

SAINT LOUIS COUNTY

SHEET INDEX

LANDSCAPING SHEET INDEX

no.	date	by	ckd	description
0	10/21/15	JB	DK	ISSUED FOR BID

MSD PROJECT NO: P-0830115-08 MSD BASE MAP NO: 12D, 12F, 13D, 13F

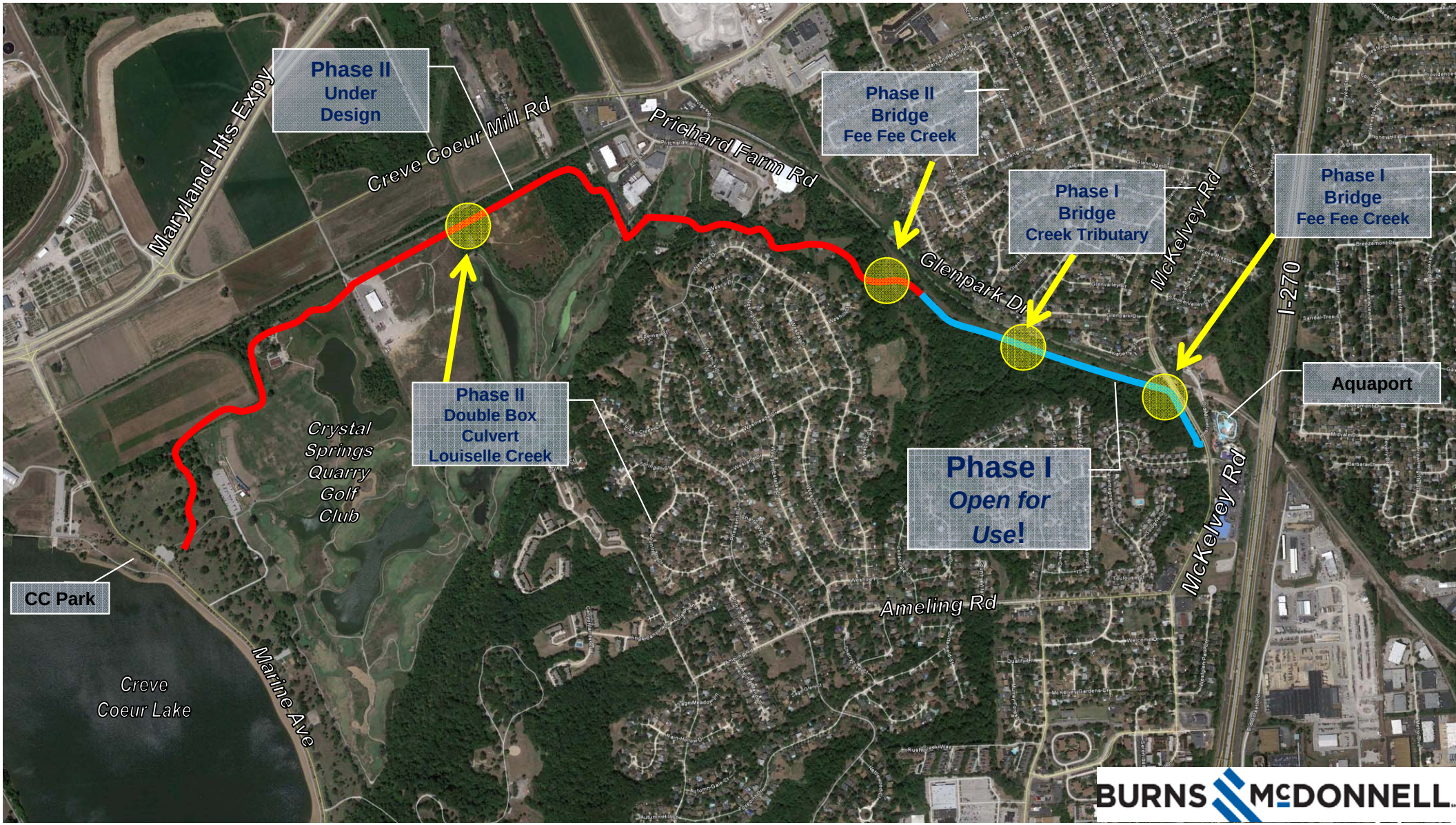
BURNS McDONNELL

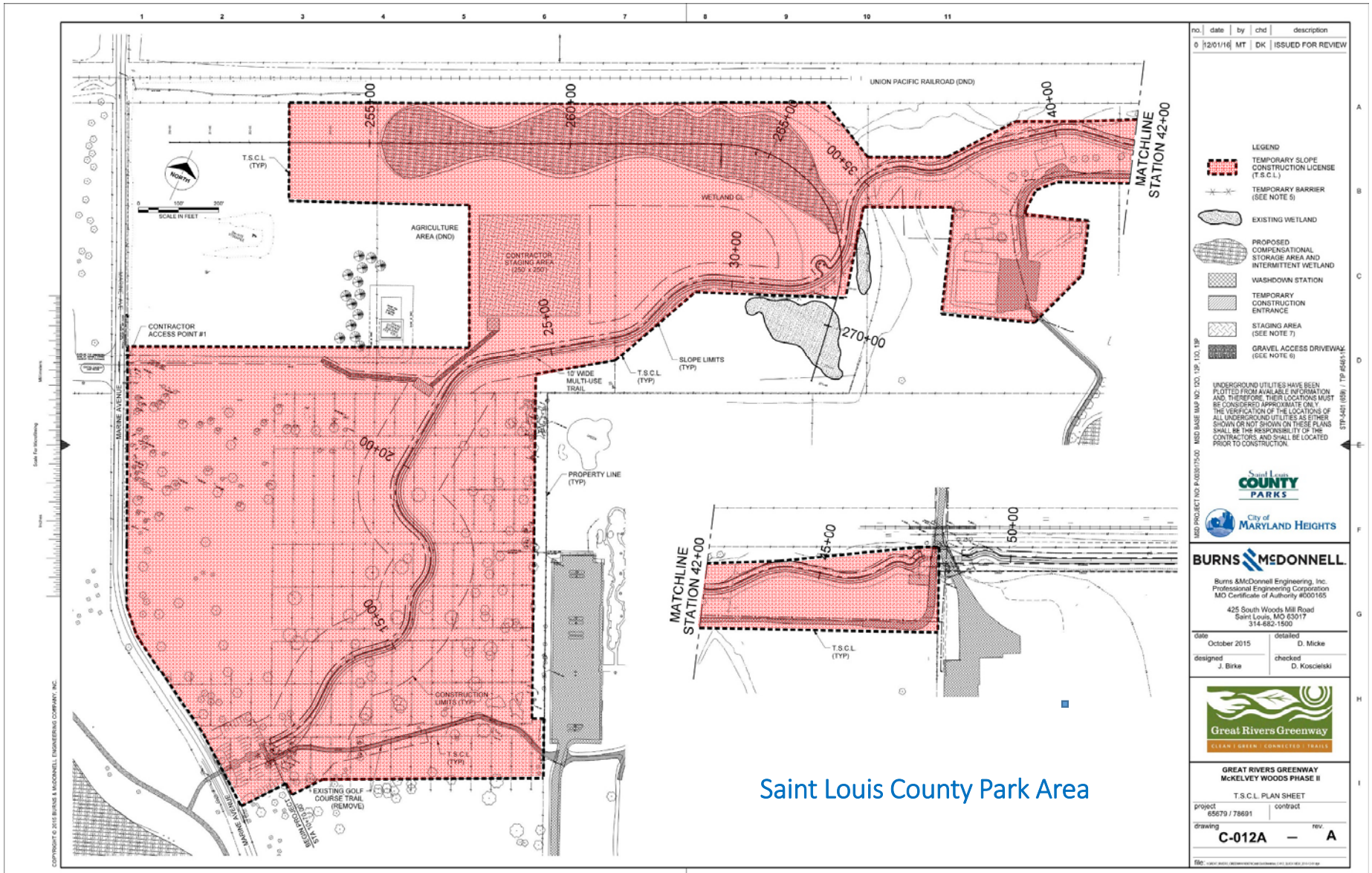
Burns & McDonnell Engineering, Inc.
Professional Engineering Corporation
Missouri Certificate of Authority #000165
BMcD Project Number 65679/78691

425 South Woods Mill Road
Saint Louis, Missouri 63017
314-682-1500

LENGTH OF GREENWAY

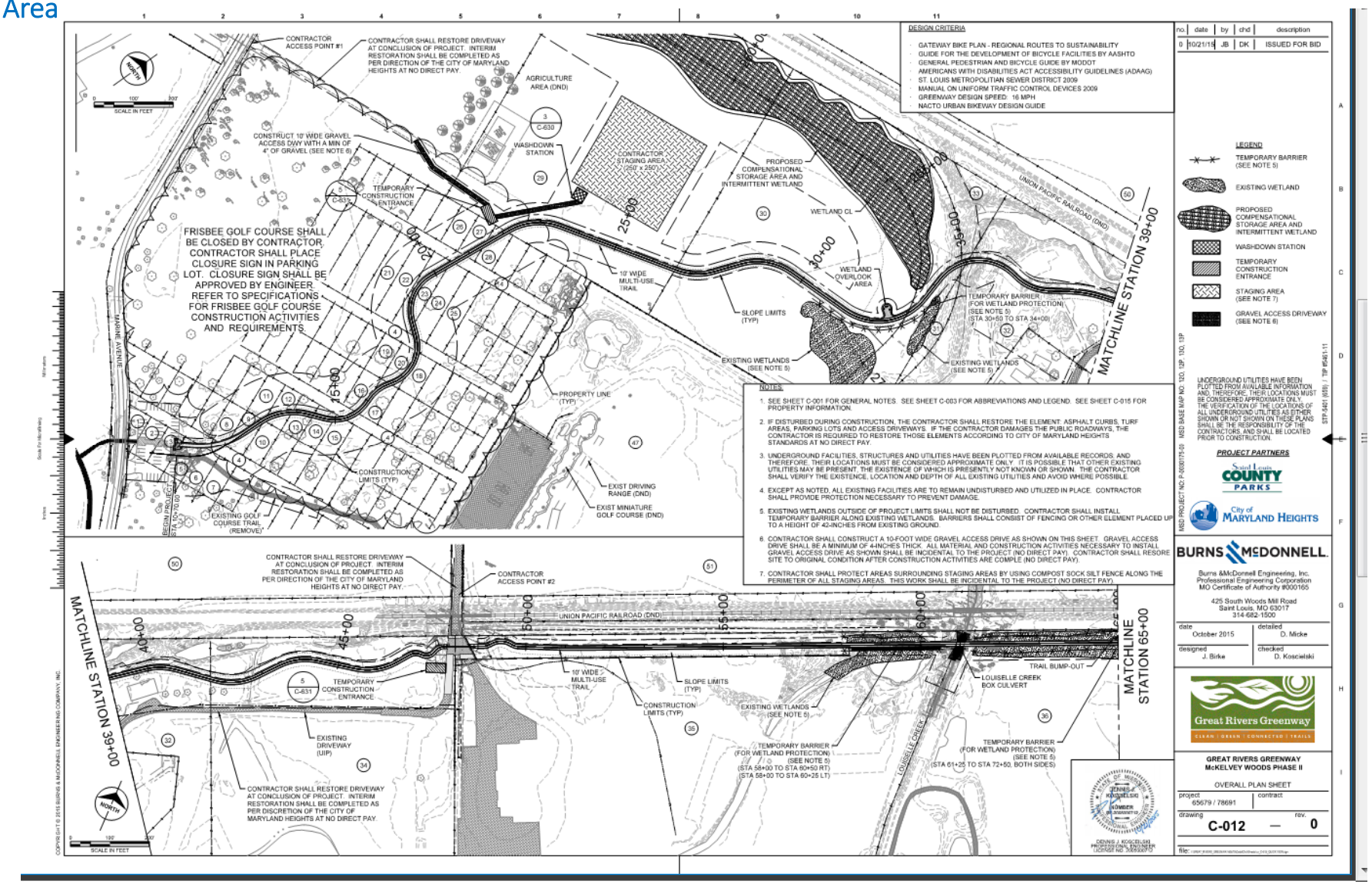
BEGIN GREENWAY ALIGNMENT	STA 10+70.00
END GREENWAY ALIGNMENT	STA 112+75.72
APPARENT LENGTH OF GREENWAY ALIGNMENT	10,205 FEET (1.93 MILES)


Phase II
Under
Design
Maryland Hts Expy
Creve Coeur Mill Rd
Prichard Farm Rd
Phase II
Bridge
Fee Fee Creek
Phase I
Bridge
Creek Tributary
McKelvey Rd
Phase I
Bridge
Fee Fee Creek
Glenpark Dr
I-270
Aquaport
Phase II
Double Box
Culvert
Louiselle Creek
Crystal
Springs
Quarry
Golf
Club
Phase I
Open for
Use!
McKelvey Rd
CC Park
Ameling Rd
Creve
Coeur Lake
Marine Ave
BURNS McDONNELL



Saint Louis County Park Area

Park & Wetland Area



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3. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS, AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THAT OTHER EXISTING UTILITIES MAY BE PRESENT, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. THE CONTRACTOR SHALL VERIFY THE EXISTENCE, LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND AVOID WHERE POSSIBLE.
4. EXCEPT AS NOTED, ALL EXISTING FACILITIES ARE TO REMAIN UNDISTURBED AND UTILIZED IN PLACE. CONTRACTOR SHALL PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE.
5. EXISTING WETLANDS OUTSIDE OF PROJECT LIMITS SHALL NOT BE DISTURBED. CONTRACTOR SHALL INSTALL TEMPORARY BARRIER ALONG EXISTING WETLANDS. BARRIERS SHALL CONSIST OF FENCING OR OTHER ELEMENT PLACED UP TO A HEIGHT OF 42-INCHES FROM EXISTING GROUND.
6. CONTRACTOR SHALL CONSTRUCT A 10-FOOT WIDE GRAVEL ACCESS DRIVE AS SHOWN ON THIS SHEET. GRAVEL ACCESS DRIVE SHALL BE A MINIMUM OF 4-INCHES THICK. ALL MATERIAL AND CONSTRUCTION ACTIVITIES NECESSARY TO INSTALL GRAVEL ACCESS DRIVE AS SHOWN SHALL BE INCIDENTAL TO THE PROJECT (NO DIRECT PAY). CONTRACTOR SHALL RESORE SITE TO ORIGINAL CONDITION AFTER CONSTRUCTION ACTIVITIES ARE COMPLE (NO DIRECT PAY).
7. CONTRACTOR SHALL PROTECT AREAS SURROUNDING STAGING AREAS BY USING COMPOST SOCK SILT FENCE ALONG THE PERIMETER OF ALL STAGING AREAS. THIS WORK SHALL BE INCIDENTAL TO THE PROJECT (NO DIRECT PAY).

LEGEND

- TEMPORARY BARRIER (SEE NOTE 5)
- EXISTING WETLAND
- PROPOSED COMPENSATIONAL STORAGE AREA AND INTERMITTENT WETLAND
- WASHDOWN STATION
- TEMPORARY CONSTRUCTION ENTRANCE
- STAGING AREA (SEE NOTE 7)
- GRAVEL ACCESS DRIVEWAY (SEE NOTE 6)

no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATIONS OF ALL UNDERGROUND UTILITIES AS EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS, AND SHALL BE LOCATED PRIOR TO CONSTRUCTION.

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

BURNS McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

OVERALL PLAN SHEET

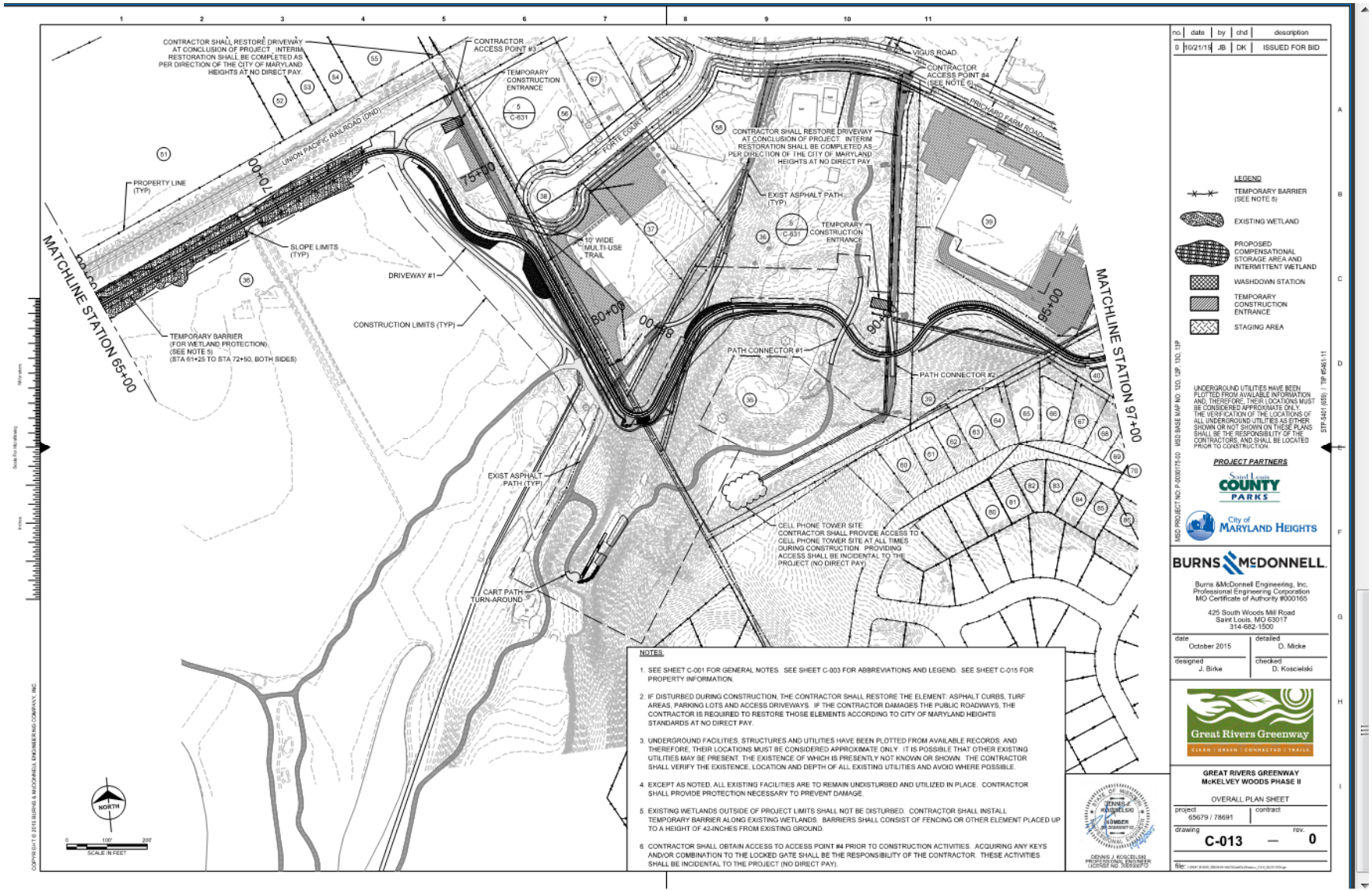
project	contract
65679 / 78691	

drawing C-012 — rev. 0

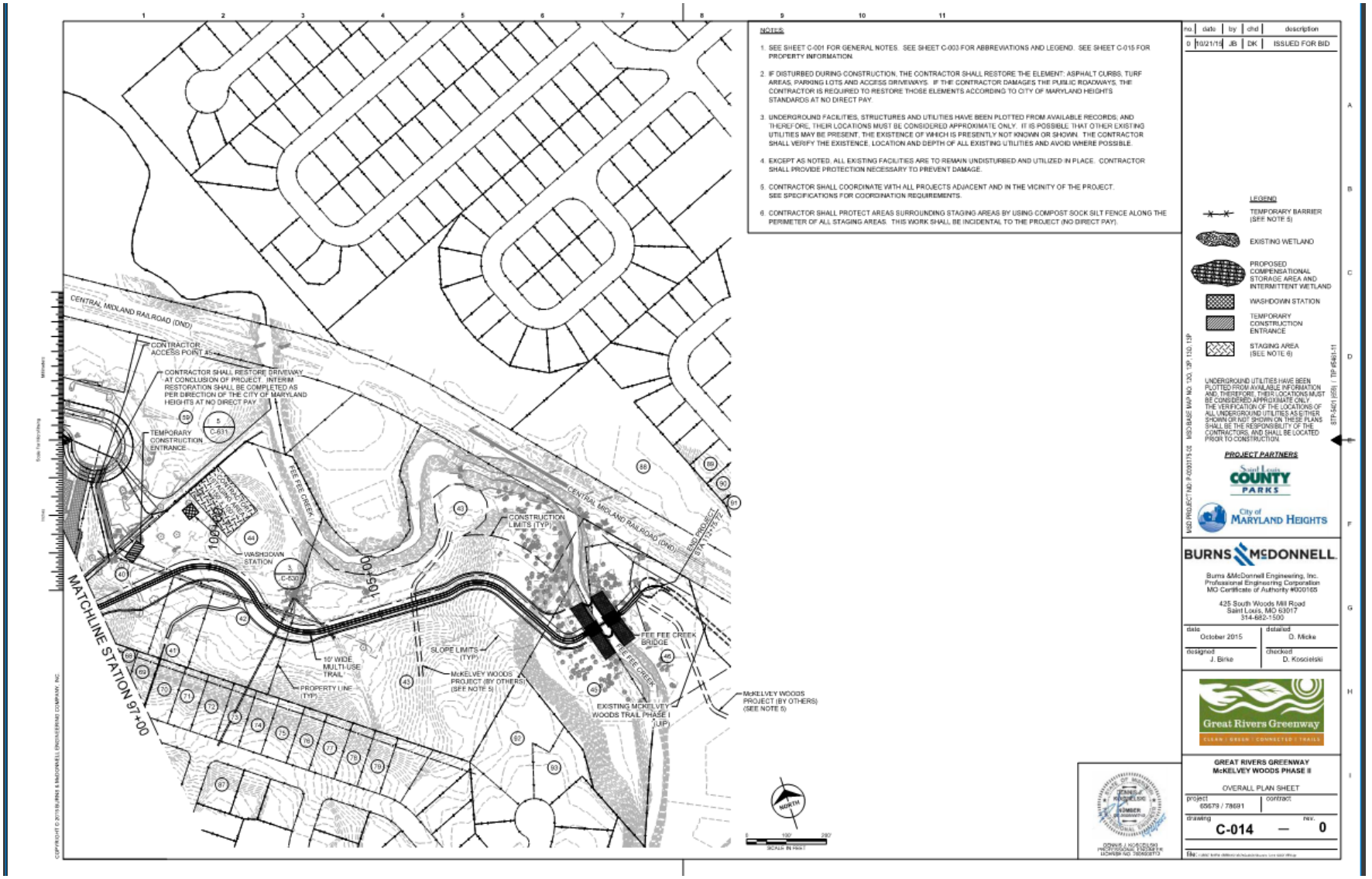
DENNIS J. KOSCIELSKI
PROFESSIONAL ENGINEER
E-2006037473

MSD PROJECT NO. P-6080175-00 | MSD BASE MAP NO. 12D, 12P, 13D, 13P | STP-5401 (058) / TIP #5451-11

Golf Course Area



Fee Fee Creek Area



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5. CONTRACTOR SHALL COORDINATE WITH ALL PROJECTS ADJACENT AND IN THE VICINITY OF THE PROJECT. SEE SPECIFICATIONS FOR COORDINATION REQUIREMENTS.
6. CONTRACTOR SHALL PROTECT AREAS SURROUNDING STAGING AREAS BY USING COMPOST SOCK SILT FENCE ALONG THE PERIMETER OF ALL STAGING AREAS. THIS WORK SHALL BE INCIDENTAL TO THE PROJECT (NO DIRECT PAY).

no.	date	by	chd	description
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LEGEND

- TEMPORARY BARRIER (SEE NOTE 6)
- EXISTING WETLAND
- PROPOSED COMPENSATIONAL STORAGE AREA AND INTERMITTENT WETLAND
- WASHDOWN STATION
- TEMPORARY CONSTRUCTION ENTRANCE
- STAGING AREA (SEE NOTE 6)

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MSD BASE MAP NO. 130, 29P, 130, 13P | MSD PROJECT NO. P-0309175-02 | STP-5401 (025) | TIP #5401-11

PROJECT PARTNERS

Saint Louis County Parks

City of Maryland Heights

BURNS McDONNELL

Burns & McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway

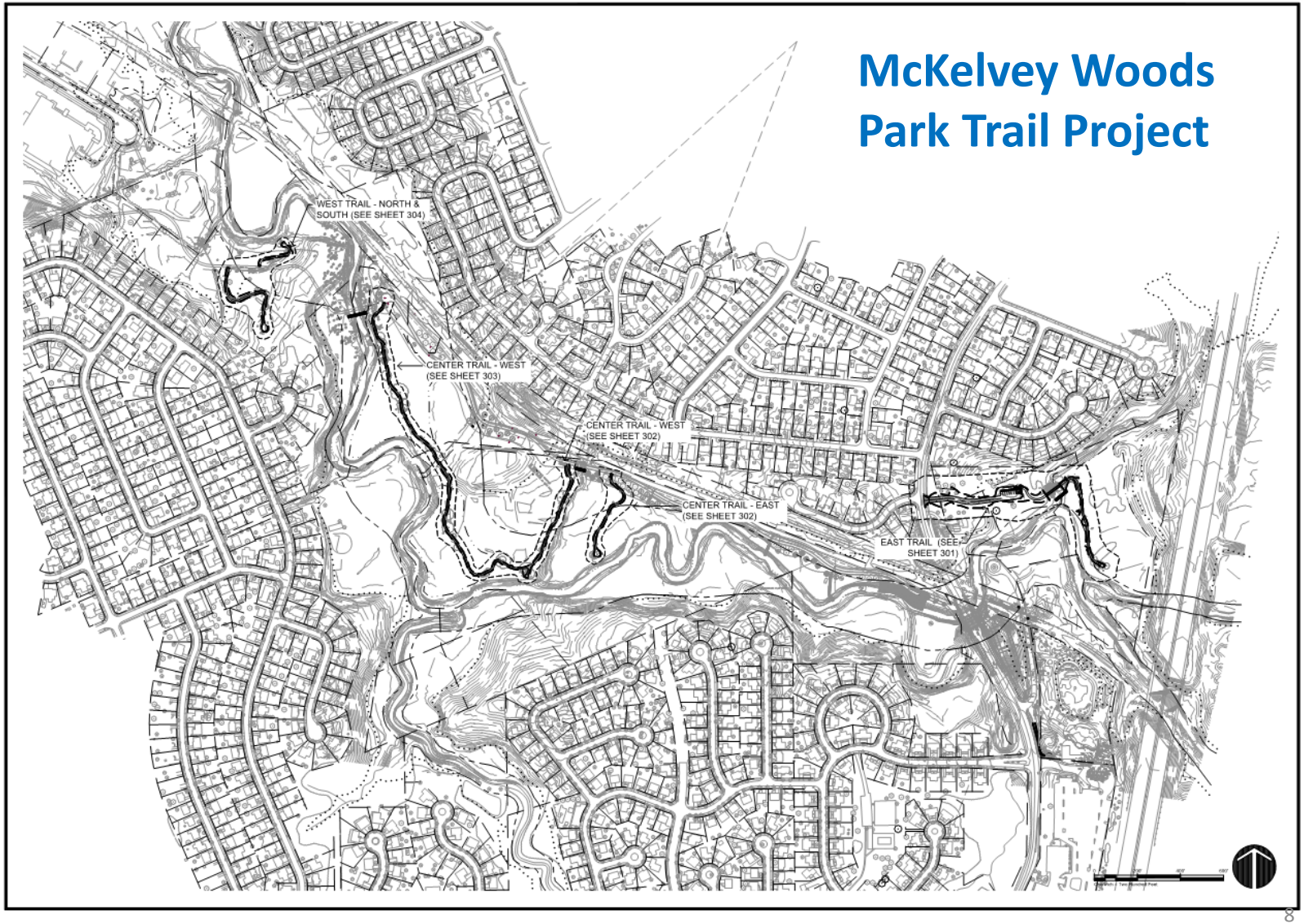
GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

OVERALL PLAN SHEET

project	contract
65679 / 78691	
drawing	rev.
C-014	0

DONNIE J. KOSCIELSKI
PROFESSIONAL ENGINEER
MISSOURI NO. 2009020713

McKelvey Woods Park Trail Project



Prepared by:
PDS Planning Design Studio
727 North First Street Suite 360
Saint Louis, Missouri 63102
P 314.241.3600 F 314.241.3601
In Association with:
Shannon & Wilson, Inc.
Volz, Incorporated

Seal

Name Date
License No. LA
Company License No. LAC-2006018/E
Project Title:

McKELVEY WOODS NATURE PARK TRAIL DEVELOPMENT
CITY OF MARYLAND HEIGHTS, MISSOURI
2344 McKELVEY ROAD
MARYLAND HEIGHTS, MO. 63043

Drawing Title:

TRAIL PLAN

No.	Revision	Date

Project Number: J1506
Drawn By: ST
Issue Date: 08/21/2015
Project Numbers:
Drawing Number: 300


Coming Soon
Another Great Project by Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS
WWW.GRGSTL.ORG

MEETING MINUTES

Project: McKelvey Woods Phase II	Meeting Date: December 15, 2016
Subject: Utility Coordination Meeting December 2016	Meeting Chairperson: Cliff Baber/Dennis Koscielski
Meeting Location: Maryland Heights Govt Center	Meeting Number: 73

PRESENT:		DISTRIBUTION:	
Bryan Pearl	Maryland Heights PW	All Attendees	
Rachel Sponsler	Ameren Missouri	Project File	
Dave Aten	Ameren Missouri	Jeff Mues	BMCD – Hydraulic Engr
Randall Carpenter	Missouri American Water	Lisa Kuntz	MoDOT
Cliff Baber	Maryland Heights PW	L.G. Loos	Maryland Heights PW
Mark Vogl	Great Rivers Greenway	Tom McCloskey	MoDOT
Dennis Koscielski	Burns & McDonnell	Randall Glaser	MoDOT
Mike Herleth	Burns & McDonnell	Vince Kaimann	MoDOT
		Paul Andrew	St Louis County Parks

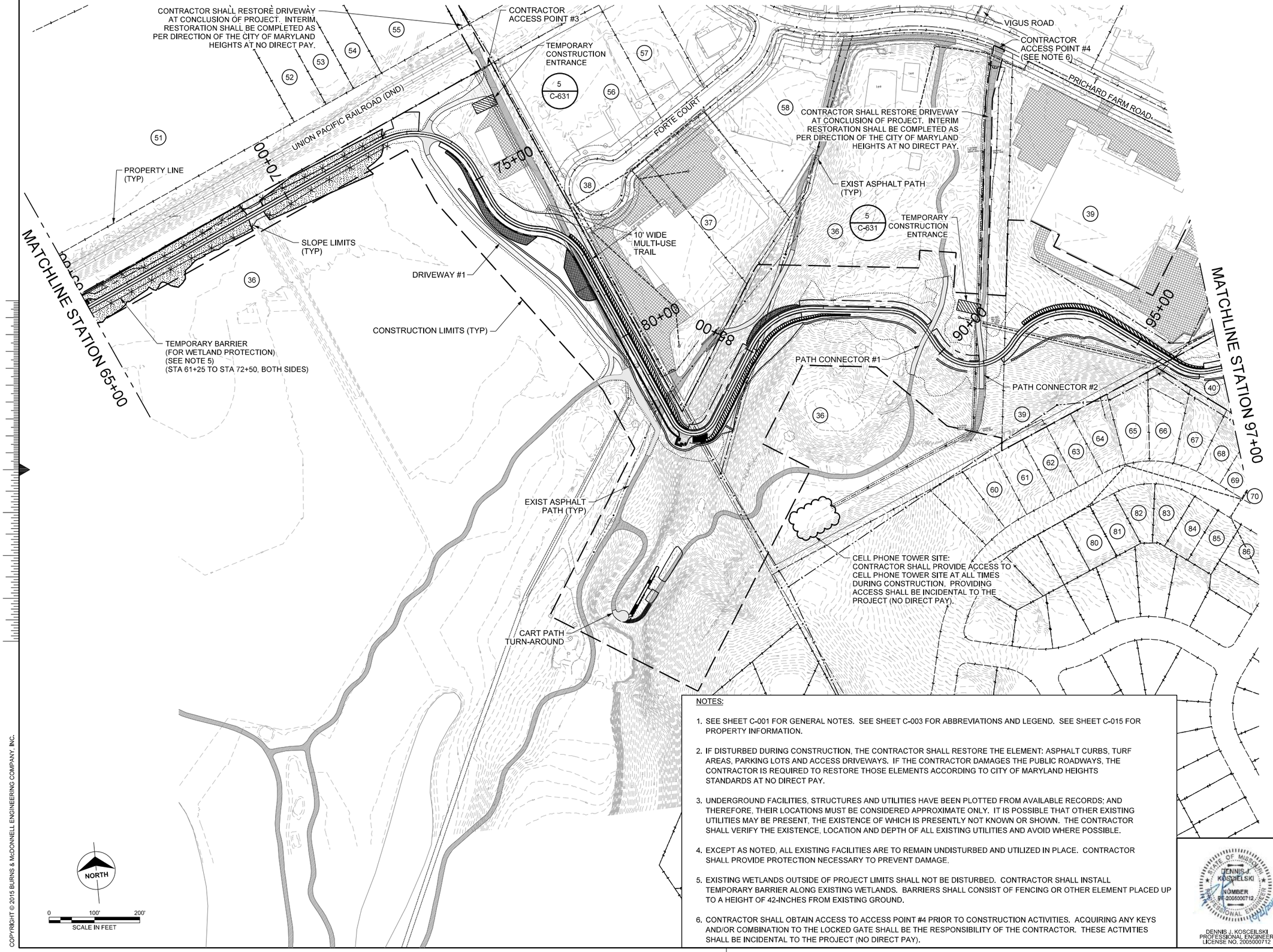
Notice of all present: If any of the following items are incorrect or fail to record discussion at the meeting, please contact preparer immediately.

Prepared By: Dennis Koscielski Reviewed By: Cliff Baber	Issue Date: January 4, 2017

Item	Discussion Topics	Action By	Due Date
0.	**Meeting Agenda** 1) Project Overview 2) Coordination Area 3) Open Discussion Note: *Presentation used to discuss project is attached to meeting minutes for reference.*		
1.	**Project Overview** Project update provided for the meeting attendees. The project alignment and goal was reviewed. • Goal is connect the existing McKelvey Woods trail with Creve Coeur Park. • Project to be completed as per MoDOT federal-aid requirements. • City opening bids for project on January 17, 2017. • Tree clearing to be completed by March 31, 2017 as per endangered species requirements (bats). Tree clearing anticipated to begin on or around March 1, 2017.		

Item	Discussion Topics	Action By	Due Date
2A.	**Utility Coordination – Missouri American Water** The following items were noted for coordination of the water main transmission line. • Great Rivers Greenway has released payment to Missouri American Water for the utility relocation. • The water main transmission work can occur at any time of year. • Hydraulics for Missouri American Water are satisfactory with this line capped. • The length of capped transmission line was not defined. • Missouri American Water requested maximum notice of capping request from the Contractor or Construction Manager when Contractor's schedule is identified. • Missouri American Water prefers at least 14-calendar day notice prior to requesting the water line cap. • City reported to Missouri American Water to anticipate capping in April 2017. • Missouri American Water to cap lines and install thrust blocks on both ends of the capped line outside the limits of the project. • Bob Clark is anticipated to be Missouri American Water's superintendent on the project. • Randall Carpenter to remain the point of contact for coordination with Missouri American Water by Contractor and Construction Manager. • Missouri American Water is planning to use restrained joints and heavy steel wall pipe on the project. • Pipe has been purchased for the project is in storage at Missouri American Water. • Prior to capping work by MAWC, City's Contractor to complete tree clearing from cap location to cap location across the Fred Weber owned parcel within the existing water main easement. • Capping work is anticipated to take Missouri American Water 1 to 2 business days to complete. • Missouri American Water requested the limits of their easement staked at 75-foot intervals across Fred Weber's parcel. • Missouri American Water to leave in place the existing steel pipe. City's Contractor shall remove and dispose of the steel transmission pipe through the excavation limits of the project. • City's Contractor to complete rock excavation for the water line trench through the slope limits of the project. • Missouri American Water anticipates 10 to 15 working days to install the new water main and complete all activities including backfill. • 3.5-feet of cover is planned to be placed over the water main to finish grade. • Missouri American Water plans to self-perform all construction work. Independent contractors are not used for transmission main work for the water company.		

Item	Discussion Topics	Action By	Due Date
2B.	**Utility Coordination – Ameren Missouri** The following items were noted for coordination of the electrical line relocation. • Great Rivers Greenway has released payment to AmerenMO for the utility relocation. • Great Rivers Greenway has provided easement documents to AmerenMO's real estate department. **AmerenMO Action Item:** *Check on status of easement documents.* • AmerenMO has requested that their easement and proposed pole locations be staked by the City's contractor. • Prior to relocations by AmerenMO, City's Contractor to complete tree clearing for existing electrical easement and new electrical easement across the limits of the power line relocation through the project limits. • Tree clearing anticipated to be completed by City's Contractor by March 31, 2017. • Electrical work requested to begin work on or around April 7, 2017 by AmerenMO. • AmerenMO requested at least 14-calendars notice from Contractor or Construction Manager to confirm the April 7 begin work date. • AmerenMO anticipates approximately 8 business days of work to relocate the electrical lines.		
3.	**Open Discussion** Utilties have option to attend the pre-bid meeting on Friday, January 6, 2016 at 10:00 am at Maryland Heights Government Center. All utilities are to be invited to the pre-constrution meeting included AmerenMO and Missouri American Water by the City's Construction Manager.		
	Thank you for the meeting. cc: file		



no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

LEGEND

- TEMPORARY BARRIER (SEE NOTE 5)
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- TEMPORARY CONSTRUCTION ENTRANCE
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6. CONTRACTOR SHALL OBTAIN ACCESS TO ACCESS POINT #4 PRIOR TO CONSTRUCTION ACTIVITIES. ACQUIRING ANY KEYS AND/OR COMBINATION TO THE LOCKED GATE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THESE ACTIVITIES SHALL BE INCIDENTAL TO THE PROJECT (NO DIRECT PAY).

STATE OF MISSOURI DENNIS J. KOSCIELSKI NUMBER PE-2005000712 PROFESSIONAL ENGINEER 10/21/15

DENNIS J. KOSCIELSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005000712

MSD PROJECT NO: P-0030175-00 MSD BASE MAP NO: 12O, 12P, 13O, 13P STP-5401 (659) / TIP #5401-11

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PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

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Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

OVERALL PLAN SHEET

project	contract
65679 / 78691	

drawing **C-013** — rev. **0**

file: E:\GREAT_RIVERS_GREENWAY\65679\Cad\ICA\Sheets\ka_C-013_QUICK VIEW.dgn

Scale For Microfilming: Millimeters / Inches

no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

SUMMARY OF QUANTITIES (SHEET 1 OF 5)

ITEM NUMBER	BID ITEM	SPEC REFERENCE	DESCRIPTION	UNITS	PROJECT QUANTITY	ENGINEER'S DISCRETION	DISCRETION QUANTITY	BID QUANTITY
1	JSP-20	MoDOT 202-99.50	DEMOLITION AND REMOVAL OF BUILDINGS	EACH	2	0%	0	2
2	JSP-21	St Louis County 201-30.00	CLEARING AND GRUBBING	ACRE	~~17.6~~	0%	0	~~17.6~~ 20.4
3	JSP-22	St. Louis County 201-99.02	TEMPORARY TREE PROTECTION	EACH	15	0%	0	15
4	JSP-23	St. Louis County 202-20.10	REMOVAL OF IMPROVEMENTS	L.S.	1	0%	0	1
5	JSP-24	St. Louis County 202-22.96	FULL DEPTH SAW-CUT	L.F.	281	0%	0	281
6	JSP-25	St. Louis County 203-10.00	CLASS "A" EXCAVATION *(MoDOT Standard Drawing 203.00E)*	C.Y.	54,306	0%	0	54,306
7	JSP-26	St. Louis County 203	CLASS "C" ROCK EXCAVATION	C.Y.	8,397	0%	0	8,397
8	JSP-27	MoDOT 204-10	SETTLEMENT GAUGES *(StL Co H&T Standard Drawing C204.00)*	EACH	4	0%	0	4
9	JSP-28	St. Louis County 203	COMPACTING EMBANKMENT *(MoDOT Standard Drawing 203.00E)*	C.Y.	56,777	0%	0	56,777
10	JSP-29	MoDOT 206	CLASS 3 EXCAVATION	C.Y.	2,585	0%	0	2,585
11	JSP-30	St. Louis County 217	DITCHING	STA.	2.4	0%	0	2.4
12	JSP-31A	St. Louis County 304	TYPE 5 AGGREGATE BASE (4-INCH THICK)	S.Y.	603	0%	0	603
13	JSP-31B	St. Louis County 304	TYPE 5 AGGREGATE BASE (6-INCH THICK)	S.Y.	14,725	0%	0	14,725
14	JSP-31C	St. Louis County 304	TYPE 5 AGGREGATE BASE (8-INCH THICK)	S.Y.	887	0%	0	887
15	JSP-32	MoDOT 310	GRAVEL (A)	TON	537	0%	0	537
16	JSP-33A	St. Louis County 405	TYPE "C" BITUMINOUS PAVEMENT(2-INCH SURFACE)	TON	1,460	0%	0	1,460
17	JSP-33B	MoDOT 613	CLASS C PARTIAL DEPTH PAVEMENT REPAIR	S.Y.	15	0%	0	15
18	JSP-33C	St. Louis County 405	TYPE "X" BITUMINOUS PAVEMENT (4-INCH BASE)	TON	2,970	0%	0	2,970
19	JSP-34	St. Louis County 408	PRIME COAT	GAL	1,473	0%	0	1,473
20	JSP-35	St. Louis County 502	10-INCH NON-REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	S.Y.	245	0%	0	245
21	JSP-36A	St. Louis County 604	MSD AREA INLET *(StL Co H&T Standard Drawing C604.31)*	EACH	6	0%	0	6
22	JSP-36B	St. Louis County 604	MSD MANHOLE *(StL Co H&T Standard Drawing C604.30)*	EACH	7	0%	0	7
23	JSP-37A	St. Louis County 609.70	TYPE 1 ROCK LINING	C.Y.	18	0%	0	18
24	JSP-37B	St. Louis County 609.70	TYPE 2 ROCK LINING	C.Y.	75	0%	0	75
25	JSP-38	St. Louis County 607-10	REPLACE EXISTING CHAIN-LINK FENCE GATE	EACH	1	0%	0	1
26	JSP-39	St. Louis County 607-30.50	DECORATIVE PEDESTRIAN GUARDRAIL	L.F.	3,238	0%	0	3,238
27	JSP-40	St. Louis County xxx-xx.xx	ALUMINUM HANDRAIL FOR STEPS	L.F.	208	0%	0	208
28	JSP-41A	St. Louis County 607-10	8' GALVANIZED CHAIN-LINK FENCE	L.F.	934	0%	0	934
29	JSP-41B	St. Louis County 607-10	8' GALVANIZED CHAIN-LINK FENCE WITH BARBED WIRE	L.F.	1,158	0%	0	1,158

ITEM NUMBER	C-012	C-013	C-014	C-051 to C-058	C-101	C-102	C-103	C-104	C-105	C-106	C-106B	C-107	C-108	C-109	C-110	C-111	C-112	C-113	C-114	C-115	C-116	C-117	C-118	C-119	C-120	C-121	C-125	C-126	C-127
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2	1.3	0.4	1.1	17.6																									
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4																													
5				281																									
6					27		16	11	25	95			32		424	160		111	256	16	3,449	186	395	8,865	18,351		9,932	10,675	1,280
7																				7,817						580			
8																													
9					179	508	203	206	1,212	1,810		1,366	1,502	2,169	1,723	1,643	2,225	1,888	14,204	4,890	7,381	8,883	4,330	153	283	13			6
10																													
11																							2.4						
12																													
13					417	800	667	667	767	700		667	784	667	600	700	700	803	801	1,608	800	667	667	667	490	86			
14																		413	474										
15					16	31	26	26	30	27		26	21	26	23	27	27	26	26	31	51	26	26	26	19				
16					39	75	62	62	71	65		62	78	62	56	65	65	77	77	100	128	62	62	62	47	83			
17																													
18					78	149	124	124	142	130		124	155	124	112	130	192	154	154	300	149	124	124	124	92	165			
19					42	80	67	67	77	70		67	78	67	60	70	70	80	80	161	80	67	67	67	49	9			
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25																													
26															231	25													
27																													
28													195	501	238														
29											1,054																		

ITEM NUMBER	C-304	C-305	C-306	C-307	C-308	C-309	C-310	C-312	C-313	C-410	C-411	C-412	C-413	C-414	C-501	C-502	C-503A	C-503B	C-504	C-505A AND C-505B	C-511	C-621	C-622	C-623	C-624	C-625	C-626	C-627	C-628	C-629	C-641	C-642	C-643	C-644	C-645	C-646	C-647	C-648	S-101 to S-102	S-103 to S-112	U-114	U-115	U-121
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26	325	403	442	434	500	150	536										96	96																									
27																				208																							
28																																											
29																				104																							

MSD PROJECT NO: P-0030175-00   MSD BASE MAP NO: 12O, 12P, 13O, 13P

STP-5401 (659) / TIP #5461-11

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATIONS OF ALL UNDERGROUND UTILITIES AS EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS, AND SHALL BE LOCATED PRIOR TO CONSTRUCTION.

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

BURNS & McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	**checked**
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

DENNIS J. KOSCIELSKI
NUMBER PE-2005000712
10/21/2015

DENNIS J. KOSCEILSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005000712

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

SUMMARY OF QUANTITIES

project 65679 / 78691
contract

drawing **2B-1** — rev. **0**

file: I:\GREAT_RIVERS_GREENWAY\65679\Cadd\Civil\Sheets\xx_2B-1_SUMMARY OF QUANTITIES_PACKAGE 1.dgn

Scale For Microfilming
Millimeters
Inches

no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

SUMMARY OF QUANTITIES (SHEET 2 OF 5)

ITEM NUMBER	BID ITEM	SPEC REFERENCE	DESCRIPTION	UNITS	PROJECT QUANTITY	ENGINEER'S DISCRETION	DISCRETION QUANTITY	BID QUANTITY	C-012	C-013	C-014	C-051 to C-058	C-101	C-102	C-103	C-104	C-105	C-106	C-106B	C-107	C-108	C-109	C-110	C-111	C-112	C-113	C-114	C-115	C-116	C-117	C-118	C-119	C-120	C-121	C-125	C-126	C-127
30	JSP-41C	St. Louis County 607-10	12' VINYL COATED CHAIN-LINK FENCE WITH MESH SCREEN	L.F.	104	0%	0	104																													
31	JSP-41D	St. Louis County 607-10	GALVANIZED CHAIN-LINK DOUBLE SWING GATE WITH BARBED WIRE *(8-FOOT HEIGHT)*	EACH	2	0%	0	2											2																		
32	JSP-41E	St. Louis County 607-10	VINYL COATED CHAIN-LINK SINGLE SWING GATE *(12-FOOT HEIGHT)*	EACH	1	0%	0	1																													
33	JSP-43	St. Louis County 608	CONCRETE ADA RAMP *(7-INCH THICK)*	S.Y.	105	0%	0	105																													
34	JSP-44	MoDOT 608	DETECTABLE WARNING PANELS *(StL Co H&T Standard Drawing C608.40)*	S.F.	60	0%	0	60																													
35	JSP-45A	St. Louis County 609-10	CONCRETE CURB	L.F.	0	0%	50	50																													
36	JSP-45B	St. Louis County 608	CONCRETE SIDEWALK *(6-INCH THICK)*	S.Y.	230	0%	0	230																													
37	JSP-45C	St. Louis County608	CONCRETE STEPS	S.F.	204.0	0%	0	204.0																													
38	JSP-46A	MoDOT 611-30	FURNISHING MoDOT TYPE 1 ROCK BLANKET	C.Y.	2,745	0%	0	2,745															200														
39	JSP-46B	MoDOT 611-30	PLACING MoDOT TYPE 1 ROCK BLANKET	C.Y.	2,745	0%	0	2,745															200														
40	JSP-47A	MoDOT 903	TRAIL SIGNS	EACH	20	0%	0	20																													
41	JSP-47B	MoDOT 903	ROADWAY SIGNS	EACH	17	0%	0	17																													
42	JSP-48	MoDOT 617	TEMPORARY CONCRETE TRAFFIC BARRIER *(MoDOT Standard Drawing 617.20C)*	L.F.	150	0%	0	150																													
43	JSP-49	St. Louis County 619	MOBILIZATION	L.S.	1	0%	0	1																													
44	JSP-50A	MoDOT 620	24" PERMANENT WHITE PAVEMENT MARKING	L.F.	457	0%	0	457																													
45	JSP-50B	MoDOT 620	6" PERMANENT WHITE PAVEMENT MARKING	L.F.	475	0%	0	475																													
46	JSP-50C	MoDOT 620	SOLID GREEN PAVEMENT MARKING	S.F.	1,120	0%	0	1,120																													
47	JSP-51		PIEZOMETERS	EACH	2	0%	0	2																									2				
48	JSP-52		DISC GOLF TEE AND HOLE RELOCATION	EACH	9	0%	0	9	9																												
49	JSP-53	MoDOT 627	CONSTRUCTION STAKEOUT	L.S.	1	0%	0	1																													
50	JSP-54		TOPOGRAPHIC SURVEYS	L.S.	1	0%	0	1																													
51	JSP-55		GEOTECHNICAL BORINGS FOR WALLS AND SLOPES	EACH	12	0%	0	12																													
52	JSP-56A	MoDOT 703-90.13-A	LIVING REINFORCED SLOPE SYSTEM (Walls 1 and 5) *(20 DEGREE BATTER)*	S.F.	~~16,982~~	0%	0	~~16,982~~ 19,284																													
53	JSP-56B	MoDOT 703-90.13-B	LIVING REINFORCED SLOPE SYSTEM IN ROCK CUT (Wall 3) *(20 DEGREE BATTER)*	S.F.	~~11,220~~	0%	0	~~11,220~~ 11,564																													
54	JSP-57A	MoDOT 703-90.14-A	SLOPE STABILIZATION WALL (Wall 2A) *(56 DEGREE BATTER)*	S.F.	~~3,014~~	0%	0	~~3,014~~ 4,356																													
55	JSP-57B	MoDOT 703-90.14-B	SEVERE SLOPE STABILIZATION WALL (Wall 4) *(45 DEGREE BATTER)*	S.F.	~~993~~	0%	0	~~993~~ 1,254																													
56	JSP-58A	MoDOT 703-90.15-A	CELLULAR CONFINEMENT WALL (Walls 9, 10, 11 and 12) *(BATTER VARIES 8 DEGREES TO 63 DEGREES)*	S.F.	727	0%	0	727																													
57	JSP-58B	MoDOT 703-90.15-B	CELLULAR CONFINEMENT WALL (Walls 13 and 14) (Includes compost socks) *(68 DEGREE BATTER)*	S.F.	~~3,574~~	0%	0	~~3,574~~ 2,980																													
58	JSP-59	MoDOT 703-90.16	MSE WALL (Wall 2B) *(5 DEGREE BATTER)*	S.F.	~~10,205~~	0%	0	~~10,205~~ 11,333																													

ITEM NUMBER	C-304	C-305	C-306	C-307	C-308	C-309	C-310	C-312	C-313	C-410	C-411	C-412	C-413	C-414	C-501	C-502	C-503A	C-503B	C-504	C-505A AND C-505B	C-511	C-621	C-622	C-623	C-624	C-625	C-626	C-627	C-628	C-629	C-641	C-642	C-643	C-644	C-645	C-646	C-647	C-648	S-101 to S-102	S-103 to S-112	U-114	U-115	U-121
30																				104																							
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52	~~9,331~~ 10,845						~~7,651~~ 8,439																																				
53					~~11,220~~ 11,564																																						
54			~~3,014~~ 4,356																																								
55						~~993~~ 1,254																																					
56								727																																			
57									~~3,574~~ 2,980																																		
58				~~10,205~~ 11,333																																							

NOTE: ALL WALL QUANTITIES ARE MEASURED VERTICALLY BY THEIR RESPECTIVE PROFILES, REGARDLESS OF WALL BATTER. WALLS ARE MEASURED FROM THE TOP OF WALL TO THE TOP OF LEVELING PAD.

MSD PROJECT NO: P-0030175-00 MSD BASE MAP NO: 12O, 12P, 13O, 13P

STP-5401 (659) / TIP #5461-11

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATIONS OF ALL UNDERGROUND UTILITIES AS EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS, AND SHALL BE LOCATED PRIOR TO CONSTRUCTION.

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City of MARYLAND HEIGHTS

BURNS & McDONNELL.

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

DENNIS J. KOSCIELSKI
NUMBER PE-2005000712
10/21/2015

DENNIS J. KOSCEILSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005000712

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

SUMMARY OF QUANTITIES

project 65679 / 78691 | contract

drawing **2B-2** — rev. **0**

file: [illegible]

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Millimeters
Scale For Microfilming
Inches

no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

SUMMARY OF QUANTITIES (SHEET 4 OF 5)

ITEM NUMBER	BID ITEM	SPEC REFERENCE	DESCRIPTION	UNITS	PROJECT QUANTITY	ENGINEER'S DISCRETION	DISCRETION QUANTITY	BID QUANTITY
88	JSP-79	MoDOT 702	PILE POINT REINFORCEMENT	EA	12	0%	0	12
89	JSP-80	MoDOT 703	CLASS B CONCRETE (SUBSTRUCTURE)	CY	30.8	0%	0	30.8
90	JSP-81	MoDOT 703	SLAB ON STEEL	SY	88	0%	0	88
91	JSP-82	MoDOT 711	PROTECTIVE COATING - CONCRETE BENTS AND PIERS (EPOXY)	LS	1	0%	0	1
92	JSP-83	MoDOT 712-09.15	EXPANSION DEVICE (FLAT PLATE)	LF	20	0%	0	20
93	JSP-84	MoDOT 715-10.00	VERTICAL DRAINS AT END BENTS	EA	2	0%	0	2
94	JSP-85	MoDOT 719-10.00	PEDESTRIAN TRUSS SUPERSTRUCTURE	SF	792	0%	0	792
95	JSP-86	St. Louis County 806	WASHDOWN STATION *(StL Co Sediment and Erosion Control Manual Standard Drawing 806-46.00)*	EACH	2	0%	0	2
96	JSP-87	St. Louis County 806	CONSTRUCTION ENTRANCE *(StL Co Sediment and Erosion Control Manual Standard Drawing 806-46.00)*	EACH	5	0%	0	5
97	JSP-88	St. Louis County 806-50.00	TEMPORARY SEEDING AND MULCHING	ACRE	17.8	0%	0.0	17.8
98	JSP-89		TEMPORARY BARRIER	L.F.	~~3,825~~	0%	0	~~3,825~~
99	JSP-90	St. Louis County 806-55.00	STORM WATER POLLUTION PREVENTION PLAN (SWPPP)	LS	1	0%	0	1
100	JSP-91A	MoDOT 806	MULCH BERM	L.F.	18,945	0%	0	18,945
101	JSP-91B	St. Louis County 806	COMPOST SOCK SILT FENCE *(StL Co Sediment and Erosion Control Manual Standard Drawing 806-70.00)*	L.F.	3,240	0%	0	3,240
102	JSP-92	St. Louis County 806	INLET PROTECTION	EACH	10	0%	0	10
103	JSP-93	St. Louis County 806	ROCK CHECK DAM *(StL Co Sediment and Erosion Control Manual Standard Drawing 806-35.00)*	EACH	63	20%	13	76
104	JSP-94A	St. Louis County 806	COMPOST (SOCK) DITCH CHECK	EACH	61	20%	12	73
105	JSP-94B	St. Louis County 806	COMPOST SOCK (6" DIAMETER)	L.F.	1,288	0%	0	1,288
106	JSP-95	MoDOT 806	SEDIMENT REMOVAL	C.Y.	346	0%	0	346
107	JSP-96		CROSS VANE	EACH	2	0%	0	2
108	JSP-97A		BENCHES	EACH	5	0%	0	5
109	JSP-97B		SHADE STRUCTURE	EACH	1	0%	0	1
110	JSP-97C		TRASH OR RECYCLING RECEPTACLE	EACH	5	0%	0	5
111	JSP-97D		BIKE RACKS	EACH	4	0%	0	4
112	JSP-98		DRIVEABLE GRASS	SY	68	0%	0	68
113	JSP-111		SOFT SPOT MITIGATION	SY	0	0%	150	150
114	JSP-329310		SHEET FLOW TO BUFFER STORMWATER ~~CREDIT~~ BMP	L.S.	1	0%	0	1
115	JSP-329311		GRASS CHANNEL STORMWATER ~~CREDIT~~ BMP	L.S.	1	0%	0	1
116	JSP-329312		AMENDED SOIL STORMWATER ~~CREDIT~~ BMP	L.S.	1	0%	0	1

27,140
(SEE JSP-89 FOR TEMPORARY BARRIER QUANTITY BREAKOUT)

ITEM NUMBER	C-012	C-013	C-014	C-051 to C-058	C-101	C-102	C-103	C-104	C-105	C-106	C-106B	C-107	C-108	C-109	C-110	C-111	C-112	C-113	C-114	C-115	C-116	C-117	C-118	C-119	C-120	C-121	C-125	C-126	C-127
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ITEM NUMBER	C-304	C-305	C-306	C-307	C-308	C-309	C-310	C-312	C-313	C-410	C-411	C-412	C-413	C-414	C-501	C-502	C-503A	C-503B	C-504	C-505A AND C-505B	C-511	C-621	C-622	C-623	C-624	C-625	C-626	C-627	C-628	C-629	C-641	C-642	C-643	C-644	C-645	C-646	C-647	C-648	S-101 to S-102	S-103 to S-112	U-114	U-115	U-121
88																																								12			
89																																								30.8			
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94																																								792			
95																																											
96																																											
97																						1.5	2.0	1.1	0.9	2.6	4.3	3.4	1.8	0.2													
98																																											
99																																											
100																						3,205	3,260	2,920	100	2,260	2,065	2,350	2,440	345													
101																						80			2,850	310																	
102																											8	2															
103																										24	37	2															
104																							6	4		10	5	9	27														
105			458	389	441																																						
106																						33	39	33	30	60	63	35	51	3													
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112																				68																							
113																																											
114																																											
115																																											
116																																											

NOTE:
2B SHEET FOR LANDSCAPING ITEMS AND PERMANENT EROSION CONTROL ITEMS INCLUDED AFTER THE LANDSCAPING COVER SHEET (C-700).

MSD PROJECT NO: P-0030175-00 MSD BASE MAP NO: 12O, 12P, 13O, 13P

STP-5401 (659) / TIP #5461-11

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATIONS OF ALL UNDERGROUND UTILITIES AS EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS, AND SHALL BE LOCATED PRIOR TO CONSTRUCTION.

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

BURNS & McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	**checked**
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

SUMMARY OF QUANTITIES

project	contract
65679 / 78691	

drawing 2B-4 — rev. 0

file: \GREAT_RIVERS_GREENWAY\65679\Cadd\Civil\Sheets\xx_2B-4_SUMMARY OF QUANTITIES_PACKAGE 1.dgn

DENNIS J. KOSCEILSKI
NUMBER 2005000712
10/21/2015

DENNIS J. KOSCEILSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005000712

Millimeters
Scale For Microfilming
Inches

LIVING REINFORCED SLOPE SYSTEM (WALL #1)

MATCHLINE STATION 78+50

STA 13+25.00 ELEV 486.88
STA 13+50.00 ELEV 486.12
STA 13+75.00 ELEV 469.35
STA 14+00.00 ELEV 470.58
STA 14+25.00 ELEV 471.82
STA 14+50.00 ELEV 473.05
STA 14+75.00 ELEV 474.29
STA 15+00.00 ELEV 475.52
STA 15+25.00 ELEV 476.76
STA 15+50.00 ELEV 477.99
STA 15+75.00 ELEV 479.23
STA 16+00.00 ELEV 480.46
STA 16+25.00 ELEV 481.70
STA 16+50.00 ELEV 482.93
STA 16+75.00 ELEV 484.16
STA 17+00.00 ELEV 485.40
END WALL #1 WALL STA 17+24.80 TRAIL STA 82+57.07 ELEV 486.62

TOP OF WALL
EXISTING GROUND (AT TOE OF WALL)
BOTTOM OF LEVELING PAD
BOTTOM OF WALL

ELEV 448.32
ELEV 448.90
ELEV 449.48
ELEV 449.48
ELEV 449.48
ELEV 449.48
ELEV 449.48
ELEV 450.11
ELEV 450.75
ELEV 451.39
ELEV 452.02
ELEV 453.78
ELEV 455.54
ELEV 457.30
ELEV 459.06
ELEV 460.82
ELEV 467.07
ELEV 473.27

WALL #1 AREA = ~~9,331 SF~~
10,845 SF

*V-DITCH ALONG BASE OF WALL (SEE PLANS SHEETS AND CROSS SECTIONS)

490 485 480 475 470 465 460 455 450 445 440

MATCHLINE STATION 78+50

V-DITCH
48" DECORATIVE PEDESTRIAN GUARDRAIL
6' CHAIN LINK FENCE
LIVING REINFORCED SLOPE SYSTEM (WALL #1)
EXISTING OHE LINE (DND) (TYP)
EXISTING FENCE (DND) (TYP)
EXISTING POWER POLE (DND) (TYP)

14+00 15+00 16+00 17+00
79+00 80+00 81+00 82+00

END WALL #1 WALL STA 17+24.80 TRAIL STA 82+57.07 8.00' LT
CURVE 29
END DSGR 5.50' LT

MSE WALL #2B (SEE DRAWINGS C-307)
SLOPE STABILIZATION WALL #2A (SEE DRAWINGS C-306)
MSD
P.T.I.M.U.E.
SLOPE LIMITS (TYP)
82+07.13 72.89' RT

WALL 1, CURVE 3
PC16+92.32
PI 17+09.94
PT 17+25.69
D 45°31'49.1" (LT)
L 33.38'
T 17.63'
R 42.00'

NORTH
0 20' 40'
SCALE IN FEET

STATE OF MISSOURI
DENNIS J. KOSCIELSKI
NUMBER PE-2005000712
PROFESSIONAL ENGINEER
10/21/2015

DENNIS J. KOSCIELSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005000712

no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

NOTES:

1. GROUND IMPROVEMENTS TO BE USED FOR WALLS 1 AND 2 SUCH AS RAMMED AGGERGATE PIERS, STONE COLUMNS OR DEEP SOIL MIXING TO REDUCE SETTLEMENT.

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATIONS OF ALL UNDERGROUND UTILITIES AS EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS, AND SHALL BE LOCATED PRIOR TO CONSTRUCTION.

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

MSD PROJECT NO: P-0030175-00 MSD BASE MAP NO: 12O, 12P, 13O, 13P

STP-5401 (659) / TIP #5461-11

BURNS McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

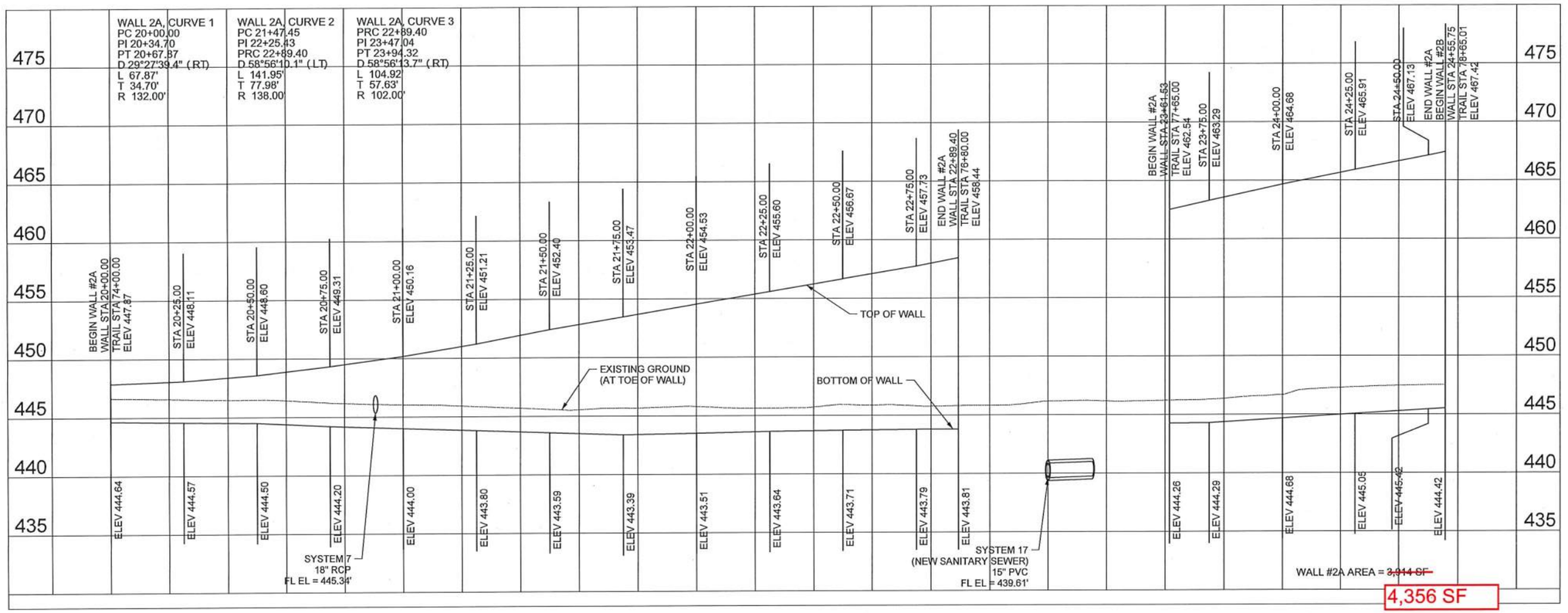
WALL PLAN AND PROFILE

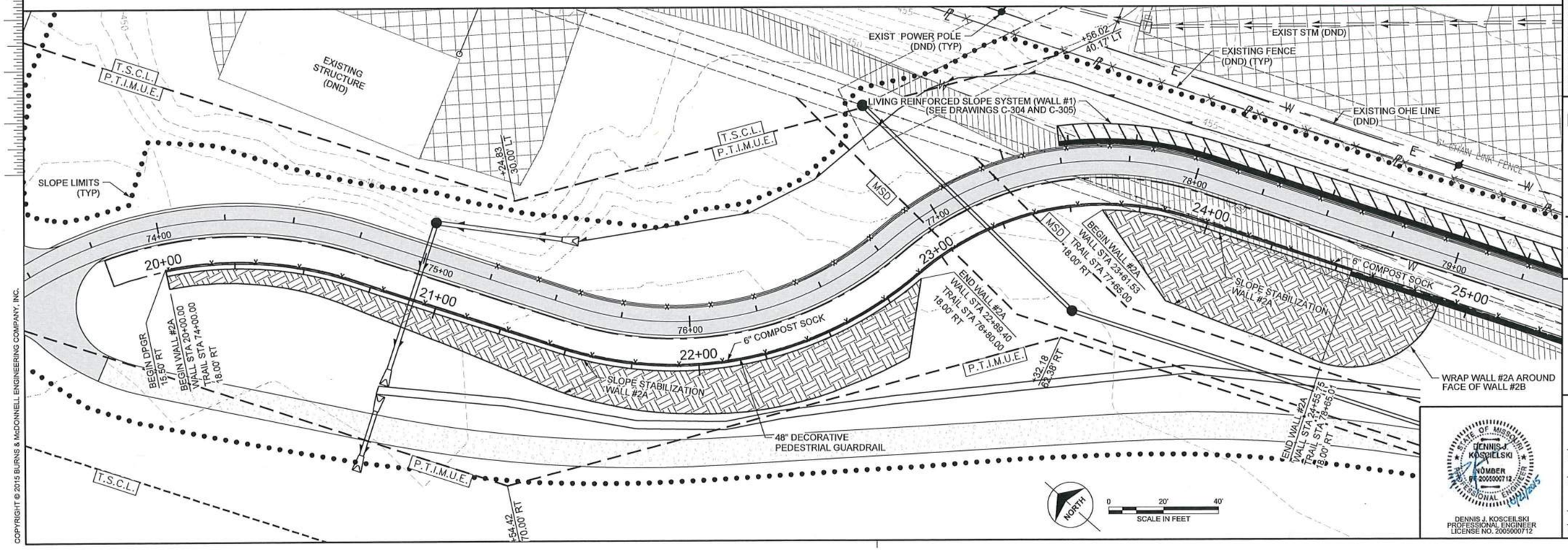
project	contract
65679 / 78691	

drawing **C-305** — rev. **0**

file: EG\GREAT_RIVERS_GREENWAY\78679\Cadd\Civil\Sheets\g_C-305_PWALL.dgn

SLOPE STABILIZATION WALL #2A





no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

NOTES:

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MSD PROJECT NO: P-00301750-00 MSD BASE MAP NO: 12O, 12P, 13O, 13P

STP-5401 (659) / TIP #5461-11

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

BURNS McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

WALL PLAN AND PROFILE

project	contract
65679 / 78691	

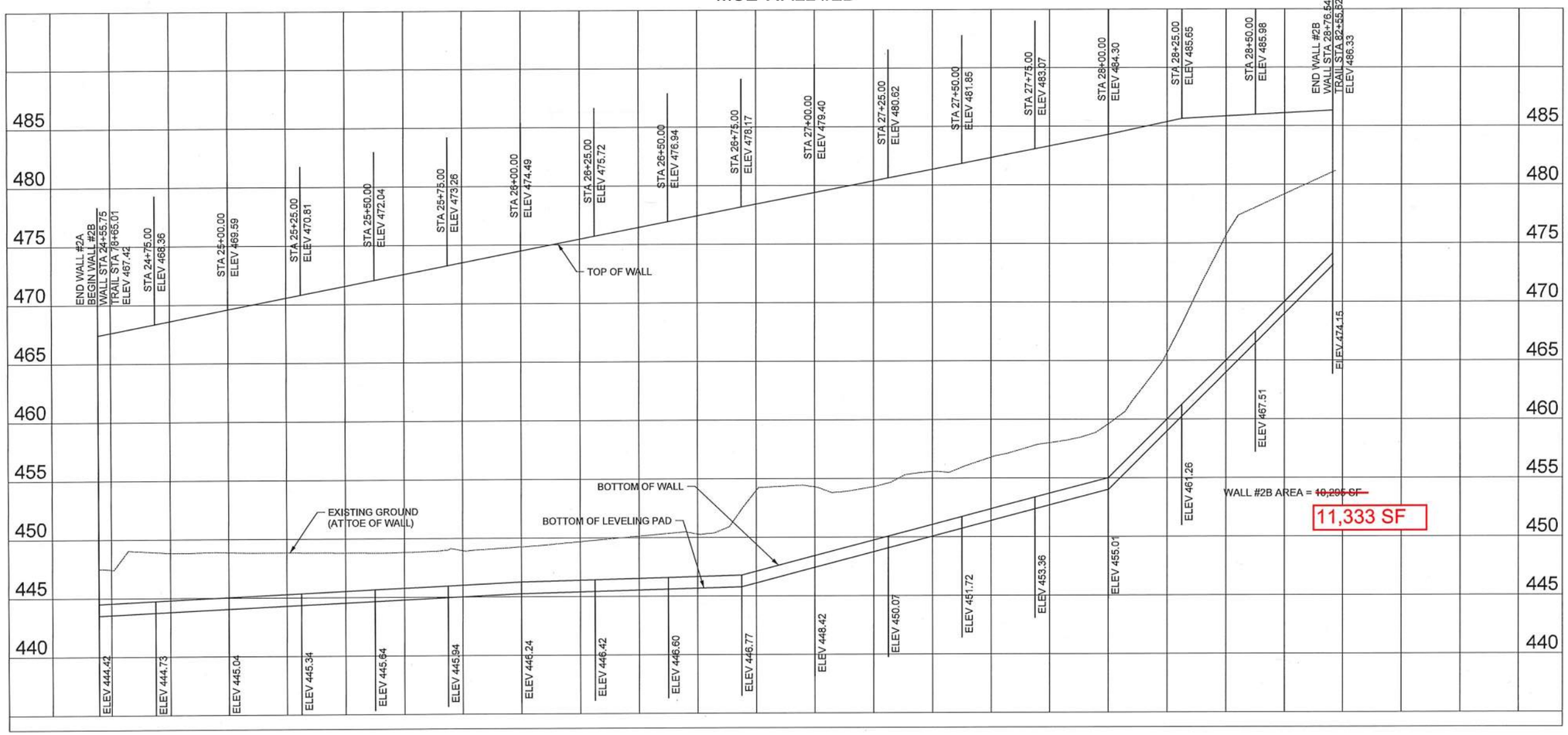
drawing **C-306** — rev. **0**

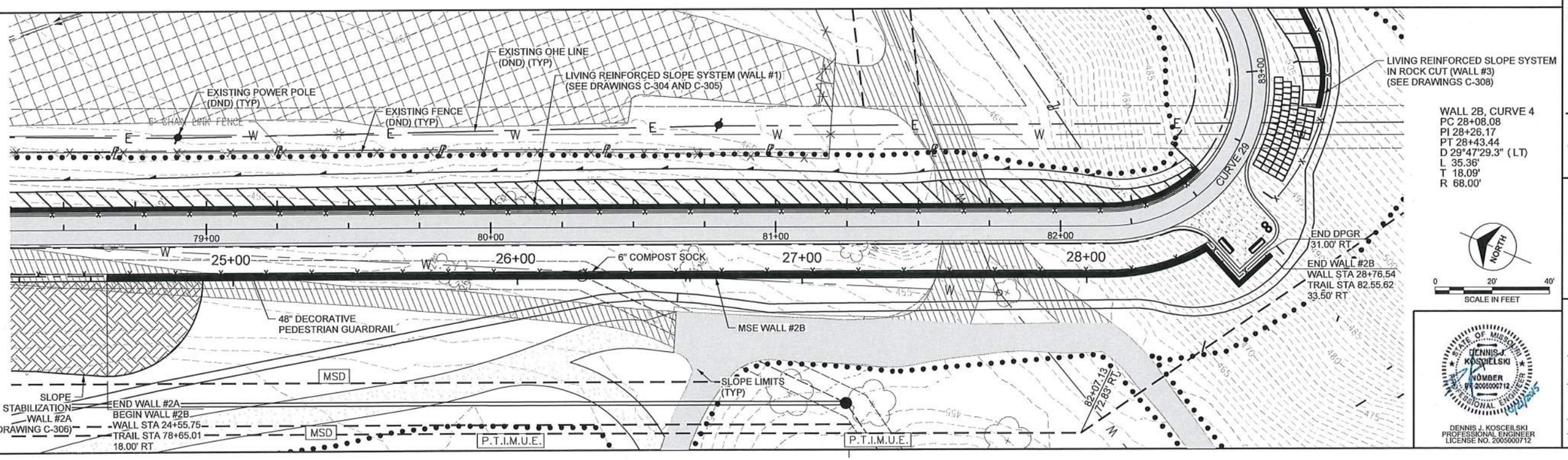
file: [illegible]

DENNIS J. KOSCIELSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005000712

Scale For Microfilming: Millimeters / Inches

MSE WALL #2B





no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

NOTES:

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MSD BASE MAP NO: 120, 12P, 130, 13P

MSD PROJECT NO: P-00301705-00

STP-5401 (659) / TIP #5401-11

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

BURNS McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

WALL PLAN AND PROFILE

project	contract
65679 / 78691	

drawing	rev.
C-307 —	0

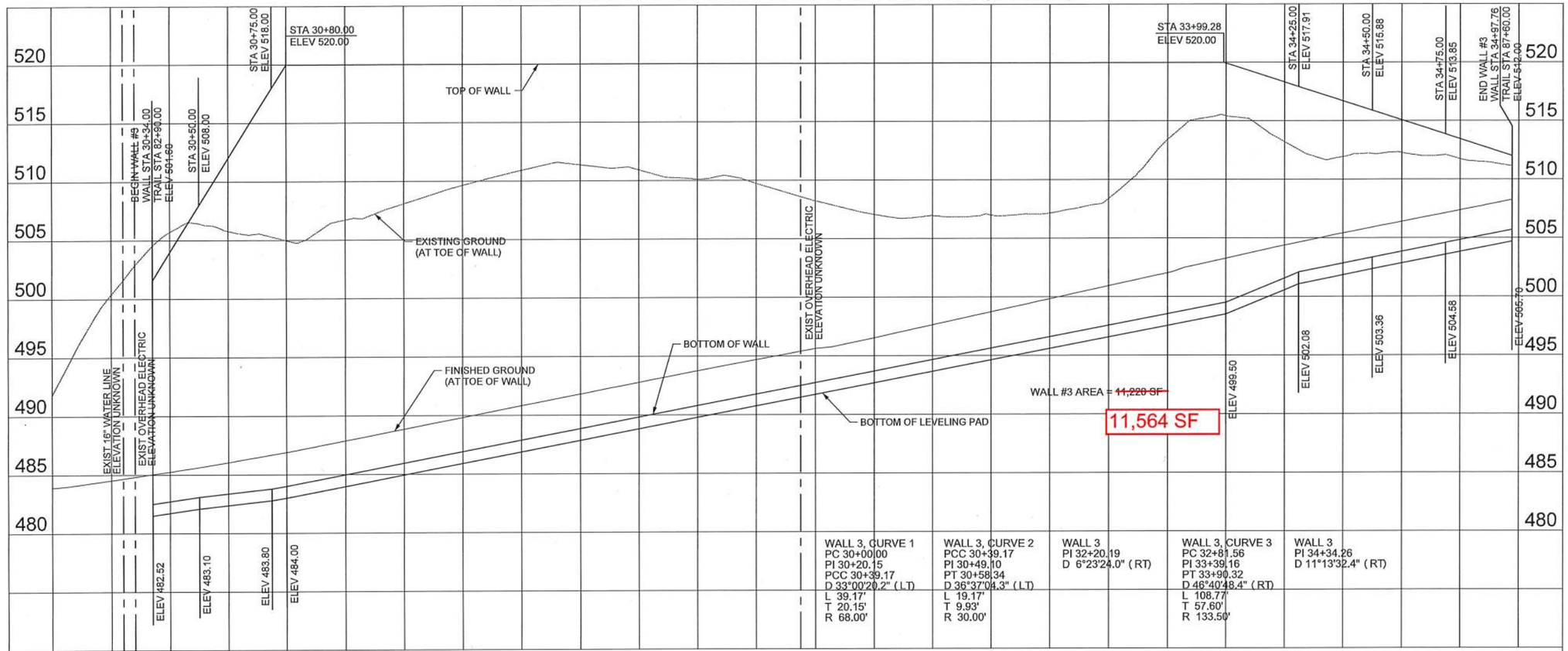
file: E:\GREAT_RIVERS_GREENWAY\65679\Cad\Civil\Sheets\a_C-307_WALL.dgn

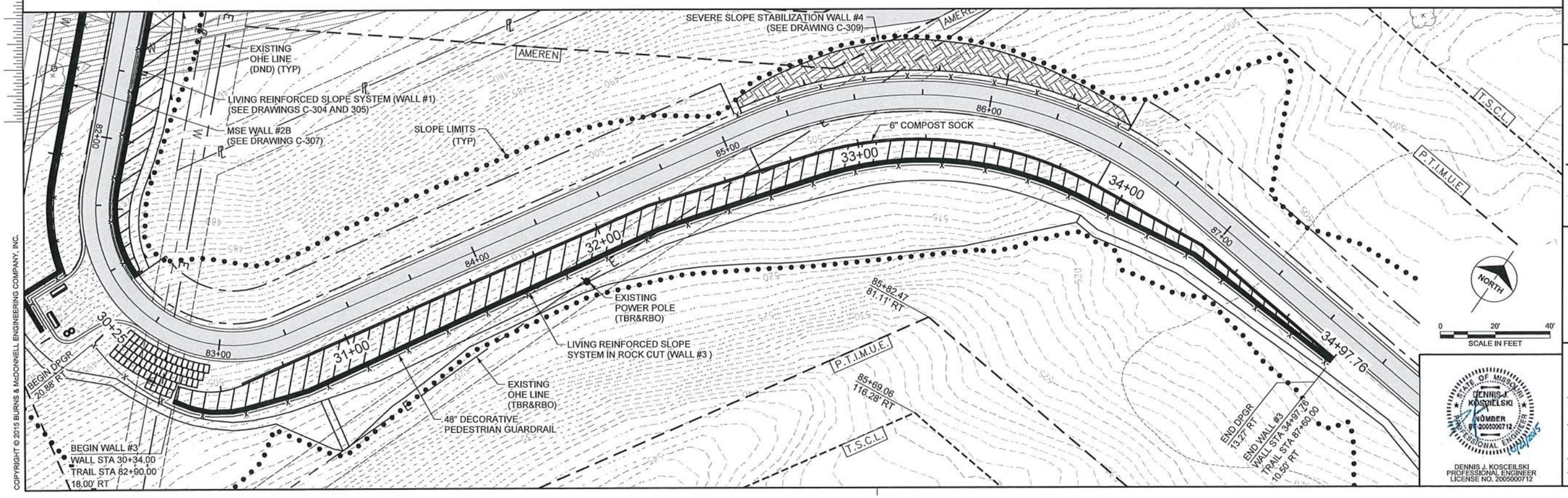
STATE OF MISSOURI
DENNIS J KOSCIELSKI
NUMBER PE 2005007 12
PROFESSIONAL ENGINEER

DENNIS J. KOSCEILSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005007712

Scale For Microfilming
Millimeters
Inches

LIVING REINFORCED SLOPE SYSTEM IN ROCK CUT (WALL #3)





no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

NOTES:

1. CONTRACTOR HAS THE OPTION TO ELIMINATE THIS LIVING REINFORCED SLOPE SYSTEM AND REPLACE WITH A ROCK CUT PER ENGINEER'S APPROVAL.

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATIONS OF ALL UNDERGROUND UTILITIES AS EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS, AND SHALL BE LOCATED PRIOR TO CONSTRUCTION.

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

MSD PROJECT NO: P-0030175-00 MSD BASE MAP NO: 12O, 12P, 13O, 13P

STP-5401 (659) / TIP #5461-11

BURNS McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

WALL PLAN AND PROFILE

project	contract
65679 / 78691	

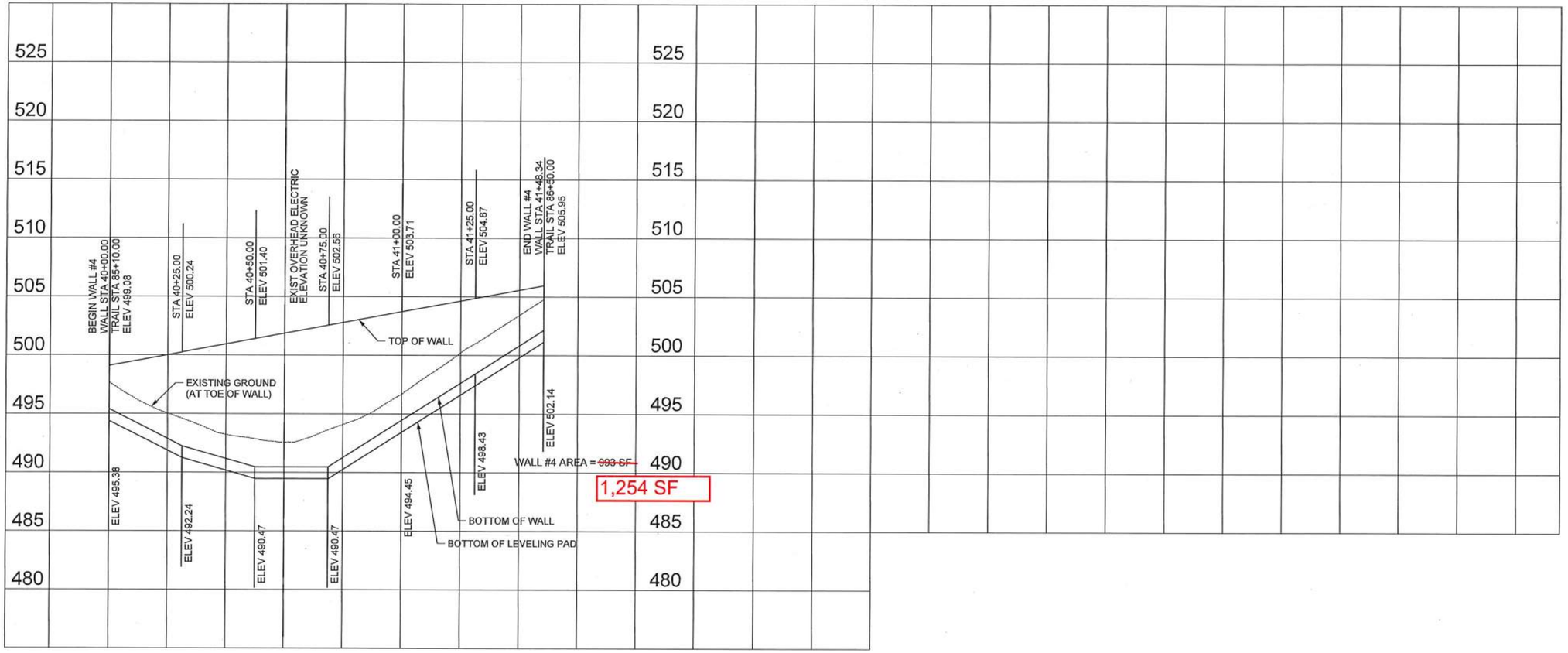
drawing **C-308** — rev. **0**

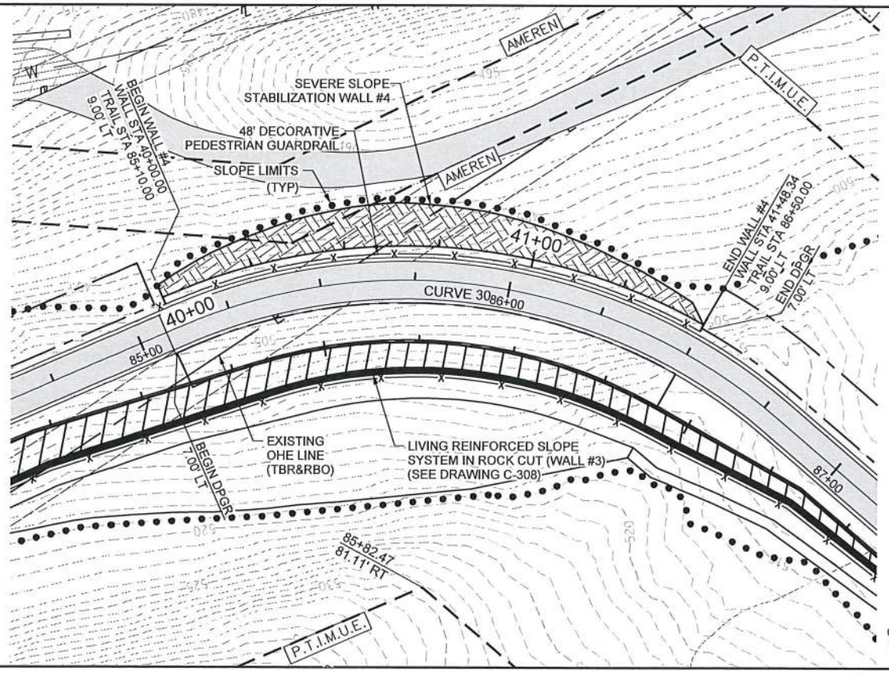
STATE OF MISSOURI
DENNIS J KOSCIELSKI
NUMBER PE-2005000712
PROFESSIONAL ENGINEER

DENNIS J. KOSCIELSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005000712

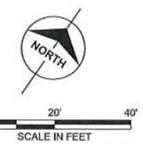
file: E:\GREAT_RIVERS_GREENWAY\65679\CadD\Sheets\C-308_WALL.dgn

SEVERE SLOPE STABILIZATION WALL #4





WALL 4, CURVE 1
PC 40+01.06
PI 40+80.46
PT 41+48.34
D 53°04'12.4" (RT)
L 147.27'
T 79.40'
R 159.00'



0 20' 40'
SCALE IN FEET

no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATIONS OF ALL UNDERGROUND UTILITIES AS EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS, AND SHALL BE LOCATED PRIOR TO CONSTRUCTION.

MSD BASE MAP NO: 12O, 12P, 13O, 13P

MSD PROJECT NO: P-00301775-00

STP-5401 (659) / TIP #5461-11

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

BURNS McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

WALL PLAN AND PROFILE

project	contract
65679 / 78691	

drawing **C-309** — rev. **0**

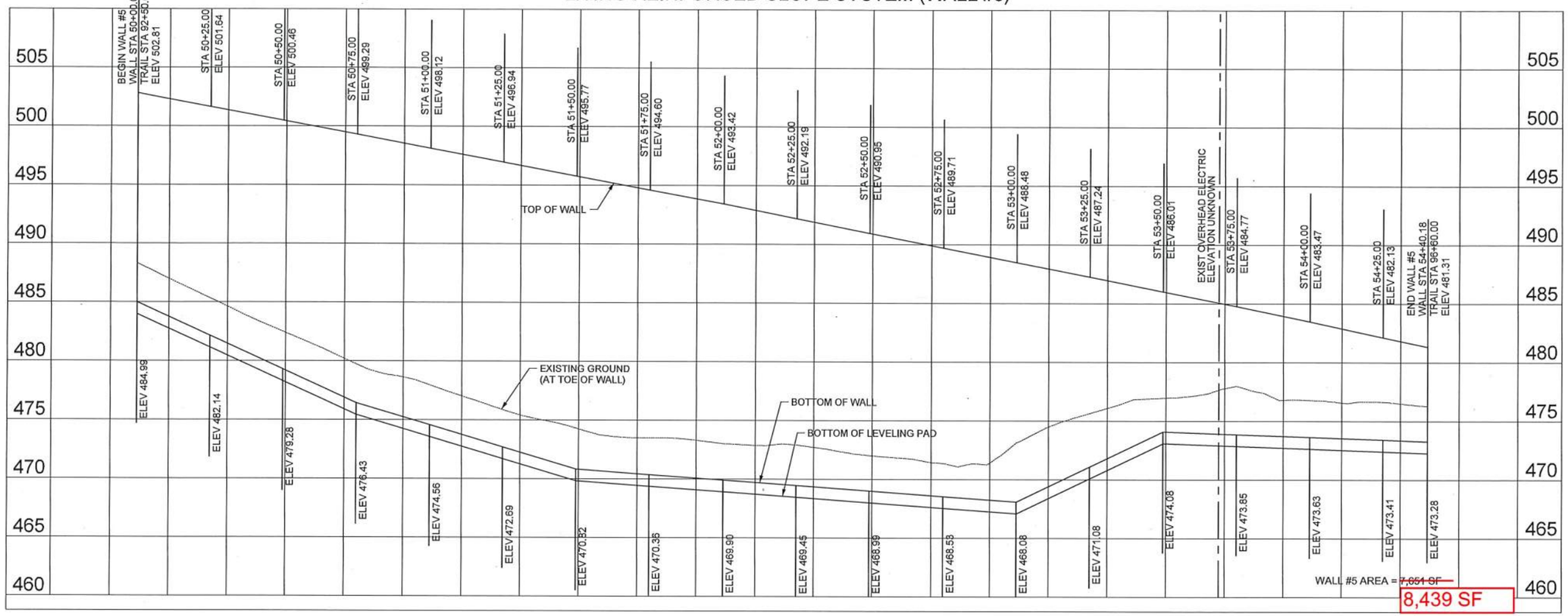
file: EGREAT_RIVERS_GREENWAY\065679\Cadd\CE\Drawings\C-309_WALL.dgn

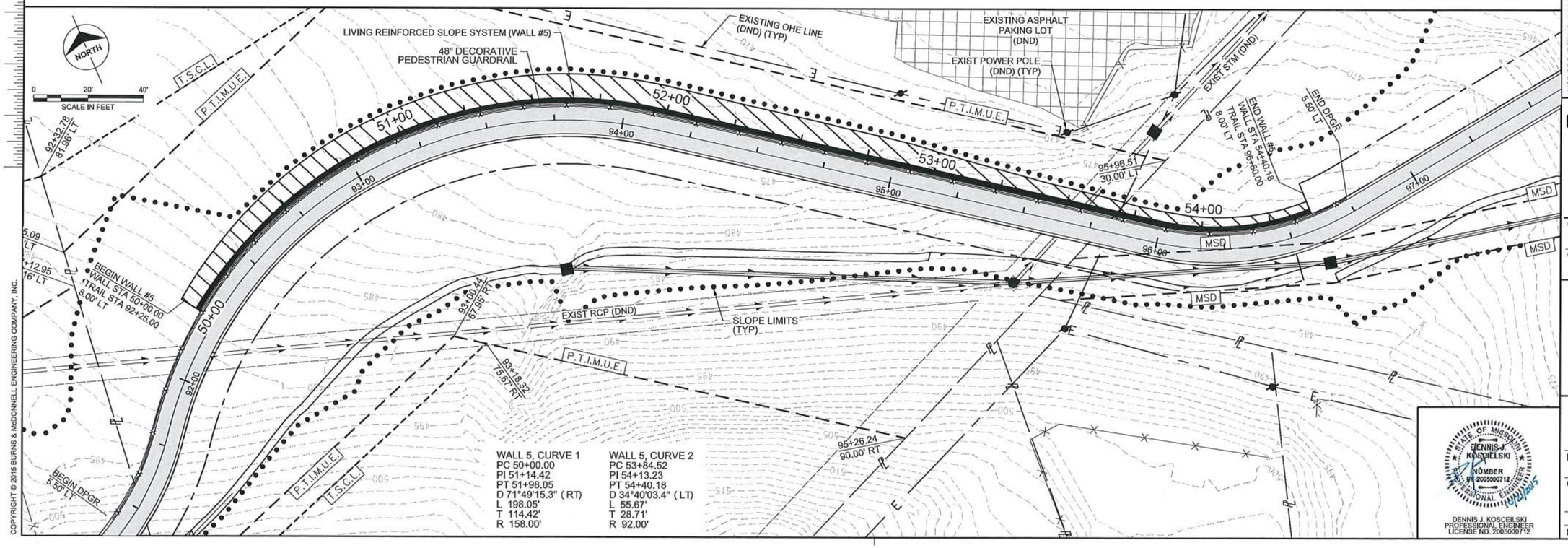
STATE OF MISSOURI
DENNIS J. KOSCIELSKI
NUMBER 2005000712
PROFESSIONAL ENGINEER
10/21/15

DENNIS J. KOSCIELSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005000712

Scale For Microfilming
Millimeters
Inches

LIVING REINFORCED SLOPE SYSTEM (WALL #5)





no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

MSD PROJECT NO: P-00301175-00 MSD BASE MAP NO: 12O, 12P, 13O, 13P

STP-5401 (659) / TIP #5461-11

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PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

BURNS McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

WALL PLAN AND PROFILE

project	contract
65679 / 78691	

drawing **C-310** — rev. **0**

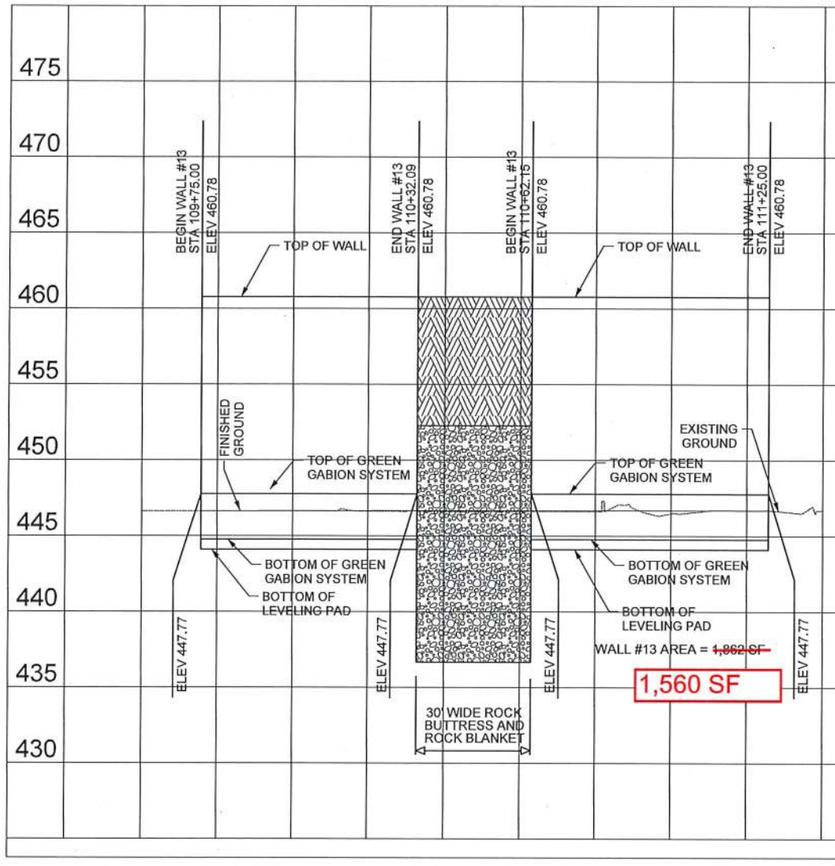
STATE OF MISSOURI DENNIS J. KOSCIELSKI NUMBER 2005000712 PROFESSIONAL ENGINEER

DENNIS J. KOSCIELSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005000712

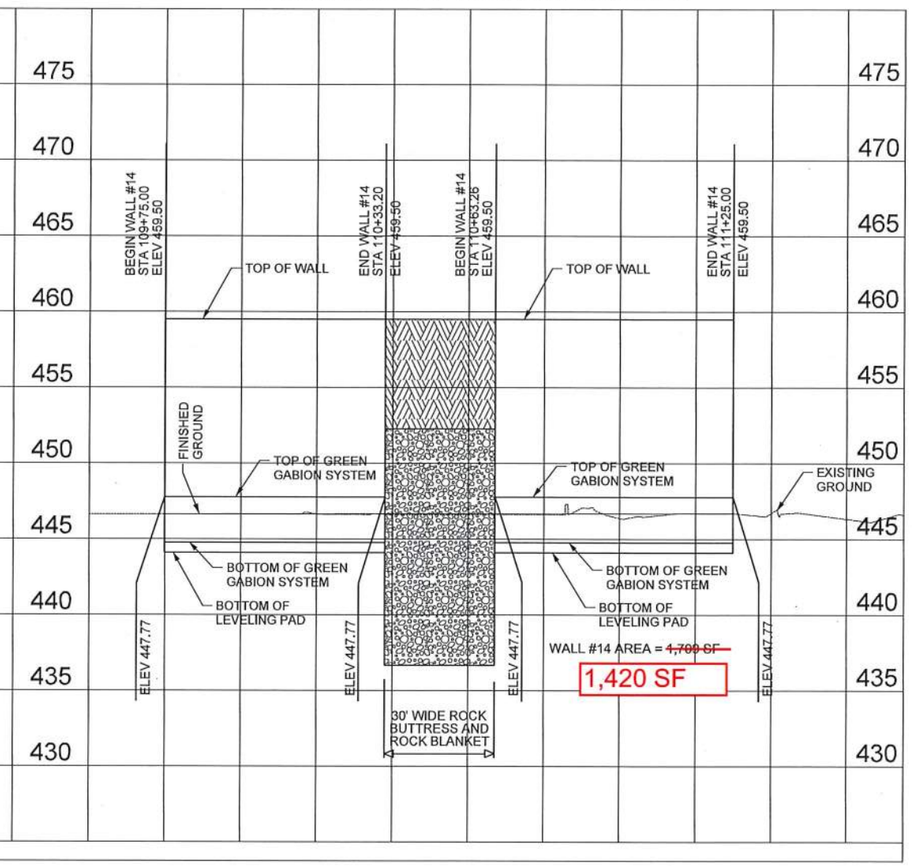
file: [illegible]

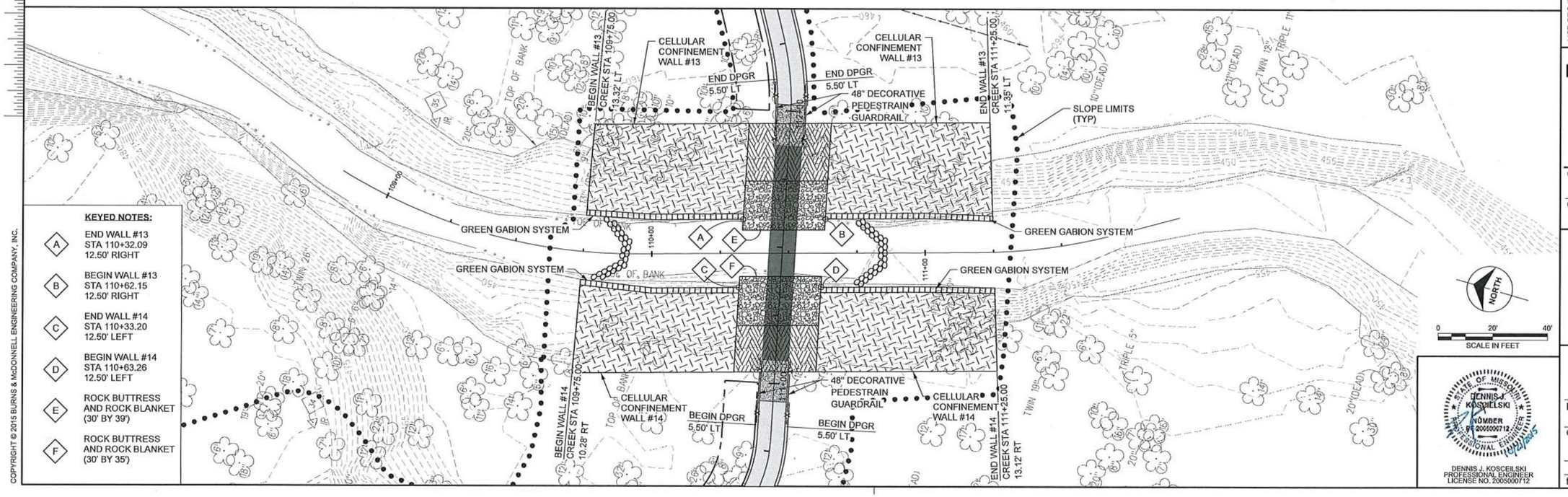
Scale For Microfilming: Millimeters / Inches

CELLULAR CONFINEMENT WALL #13



CELLULAR CONFINEMENT WALL #14





KEYED NOTES:

- A — END WALL #13 STA 110+32.09 12.50' RIGHT
- B — BEGIN WALL #13 STA 110+62.15 12.50' RIGHT
- C — END WALL #14 STA 110+33.20 12.50' LEFT
- D — BEGIN WALL #14 STA 110+63.26 12.50' LEFT
- E — ROCK BUTTRESS AND ROCK BLANKET (30' BY 39')
- F — ROCK BUTTRESS AND ROCK BLANKET (30' BY 35')

no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

MSD BASE MAP NO: 12O, 12P, 13O, 13P

MSD PROJECT NO: P-0030175-00

STP-5401 (659) / TIP #5461-11

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PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

BURNS McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

WALL PLAN AND PROFILE

project	contract
65679 / 78691	

drawing **C-313** — rev. **0**

DENNIS J. KOSCIELSKI — STATE OF MISSOURI — NUMBER PE-2005007712 — PROFESSIONAL ENGINEER — 10/21/2015

DENNIS J. KOSCIELSKI
PROFESSIONAL ENGINEER
LICENSE NO. 2005007712

file: I:\GREAT_RIVERS_GREENWAY\2067\Cad\C3-Sheets\c_C-313_WALL.dgn

Scale For Microfilming: Millimeters / Inches

JSP 21 – CLEARING AND GRUBBING

Description.

Clearing and Grubbing shall consist of clearing, grubbing, removing and disposing of trees, bushes, and other vegetation within the disturbance limits of the project site, except such vegetation as is designated to remain or to be selectively treated.

All invasive species identified within the trail construction limits shall be removed by Contractor. This applies in areas where trees are to remain. Invasive species include Japanese Honeysuckle, Johnson Grass, Kudzu and other species identified by City of Maryland Heights.

Clearing and Grubbing areas are summarized on sheet 2B-1. Quantities for areas outside of the limits on demolition sheets are included on the exhibits in this specification.

Materials.

Backfill material for stump holes shall be clean clay, silt, loam or sand, free of particles exceeding 2" diameter; except that if any stump holes lie within the storm sewer trench limits, the backfill shall be granular backfill material placed up to trench bottom elevation in accordance with the St. Louis Metropolitan Sewer District Standard Specifications.

Construction Requirements.

All work shall conform to St. Louis County Standard Specifications for Highway Construction, Section 201, MSD for granular backfill and other applicable sections.

When removing trees, Contractor shall take precautions not to damage adjacent property.

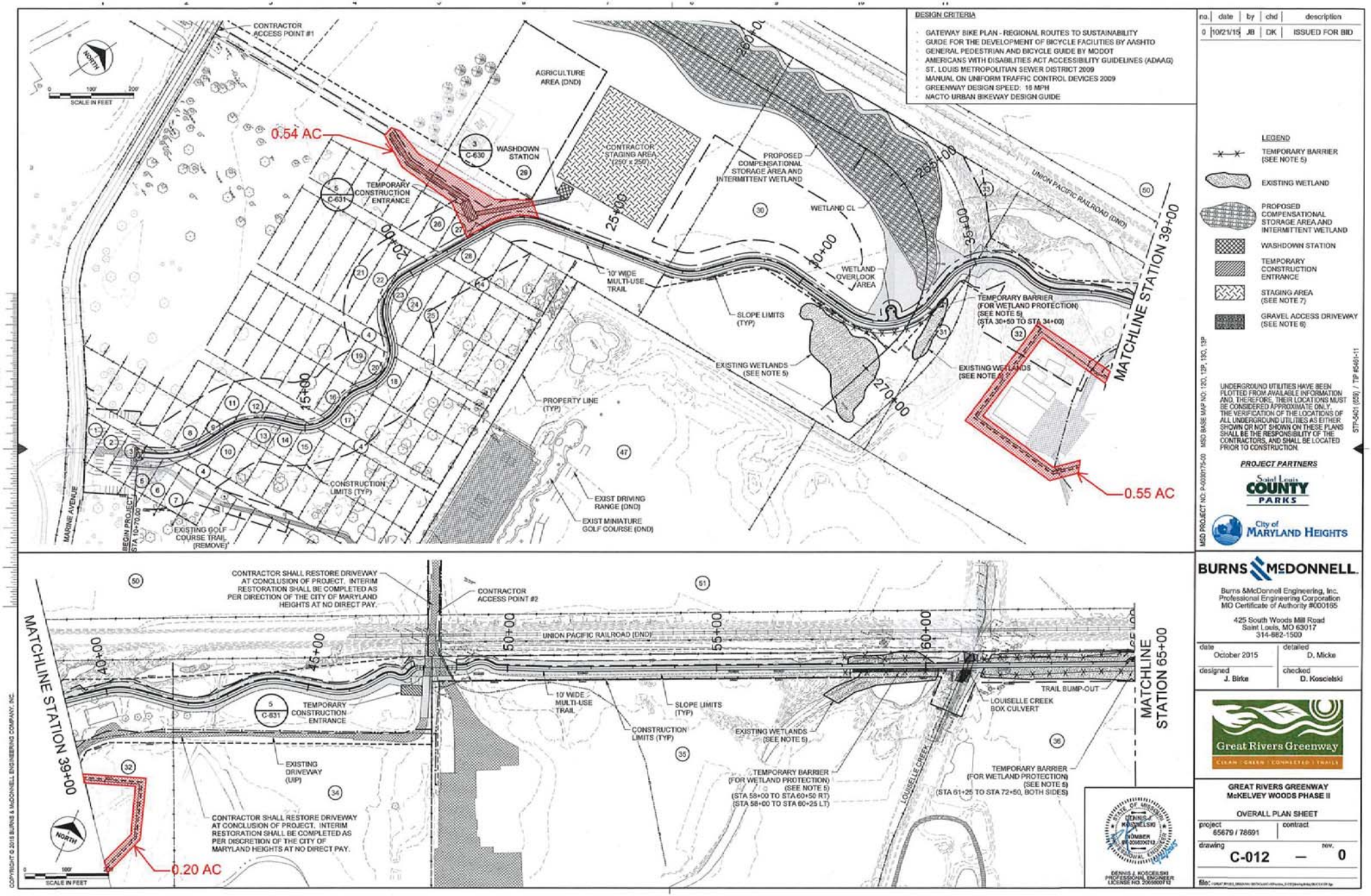
Method of Measurement.

Each section of "**Clearing and Grubbing**" completed be measured by the nearest tenth of an acre and shall include all labor and materials necessary to complete the "**Clearing and Grubbing**".

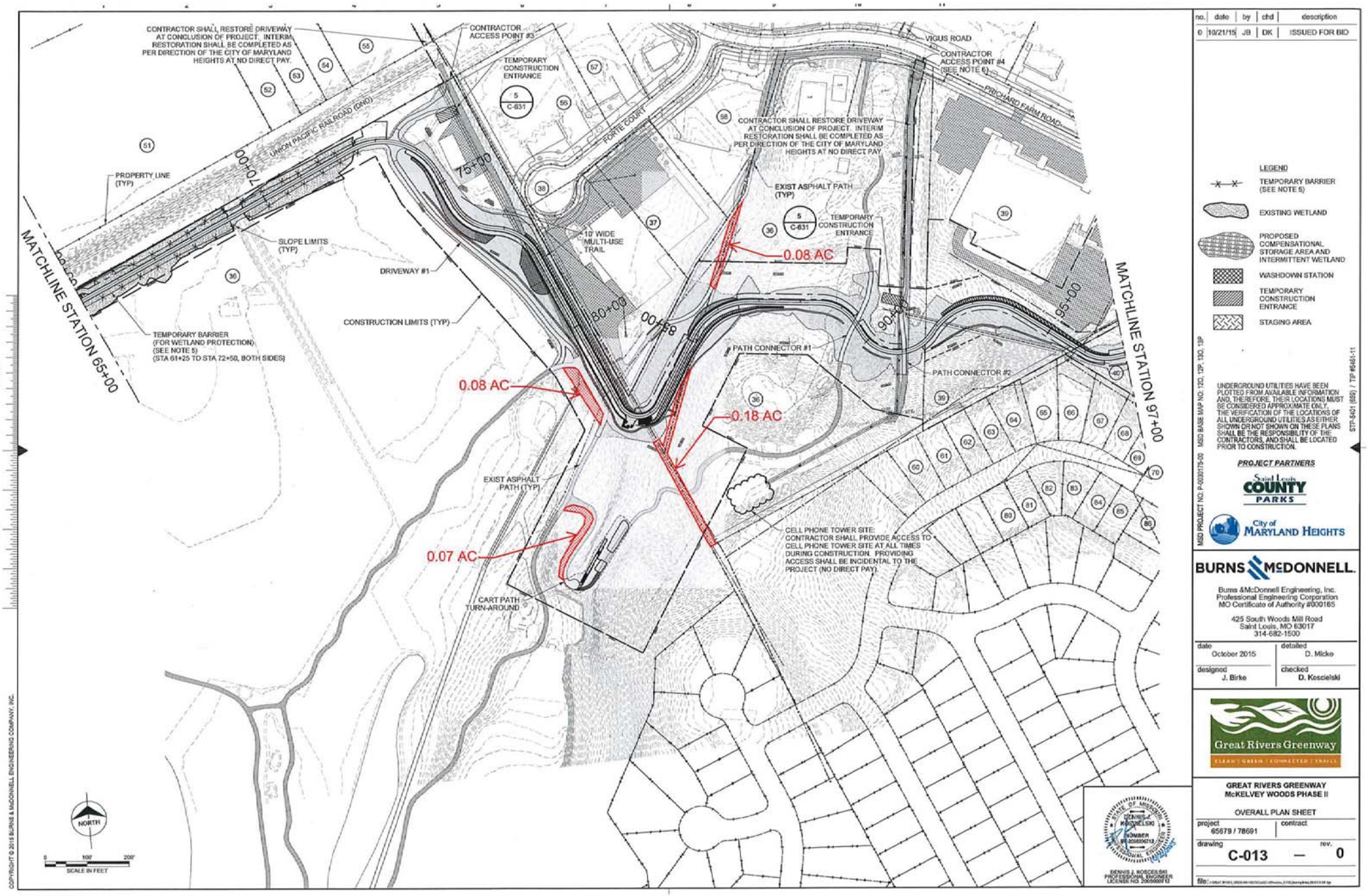
Basis of Payment.

Payment for "**Clearing and Grubbing**" will be made at the contract unit bid price per acre, and paid for under item number: JSP-21. Cost for "Clearing and Grubbing" shall include all costs for stump removal, hauling, mulching, labor, materials, backfill, etc.

<<END OF JOB SPECIAL PROVISION 21>>

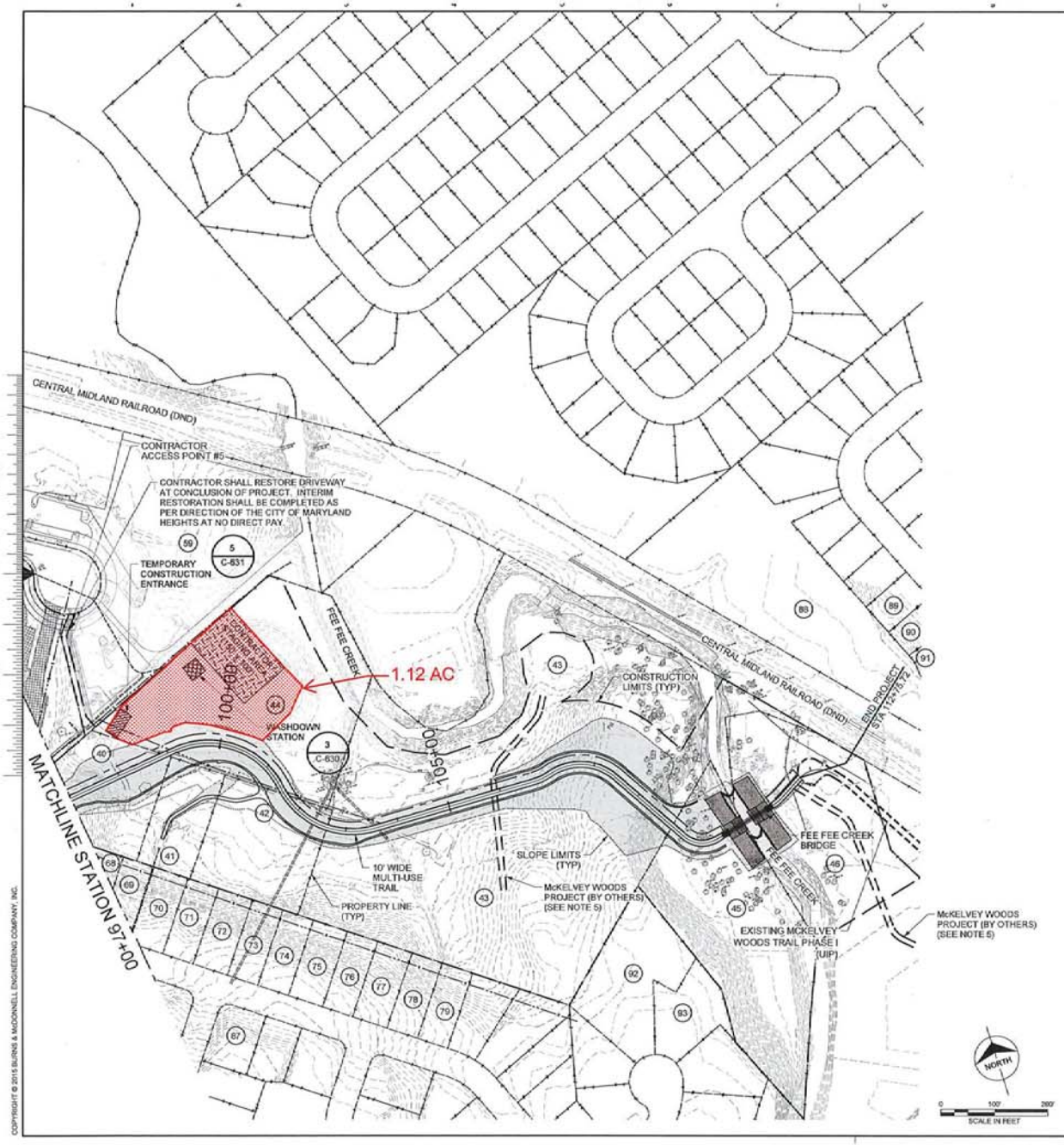


JSP 21 EXHIBIT - SHEET 1 OF 3



no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

JSP 21 EXHIBIT - SHEET 2 OF 3



no.	date	by	chd	description
0	10/21/15	JB	DK	ISSUED FOR BID

LEGEND

- TEMPORARY BARRIER (SEE NOTE 5)
- EXISTING WETLAND
- PROPOSED COMPENSATIONAL STORAGE AREA AND INTERMITTENT WETLAND
- WASHDOWN STATION
- TEMPORARY CONSTRUCTION ENTRANCE
- STAGING AREA (SEE NOTE 6)

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATIONS OF ALL UNDERGROUND UTILITIES AS EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS, AND SHALL BE LOCATED PRIOR TO CONSTRUCTION.

MSD PROJECT NO: P-0039175-00 MSD BASE MAP NO: 12O, 12P, 19O, 19P STP-5401 (059) / TIP #5401-11

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

BURNS McDONNELL

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
October 2015	D. Micke
designed	checked
J. Birke	D. Koscielski

Great Rivers Greenway

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

OVERALL PLAN SHEET

project	contract
65679 / 78691	
drawing	rev.
C-014	0

file:

STATE OF MISSOURI DENNIS J. KOSCIELSKI NUMBER 2003006712 PROFESSIONAL ENGINEER

DENNIS J. KOSCIELSKI PROFESSIONAL ENGINEER LICENSE NO. 2003006712

JSP-89 – TEMPORARY BARRIER

01. SCOPE

This work shall include furnishing and erecting Temporary Barrier around existing wetlands for protection.

Temporary Barrier shall be erected prior to beginning earthwork on the project.

Temporary Barrier is specified adjacent to existing wetlands. These wetlands are prohibited from any Contractor access.

Where called for on the Project Drawings, in the details, or as instructed by the Project Engineer, erect Temporary Barrier.

JSP 18 – Temporary Fence shall be paid for under this item.

02. MATERIALS

Polyethylene fencing of a good commercially available quality, 5 feet in height, fluorescent orange in color, capable of withstanding exposure to the sun and elements will be required to form a barrier around existing wetlands. Temporary posts may be of any kind which will adequately support the attached fence fabric free of distortion, sagging, gaping and open areas at the bottom of the fence. Temporary posts must be driven in place and the holes backfilled upon removal. Additional fence post installation may be required by the Engineer when deemed necessary. Fencing shall be so placed as to completely protect all designated areas.

Temporary Barrier quantity breakouts per section of the project are listed in the table below.

Sheet or Approximate Station Range	Temporary Barrier (LF)
C-012	1,575
C-013	2,250
STA 11+00 to STA 48+00 (See JSP 18)	8,000
STA 80+00 to STA 90+00 (See JSP 18)	2,000
L-101	382
L-102	610
L-103	345
L-104	0
L-105	578
L-106	738
L-107	159
L-108	531

Sheet or Approximate Station Range	Temporary Barrier (LF)
L-109	500
L-110	464
L-111	583
L-112	838
L-113	1,040
L-114	544
L-115	976
L-116	710
L-117	987
L-118	592
L-119	353
L-120	1,200
L-121	1,185
TOTAL	**27,140**

03. EXECUTION

Contractor shall carefully erect Temporary Barrier as indicated on the plans and at locations designated by Engineer. Contractor shall verify the location of the Temporary Barrier to erect.

All materials and construction requirements shall conform to the Saint Louis County current edition of Standard Specifications for Highway Construction. *(Section 612.60)*

04. METHOD OF MEASUREMENT

Each location of **"Temporary Barrier"** completed shall be measured to the nearest linear foot.

05. BASIS OF PAYMENT

Payment for **"Temporary Barrier"** will be made by the linear foot at the contract unit bid price, and paid for under item number: **JSP-89**. JSP 18 – Temporary Fence shall be paid for under this item. Cost for "**Temporary Barrier**" shall include all costs for staking, fencing, equipment, materials, labor, etc.

<< End of JSP-89 >>

JSP 01C – Order of Work

1.0 Description. The project requires a specific Order of Work. Contractor's work shall follow the sequence specified unless otherwise directed by Engineer or revised Order of Work proposed by Contractor is approved by Engineer.

A. **Notice to Proceed 1**: Contractor Furnished Tree Clearing

Tree clearing shall take place from November 1 to March 31 inclusive of any year. Tree clearing shall take place during dates listed in the Individual 404 permit, mitigating impacts to endangered species. Tree clearing to be completed on the entire project limits under Notice to Proceed 1.

Anticipated time period for NTP 1 work is from March 1, 2017 thru March 31, 2018.

If Contractor clears trees on any date outside the permitted dates, Contractor shall be responsible for all permitting coordination and expenses associated with obtaining approval from state, federal, and local agencies having authority.

B. **Notice to Proceed 2:** Contractor may not begin any work between stations 36+00 to 113+00 (end of project) until authorized by Construction Manager.

Anticipated time period for NTP 2 work is from March 1, 2017 thru April 30, 2018.

Crystal Springs Quarry Tee Box Reconstruction Requirement:
Tee Box Reconstruction on Crystal Spring Quarry Golf Course shall only be allowed to be constructed from November 1 to March 31 inclusive of any year. Tee box shall be kept open to golf course users at all other times. This includes all work shown on Sheet C-121 and C-505A, Detail 1. Work on the tee box is only permitted at this time during the off-season for the golf course.

C. **Notice to Proceed 3:** Contractor may not begin any work between stations 10+00 (beginning of project) to 36+00 until authorized by Construction Manager. Saint Louis County requested Order of Work, Item C for the project.

Anticipated time period for NTP 3 work is from September 1, 2017 thru April 30, 2018.

D. Contractor Furnished Structural Slope/Retaining Wall Topographic Survey's

After completing tree clearing Item A and Item B, Contractor shall complete topographic surveys for retaining walls. Submit topographic survey to Engineer prior to beginning Contractor Furnished Excavation and Embankment on the project in areas of topographic surveys. See JSP-54 for locations of topographic surveys.

E. Contractor Furnished Geotechnical Investigations for Global Stability Analysis

After completing tree clearing Item A and Item B; Contractor to complete at least one boring per retaining wall or structural slope for Contractor furnished global stability analysis.

F. Issued for Construction Structural Slope/Retaining Wall Layouts by City of Maryland Heights

Before beginning ~~Item J~~ Item L, Engineer to issue retaining wall layouts and reinforced soil slopes drawings for construction. Layouts to be completed using the topographic survey provided in ~~Item B~~ Item D.

G. Contractor Furnished Structural Slope/Retaining Wall Layout Shop Drawings & Calculations

Before beginning ~~Item J~~ Item L, Contractor to issue shop drawings, structural calculations and global stability analysis to Engineer.

H. By Others Utility Shutoff: Missouri American Water

Before ~~Item H, I or J~~ Item J, K or L Missouri American Water shall terminate water main service through the project grading limits.

I. By Others Utility Relocation: Ameren Missouri
After completing tree clearing (Item A), Ameren Missouri to relocate power lines as indicated on drawings. This work shall be completed prior to beginning ~~I or J~~ Items K or L in the immediate vicinity of the power line relocation.

J. Contractor Furnished Wick Drain Installation

All wick drain locations noted in the plans shall be installed prior to beginning ~~Item I~~ Item K.

K. Contractor Furnished Excavation & Embankment

After ~~Items A through H~~ Items D through J are completed Contractor can complete all Excavation and Embankment on the project. In areas of no coordination with ~~Items A through H~~ Items D through J, Contractor may proceed with work with Engineer's permission.

L. Contractor Furnished Settlement Gauges

Settlement gauges shall be installed prior to installing reinforced slopes and retaining walls in the wick drain area.

M. Contractor Furnished Reinforced Slopes/Retaining Walls

After ~~Items E and G~~ Items G and J are completed, Contractor may install retaining walls.

N. Contractor Furnished Piezometer

Piezometers to be installed prior to completing grading between stations 107+00 to 111+00.

O. Contractor Furnished Drainage Installation

Drainage installation to be completed any time after ~~Item B~~ Item D is completed and NTP is provided in items B and C for each area of work.

P. Contractor Furnished Rock Excavation for Water Line Utility Relocation

Rock excavation for water line may commence after ~~Item F~~ Item H is completed by Missouri American Water.

Q. By Others Utility Relocation: Missouri American Water

After ~~Item N~~ Item P is completed Missouri American Water will install new water main through the project site. Contractor shall coordinate construction with Missouri American Water.

R. Contractor Furnished Fine Grading

Fine grading to be completed after utility relocation is completed in ~~Item O~~ Item Q.

S. Contractor Furnished Settlement of Embankment

After ~~Items H, K and M~~ Items J, M and O are completed the project will begin Contractor Furnished Settlement of Embankment. Contractor furnishes settlement by loading the wick drain areas with weight from the completed reinforced soil slopes and retaining walls. ~~Item Q~~ Item S is anticipated to take approximately 90-180 calendar days to complete.

T. City Furnished Monitoring of Embankment

Engineer to monitor the settlement gauges after ~~Item Q~~ Item S is completed. Once Engineer determines that settlement in wick drain area is stabilized Contractor shall begin work on ~~Item S~~ Item U. Note: surveying of settlement gauges and reporting to Construction Manager/Engineer by Contractor, see JSP-27.

U. Contractor Furnished Trail Pavement Installation

Contractor may not proceed with ~~Item S~~ Item U until ~~Items Q and R~~ Items S and T are completed and approved by City.

V. Contractor Furnished Installation of Stormwater ~~Credits~~ BMP's

Stormwater ~~Credits~~ BMP's (MSD Best Management Practices) to be completed after trail pavement is installed in ~~Item S~~ Item U. The plantings shall be completed according to calendar dates specified in stormwater ~~credit~~ BMP JSP's.

W. Contractor Furnished Substantial Completion

Substantial Completion shall not be completed until the following pay items are completed and accepted by the City of Maryland Heights for NTP1, NTP2 and NTP3.

ITEM NO.	BID ITEM	DESCRIPTION
1	JSP-20	DEMOLITION AND REMOVAL OF BUILDINGS
2	JSP-21	CLEARING AND GRUBBING
3	JSP-22	TEMPORARY TREE PROTECTION
4	JSP-23	REMOVAL OF IMPROVEMENTS
5	JSP-24	FULL DEPTH SAW-CUT
6	JSP-25	CLASS "A" EXCAVATION (MoDOT Standard Drawing 203.00E)
7	JSP-26	CLASS "C" ROCK EXCAVATION
8	JSP-27	SETTLEMENT GAUGES (StL Co H&T Standard Drawing C204.00)
9	JSP-28	COMPACTING EMBANKMENT (MoDOT Standard Drawing 203.00E)
10	JSP-29	CLASS 3 EXCAVATION
11	JSP-30	DITCHING
12	JSP-31A	TYPE 5 AGGREGATE BASE (4-INCH THICK)
13	JSP-31B	TYPE 5 AGGREGATE BASE (6-INCH THICK)
14	JSP-31C	TYPE 5 AGGREGATE BASE (8-INCH THICK)
15	JSP-32	GRAVEL (A)
16	JSP-33A	TYPE "C" BITUMINOUS PAVEMENT(2-INCH SURFACE)
17	JSP-33B	CLASS C PARTIAL DEPTH PAVEMENT REPAIR
18	JSP-33C	TYPE "X" BITUMINOUS PAVEMENT (4-INCH BASE)
19	JSP-34	PRIME COAT
20	JSP-35	10-INCH NON-REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
21	JSP-36A	MSD AREA INLET (StL Co H&T Standard Drawing C604.31)
22	JSP-36B	MSD MANHOLE (StL Co H&T Standard Drawing C604.30)
23	JSP-37A	TYPE 1 ROCK LINING
24	JSP-37B	TYPE 2 ROCK LINING
25	JSP-38	REPLACE EXISTING CHAIN-LINK FENCE GATE
26	JSP-39	DECORATIVE PEDESTRIAN GUARDRAIL
27	JSP-40	ALUMINUM HANDRAIL FOR STEPS
28	JSP-41A	8' GALVANIZED CHAIN-LINK FENCE
29	JSP-41A	8' GALVANIZED CHAIN-LINK FENCE WITH BARBED WIRE
30	JSP-41B	12' VINYL COATED CHAIN-LINK FENCE WITH MESH SCREEN
31	JSP-41C	GALVANIZED CHAIN-LINK DOUBLE SWING GATE WITH BARBED WIRE (8-FOOT HEIGHT)

32	JSP-41D	VINYL COATED CHAIN-LINK SINGLE SWING GATE (12-FOOT HEIGHT)
33	JSP-43	CONCRETE ADA RAMP (7-INCH THICK)
34	JSP-44	DETECTABLE WARNING PANELS (StL Co H&T Standard Drawing C608.40)
35	JSP-45A	CONCRETE CURB
36	JSP-45B	CONCRETE SIDEWALK (6-INCH THICK)
37	JSP-45C	CONCRETE STEPS
38	JSP-46A	FURNISHING MoDOT TYPE 1 ROCK BLANKET
39	JSP-46B	PLACING MoDOT TYPE 1 ROCK BLANKET
40	JSP-47A	TRAIL SIGNS
41	JSP-47B	ROADWAY SIGNS
42	JSP-48	TEMPORARY CONCRETE TRAFFIC BARRIER (MoDOT Standard Drawing 617.20C)
43	JSP-49	MOBILIZATION
44	JSP-50A	24" PERMANENT WHITE PAVEMENT MARKING
45	JSP-50B	6" PERMANENT WHITE PAVEMENT MARKING
46	JSP-50C	SOLID GREEN PAVEMENT MARKING
47	JSP-51	PIEZOMETERS
48	JSP-52	FRISBEE GOLF TEE AND HOLE RELOCATION
49	JSP-53	CONSTRUCTION STAKEOUT
50	JSP-54	TOPOGRAPHIC SURVEYS
51	JSP-55	GEOTECHNICAL BORINGS FOR WALLS AND SLOPES
52	JSP-56A	LIVING REINFORCED SLOPE SYSTEM (Walls 1 and 5) (20 DEGREE BATTER)
53	JSP-56B	LIVING REINFORCED SLOPE SYSTEM IN ROCK CUT (Wall 3) (20 DEGREE BATTER)
54	JSP-57A	SLOPE STABILIZATION WALL (Wall 2A) (56 DEGREE BATTER)
55	JSP-57B	SEVERE SLOPE STABILIZATION WALL (Wall 4) (45 DEGREE BATTER)
56	JSP-58A	CELLULAR CONFINEMENT WALL (Walls 9, 10, 11 and 12) (BATTER VARIES 8 DEGREES TO 63 DEGREES)
57	JSP-58B	CELLULAR CONFINEMENT WALL (Walls 13 and 14) (Includes compost socks) (68 DEGREE BATTER)
58	JSP-59	MSE WALL (Wall 2B) (5 DEGREE BATTER)
59	JSP-60	CLASS "C" ROCK EXCAVATION FOR WALLS
60	JSP-61A	GREEN GABION SYSTEM
61	JSP-61B	GREEN GABION SLOPE PROTECTION
62	JSP-62	WICK DRAINS
63	JSP-63	12-INCH SAND BASE

64	JSP-64	UNDERDRAIN SYSTEM FOR WICK DRAINS
65	JSP-65A	12-INCH CLASS III RCP
66	JSP-65B	18-INCH CLASS III RCP
67	JSP-65C	24-INCH CLASS III RCP
68	JSP-65D	36-INCH CLASS III RCP
69	JSP-65E	42-INCH CLASS III RCP
70	JSP-66A	15-INCH POLY-VINYL CHLORIDE PIPE
71	JSP-67	BY-PASS PUMPING FOR SANITARY SEWER
72	JSP-68	ROCK EXCAVATION IN TRENCH
73	JSP-69A	2" PVC SDR 35 WATER LINE
74	JSP-69B	3" PVC SDR 35 WATER LINE
75	JSP-70A	18-INCH PRE-CAST CONCRETE FLARED END SECTION (StL Co H&T Standard Drawing C732.00)
76	JSP-70B	24-INCH PRE-CAST CONCRETE FLARED END SECTION (StL Co H&T Standard Drawing C732.00)
77	JSP-70C	36-INCH PRE-CAST CONCRETE FLARED END SECTION (StL Co H&T Standard Drawing C732.00)
78	JSP-70D	42-INCH PRE-CAST CONCRETE FLARED END SECTION (StL Co H&T Standard Drawing C732.00)
79	JSP-71A	18-INCH CHECK VALVE AND HEADWALL (MoDOT Standard Drawing 604.10E)
80	JSP-71B	36-INCH CHECK VALVE AND HEADWALL (MoDOT Standard Drawing 604.13E)
81	JSP-72	CLASS 4 EXCAVATION
82	JSP-73	GRANULAR BACKFILL
83	JSP-74	CLASS B-1 CONCRETE (CULVERTS)
84	JSP-75	REINFORCING STEEL (BRIDGES)
85	JSP-76	CLASS 1 EXCAVATION
86	JSP-77	BRIDGE APPROACH SLAB
87	JSP-78	STRUCTURAL STEEL PILES (12 IN)
88	JSP-79	PILE POINT REINFORCEMENT
89	JSP-80	CLASS B CONCRETE (SUBSTRUCTURE)
90	JSP-81	SLAB ON STEEL
91	JSP-82	PROTECTIVE COATING - CONCRETE BENTS AND PIERS (EPOXY)
92	JSP-83	EXPANSION DEVICE (FLAT PLATE)
93	JSP-84	VERTICAL DRAINS AT END BENTS
94	JSP-85	PEDESTRIAN TRUSS SUPERSTRUCTURE
95	JSP-86	WASHDOWN STATION (StL Co Sediment and Erosion Control Manual Standard Drawing 806-46.00)

96	JSP-87	CONSTRUCTION ENTRANCE (StL Co Sediment and Erosion Control Manual Standard Drawing 806-46.00)
97	JSP-88	TEMPORARY SEEDING AND MULCHING
98	JSP-89	TEMPORARY BARRIER
99	JSP-90	STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
100	JSP-91A	MULCH BERM
101	JSP-91B	COMPOST SOCK SILT FENCE (StL Co Sediment and Erosion Control Manual Standard Drawing 806-70.00)
102	JSP-92	INLET PROTECTION
103	JSP-93	ROCK CHECK DAM (StL Co Sediment and Erosion Control Manual Standard Drawing 806-35.00)
104	JSP-94A	COMPOST (SOCK) DITCH CHECK
105	JSP-94B	COMPOST SOCK (6" DIAMETER)
106	JSP-95	SEDIMENT REMOVAL
107	JSP-96	CROSS VANE
108	JSP-97A	BENCHES
109	JSP-97B	SHADE STRUCTURE
110	JSP-97C	TRASH OR RECYCLING RECEPTACLE
111	JSP-97D	BIKE RACKS
112	JSP-98	DRIVEABLE GRASS
113	JSP-111	SOFT SPOT MITIGATION
114	JSP-329310	SHEET FLOW TO BUFFER STORMWATER ~~CREDIT~~ BMP
115	JSP-329311	GRASS CHANNEL STORMWATER ~~CREDIT~~ BMP
116	JSP-329312	AMENDED SOIL STORMWATER ~~CREDIT~~ BMP
117	A-JSP-329-200	SEEDING-TYPE 1
118	A-JSP-329-200.10A	SEEDING-TYPE 2
119	A-JSP-329-200.10B	SEEDING-TYPE 3
120	A-JSP-329-200.10C	SEEDING-TYPE 4
121	A-JSP-329-200.10D	SEEDING-TYPE 5
122	A-JSP-329-200.10E	SEEDING-TYPE 6
123	A-JSP-150	PERMANENT EROSION CONTROL BLANKET
124	A-JSP-329-300A	TREES
125	A-JSP-329-300B	EVERGREEN TREES
126	A-JSP-329-300C	ORNAMENTAL TREES

127	A-JSP-329-300D	SHRUBS
128	A-JSP-329-302	TURF REINFORCEMENT MAT (TRM)
129	A-JSP-329-303	SCOUR STOP
130	A-JSP-329-304	EROSION CONTROL BLANKETS (ECB)
131	A-JSP-151	COMPOST SOCKS
132	A-JSP-152	PERENNIALS
133	A-JSP-153	REFORESTATION SEEDLINGS
136	A-JSP-156A	GREAT RIVERS GREENWAY THERMOPLASTIC LOGO
137	A-JSP-156B	CITY OF MARYLAND HEIGHT THERMOPLASTIC LOGO
138	A-JSP-156C	SAINT LOUIS COUNTY PARKS DEPARTMENT THERMOPLASTIC LOGO
139	A-JSP-158	GROUTED COMPOST RIP-RAP
140	B-JSP-100A	CONSTRUCTION SIGNS
141	B-JSP-100B	CHANNELIZER
142	B-JSP-100C	TYPE III MOVABLE BARRICADE

X. Contractor Furnished Landscape Warranty and Maintenance

The following associated landscaping warranty and maintenance pay items shall not commence until after ~~Item U~~ Item W is completed. It is anticipated that Contractor shall enter into a separate agreement with City of Maryland Heights outside of this project for landscape warranty and maintenance.

ITEM NO.	BID ITEM	DESCRIPTION
134	A-JSP-154	PLANTING MAINTENANCE AND WARRANTY EXTENDED FROM ONE-YEAR TO TWO-YEARS
135	A-JSP-155	PLANTING MAINTENANCE AND WARRANTY EXTENDED FROM TWO-YEARS TO THREE-YEARS

Note 1: *Saint Louis County to assume maintenance of landscaping and stormwater ~~credits~~ BMP's after Landscape Warranty and Maintenance work is completed by Contractor and accepted by City of Maryland Heights. This applies to the project elements located southwest of Rule Avenue.*

Note 2: City of Maryland Heights to assume maintenance of landscaping and stormwater ~~credits~~ BMP's after Landscape Warranty and Maintenance work is completed by Contractor and accepted by City of Maryland Heights. The City maintained area applies to the project area northeast of Rule Avenue.

2.0 Basis of Payment. No direct pay shall be provided for any labor, equipment, time, or materials necessary to complete this "**Order of Work"**. The contractor

shall have no claim, or basis for any claim or suit whatsoever, resulting from compliance with this provision.

<< End of JSP 01C >>

JSP 20 – DEMOLITION AND REMOVAL OF BUILDINGS

PART 1 - GENERAL

1.01 SUMMARY:

A. This Section includes the removal of existing construction to limits as indicated and specified herein. Demolition includes the complete and disposal of materials of the following:

1. Buildings
2. Foundations
3. ~~Asbetos Removal~~
4. Utility Removals
5. Utility Capping
6. Sidewalks
7. Porches
8. Fireplaces
9. Concrete pads
10. Clean fill, compaction and grading
11. Seeding and mulching
12. Other items as indicated or needed to complete the work.

B. Letter from the building owner (Saint Louis County) authorizing demolition is attached to this job special provision.

1. Contractor shall obtain all permits and complete all items as required by Saint Louis County and City of Maryland Heights.
2. Letter attached for informational use.

1.02 SUBMITTALS:

A. Schedule of Demolition:

1. Submit schedule the coordination for shutoff and capping of existing water main scheduled for relocation.

B. Pre-demolition Photographs:

1. Photographs of project site to be submitted in digital format prior to commencing any demolition activities to the Construction Manager.
2. Take photographs of existing elements to remain in place. Photographs on file will be used to define the extent of Site Restoration.

1.03 JOB CONDITIONS:

A. Golf Course Operator will be continuously occupying areas of the project site immediately adjacent to areas of demolition. Conduct demolition Work in a manner that will minimize need for disruption of normal golf course operations. Provide City of Maryland Heights and Golf Course Operator a minimum of 72 hours' advance notice of demolition activities which will severely impact normal operations.

B. Protections:
   1. Ensure the safe passage of persons around the area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons. Erect temporary covered passageways as required by authorities having jurisdiction.
   2. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structures to be demolished and adjacent facilities to remain.
   3. Protect from damage existing finished facilities that are to remain in place and become exposed during demolition operations.
   4. Remove protections at completion of Work.

C. Explosives: The use of explosives will not be permitted.

D. Explosive Materials: Do not bring any explosives to the Site or staging areas.

E. Traffic:
   1. Traffic to and from Crystal Springs Quarry Golf Course shall be maintained at all times.
   2. Rule Avenue shall not be blocked by demolition activities.

3. Conduct demolition operations and the removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
4. Do not close, block, or otherwise obstruct streets, walks, or other occupied or used facilities without permission from the governing authority, Engineer, or Owner. Provide alternate routes around closed or obstructed traffic ways if required by governing authorities.

F. Promptly repair damages caused to adjacent facilities by demolition operations at no cost to Engineer, City of Maryland Heights, Great Rivers Greenway, Saint Louis County, MoDOT, Crystal Springs Quarry Golf Course or other Owner's.
1. Driveway adjacent to demoltion site shall be maintained by Contractor. Continously clean driveway of materials (at least once per day).

G. Utility Services:
1. Maintain existing utilities indicated to remain; keep in service and protect against damage during demolition operations.
2. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by Engineer, Owner, or authorities having jurisdiction. Provide temporary services during interruptions to existing utilities.
3. Contractor shall shut off utilities serving each area. Disconnecting and sealing indicated utilities before starting demolition operations shall be done by Contractor.
4. All necessary permits shall be obtained by the contractor, at his expense, from governmental agencies having jurisdiction, prior to commencement of any work.
5. All utility firms shall be given notice by the contractor to disconnect their respective facilities. Water service shall be disconnected by the contractor at the street main prior to the commencement of demolition to the improvement or removal of any salvage material from the improvement. Written confirmation from the appropriate water company as to the satisfactory disconnection must be provided to the City prior to any other demolition work.

6. All sanitary sewer openings shall be satisfactorily sealed by the contractor to meet the requirement of MSD prior to the commencement of demolition to the improvement or removal of any salvage material from the improvement. Written confirmation from the appropriate sewer company as to satisfactory work completed must be provided to the City prior to any other demolition work.

PART 2 - PRODUCTS

2.01 SALVAGE OF MATERIALS:

A. All existing construction and items to be removed shall be considered waste and shall become the property of Contractor. Remove from the Site.

2.02 HANDLING AND STORAGE:

A. Store Equipment and Materials to be reused in a manner to avoid corrosion, staining, breakage, or damage from any cause.

PART 3 - EXECUTION

3.01 MODOT SPECIFICATION:

A. Complete work in accordance with MoDOT specification 202.40 unless otherwise noted in these job special provisions.

3.02 INSPECTION:

A. Prior to commencement of demolition Work, inspect areas in which demolition will be performed. Photograph existing conditions of pavement, curbs, guardrail, structures, surfaces, Equipment, or surrounding properties which could be misconstrued as damage resulting from demolition operations. Submit photogaphs to City of Maryland Heights before commencing with any demoltion or asbestos removal.

B. Contractor to determine if asbestos is present in structure. Submit a pre-demoltion report to City of Maryland Heights reporting finding. Once the extent of asbestos is determined a change order will be negotiated with City for the removal of asbestos. Note: if asbestos is present it shall be removed prior to Contractor completing

demoltion of the structure. Contractor shall then commence with the following items prior to completing any building demolition.

1. Asbestos removal must be completed prior to demolition of the building. Asbestos Containing Materials (ACM) requiring removal will be listed on T-748 for each parcel inspected. The contract proposal for asbestos removal should use standard bid items. If all of the parcels have not been inspected for ACM, estimated quantities will be used. Check with a Design technical support engineer for assistance with this procedure. When quantities of ACM to be removed inside a single structure exceed 35 ft^3, 160 ft^2 or 260 linear feet, third party air monitoring is required. A licensed Contractor Supervisor must oversee the abatement.

2. Two, separate 10-day notifications are required, one for demolition and one for removal of ACM.

3. The contractor shall complete the proper notification procedures in accordance with the appropriate federal, state, and local laws and regulations for demolition of structures. The notification procedures and forms are available electronically at http://www.dnr.mo.gov/env/apcp/asbestos.htm or you may contact the MDNR's Air Pollution Control Program at 1-800-361-4827. Notification is necessary at least 10 working days in advance of the start date for removal of asbestos or for the demolition of a building with or without reportable quantities of asbestos present. The contractor shall provide copies of all completed and approved forms to the City of Maryland Heights prior to any demolition work.

3.03 PREPARATION:

A. Provide exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structures, utilities, fencing, landscaping, etc. to be demolished and adjacent facilities to remain:

1. Cease operations and notify Engineer immediately if safety of adjacent facilities appears to be endangered. Take precautions to support structure until determination is made for continuing operations.
2. Cover and protect fixtures, and other items to remain from soiling or damage when demolition Work is performed in rooms or areas from which such items have not been removed.

B. Locate, identify, stub off, and disconnect utility services that are to remain:

3.04 DEMOLITION:

A. Provide 10-calendar days notice prior to beginning demolition.

B. Prior to beginning demoltion establish the building removal perimeter using silt fence or silt sock.

C. Perform demolition in a systematic manner. Use such methods as required to complete demolition indicated on Drawings in accordance with demolition schedule and governing regulations:

1. Demolish concrete and other materials in small sections. Cut concrete at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.
2. Foundation walls shall be removed to a minimum depth of two feet (2') below proposed grade, or if no proposed grade is available, then the walls shall be removed to a minimum depth of two feet (2') below adjacent ground. The basement void shall be filled and graded to the level of the surrounding areas to avoid ponding or other undesirable drainage conditions. Bricks and other suitable materials may be used for backfilling to an elevation two feet (2') below the normal surface of the area. The remaining two feet (2') shall be backfilled with suitable earth. In no way shall any organic material be used in the backfill.
3. If the foundation walls and basement slab are not completely removed, the basement slab shall be broken up in such a manner to allow free drainage. The slab may be broken up by heavy equipment, cracking it up in place (maximum size pieces are four (4) square feet) and may be left in place.

4. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
5. Fences: Remove fence construction including fabric, posts, other components, and any below-grade construction such as concrete.

D. If unanticipated mechanical, electrical, or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Engineer in written, accurate detail. Pending receipt of directive from Engineer, rearrange demolition schedule as necessary to continue overall job progress without delay.

E. Pollution Controls:
1. Use water sprinkling, temporary enclosures, and other suitable methods to limit the amount of dust and dirt rising and scattering in the air to the lowest practical level. Comply with governing regulations pertaining to environmental protection.
2. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.
3. Clean adjacent structures and area of dust, dirt, and debris caused by demolition operations.

3.05 DISPOSAL OF DEMOLITION MATERIALS:

A. Remove debris, rubbish, and other materials resulting from demolition operations.

B. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.

C. Burning of removed materials from demolished structures will not be permitted on the Site.

D. Transport materials removed from demolished structures and dispose of off the Site.

3.06 CONNECTIONS TO EXISTING CONSTRUCTION:

A. Cut and remove portions of existing construction as required to allow for proper installation of new construction.

B. Shore and brace existing structure until permanent supports are completed, and to maintain structure in a safe condition.

C. Repair all damage as a result of installation of shoring and bracing.

3.07 CLEANUP, SITE RESTORATION AND REPAIR:

A. Upon completion of demolition Work, remove tools, equipment, and demolished materials from site. Remove protections and leave areas broom clean.

B. Repair demolition performed in excess of that required. Return structures and surfaces that will remain to condition existing prior to commencement of demolition Work. Repair adjacent construction or surfaces soiled or damaged by demolition Work.

C. Clean fill shall be placed. Include any backfill and compaction necessary to fill in depressions left in earth from building and foundation removal.

D. Restore the surrounding grades to provide surface runoff. The ground shall be graded to provide positive drainage (no ponding of water permitted).

E. Restore the site. Immediately seed and mulch the area and restore the site. Straw is an acceptable mulcing measure. Seed to contain grasses and winter wheat to promote quick growth.

3.08 PAYMENT AND MEASUREMENT:

A. Payment and measurement for "**Demolition and Removal of Buildings**" including foundation removal and asbestos mitigation as shown in plans and at locations indicated on the Project Drawings will be made at the lump sum unit price bid. No measurement will be completed for this item. Item to be paid for as JSP-20. Cost to include all disposal fees, hauling, building site restoration, equipment, backfill, compaction, erosion control , etc. needed to complete the Demolition and Removal of Buildings.

<<END OF JOB SPECIAL PROVISION 20>>

TABLE OF CONTENTS *(Continued)*

JSP 329310 – SHEET FLOW TO BUFFER STORMWATER BMP ~~CREDIT~~

PART 1 - GENERAL

1.01 SUMMARY:

A. Sheet Flow to Buffer Stormwater BMP ~~Credits~~ shall be constructed according to the Metropolitan St. Louis Sewer District's current standards and requirements.

a. Items included in this section include the following:

(1) BMP #1 – Sheet Flow to Buffer Stormwater BMP ~~Credit~~

(2) BMP #2 – Sheet Flow to Buffer Stormwater BMP ~~Credit~~

(3) BMP #3 – Sheet Flow to Buffer Stormwater BMP ~~Credit~~

(4) BMP #4 – Sheet Flow to Buffer Stormwater BMP ~~Credit~~

(5) BMP #6 – Sheet Flow to Buffer Stormwater BMP ~~Credit~~

(6) BMP #8 – Sheet Flow to Buffer Stormwater BMP ~~Credit~~

(7) BMP #9 – Sheet Flow to Buffer Stormwater BMP ~~Credit~~

(8) BMP #10 – Sheet Flow to Buffer Stormwater BMP ~~Credit~~

(9) BMP #11 – Sheet Flow to Buffer Stormwater BMP ~~Credit~~

(10) BMP #12 – Sheet Flow to Buffer Stormwater BMP ~~Credit~~

B. The contractor is responsible for interpretation of the data available from Metropolitan St. Louis Sewer District's Landscape Guide for Stormwater Best Management Practice Design.

C. Any additional work required that is not shown on plans to construct the Sheet Flow to Buffer Stormwater BMP ~~Credits~~ shall be incidental to the project (i.e. no direct pay).

D. See plans for additional requirements and planting plan.

E. See Order of Work, JSP Number 01C for the required sequence of construction for the sheet flow to buffer stormwater BMP ~~credit.~~

F. See Specification 329300.10 for seeding requirements of Sheet Flow to Buffer Stormwater BMP ~~Credit~~ areas.

G. Project plans that refer to "Sheet Flow to Buffer Stormwater Credit" shall be replaced with "Sheet Flow to Buffer Stormwater BMP" in all locations.

1.02 SUBMITTALS:

A. Contractor shall submit documentation on the following:
   a. Planting soil.
   b. Temporary control blanket.
   c. Seeding as per submittal requirements listed in 329300.10.

B. Contractor shall submit the maintenance forms completed after each maintenance activity is completed on this item. See the attached Operation and Maintenance Plan attached to the project manual for the BMP maintenance forms that shall be completed by Contractor.

C. Maintenance requirements listed on drawing C-400B.

D. Maintenance shall be completed up to substantial completion letter is received from the City of Maryland Heights.

PART 2 – EXECUTION

2.01 CONSTRUCTION REQUIREMENTS

A. Conform to the grades, lines, and minimum compacted thickness shown in the plans. Topsoil shall be lightly compacted using hand tools or light rollers as necessary to hold it in place, but Contractor shall minimize the operation of heavy equipment on the topsoil in order to avoid over compaction.

B. Seeding to be completed as per specification 329300.10.

C. Install temporary erosion control blanket within two calendar days after seeding is completed.

2.02 MAINTENANCE

A. Contractor shall complete the required maintenance up to substantial completion.

B. Contractor shall complete and submit maintenance forms at intervals specified in the Operation and Maintenance Plan attached to this Project Manual for the Sheet Flow to Buffer Stormwater BMP ~~Credit~~.

2.03 METHOD OF MEASUREMENT

A. ~~Each section~~ **Measurement** of "**Sheet Flow to Buffer Stormwater BMP ~~Credit~~**" **will be made as a Lump Sum** ~~completed shall be measured by square yard~~ and shall include all labor and materials necessary to complete the "**Sheet Flow to Buffer Stormwater BMP ~~Credit~~**".

2.04 BASIS OF PAYMENT

A. The accepted ~~quantity of~~ "**Sheet Flow to Buffer BMP ~~Credit~~**" will be paid for at the **Lump Sum** contract unit bid price ~~per square yard~~. Reimbursement shall be paid for under item number: **JSP-329310**. Payment to include all costs for equipment, labor, seeding, materials, fine grading, preparing soil, maintenance (through substantial completion) and incidental's, etc. to complete the work.

<< END OF JSP 329310 >>

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JSP 329311 – GRASS CHANNEL STORMWATER BMP ~~CREDIT~~

PART 1 - GENERAL

1.01 SUMMARY:

A. Grass Channel Stormwater BMP's ~~Credits~~ shall be constructed according to the Metropolitan St. Louis Sewer District's current standards and requirements.

Items included in this section include the following:

(1) BMP #5 – Grass Channel Stormwater BMP ~~Credit~~

B. The contractor is responsible for interpretation of the data available from Metropolitan St. Louis Sewer District's Landscape Guide for Stormwater Best Management Practice Design.

C. Any additional work required that is not shown on plans to construct the Grass Channel Stormwater BMP's ~~Credits~~ shall be incidental to the project (i.e. no direct pay).

D. See Order of Work, JSP Number 01C for the required sequence of construction for the grass channel stormwater BMP ~~credit~~.

E. See plans for additional requirements and Grass Channel Stormwater BMP ~~Credit~~ planting plans.

F. Project plans that refer to "Grass Channel Stormwater Credits" shall be replaced with "Grass Channel Stormwater BMP" in all locations.

1.02 SUBMITTALS:

A. Contractor shall submit documentation on the following:

a. Planting soil.

b. Seed mixture (to comply with specification 329200.

c. Temporary erosion control blanket (straw mat)

B. Contractor shall submit the maintenance forms completed after each maintenance activity is completed on this item. See the attached Operation and Mainenance Plan attached to the project manual for the BMP maintenance forms that shall be completed by Contractor.

PART 2 - EXECUTION

2.01 CONSTRUCTION REQUIREMENTS

A. Conform to the grades, lines, and minimum compacted thickness shown in the plans. Topsoil shall be lightly compacted using hand tools or light rollers as necessary to hold it in place, but Contractor shall minimize the operation of heavy equipment on the topsoil in order to avoid over compaction.

B. Contractor shall place a Temporary Erosion Control Blanket (straw mat) over the installed Grass Channel Stormwater BMP ~~Credit~~ seed.

C. See plans for additional requirements and planting plan.

D. See Specification 329300.00 for seeding requirements of Grass Channel Stormwater BMP ~~Credit~~ areas.

2.02 MAINTENANCE

A. Contractor shall complete the required maintenance up to substantial completion.

E. Contractor shall complete and submit maintenance forms at intervals specified in the Operation and Maintenance Plan attached to this Project Manual for the Grass Channel Stormwater BMP ~~Credit~~. Maintenance requirements listed on drawing C-400A.

2.03 METHOD OF MEASUREMENT

A. ~~Each section~~ **Measurement** of "**Grass Channel Stormwater BMP ~~Credit~~**" **will be made as a Lump Sum** ~~completed shall be measured by square yard~~ and shall include all labor and materials necessary to complete the "**Grass Channel Stormwater BMP ~~Credit~~**".

2.04 BASIS OF PAYMENT

A. The accepted ~~quantity of~~ "**Grass Channel Stormwater BMP ~~Credit~~**" will be paid for at the **Lump Sum** contract unit bid price ~~per square yard~~. Reimbursement shall be paid for under item number: **JSP-329311**. Payment to include all costs for equipment, seeding, labor, erosion control blanket, materials, fine grading, preparing soil, maintenance (through substantial completion) and incidental's, etc. to complete the work.

<<End of JSP 329311>>

JSP 329312 – AMENDED SOIL STORMWATER BMP ~~CREDIT~~

PART 1 - GENERAL

1.01 SUMMARY:

A. Amended Soil Stormwater BMP ~~Credits~~ shall be constructed according to the Metropolitan St. Louis Sewer District's Landscape Guide for Stormwater Best Management Practice Design (latest version).

Items included in this section include the following:

(1) BMP #7 – Amended Soil Stormwater BMP ~~Credit~~

B. This work shall consist of incorporating compost within the root zone of the planned vegetation cover to improve soil quality and evapotranspiration.

C. Contractor shall provided at least 2-inches of compost for all Amended Soil Stormwater BMP ~~Credit~~ areas.

D. The contractor is responsible for interpretation of the data available from Metropolitan St. Louis Sewer District's Landscape Guide for Stormwater Best Management Practice Design.

E. Any additional work required that is not shown on plans to construct the Amended Soil Stormwater BMP's ~~Credits~~ shall be incidental to the project (i.e. no direct pay).

F. See plans for additional requirements and planting plan.

G. See Order of Work, JSP Number 01C for the required sequence of construction for the amended soil stormwater BMP ~~credit~~.

H. See Specification 329300.10 for seeding requirements of Amended Soil Stormwater BMP ~~Credit~~ areas.

I. Amended Soil Stormwater BMP ~~Credit~~ seeding shall occur within calendar dates identified on the project plans. See Sheet C-507B.

J. Project plans that refer to "Amended Soil Stormwater Credits" shall be replaced with "Amended Soil Stormwater BMP" in all locations.

1.02 SUBMITTALS:

A. Prior to delivery of any compost to the siteand as part of shop drawing review, the following documentation shall be provided by the contractor to the MSD Inspector:

   a. Feedstock percentage in the final compost product.
   b. A statement that the compost meets federal and state health and safety regulations.
   c. A statement that the composting process has met time and temperature requirements.
   d. 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 in **Table 1**.
   e. Temporary erosion control blanket.
   f. Seeding as per submittal requirements listed in 329300.10.

B. Contractor shall submit the maintenance forms completed after each maintenance activity is completed on this item. See the attached Stormwater Report attached to the project manual for the BMP maintenance forms that shall be completed by Contractor.

C. Maintenance requirements listed on drawing C-400C.

D. Maintenance shall be completed up to substantial completion letter is received from the City of Maryland Heights.

Table 1. Physical Requirements for Compost

Parameter	**Range**	**Testing Method**
pH	5.0-8.5	TMECC 4.11A
Soluble Salt Concentration	< 10dS/m	TMECC 4.10-A
Moisture	30-60% wet weight basis	SMEWW 2540B
Organic Matter	30-65% dry weight basis	TMECC 5.07-A
Total Nitrogen (N)	>1.00% dry weight basis	TMECC 04.02-D
Phosphate (P2O5)	>0.50% dry weight basis	TMECC 04.03-A
Potash (K2O)	>0.10% dry weight basis	TMECC 04.04-A
Particle Size	95% 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 (man made inerts)	<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	< 41 ppm	TMECC 4.06-AS
Cadmium	< 39 ppm	TMECC 4.06-CD
Copper	< 1,500 ppm	TMECC 4.05-CU
Lead	< 300 ppm	TMECC 4.06-PB
Mercury	< 17 ppm	TMECC 4.06-HG
Molybdenum	< 75 ppm	TMECC 4.05-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

PART 2 – EXECUTION

2.01 CONSTRUCTION REQUIREMENTS

A. Clear surface of obstructions and properly dispose. The soil surface shall be reasonably free of all objects, including stone and rubble, greater than 2 inches, and other material which will interfere with planting and subsequent site maintenance.

B. Rototill to a depth of 6-8" for turf cover and a minimum of 12" for deep rooted vegetation. If the soil is too dense for a rototiller, the soil should first be broken up into large aggregates using a soil ripper.

C. If obstructions are unearthed during tilling, clear obstructions and properly dispose of. The soil surface shall be reasonably free of all objects, including stone and rubble, greater than 1 inch, and other material which will interfere with tilling, planting and subsequent site maintenance.

D. If rock is present in 12-inch deep area to receive Amended Soil Stormwater BMP ~~Credit~~ Contractor shall remove the rock from all stormwater BMP ~~credit~~ areas and replace with natural organic materials containing a maximum rock size of ¾-inch.

E. Distribute compost evenly to a minimum depth of 2 inches over the soil surface.

F. Rerototill several times in perpendicular directions to incorporate compost and other soil amendments.

G. Complete with fine grading and sodding.

H. Water thoroughly. Allow soil to settle for one week.

I. Conform to the grades, lines, and minimum compacted thickness shown in the plans. Topsoil shall be lightly compacted using hand tools or light rollers as necessary to hold it in place, but Contractor shall minimize the operation of heavy equipment on the topsoil in order to avoid over compaction.

J. Seeding to be completed as per specification 329300.10.

K. Install temporary erosion control blanket within two calendar days after seeding is completed.

2.02 MAINTENANCE

A. Contractor shall complete the required maintenance up to substantial completion.

B. Contractor shall complete and submit maintenance forms at intervals specified in the Stormwater Report attached to this Project Manual for the Amended Soil Stormwater BMP ~~Credit~~.

2.03 METHOD OF MEASUREMENT

A. ~~Each section~~ **Measurement** of "**Amended Soil Stormwater BMP ~~Credit~~**" **will be made as a Lump Sum** ~~completed shall be measured by square yard~~ and shall include all labor and materials necessary to complete the "**Amended Soil Stormwater BMP ~~Credit~~**".

2.04 BASIS OF PAYMENT

A. The accepted ~~quantity of~~ "**Amended Soil Stormwater BMP ~~Credit~~**" will be paid for at the **Lump Sum** contract unit bid price ~~per square yard~~. Reimbursement shall be paid for under item number: **JSP-329312**. Payment to include all costs for equipment, labor, compost, seeding, materials, fine grading, trucking, preparing soil, maintenance (through substantial completion) and incidental's, etc. to complete the work.

<<END OF JSP 329312>>

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SEED TYPE 2
(SHEET FLOW TO BUFFER
STORMWATER CREDIT)

10' WIDE MULTI-USE
TRAIL; RE SHEET C-101

MATCHLINE STATION 14+00

QB 2

CC 1

AREAS OUTSIDE OF SEED
LIMITS SHALL BE SEEDED WITH
SEED TYPE 1 IF DISTURBED DURING
CONSTRUCTION; STA 10+75-14+00

EXISTING TREES
TO REMAIN; PROTECT
DURING CONSTRUCTION
(TYP OF ALL EXISTING
TREES WITHIN 50 FT OF
SEED LIMITS); REFER TO
SHEET C-051 FOR TREE
DEMOLITION LIMITS

LT 1
AR 3

AN 1
AR 2

CC 2

QR 2

SEED TYPE 1

UV 2

EXISTING PARKING LOT

WIDTH VARIES BASED ON GRADING/SLOPING
LIMITS. CONTRACTOR SHALL BE RESPONSIBLE
FOR SEEDING TO EDGE OF DISTURBED AREA. RE: CIVIL
PLANS, SHEETS C-101 THRU C-121 FOR SLOPE LIMITS

A
L-126

AA 3

10+00

BIKE RACK & TRASH
RECEPTACLES; RE:
CIVIL & SPECIFICATION
129300

REFER TO DETAIL
LANDSCAPE PLAN A
SHEET L-124

REFER TO CIVIL FOR TRAIL ALIGNMENT LOCATION

UV 2

ST. LOUIS COUNTY
PARKS DEPARTMENT
THERMOPLASTIC LOGO
(RE: SPECIFICATIONS
FOR REQUIREMENTS)

MARINE (40' W.) AVENUE

LOT 228 LOT 227 LOT 226 LOT 224 LOT 221 LOT 220 LOT 207 LOT 204

LANDSCAPE LEGEND

- SEED TYPE 1 RE: SPEC 329200
- SEED TYPE 2 RE: SPEC 329200.10
- LIMITS OF SEED
- TREE PROTECTION RE: DETAIL 1/L-200
- PROPERTY LINE

NOTES:

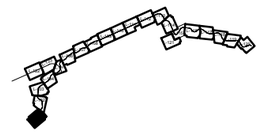
1. REFER TO SHEET L-001 FOR GENERAL NOTES & SCHEDULES.
2. REFER TO CIVIL PLANS FOR TRAIL INFO AND GENERAL DEMOLITION. REFER TO SHEET C-003 FOR CIVIL LEGENDS & NOTES
3. REFER TO CIVIL PLANS FOR TEMPORARY & PERMANENT EROSION CONTROL MEASURES

0 10' 20' 40'
SCALE IN FEET

Scale For Microfilming
Millimeters
Inches

no.	date	by	chd	description
0	10/21/15	AG	AG	ISSUED FOR BID

KEY PLAN



MSD PROJECT NO: P-XXXXX MSD BASE MAP NO: 12Q, 12P, 13Q, 13P

PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

Burns & McDonnell

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
July 2013	A. GLENSKI
designed	checked
A. GLENSKI	A. GABBERT

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

LANDSCAPE PLAN

project	contract
65679	-

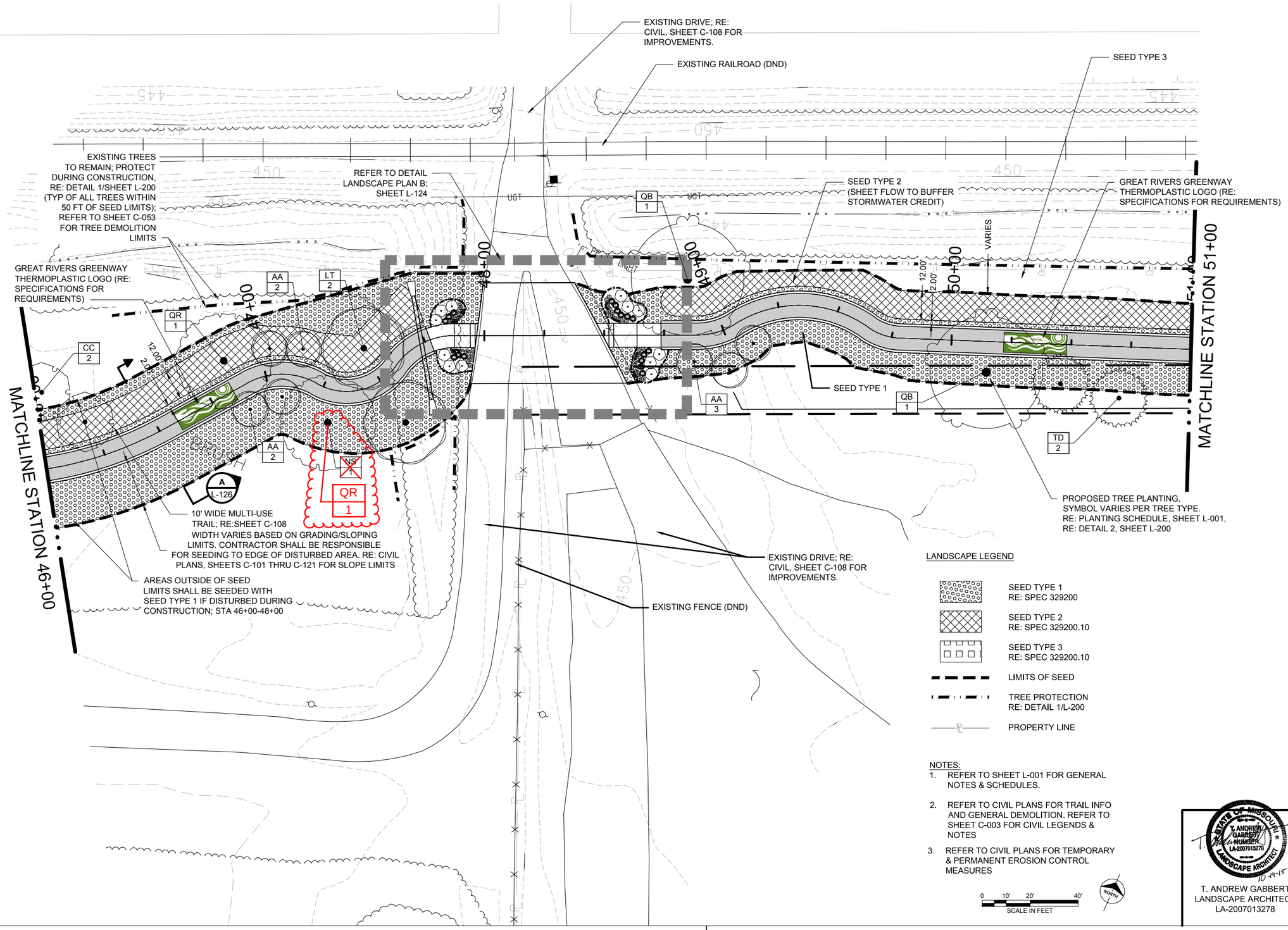
drawing L-101 rev. 0

sheet of sheets

file: xx_L-101_R_PLAN.dwg

STATE OF MISSOURI
T. ANDREW GABBERT
NUMBER LA-2007013278
LANDSCAPE ARCHITECT
10-19-15

T. ANDREW GABBERT
LANDSCAPE ARCHITECT
LA-2007013278



LANDSCAPE LEGEND

- SEED TYPE 1 — RE: SPEC 329200
- SEED TYPE 2 — RE: SPEC 329200.10
- SEED TYPE 3 — RE: SPEC 329200.10
- LIMITS OF SEED
- TREE PROTECTION — RE: DETAIL 1/L-200
- PROPERTY LINE

NOTES:

1. REFER TO SHEET L-001 FOR GENERAL NOTES & SCHEDULES.
2. REFER TO CIVIL PLANS FOR TRAIL INFO AND GENERAL DEMOLITION. REFER TO SHEET C-003 FOR CIVIL LEGENDS & NOTES
3. REFER TO CIVIL PLANS FOR TEMPORARY & PERMANENT EROSION CONTROL MEASURES

0 10' 20' 40'
SCALE IN FEET

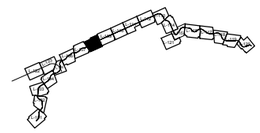
NORTH

STATE OF MISSOURI — T. ANDREW GABBERT — NUMBER LA-2007013276 — LANDSCAPE ARCHITECT — 10-19-15

T. ANDREW GABBERT
LANDSCAPE ARCHITECT
LA-2007013276

no.	date	by	chd	description
0	10/21/15	AG	AG	ISSUED FOR BID

KEY PLAN



PROJECT PARTNERS

Saint Louis COUNTY PARKS

City of MARYLAND HEIGHTS

MSD PROJECT NO: P-XXXXX MSD BASE MAP NO: 12O, 12P, 13O, 13P

Burns & McDonnell

Burns &McDonnell Engineering, Inc.
Professional Engineering Corporation
MO Certificate of Authority #000165

425 South Woods Mill Road
Saint Louis, MO 63017
314-682-1500

date	detailed
July 2013	A. GLENSKI
designed	checked
A. GLENSKI	A. GABBERT

Great Rivers Greenway
CLEAN | GREEN | CONNECTED | TRAILS

GREAT RIVERS GREENWAY
McKELVEY WOODS PHASE II

LANDSCAPE PLAN

project	contract
65679	-

drawing **L-108** — rev. **0**

sheet of sheets

file: xx_L-108_R_PLAN.dwg

Scale For Microfilming: Millimeters / Inches

Koscielski, Dennis

From: Koscielski, Dennis
Sent: Monday, January 09, 2017 9:30 AM
To: Cliff Baber
Cc: Mark Vogl RLA, AICP (mvogl@grgstl.org); 'Bryan Pearl'; Louis G. Loos; 65679
Subject: FW: P-30175-00; McKelvey Woods Phase II

Cliff,

Suggest issuing this e-mail with Addendum 02. The anticipated permit fees to MSD for the drainlayer permit are specified below. I will include a pdf of this e-mail in the Addendum 02 documents.

Thanks,

Dennis Koscielski, PE*, ENV SP \ Burns & McDonnell
Associate Civil Engineer
O 314-682-1509 \ M 314-330-7686 \ F 314-682-1600
dkoscielski@burnsmcd.com \ burnsmcd.com
425 South Woods Mill Road \ Suite 300 \ St Louis, MO 63017

From: Dixie Bryant [mailto:DLBRYA@stlmsd.com]
Sent: Monday, January 09, 2017 9:28 AM
To: Koscielski, Dennis <dkoscielski@burnsmcd.com>
Cc: Eugene Johnson <EWJOHN@stlmsd.com>
Subject: P-30175-00; McKelvey Woods Phase II

Estimated permit fees on this project are $3,296.39.

If you have any questions, please feel free to call.

Dixie Bryant
Metropolitan St. Louis Sewer District
Engineering/Permit Dept.
(314) 768-6286

January 9, 2016

RE: Notice to Bidders
Great Rivers Greenway District
McKelvey Woods Phase II
Federal Project Number: STP-5401(659)
Burns & McDonnell Project Number: 65679
Addendum Number 02

Organizations intending to submit a bid on McKelvey Woods Phase II are hereby advised of the following modification to the bidding documents:

1. The following bridge suppliers shall be added to the list of pre-qualified in JSP 85:

    a. Excel Bridge Manufacturing
    12001 Shoemaker Avenue
    Santa Fe Springs, CA 90670
    Contact: Jodi Seidl
    E-mail: jodiseidl@excelbridge.com
    Phone: (320) 762-1368

    b. Pioneer Bridges
    701 63rd Street NE
    Fort Payne, AL 35867
    Contact: Scott Dempsey
    E-mail: sdempsey@pioneerbridges.com
    Phone: (800) 477-7320

Sincerely,

Dennis Koscielski, P.E.
Design Team Project Manager

DK/DK

cc: GRG – Mark Vogl
Construction Manager – Cliff Baber
LG Loos
Bryan Pearl