



Public Notice

**US ARMY CORPS
OF ENGINEERS
St. Louis District
Gateway to Excellence**

**Reply To:
U.S. Army Corps of Engineers
Attn: CEMVS-OD-F
1222 Spruce Street
St. Louis, Missouri 63103-2833**

Public Notice No.

P-3083

Public Notice Date

April 1, 2020

Expiration Date

April 22, 2020

Postmaster Please Post Conspicuously Until:

File Number: MVS-2017-80 (Canterbury and Roland Storm Sanitary Relief (Nelson to Roland Blvd.)(12110) Interested parties are hereby notified that an application has been received for a Department of the Army permit for certain work in waters of the United States, as described below and shown on the attached maps.

COMMENTS AND ADDITIONAL INFORMATION: Comments on the described work should reference the U.S. Army Corps of Engineers File Number shown above and must reach this office no later than the above expiration date of the Public Notice to become part of the record and be considered in the decision. Comments should be mailed to the following address:

U.S. Army Corps of Engineers
Regulatory Branch
1222 Spruce Street
St. Louis, Missouri 63103-2833
ATTN: David Meyer

APPLICANT: Metropolitan St. Louis Sewer District, Attention: Mr. Kevin Koines, 2350 Market St., St. Louis, Missouri 63103

LOCATION: A small unnamed tributary runs through the backyards of the south side of the 6900 block of Roland Boulevard, Northwoods, Missouri. The tributary drains approximately 40 acres of mostly quarter-acre subdivision lots. Residents in the area indicate that the tributary overflows into the residential yards every year or two. These overflows cover most of 6904 through 6944 Roland Boulevard (38.7059,-90.2855) and occasionally enters resident's basements. The project is located in Section 28, Township 46 North, Range 6 East, St. Louis County, Missouri.

PROJECT DESCRIPTION: The applicant (Metropolitan St. Louis Sewer District) has received numerous complaints from residents on the 6900 block of Roland Boulevard in the city of Northwoods, Missouri, who experience yard and basement flooding, even during low intensity storm events. The applicant seeks authorization to conduct grading and excavation operations within waters of the United States to modify an unnamed intermittent tributary, for the purpose of increasing capacity, and to better manage the amount of runoff flowing through residential properties. The proposal plans for the improvements of approximately 600 feet of channel, with a modification that includes the widening and creation of a shallow trapezoidal channel, to contain 15-year and 100-year

design storms. The modified channel would have a bottom width of six feet, a minimum depth of two feet, and side slopes re-shaped 2:1 (h:v). Also, approximately 184 feet of 2-3 foot tall modular block wall would be installed along the left descending bank to minimize impacts to private property. The vacant lot located at 6906 Roland Blvd. will be used as storage in the form of a floodplain bench.

Additionally, the project involves 1800-feet of new gravity sanitary sewer ranging in size from 8-inch to 15-inch and the abandonment and filling of existing sanitary sewer ranging in size from 8-inch to 12-inch. The proposed sanitary sewer will run approximately along the same alignment; however, along Winchester Drive the new sewer will be placed across an unnamed tributary.

The applicant's agent, HR Green, Inc. has researched alternatives and has attempted to minimize impacts to the unnamed tributary. However, the agent has stated that the proposed impacts are necessary, ultimately choosing the alternative which has the appropriate balance of minimal impacts, economic feasibility, and to correct/mitigate stream bank deficiencies for the protection of private property.

LOCATION MAPS AND DRAWINGS: See attached. In addition, the project plans may be viewed in color and in more detail by visiting the Public Notice section of our website at <http://www.mvs.usace.army.mil/Missions/Regulatory/PublicNotices/OpenNotices.aspx>

ADDITIONAL INFORMATION: Additional information may be obtained by contacting David P. Meyer, Project Manager, U.S. Army Corps of Engineers, at (314) 331-8810. Your inquiries may also be sent by electronic facsimile to (314) 331-8741 or by e-mail to David.P.Meyer@usace.army.mil.

AUTHORITY: This permit will be processed under Section 404 of the Clean Water Act (33 U.S.C. 1344).

WATER QUALITY CERTIFICATION: Section 401 of the Clean Water Act (33 USC 1341) requires that all discharges of dredged or fill material must be certified by the appropriate state agency as complying with applicable effluent limitations and water quality standards. The project plans will be submitted to the Missouri Department of Natural Resources, Water Protection Program (the Agency) in accordance with Section 401. While the Corps of Engineers may provide all relevant information to DNR and request Section 401 review on behalf of the applicant, the applicant assumes final responsibility to ensure that both agencies receive all information required to complete their independent review. If issued, Certification will express the Agency's opinion that the proposed activities will not violate applicable water quality standards. Written comments concerning possible impacts to waters of Missouri should be addressed to: Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102-0176, with a copy provided to the Corps of Engineers.

SECTION 404 (b)(1) EVALUATION: The impact of the activity on the public interest will be evaluated in accordance with the Environmental Protection Agency guidelines pursuant to Section 404 (b)(1) of the Clean Water Act.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the applicant's proposal. Any request for a public hearing shall state, with particularity, the reason for the hearing, and must be based on issues that would warrant additional public review.

ENDANGERED SPECIES: A preliminary determination, in compliance with the Endangered Species Act, as amended, has been made that the work that is proposed would not affect species designated as threatened or endangered, or adversely affect critical habitat. Therefore, no formal consultation request has been made to the United States Department of Interior, Fish and Wildlife Service. In order to complete our evaluation, comments are solicited from the Fish and Wildlife Service and other

interested agencies and individuals through this Public Notice.

CULTURAL RESOURCES: The St. Louis District will evaluate information provided by the State Historic Preservation Officer and the public in response to this public notice and we may require a reconnaissance survey of the project area.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the described activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit that may reasonably be expected to accrue from the described activity must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the activity described, will be considered including the cumulative effects. Among factors considered are: conservation; economics; aesthetics; general environmental concerns; wetlands; historic properties; fish and wildlife values; flood hazards; flood plain values; land use; navigation; shoreline erosion and accretion; recreation; water supply and conservation; water quality; energy needs; safety; food and fiber production; mineral needs; consideration of property ownership; and in general the needs and welfare of the people.

SOLICITATION OF COMMENTS: The U.S. Army Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of the proposed activity. Any comments received will be considered by the U.S. Army Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Robert S. Gramke

Robert S. Gramke
Chief, Regulatory Branch

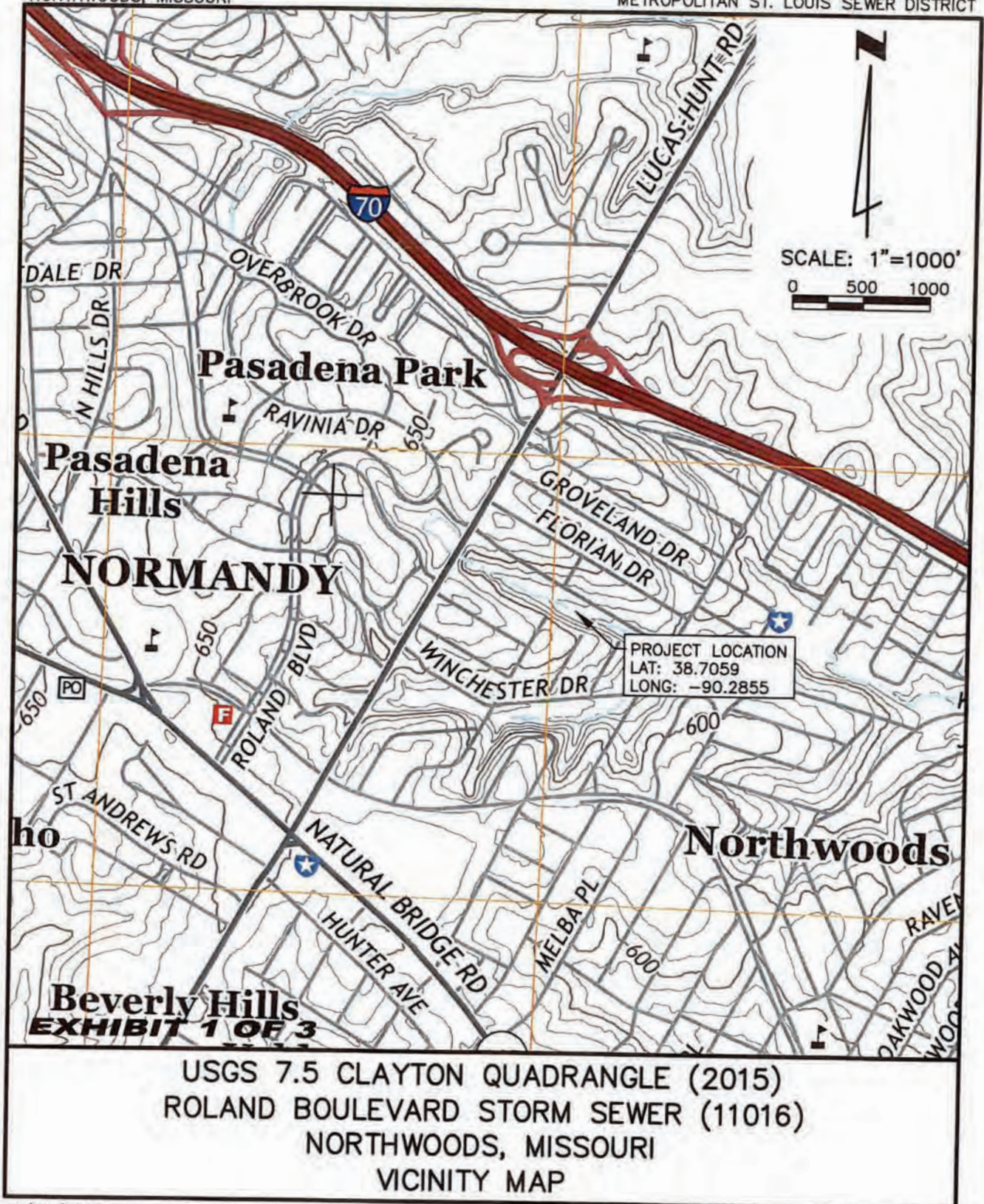
Attachments

NOTICE TO POSTMASTERS:

It is requested that this notice be conspicuously and continually placed for 21 days from the date of this issuance of this notice.

ROLAND BOULEVARD STORM SEWER (11016)
NORTHWOODS, MISSOURI

METROPOLITAN ST. LOUIS SEWER DISTRICT



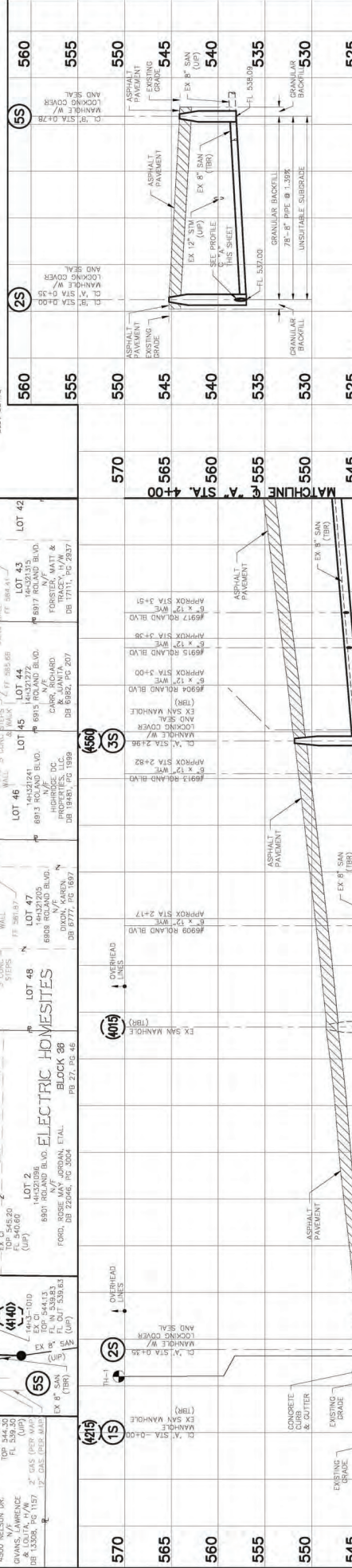
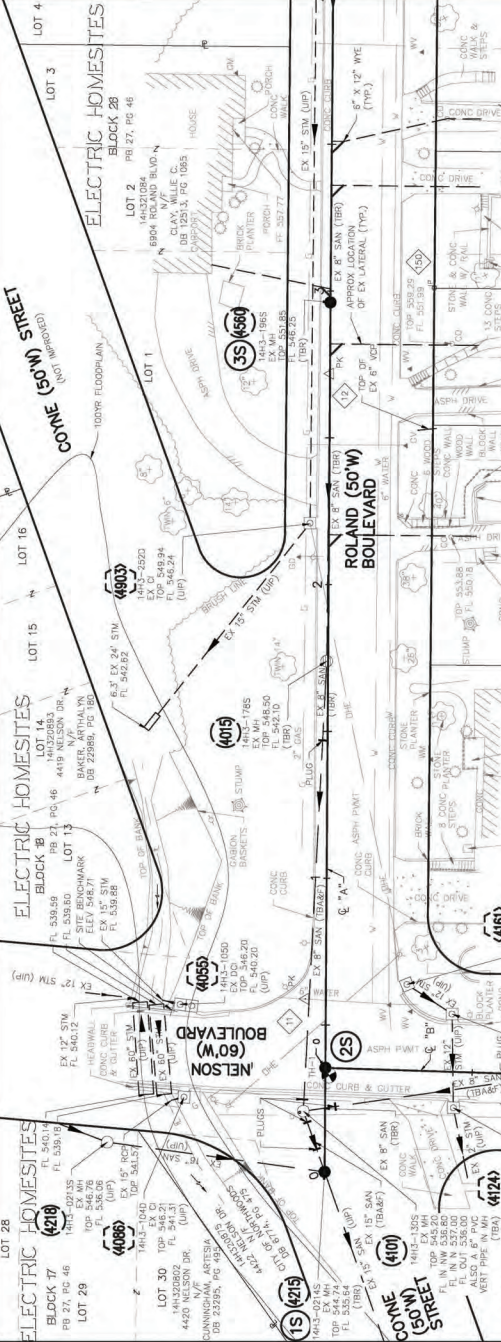
[illegible]

BASE MAP: 14-H-3

POINT TABLE			
CONTROL POINT #	NORTHING	EASTING	ELEVATION
11	104572.588	88272.448	546.06
12	104568.274	88192.253	550.18
EXISTING STRUCTURE TABLE			
PT. #	UD.	MOD. ID #	DESCRIPTION
4015	4015	14013-1785	104578.76 88202.28 SANITARY M.H.
4055	4055	14013-1050	104568.80 88205.41 STORM INLET
4086	4086	14013-1040	104567.36 88213.64 STORM INLET
4101	4101	14013-1355	104570.48 88215.48 SANITARY M.H.
4124	4124	14013-1020	104573.69 88217.64 STORM INLET
4140	4140	14013-1010	104576.80 88215.09 STORM INLET
4161	4161	14013-1020	104570.48 88213.64 STORM INLET
4215	4215	14013-0745	104570.48 88213.64 SANITARY M.H.
4218	4218	14013-0735	104565.05 88214.39 SANITARY M.H.
4500	4500	14013-1885	104585.09 88192.06 SANITARY M.H.
4903	4903	14013-2520	104587.59 88193.43 STORM INLET
NEW STRUCTURE TABLE			
PT. #	UD.	MOD. ID #	DESCRIPTION
15		104574.76	882178.05 MANHOLE
25		104572.18	882148.21 MANHOLE WITH LOCKING COVER AND SEAL
35		104585.09	881927.06 MANHOLE WITH LOCKING COVER AND SEAL
55		104578.59	882198.39 MANHOLE WITH LOCKING COVER AND SEAL



MATCHLINE @ 7" STA. 4+00



REV	DATE	DESCRIPTION	BY
1		DESIGN	SP

560	560	550	550	545	540	535	530	525
570	565	560	555	550	545	540	535	530

570	565	560	555	550	545	540	535	530	525
570	565	560	555	550	545	540	535	530	525

ST. LOUIS SEWER DISTRICT

CANTERBURY AND ROLAND SANITARY RELIEF
(NELSON DR TO ROLAND BLVD) 12110
PASADENA HILLS/NORTHWOODS
ST. LOUIS COUNTY, MISSOURI

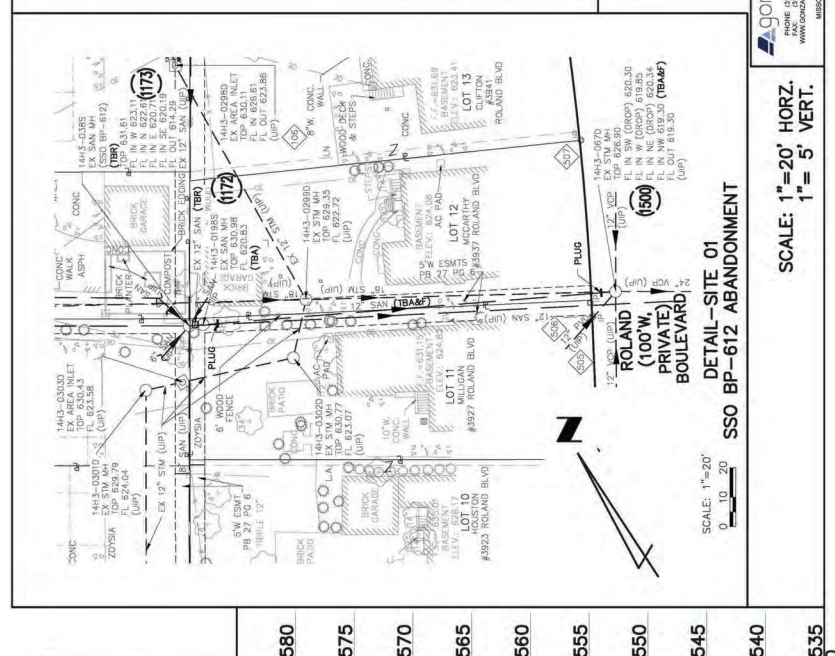
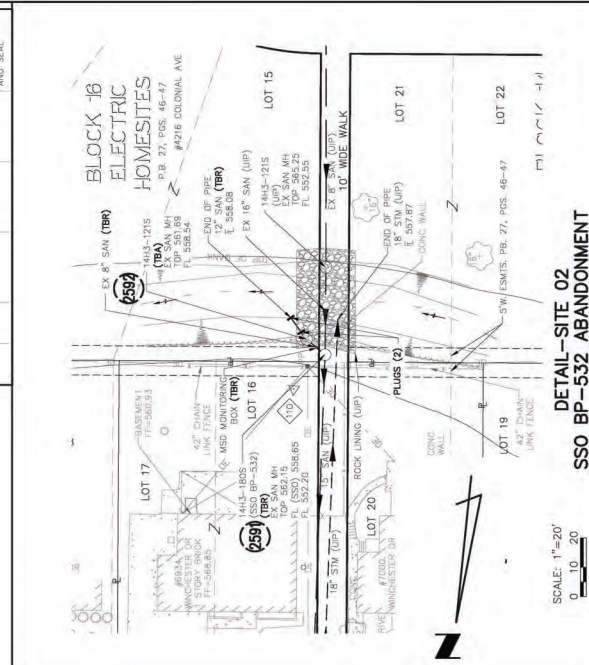
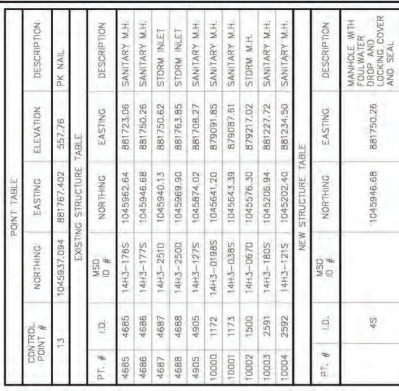
Engineer: D.E. & J.L.H.
Drawn: J.P. & J.L.H.
Checked: J.P. & J.L.H.
Date: FEBRUARY 27, 2020
Sheet No.: 2 of 19

PRELIMINARY

CONZALEZ COMPANIES, LLC
109 BENTLEY BLVD
ST. LOUIS, MISSOURI 63104
PHONE: (314) 811-1888
WWW.CONZALEZ.COM
MISSOURI STATE CERTIFICATE OF AUTHORITY #000000000

SCALE: 1"=20' HORIZ.
1"=5' VERT.

BASE MAP: 14-H-3

[illegible]

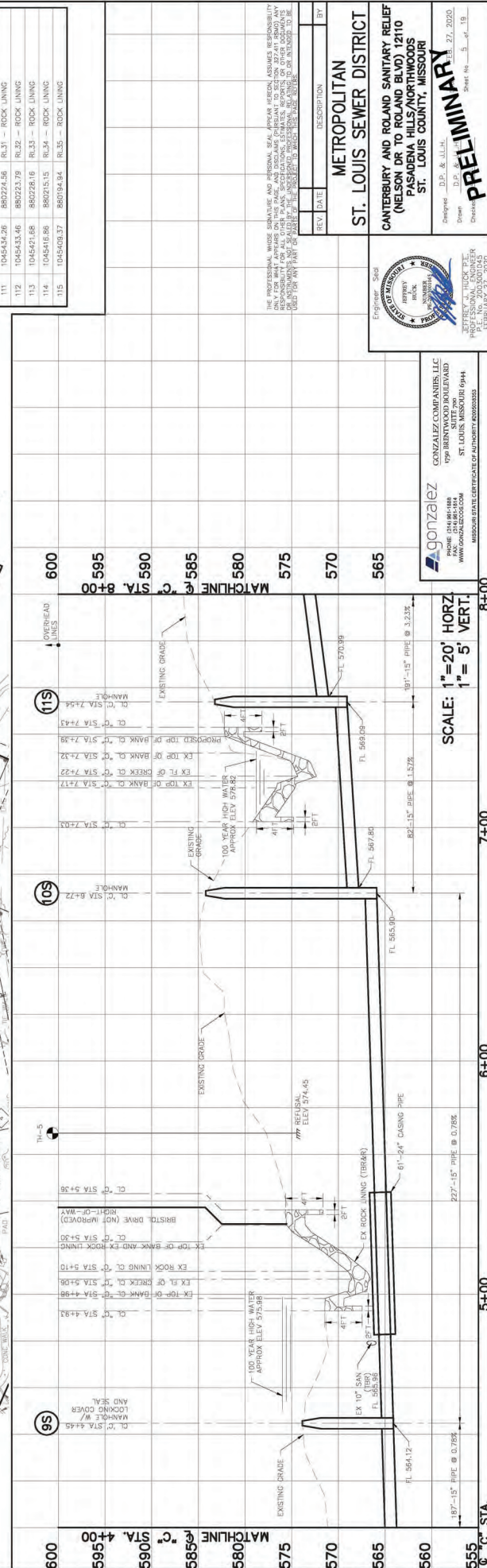
Project: ZORA NR-210 Contingency Drive Lateral Sanitary Reel (N2 Design) (ZORA) (SHEVEN)
2/78/20 @ 02:34:39PM by Jmasty

PROJECT: ZL-262L

BASE MAP: 14-H-3

3210-[C]-02





12110-[C-02] BASE MAP-14-H-3

ASE MAP: 14-H-3
12110-[C1-D2]

11

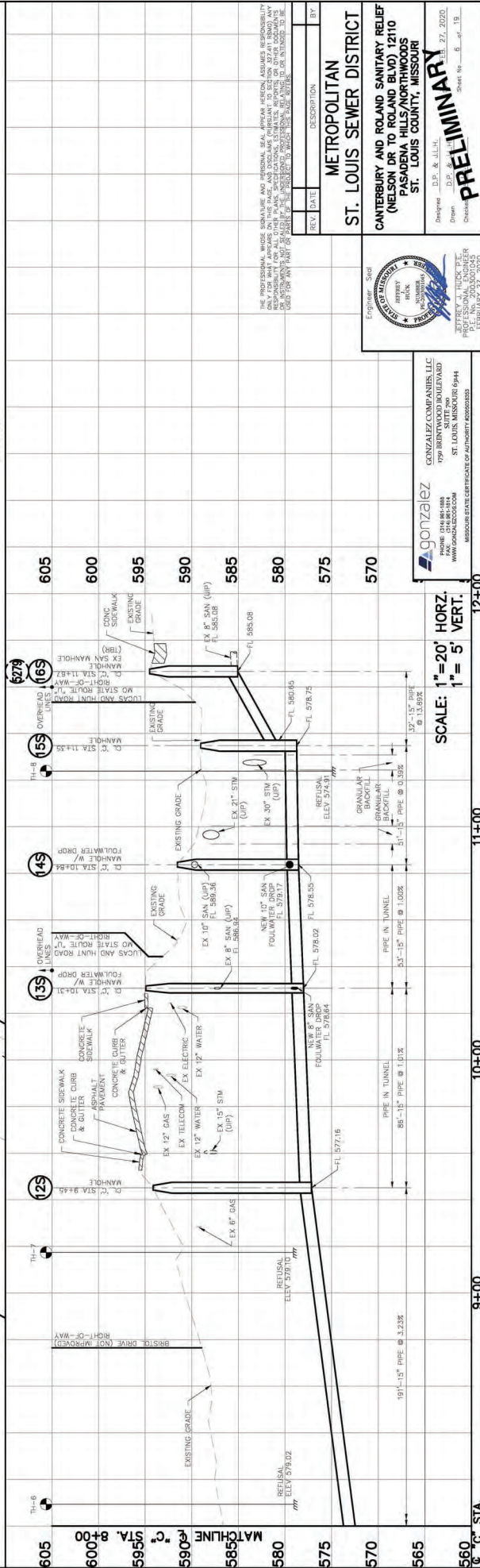
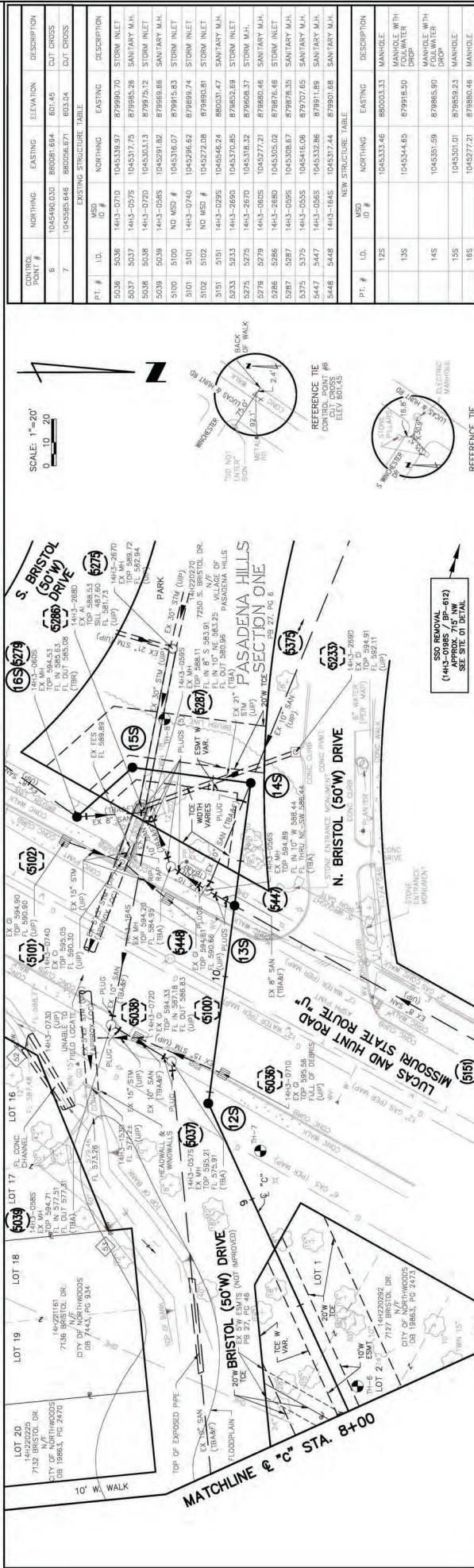
51

NO Design\CADD\SHEET:

ateral Sanitary Relief\2

210 Canterbury Drive L
15:39PM by Jasty

M: \Projects\2018\18-
t on: 2/28/20 @ 02:3



CONTROL POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
6	104550.00	86081.69	601.45	CUT CROSS
7	104550.00	86081.69	601.45	CUT CROSS

PT. #	UD.	MSD	ID #	NORTHING	EASTING	DESCRIPTION
5026	5026	1413-0710	1045339.97	879990.70	879990.70	STORM INLET
5037	5037	1413-0710	1045337.75	879985.26	879985.26	SANITARY M.H.
5038	5038	1413-0720	1045303.13	879975.12	879975.12	STORM INLET
5039	5039	1413-0585	1045291.82	879988.86	879988.86	SANITARY M.H.
5100	5100	NO MSD	1045316.07	879915.83	879915.83	STORM INLET
5101	5101	1413-0740	1045316.07	879989.74	879989.74	STORM INLET
5102	5102	NO MSD	1045272.08	879980.81	879980.81	STORM INLET
5151	5151	1413-0295	1045456.24	880031.47	880031.47	SANITARY M.H.
5233	5233	1413-2690	1045370.85	879852.89	879852.89	STORM INLET
5273	5273	1413-2670	1045378.32	879860.37	879860.37	STORM M.H.
5275	5275	1413-0605	1045377.21	879860.46	879860.46	STORM INLET
5286	5286	1413-2680	1045305.02	879876.46	879876.46	STORM INLET
5287	5287	1413-0295	1045308.67	879876.35	879876.35	SANITARY M.H.
5375	5375	1413-0585	1045415.08	879207.65	879207.65	SANITARY M.H.
5447	5447	1413-0585	1045332.86	879911.89	879911.89	SANITARY M.H.
5448	5448	1413-1945	1045374.41	879802.58	879802.58	SANITARY M.H.

PT. #	ID.	MSD	ID #	NORTHING	EASTING	DESCRIPTION
125	125			1045333.46	880003.33	MANHOLE WITH WATER
135	135			1045344.60	879918.50	MANHOLE WITH WATER
145	145			1045301.59	879865.90	MANHOLE WITH WATER
155	155			1045201.01	879859.23	MANHOLE
165	165			1045277.21	879802.46	MANHOLE



PRELIMINARY

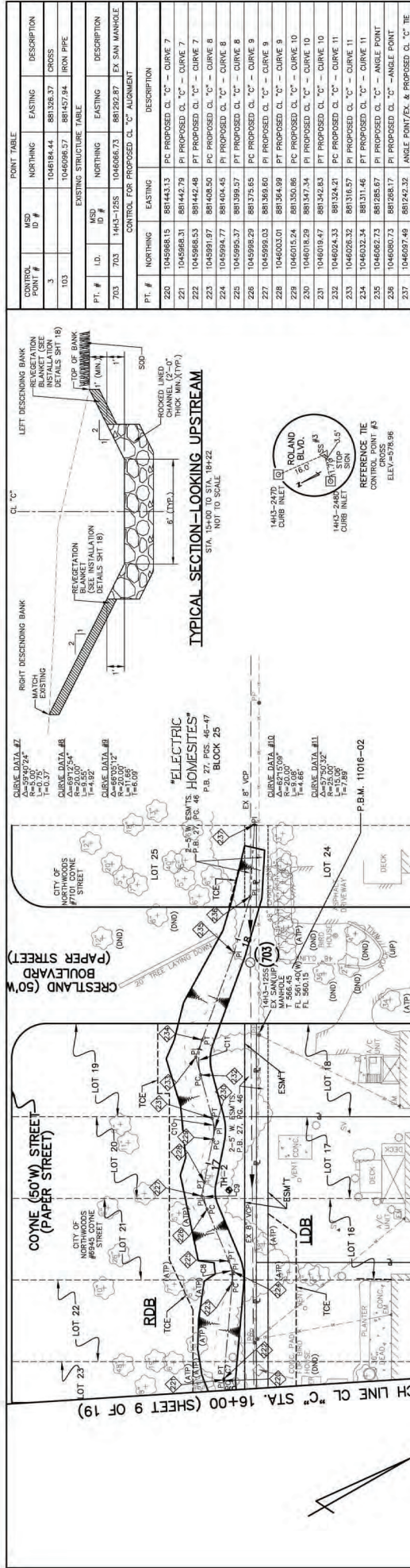
ST. LOUIS SEWER DISTRICT
 CANTERBURY AND ROLAND SANITARY RELIEF
 (NELSON DR TO HILLS BLVD) 12110
 PASADENA HILLS/NORTHWOODS
 ST. LOUIS COUNTY, MISSOURI

Drawn: J.P. & J.L.H.
 Checked: J.P. & J.L.H.
 Date: FEBRUARY 27, 2020

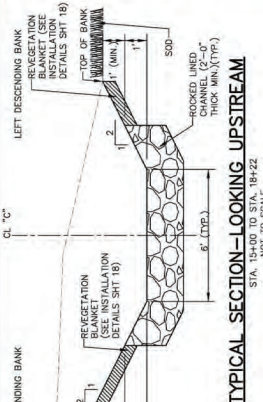


BASE MAP: 14-H-3

Path: J:\2017\170074\CAD\Dwgs\C\
Plotted on: 2/26/20 @ 02:05:56PM by eclanto



SCALE: 1"=20'
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TYPICAL SECTION-LOOKING UPSTREAM



ROLAND
STOP

PROJECT BENCHMARK 11016-02
RAILROAD SPIKE SET IN THE WEST SIDE OF A POWER
POLE IN THE SOUTHWEST CORNER IN THE REAR OF
PROPERTY 568-98
ELEVATION=568.98

STATION	580	575	570	565	560	555	550	545	540	16+00	17+00	18+00	19+00
CL "C" STA.													
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CL "C" STA. 22+00													
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CL "C" STA. 27+00													
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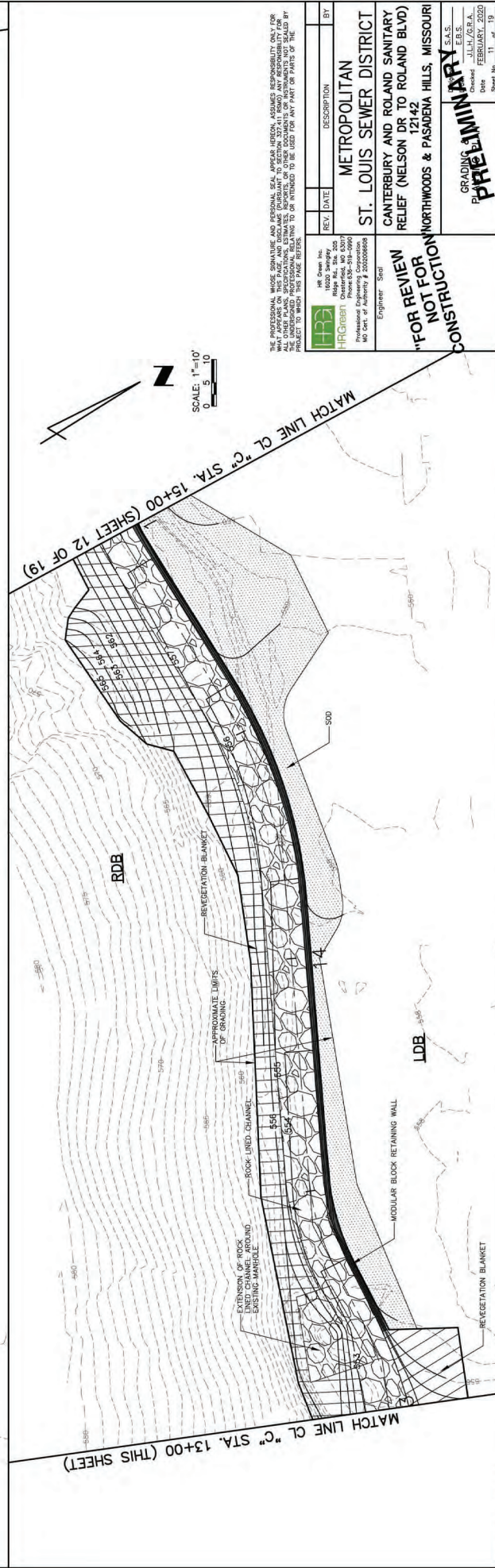
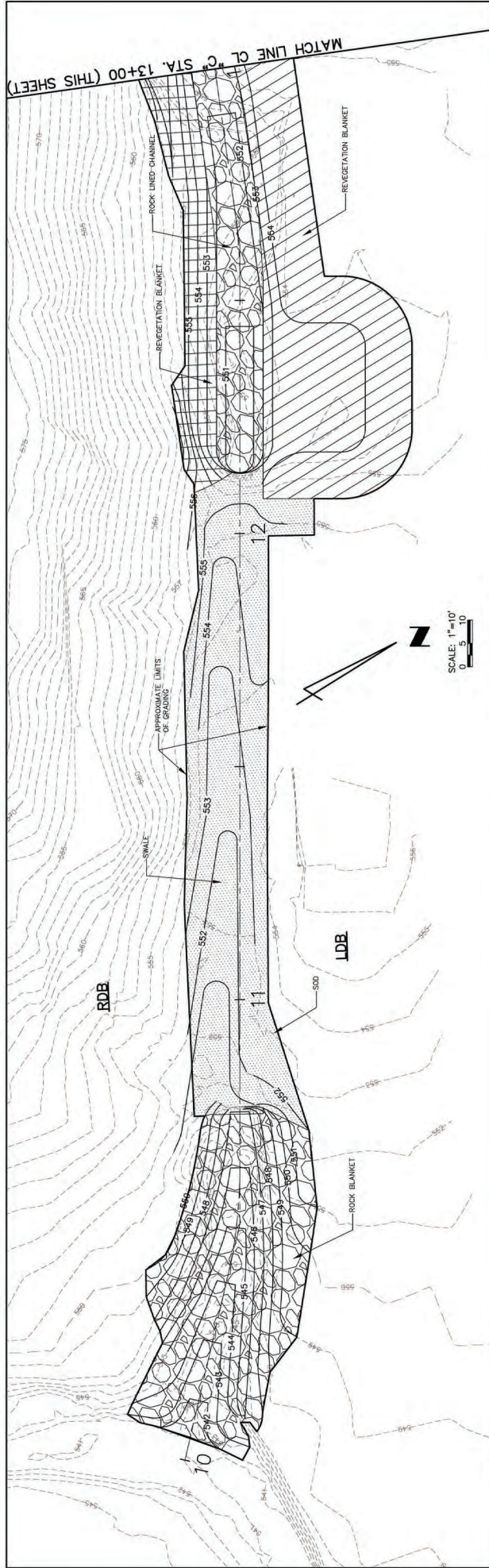
SCALE: 1"=20' HORIZ.
1"= 5' VERT.

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON, ASSUMES RESPONSIBILITY ONLY FOR THAT PORTION OF THIS PLAN AND SPECIFICATIONS PERTAINING TO THE DESIGN, CALCULATION, AND CONSTRUCTION OF THE SEWER LINE. THE PROFESSIONAL DOES NOT ASSUME RESPONSIBILITY FOR THE DESIGN, CALCULATION, AND CONSTRUCTION OF ANY OTHER PORTION OF THIS PLAN AND SPECIFICATIONS.

REV. DATE DESCRIPTION

ST. LOUIS SEWER DISTRICT
CANTERBURY AND ROLAND SANITARY
RELIEF (NELSON DR TO ROLAND BLVD)
NORTHWOODS & PASADENA HILLS, MISSOURI

Channel Reliance S.A.S.
PRELIMINARY
J.L.H./D.P.A.
FEBRUARY, 2020
Sheet No. 10 of 19



THE PROFESSIONAL ENGINEER'S SIGNATURE AND PERSONAL SEAL, APPEAR HEREON, ASSUMES RESPONSIBILITY ONLY FOR THE ACCURACY OF THIS PLAN AND DISBURSES LIABILITY TO THE DESIGNER. THE DESIGNER'S RESPONSIBILITY FOR THE ACCURACY OF THIS PLAN AND DISBURSES LIABILITY TO THE DESIGNER. THE DESIGNER'S RESPONSIBILITY FOR THE ACCURACY OF THIS PLAN AND DISBURSES LIABILITY TO THE DESIGNER.

FOR REVIEW NOT FOR CONSTRUCTION

PRELIMINARY

GRADING S.A.S.

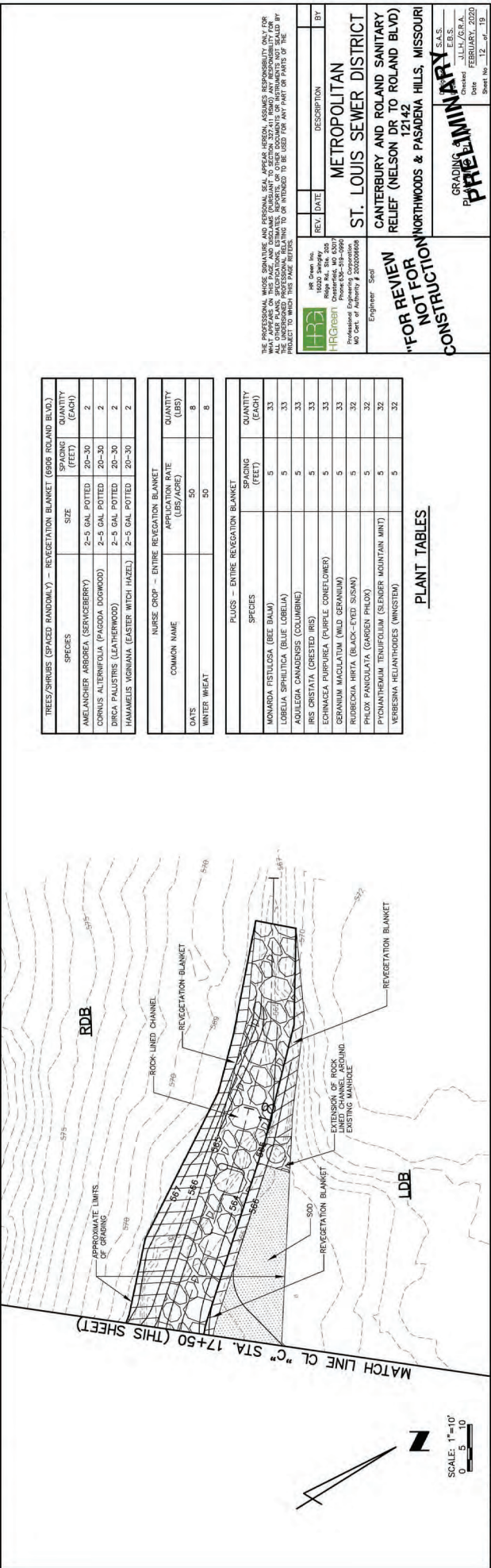
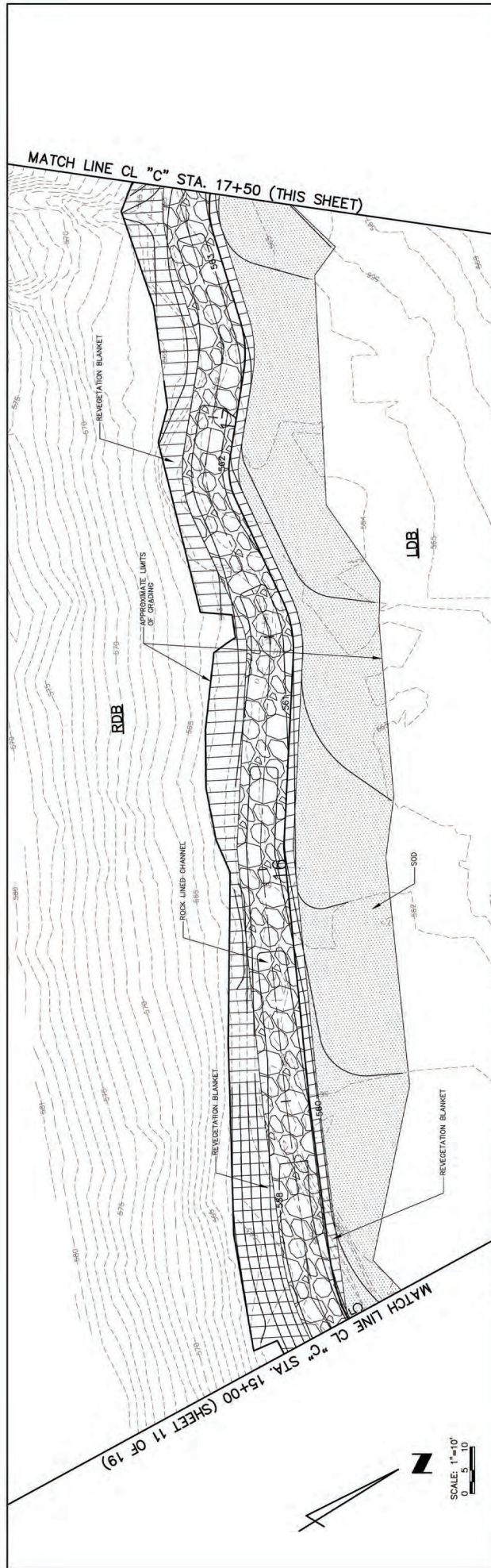
ST. LOUIS SEWER DISTRICT

CANTERBURY AND ROLAND SANITARY RELIEF (NELSON DR TO ROLAND BLVD)

NORTHWOODS & PASADENA HILLS, MISSOURI

170074 SPT

BASE MAP: 14-H-3




TREES/SHRUBS (SPACED RANDOMLY) - REVEGETATION BLANKET (6000 ROLAND BLVD.)	SIZE	SPACING (FEET)	QUANTITY (EACH)
AMELANCHIER ALBOREO (SERAPICHERY)	2-5 GAL POTTED	20-30	2
CORNUS ALTERNIFOLIA (PAGODA DOGWOOD)	2-5 GAL POTTED	20-30	2
DIRCA PALUSTRIS (LEATHERWOOD)	2-5 GAL POTTED	20-30	2
HAMAMELIS VIRGINIANA (EASTERN WITCH HAZEL)	2-5 GAL POTTED	20-30	2

NURSE CROF - ENTIRE REVEGETATION BLANKET	
COMMON NAME	APPLICATION RATE (LBS/1000 SQ. FT.)
WINTER WHEAT	50
	50

PLUGS - ENTIRE REVEGETATION BLANKET		
SPECIES	SPACING (FEET)	QUANTITY (EACH)
MONARDA FISTULOSA (BEE BALM)	5	33
LOBELIA SIPHILITICA (BLUE LOBELIA)	5	33
AQUILEGIA CANADENSIS (COLUMBINE)	5	33
IRIS CRISTATA (CRESTED IRIS)	5	33
ECHINACEA PURPUREA (PURPLE CONEFLOWER)	5	33
GERANIUM MACULATUM (WILD GERANIUM)	5	33
RUBISCOXIA HIRTA (BLACK-EYED SUSAN)	5	32
PHLOX PANICULATA (GARDEN PHLOX)	5	32
PSYCHANTHERUM TENIFOLIUM (SENDER MOUNTAIN MINT)	5	32
VERBENA HELANTHOIDES (WINESTEM)	5	32

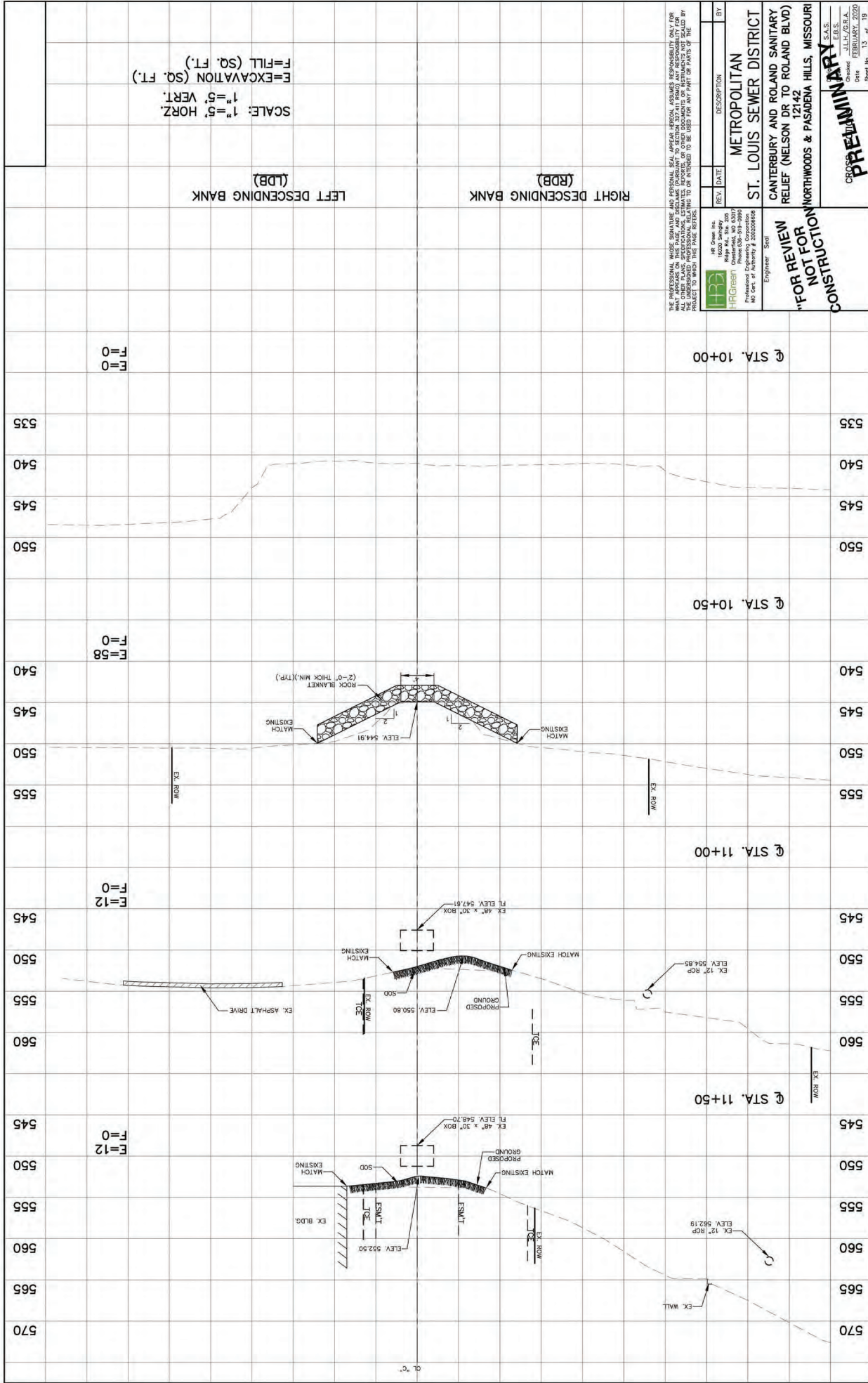
PLANT TABLES

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON, ASSUMES RESPONSIBILITY ONLY FOR THE ACCURACY OF THIS PLAN AND DISCLAIMS ANY LIABILITY FOR THE DESIGN OR CONSTRUCTION OF THE PROJECT. THE INFORMATION CONTAINED HEREIN IS FOR INFORMATION ONLY AND IS NOT TO BE USED FOR ANY PART OR PARTS OF THE PROJECT.

 H2B Green Inc.
 1000 N. 10th St., Suite 200
 Des Moines, IA 50319
 Professional Engineering Corporation
 No. 1000 of Authority # 2000000000

REV. DATE DESCRIPTION
 ST. LOUIS SEWER DISTRICT
 CANTERBURY AND ROLAND SANITARY
 RELIEF (NELSON DR TO ROLAND BLVD)
 NORTHWOODS & PASADENA HILLS, MISSOURI

GRADING ENGINEER
PRELIMINARY
 S.A.S.
 J.L.H./D.P.A.
 Checked
 FEBRUARY, 2020
 Date
 Sheet No. 14-H-3



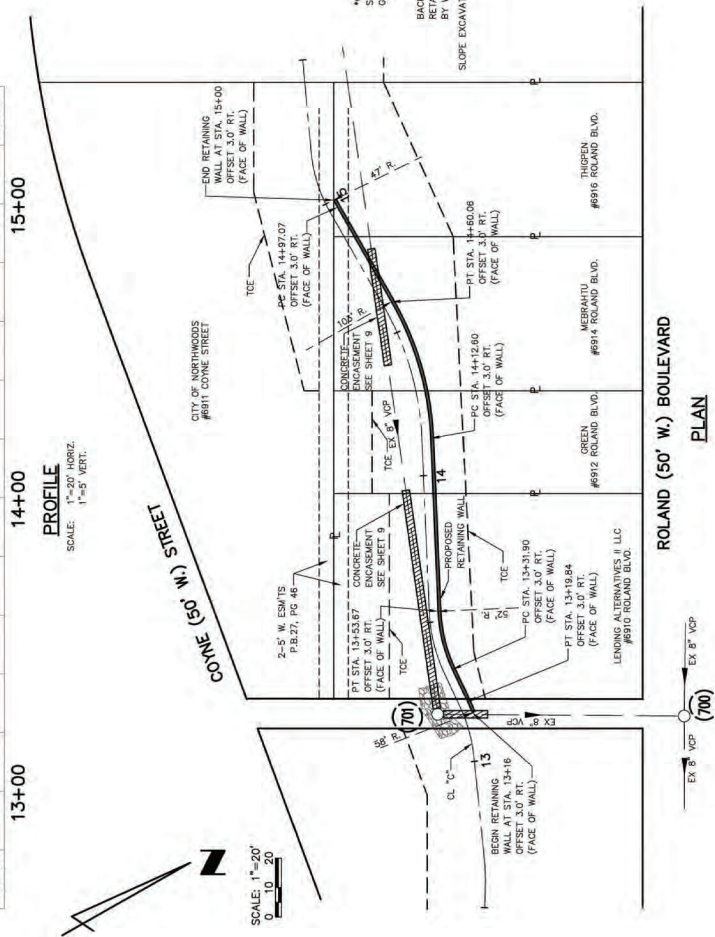
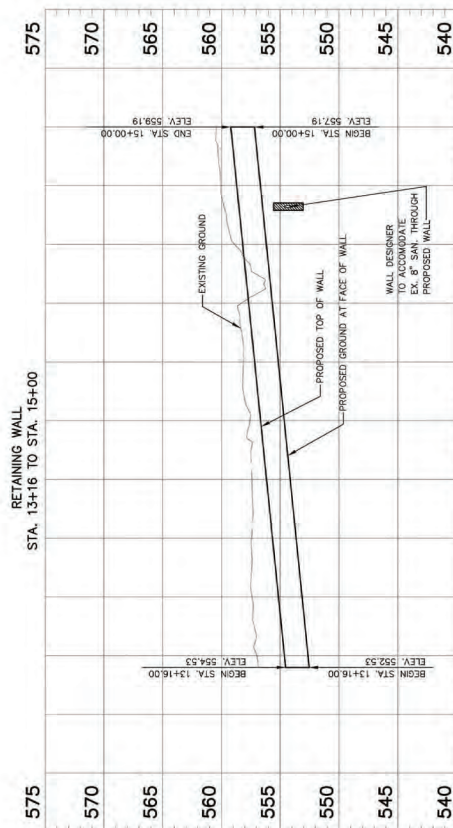
SCALE: 1"=5' HORIZ.
1"=5' VERT.
F=FILL (SQ. FT.)
E=EXCAVATION (SQ. FT.)

LEFT DESCENDING BANK
(LDB)

RIGHT DESCENDING BANK
(RDB)

THE PROFESSIONAL ENGINEER'S SIGNATURE AND PERSONAL SEAL APPEAR HEREON, ASSUMING RESPONSIBILITY ONLY FOR THE DESIGN AND CONSTRUCTION OF THE SEWER LINE. THE ENGINEER'S SIGNATURE AND PERSONAL SEAL ARE REQUIRED FOR THE DESIGN AND CONSTRUCTION OF THE SEWER LINE. THE ENGINEER'S SIGNATURE AND PERSONAL SEAL ARE REQUIRED FOR THE DESIGN AND CONSTRUCTION OF THE SEWER LINE.

REV.	DATE	DESCRIPTION
BY		
PRELIMINARY NOT FOR CONSTRUCTION		
ST. LOUIS SEWER DISTRICT CANTERBURY AND ROLAND SANITARY RELIEF (NELSON DR TO ROLAND BLVD) WORTHWOODS & PASADENA HILLS, MISSOURI		
ENGINEER: SEEL SEEL & ASSOCIATES, INC. 1000 N. GARDEN ST. ST. LOUIS, MO 63107 PHONE: (314) 433-1100 FAX: (314) 433-1101 WWW.SEEL-INC.COM		
PROFESSIONAL ENGINEERING CORPORATION MISSOURI STATE BOARD OF PROFESSIONAL ENGINEERS NO. 000000000		
PROJECT NO. 13-07-13 DATE: FEBRUARY, 2020 SHEET NO. 13-07-13		



NOTES:

1. MODULAR BLOCK RETAINING WALLS SHALL MEET THE REQUIREMENTS OF THE ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR ROADS AND BRIDGES, CURRENT EDITION.
2. UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED ON THE PLANS. THE EXISTENCE OF ANY OTHER FACILITIES IS POSSIBLE, BUT NO WARRANTY IS MADE AS TO THE LOCATION OF THESE FACILITIES AS PRESENTED. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXISTENCE AND PRECISE LOCATION OF ALL UTILITIES AND TO AVOID DAMAGE.
3. ALL STATIONING GIVEN FROM CL. 1/2" CONTAINING UNLESS OTHERWISE NOTED.
4. MODULAR BLOCK RETAINING WALL TO BE DESIGNED PER MANUFACTURER'S DETAILS BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI. CONTRACTOR IS REQUIRED TO SUBMIT SEALED WALL DESIGN, INCLUDING PLANS, SECTION, AND CALCULATIONS TO THE DISTRICT ENGINEER (FOR REVIEW AND RECORDS) AND OTHER PERTINENT INFORMATION TO THE DISTRICT.
5. A CLASS "C" TEXTILE MATERIAL SHALL BE PLACED BETWEEN THE SELECT GRANULAR BACKFILL AND THE RETAINED BACKFILL TO PREVENT MIXING OF THE N-SILT SOIL WITH THE GRANULAR MATERIAL. SEE THE STANDARD SPECIFICATIONS FOR FURTHER DETAILS.
6. ADJUSTMENT IN THE VERTICAL ALIGNMENT OF THE DRAINAGE PIPES FROM THAT SPECIFIED ON THE PLANS MAY BE NECESSARY TO INSURE POSITIVE FLOW OUT OF THE DRAINAGE SYSTEM.
7. CULVERT ENDS OR PIPES SHALL BE LOCATED TO AVOID CLOGGING OR FLOW INTO THE DRAINAGE SYSTEM.

GENERAL NOTES:

1. DESIGN SPECIFICATIONS
2. 2002 ASHSTO UTD (17TH ED.)
3. THE MODULAR BLOCK WALL SYSTEM SHALL BE BUILT IN ACCORDANCE WITH SEC. 720.
4. THE MODULAR BLOCK WALL SYSTEM SHALL BE A SMALL BLOCK WALL SYSTEM.
5. FACTOR OF SAFETY SHALL BE 2.0 FOR OVERTURNING AND 1.5 FOR SLIDING.
6. FOR SEISMIC DESIGN THE FACTOR OF SAFETY SHALL BE 1.5 FOR OVERTURNING AND 1.1 FOR SLIDING.
7. ACTUAL ϕ \geq 34° FOR THE SELECT GRANULAR BACKFILL (REINFORCED BACKFILL AND MIDDLE AREA BACKFILL) FOR STRUCTURAL SYSTEMS. (IF REQUIRED BY WALL DESIGN).
8. DESIGN ϕ = 34° FOR THE SELECT GRANULAR BACKFILL (REINFORCED BACKFILL) FOR STRUCTURAL SYSTEMS (IF REQUIRED BY WALL DESIGN).
9. THE TOP AND BOTTOM ELEVATIONS ARE GIVEN FOR THE VERTICAL WALL. IF A BATTERED TOP AND BOTTOM ELEVATION IS REQUIRED, THE MEAN OF THE WALL SHALL BE PAID AS NECESSARY TO FIT THE GROUND SLOPE AND THE CONCRETE BATTERING PAID SHALL BE ADJUSTED AS NECESSARY TO ACCOUNT FOR THE WALL BATTER.
10. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO COORDINATE CONSTRUCTION OF THE WALL WITH CHANNEL CONSTRUCTION AND ENSURE THAT THE CONSTRUCTION OF THE RESULTING ARE EXISTING OBSTRUCTIONS, SHALL NOT IMPACT THE CONSTRUCTION OF THE WALL AND SHALL BE REMOVED PRIOR TO THE WALL BEING PLACED TO AVOID DAMAGE BY UTILITY AND SINK FOUNDATIONS. (SEE CHANNEL PLAN).

ESTIMATED QUANTITIES FOR MSE WALL		
ITEM	UNIT	TOTAL
MODULAR BLOCK WALL	sq. foot	736

** — PAYMENT FOR MODULAR BLOCK WALL SHALL INCLUDE ALL COSTS ASSOCIATED WITH FURNISHING AND INSTALLING ALL SEC 720, INCLUDING BUT NOT LIMITED TO THE LEVELING PAD, SELECT GRANULAR BACKFILL FOR STRUCTURAL SYSTEMS, SEPARATION GEOTEXTILE, AND DRAINAGE SYSTEM. SEE TECHNICAL SPECIFICATIONS FOR FURTHER DETAIL.

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON, ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.611 RSMO) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL, RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PAGE OF THE

REV.	DATE	DESCRIPTION	BY
<p>ST. LOUIS SEWER DISTRICT</p> <p>CANTERBURY AND ROLAND SANITARY RELIEF (NELSON DR TO ROLAND BLVD) 12142</p> <p>NORTHWOODS & PASADENA HILLS, MISSOURI</p>			
<p>HR Green Inc. 16200 S. Wingard St. Louis, MO 63127 Discontinued Phone 636-431-0990 Fax 636-431-0999 Mod. of Authority 2/20000668</p>		<p>PRELIMINARY</p> <p>WALTON JULY 2006 Created Date 10/19/06</p>	

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