

PRELIMINARY SITE PLANS FOR
LEGACY OF ROCHESTER HILLS
 PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29
 ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

OWNER/APPLICANT/DEVELOPER:

GOLDBERG COMPANIES, INC.
 25101 CHAGRIN BOULEVARD
 BEACHWOOD, OHIO 44122
 CONTACT: STAN JAKSE
 PHONE: (216) 831-6100 EXT. 239
 EMAIL: SJAKSE@GOLDBERGCOMPANIES.COM

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 14414 DETROIT AVENUE, #306
 LAKEWOOD, OH 44107
 CONTACT: MAGGIE BRUDER YOUNG
 PHONE: (216) 221-9021 EXT. 261
 EMAIL: MYOUNG@DIMITARCHITECTS.COM

CIVIL ENGINEER:

PEA, INC.
 2430 ROCHESTER CT, SUITE 100
 TROY, MI 48083
 CONTACT: RACHEL L. SMITH, PE, LEED AP, CFM
 PHONE: (248) 689-9090 EXT. 1165
 FAX: (248) 689-1044
 EMAIL: RACHEL.SMITH@PEAINC.COM

LANDSCAPE ARCHITECT:

PEA, INC.
 7927 NEMCO WAY, SUITE 115
 BRIGHTON, MI 48116
 CONTACT: JEFF SMITH, R.L.A., LEED AP
 PHONE: (517) 546-8583
 FAX: (517) 546-8973
 EMAIL: JSMITH@PEAINC.COM

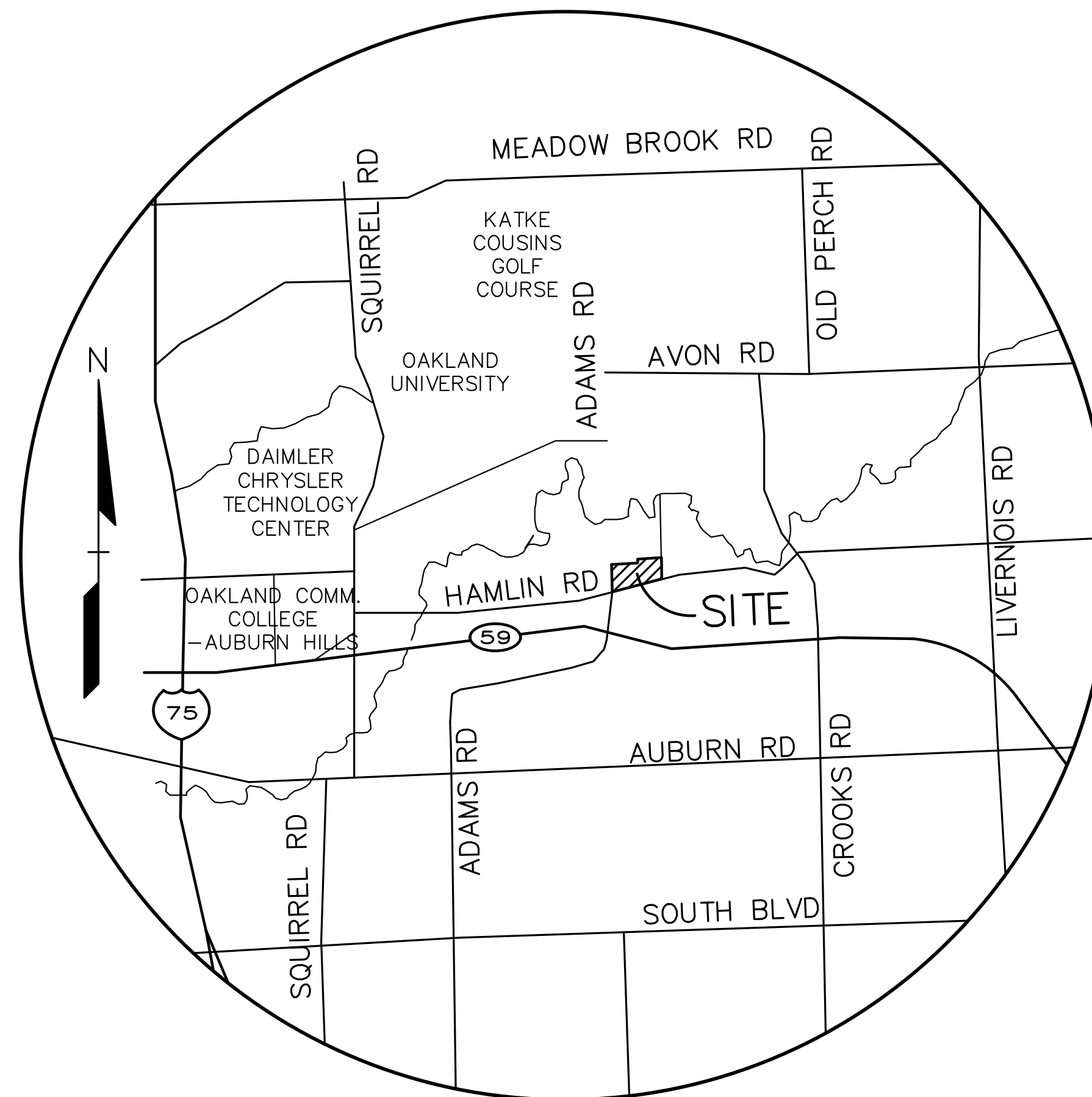
LEGAL DESCRIPTION:

(Per Vanguard Title Company, File No. VG204608, Effective May 4, 2018)

Land situated in the City of Rochester Hills, County of Oakland, State of Michigan, more particularly described as:

PARCEL A:
 Part of the Northwest 1/4 of Section 29, Town 3 North, Range 11 East, City of Rochester Hills, Oakland County, Michigan, and also more particularly described as: Commencing at the Northwest corner of said Section 29; thence along the north line of said Section 29, as monumented, N88°07'26"E, 841.63 feet to the Point of Beginning, said point being on the Easterly line of "Clinton River Valley No. 1", as recorded in Liber 180 of plats, Page 30, Oakland County Records; thence continuing along said North line, N88°07'26"E, 759.55 feet, said line also being the Southerly line and Easterly extension thereof of said "Clinton River Valley No. 1"; thence S00°58'53"W, 553.09 feet to the North line of Hamlin Road (variable width), as recorded in Liber 15473, Page 434 (on page 436), Oakland County Records; thence along said North line the following two (2) courses: 1) 96.30 feet along an arc of a curve to the left, having a radius of 6452.00 feet and a chord bearing S76°36'57"W, 96.29 feet AND 2) S76°11'18"W, 41.39 feet; thence N13°48'42"W, 132.98 feet; thence N37°22'04"W, 132.46 feet; thence S76°11'18"W, 100.76 feet; thence N13°48'42"W, 268.87 feet; thence S88°07'26"W, 345.01 feet to the aforementioned easterly line of "Clinton River Valley No. 1"; thence along said Easterly line, N01°49'58"E, 100.21 feet to the aforementioned north line of said Section 29 and the Point of Beginning.

PARCEL B:
 Part of the Northwest 1/4 of Section 29, Town 3 North, Range 11 East, City of Rochester Hills, Oakland County, Michigan, and also more particularly described as: Commencing at the Northwest corner of said Section 29; thence along the North line of said Section 29, as monumented, N88°07'26"E, 841.63 feet to a point on the Easterly line of "Clinton River Valley No. 1", as recorded in Liber 180 of plats, Page 30, Oakland County Records; thence along said Easterly line, S01°49'58"W, 100.21 feet to the Point of Beginning; thence N88°07'26"E, 345.01 feet; thence S13°48'42"E, 268.87 feet; thence N76°11'18"E, 100.76 feet; thence S37°22'04"E, 132.46 feet; thence S13°48'42"E, 132.98 feet to the North line of Hamlin Road (variable width), as recorded in Liber 15473, Page 434 (on page 436), Oakland County Records; thence along said North line the following four (4) courses: 1) S76°11'18"W, 1,002.92 feet; 2) S82°16'37"W, 75.43 feet; 3) S76°11'18"W, 300.00 feet AND 4) N47°24'39"W, 47.53 feet to the east line of Adams Road (variable width), as recorded in Liber 15473, Page 434 (on page 436), Oakland County Records; thence along said East line the following (4) courses: 1) 313.82 feet along an arc of a curve to the left, having a radius of 3909.72 feet and a chord bearing N01°58'51"E, 313.74 feet; 2) N00°19'07"W, 85.35 feet; 3) N09°45'18"W, 133.16 feet AND 4) N02°09'47"W, 172.54 feet to the South line of the aforementioned "Clinton River Valley No. 1"; thence along said South line, N88°30'52"E, 774.10 feet to the Southeasterly corner of said "Clinton River Valley No. 1"; thence along the aforementioned Easterly line of said "Clinton River Valley No. 1", N01°49'58"E, 26.57 feet to the Point of Beginning.

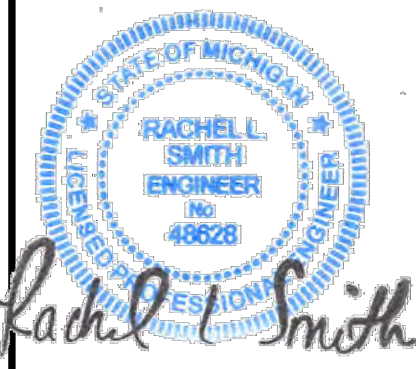


LOCATION MAP
 NO SCALE

INDEX OF DRAWINGS:

- C-0.0 COVER SHEET
- C-1.1 TOPOGRAPHIC SURVEY - WEST
- C-1.2 TOPOGRAPHIC SURVEY - EAST
- C-2.0 OVERALL PRELIMINARY SITE PLAN
- C-2.1 BROWNFIELD DETAILS
- C-3.1 PRELIMINARY SITE PLAN - NW
- C-3.2 PRELIMINARY SITE PLAN - SW
- C-3.3 PRELIMINARY SITE PLAN - SE
- C-3.4 PRELIMINARY SITE PLAN - NE
- C-4.0 FIRE PROTECTION PLAN
- C-5.1 PRELIMINARY GRADING PLAN - NW
- C-5.2 PRELIMINARY GRADING PLAN - SW
- C-5.3 PRELIMINARY GRADING PLAN - SE
- C-5.4 PRELIMINARY GRADING PLAN - NE
- C-6.0 OVERALL PRELIMINARY UTILITY PLAN
- C-7.0 NOTES AND DETAIL SHEET
- C-7.1 MDOT RAMP DETAILS
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- L-1.1 OVERALL LANDSCAPE PLAN
- L-1.2 OVERALL LANDSCAPE PLAN
- L-1.3 LANDSCAPE DETAILS
- T-1.0 PRELIMINARY TREE PRESERVATION PLAN
- T-1.1 PRELIMINARY TREE PRESERVATION LIST
- SL-1.1 SITE PHOTOMETRIC PLAN
- SL-1.2 SITE PHOTOMETRIC PLAN
- SL-1.3 SITE PHOTOMETRIC PLAN
- SL-1.4 SITE PHOTOMETRIC PLAN
- SL-1.5 SITE PHOTOMETRIC DETAILS

NO.	DATE	DESCRIPTION
1	10-12-18	REVISED PER CITY REVIEW
2	11-21-18	REVISED PER CITY REVIEW
3	12-21-18	REVISED ENCLOSURE AREA & CITY REVIEW
4	1-25-19	REVISED ENCLOSURE AREA & CITY REVIEW



CAUTION!!
 THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS GIVEN AS TO THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.
 THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE SUBMITTED ON THE CONDITION THAT THEY ARE NOT TO BE USED, REPRODUCED, OR COPIED IN WHOLE OR IN PART, OR USED FOR FURNISHING INFORMATION TO OTHERS, WITHOUT THE PRIOR WRITTEN CONSENT OF PEA, INC. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED. © 2017 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL BE MADE BY ANY CONTRACTOR AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

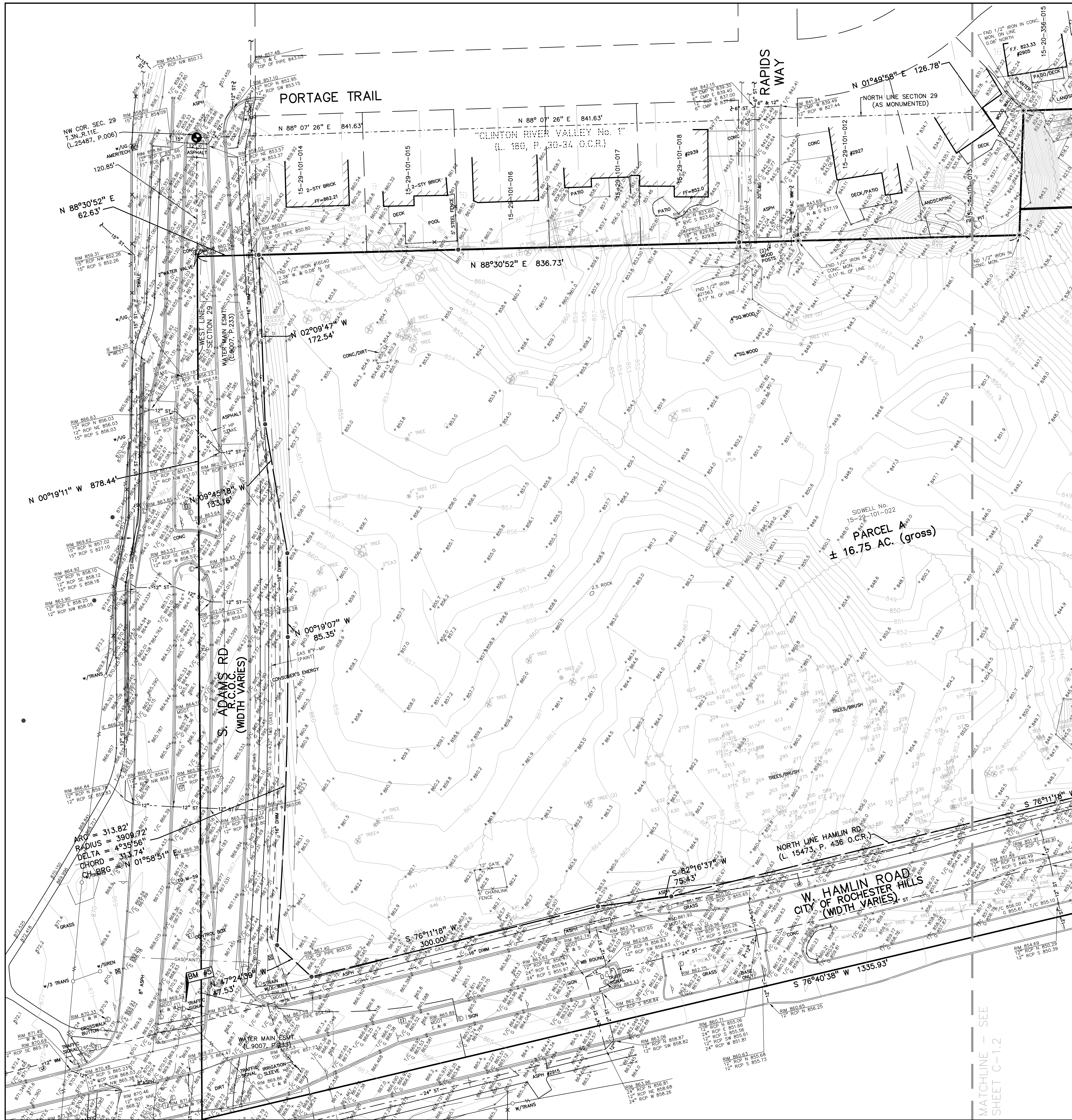
3 FULL WORKING DAYS BEFORE YOU DIG CALL



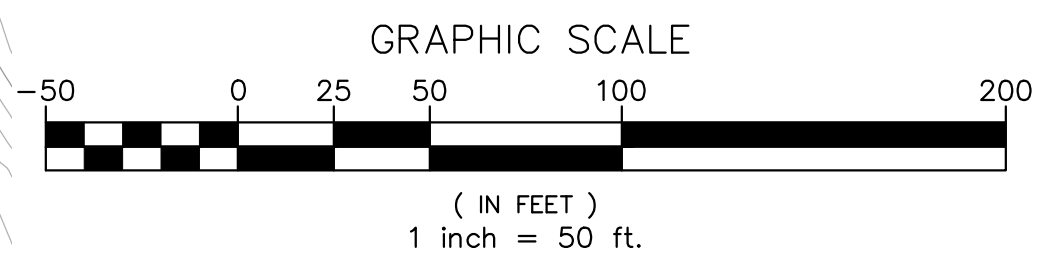
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 www.peainc.com

GOLDBERG COMPANIES, INC.
 25101 CHAGRIN BOULEVARD
 BEACHWOOD, OHIO 44122
COVER SHEET
LEGACY OF ROCHESTER HILLS
 PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN
 DES: GB/RLS/DN KPI/LJKS/LSUR KTR P/M RLS
 S:\PROJECTS\2017\2017037\DWG\SITE PLANS\V-C-BASE-17037.DWG
 S:\PROJECTS\2017\2017037\DWG\SITE PLANS\V-C-00 COVER-17037.dwg

ORIGINAL ISSUE DATE:
 OCTOBER 12, 2018
 PEA JOB NO. 2017-037
 SCALE: N/A
 DRAWING NUMBER:
C-0.0



FLOOD PLAIN:
BY GRAPHICAL PLOTTING, THE SITE IS WITHIN ZONE 'X'. AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD PLAIN PER FLOOD INSURANCE RATE MAPS NUMBER 26125C-0389F & 26125C-0393F, DATED SEPTEMBER 29, 2006.

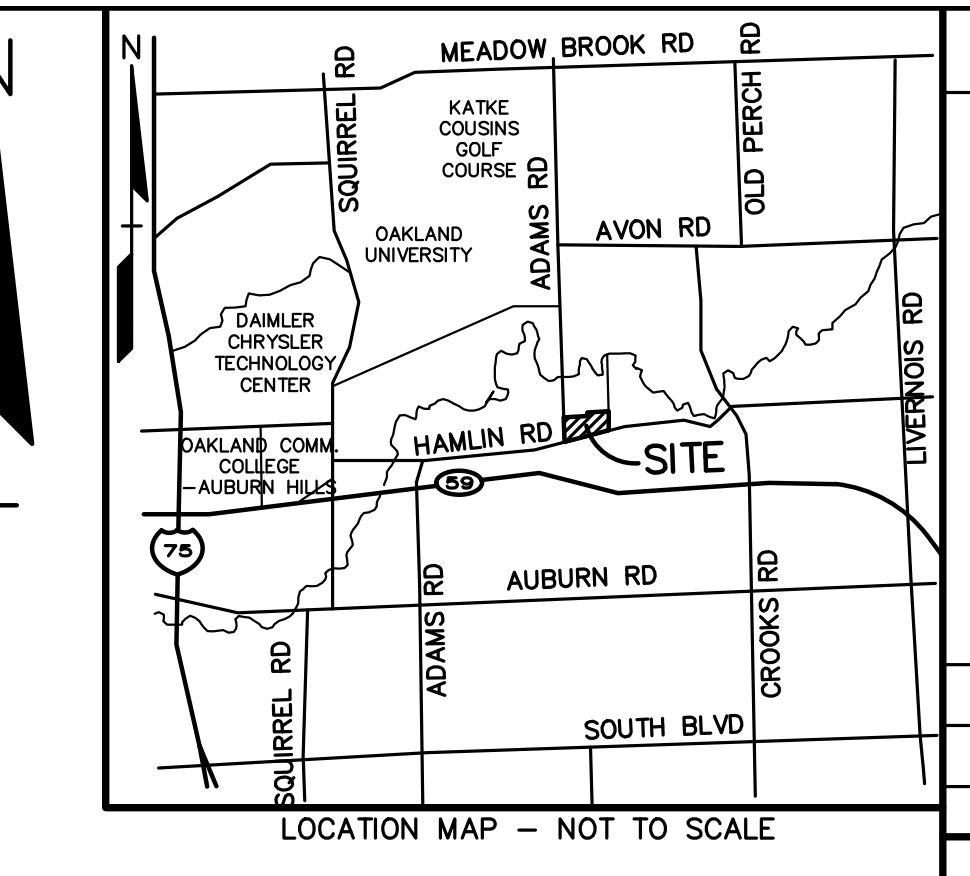


BENCHMARKS:
(NAVD 88)
SITE & REFERENCE BENCHMARKS PER PEA JOB NO. 2001216 M-59 BETWEEN ADAMS & CROOKS MDOT AERIAL CONTROL PROJECT CS63043 JN30154

SITE BM#4:
CUT CROSS & BOX AT THE WEST END OF A SEGMENT OF SIDEWALK THAT RUNS PARALLEL TO HAMLIN ROAD AND IS NEXT TO THE FIRST PARKING SPACE AS YOU ENTER THE SUBURBAN SPORTS COMPLEX.
ELEV. 832.445

SITE BM#5:
CUT CROSS & BOX SET ON TOP OF A CONCRETE PEDESTAL THAT SUPPORTS A TRAFFIC LIGHT SIGNAL BOX APPROX. 30' NORTH OF HAMLIN ROAD AND IN THE MIDDLE OF THE MEDIAN BETWEEN THE NORTH & SOUTHWEST LAND OF ADAMS RD.
ELEV. 871.215

TREE LEGEND:
372 TREE TAG
SEE TREE PRESERVATION PLAN FOR TREE LIST



LEGEND

●	IRON FOUND	⊗	SEC. CORNER FOUND
⊗	BRASS PLUS SET	⊕	RECORDED
⊗	MONUMENT FOUND	⊕	MEASURED
⊗	MONUMENT SET	⊕	CALCULATED

EXISTING

- ELEC.—PHONE OR CABLE TV OH. LINE, POLE & GUY WIRE UNDERGROUND CABLE TV, GUY PEDESTAL
- UG-CATV— TELEPHONE U.G. CABLE, FIBER OPTIC & MANHOLE
- UG-PHONE— ELECTRIC U.G. CABLE, MANHOLE, WATER & MANHOLE
- GAS— GAS MAIN, VALVE & GAS LINE MARKER
- WATER— WATERMAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
- SEWER— SANITARY SEWER, CLEANOUT & MANHOLE
- CORNER— CORNER SEME & MANHOLE
- SQUARE— SQUARE ROUND & RESERVE CATCH BASIN, YARD DRAIN
- POST— POST INDICATOR VALVE
- VALVE— WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
- MALBOX— MALBOX, STRUCTURE, IRRIGATION CONTROL VALVE
- UNIDENTIFIED— UNIDENTIFIED TRANSFORMER
- SPOT— SPOT ELEVATION
- CONTOUR— CONTOUR LINE
- GUARD— GUARD RAIL
- STREET— STREET LIGHT
- SIGN— SIGN

CONSTRUCTION

- CONC.— CONCRETE
- ASPH.— ASPHALT
- GRAVEL— GRAVEL SHOULDER
- WETLAND— WETLAND

REFERENCE DRAWINGS

WATER MAIN	CITY OF ROCHESTER HILLS, OHM JOB NO. 190-90-051, 1996
SANITARY SEWER	CLINTON RIVER VALLEY & GREEN HILL SUBDIVISION PLANS
STORM SEWER	CITY OF ROCHESTER HILLS, OHM JOB NO. 190-90-051, 1996
ELECTRICAL	DETROIT EDISON, MAP Nos. 1-304-402 & 1-307-400, DATED 11-07-03
TELEPHONE	SBC AMERICTECH, LETTER DATED 11-07-03
CONSUMER'S ENERGY	CONSUMER'S ENERGY, QUARTER SECTION MAP 03-61-29-2, DATED 11-07-03
PETROLEUM	SUNOCO LOGISTICS, LETTER DATED 11-11-03
OTHER	"TOPO SURVEY - 22.49 ACRE SITE" PEA JOB 2003-258, DATED 5-12-04

LEGAL DESCRIPTION:
(Per Vanguard Title Company, File No. VG204608, Effective May 4, 2018)

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NO.	BY	DESCRIPTION	DATE
1	RLS	REVISED ENCLOSURE AREA & CITY REVIEW (N.C.)	12-22-18
2	RLS	REVISED ENCLOSURE AREA & CITY REVIEW (N.C.)	11-22-18
3	RLS	REVISED PER CITY REVIEW	11-22-18
4	RLS	REVISED PER CITY REVIEW	11-22-18

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CONSTRUCTION CONTRACTOR AGREES THAT IN ADDITION TO THE STANDARD CONTRACT DOCUMENTS AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY THAT THIS REQUIREMENT SHALL BE TO NORMAL WORKING HOURS, AND CONSTRUCTION WORKERS SHALL BE RESPONSIBLE FOR THE PROTECTION AND HOLD DESIGN PROFESSIONAL WORKERS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

3 FULL WORKING DAYS BEFORE YOU DIG CALL 811

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MISS DIG System, Inc.
1-800-482-7171 www.missdig.org

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2430 Rochester Ct., Ste. 100
Troy, MI 48063-1872
T: 248.689.9090
F: 248.689.1044
www.peainc.com

GOLDBERG COMPANIES, INC.
25101 CHAGRIN BOULEVARD
BEACHWOOD, OHIO 44122

TOPOGRAPHIC SURVEY - WEST LEGACY ROCHESTER HILLS
PART OF THE WEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 29, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

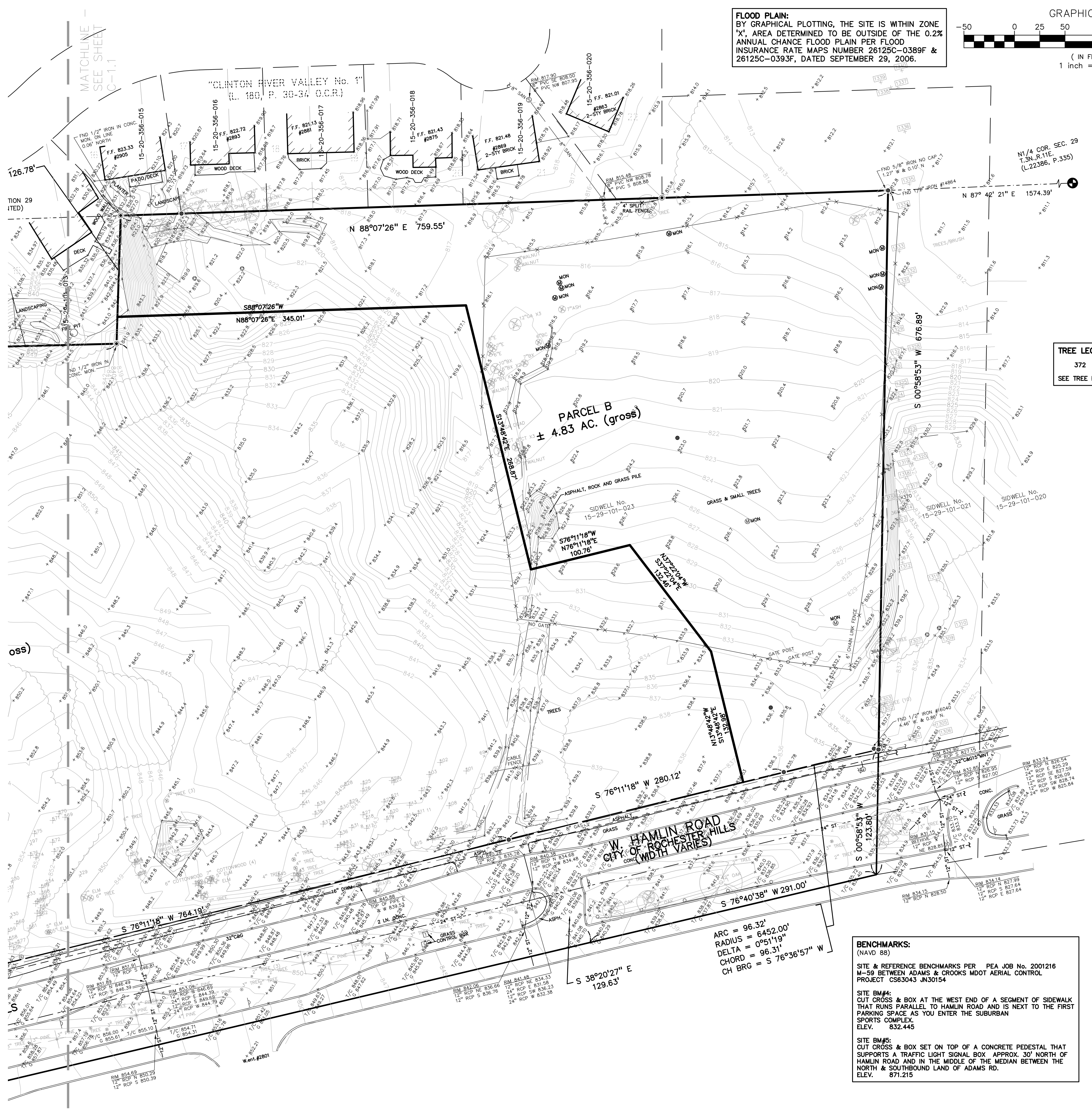
DES. GBR/RLS JLSUR KTR P.M.
DWS. GBR/RLS JLSUR KTR P.M.

ORIGINAL ISSUE DATE:
OCTOBER 12, 2018

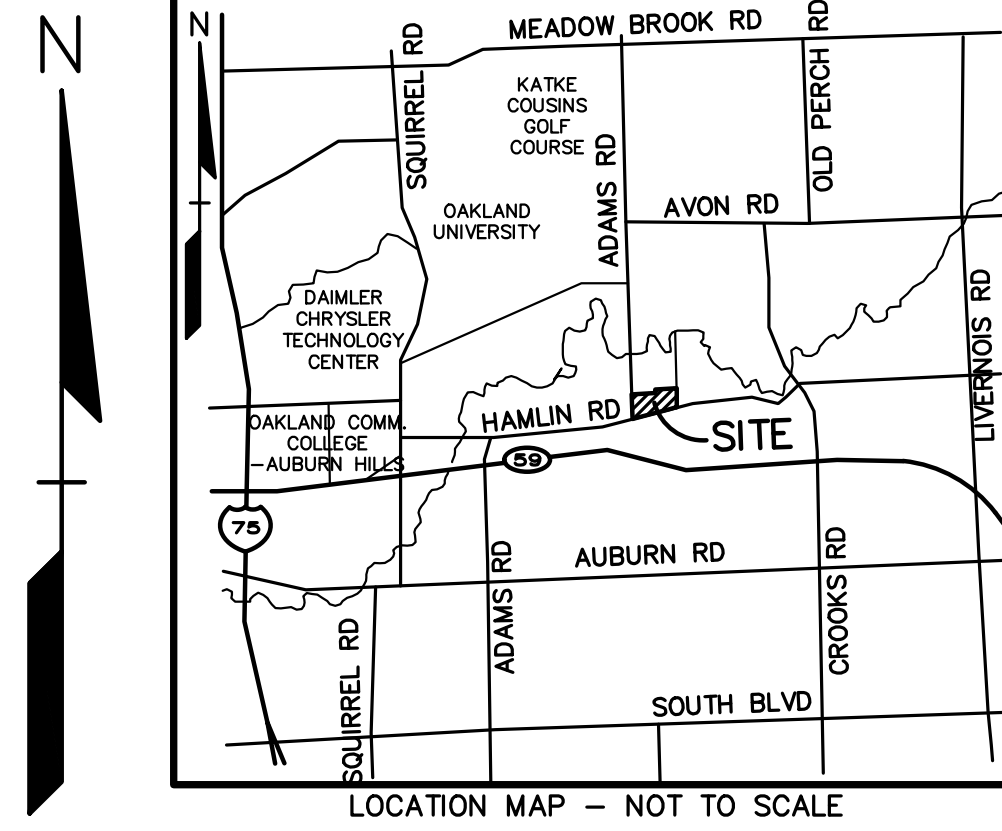
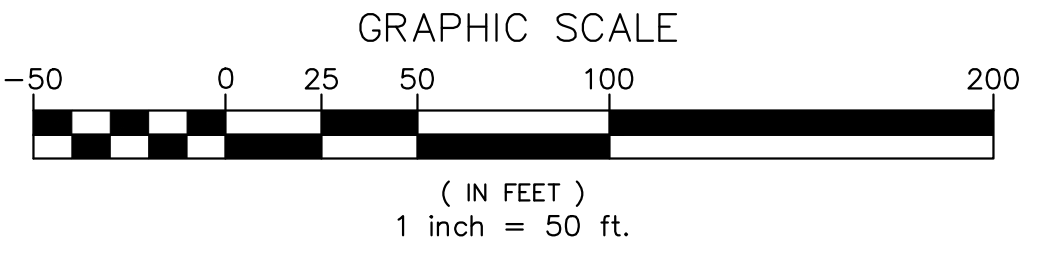
PEA JOB NO. 2017-037

SCALE: 1" = 50'

DRAWING NUMBER:
C-1.1



FLOOD PLAN:
 BY GRAPHICAL PLOTTING, THE SITE IS WITHIN ZONE 'X', AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD PLAIN PER FLOOD INSURANCE RATE MAPS NUMBER 26125C-0389F & 26125C-0393F, DATED SEPTEMBER 29, 2006.



- LEGEND**
- IRON FOUND
 - ⊗ IRON SET
 - ⊗ NAIL FOUND
 - ⊗ NAIL & CAP SET
 - ⊗ BRASS PLUS SET
 - ⊗ MONUMENT FOUND
 - ⊗ MONUMENT SET
 - ⊗ SEC. CORNER FOUND
 - ⊗ RECORDED
 - ⊗ MEASURED
 - ⊗ CALCULATED
- EXISTING**
- OH-ELEC-VV— ELEC. PHONE OR CABLE TV OH. LINE, POLE & GUY WIRE
 - UG-CATV— UNDERGROUND CABLE TV, CITY PEDESTAL
 - UG-PHONE— TELEPHONE U.G. CABLE, MANHOLE & MANHOLE
 - UG-ELEC— ELEC. U.G. CABLE, MANHOLE, WATER & HANDHOLE
 - GAS— GAS MAN, VALVE & GAS LINE MARKER
 - WATERMAN, HYD. GATE VALVE, TAPPING SLAVE & VALVE
 - SANITARY SEWER, CLEANOUT & MANHOLE
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 - SPOT ELEVATION
 - CONTOUR LINE
 - GUARD RAIL
 - STREET LIGHT
 - SON
- CONC.** CONCRETE
- ASPH.** ASPHALT
- GRAVEL** GRAVEL SHOULDER
- WETLAND** WETLAND

TREE LEGEND:
 372 TREE TAG
 SEE TREE PRESERVATION PLAN FOR TREE LIST

- REFERENCE DRAWINGS**
- CITY OF ROCHESTER HILLS, DWM JOB NO. 190-00-051, 1996
 - CLINTON RIVER VALLEY & GREEN HILL SUBDIVISION PLANS
 - CITY OF ROCHESTER HILLS, DWM JOB NO. 190-99-020, 1998
 - DETROIT EDISON, MAP NOS. 11-304-420 & 11-307-420, DATED 11-07-03
 - TELEPHONE
 - CONSULDER'S ENERGY, QUARTER SECTION MAP 03-61-29-2, DATED 11-07-03
 - SUNOCO LOGISTICS, LETTER DATED 11-11-03
 - PETROLEUM
 - OTHER

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 Part of the Northwest 1/4 of Section 29, Town 3 North, Range 11 East, City of Rochester Hills, Oakland County, Michigan, and also more particularly described as: Commencing at the Northwest corner of said Section 29; thence along the north line of said Section 29, as monumented, N88°07'26"E, 841.63 feet to the Point of Beginning, said point being on the Easterly line of "Clinton River Valley No. 1", as recorded in Liber 180 of plots, Page 30, Oakland County Records; thence continuing along said North line, N88°07'26"E, 759.55 feet, said line also being the Southerly line and Easterly extension thereof of said "Clinton River Valley No. 1"; thence S00°58'53"W, 553.09 feet to the North line of Hamlin Road (variable width), as recorded in Liber 15473, Page 434 (on page 436), Oakland County Records; thence along said North line the following two (2) courses: 1) 96.30 feet along an arc of a curve to the left, having a radius of 6452.00 feet and a chord bearing S76°36'57"W, 96.29 feet AND 2) S76°11'18"W, 41.39 feet; thence N13°48'42"W, 132.98 feet; thence N37°22'04"W, 132.46 feet; thence S76°11'18"W, 100.76 feet; thence N13°48'42"W, 268.87 feet; thence S88°07'26"W, 345.01 feet to the aforementioned easterly line of "Clinton River Valley No. 1"; thence along said Easterly line, N01°49'58"E, 100.21 feet to the aforementioned north line of said Section 29 and the Point of Beginning.

PARCEL B:
 Part of the Northwest 1/4 of Section 29, Town 3 North, Range 11 East, City of Rochester Hills, Oakland County, Michigan, and also more particularly described as: Commencing at the Northwest corner of said Section 29; thence along the North line of said Section 29, as monumented, N88°07'26"E, 841.63 feet to a point on the Easterly line of "Clinton River Valley No. 1", as recorded in Liber 180 of plots, Page 30, Oakland County Records; thence along said Easterly line, S01°49'58"W, 100.21 feet to the Point of Beginning; thence N88°07'26"E, 345.01 feet; thence S13°48'42"E, 268.87 feet; thence N76°11'18"E, 100.76 feet; thence S37°22'04"E, 132.46 feet; thence S13°48'42"E, 132.98 feet to the North line of Hamlin Road (variable width), as recorded in Liber 15473, Page 434 (on page 436), Oakland County Records; thence along said North line the following four (4) courses: 1) S76°11'18"W, 1,002.92 feet; 2) S82°16'37"W, 75.43 feet; 3) S76°11'18"W, 300.00 feet AND 4) N47°24'39"W, 47.53 feet to the east line of Adams Road (variable width), as recorded in Liber 15473, Page 434 (on page 436), Oakland County Records; thence along said East line the following (4) courses: 1) 313.82 feet along an arc of a curve to the left, having a radius of 3909.72 feet and a chord bearing N01°58'51"E, 313.74 feet; 2) N00°19'07"W, 85.35 feet; 3) N09°45'18"W, 133.16 feet AND 4) N02°09'47"W, 172.54 feet to the South line of the aforementioned "Clinton River Valley No. 1"; thence along said South line, N88°30'52"E, 774.10 feet to the Southeasterly corner of said "Clinton River Valley No. 1"; thence along the aforementioned Easterly line of said "Clinton River Valley No. 1", N01°49'58"E, 26.57 feet to the Point of Beginning.

BENCHMARKS:
 (NAVD 88)

SITE & REFERENCE BENCHMARKS PER PEA JOB NO. 2001216 M-59 BETWEEN ADAMS & CROOKS MDOT AERIAL CONTROL PROJECT CS83043 JN30154

SITE BM#4:
 CUT CROSS & BOX AT THE WEST END OF A SEGMENT OF SIDEWALK THAT RUNS PARALLEL TO HAMLIN ROAD AND IS NEXT TO THE FIRST PARKING SPACE AS YOU ENTER THE SUBURBAN SPORTS COMPLEX.
 ELEV. 832.445

SITE BM#5:
 CUT CROSS & BOX SET ON TOP OF A CONCRETE PEDESTAL THAT SUPPORTS A TRAFFIC LIGHT SIGNAL BOX APPROX. 30' NORTH OF HAMLIN ROAD AND IN THE MIDDLE OF THE MEDIAN BETWEEN THE NORTH & SOUTHBOUND LAND OF ADAMS RD.
 ELEV. 871.215

ARC = 96.32'
 RADIUS = 6452.00'
 DELTA = 0°51'19"
 CHORD = 96.31'
 CH BRG = S 76°36'57" W

NO.	BY	DESCRIPTION	DATE
1	RLS	REVISED ENCLOSURE AREA & CITY REVIEW (N.C.)	11-22-18
2	RLS	REVISED PER CITY REVIEW	11-22-18
3	RLS	REVISED ENCLOSURE AREA & CITY REVIEW (N.C.)	11-22-18
4	RLS	REVISED ENCLOSURE AREA & CITY REVIEW (N.C.)	11-22-18

CAUTION!!
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 BEACHWOOD, OHIO 44122

TOPOGRAPHIC SURVEY - EAST
LEGACY ROCHESTER HILLS
 PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. GBR/LKS | SUR. KTR | P.M. RLS

ORIGINAL ISSUE DATE:
 OCTOBER 12, 2018

PEA JOB NO. 2017-037

SCALE: 1" = 50'

DRAWING NUMBER:

C-1.2

NOT FOR CONSTRUCTION

CITY FILE #17-043 SECTION 29

REF: S:\PROJECTS\2017\2017037\DWG\17037-TOPOBASE.DWG
 XREF: S:\PROJECTS\2017\2017037\DWG\SITE_PLANS\V-BASE-17037.DWG
 XREF: S:\PROJECTS\2017\2017037\DWG\SITE_PLANS\V-TLBK-17037.DWG

NOTE:
ALL PROPOSED PEDESTRIAN PATHWAYS TO MEET ADA STANDARDS EXCEPT WHERE NOTED

NOTE:
ALL SIGNS MUST MEET THE REQUIREMENTS OF THE CITY AND BE APPROVED UNDER SEPARATE PERMITS ISSUED BY THE BUILDING DEPARTMENT.

FLOOD PLAIN:
BY GRAPHICAL PLOTTING, THE SITE IS WITHIN ZONE 'X', AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD PLAIN PER FLOOD INSURANCE RATE MAPS NUMBER 26125C-0389F & 26125C-0393F, DATED SEPTEMBER 29, 2006.

ENCAPSULATION AREA LEGEND:

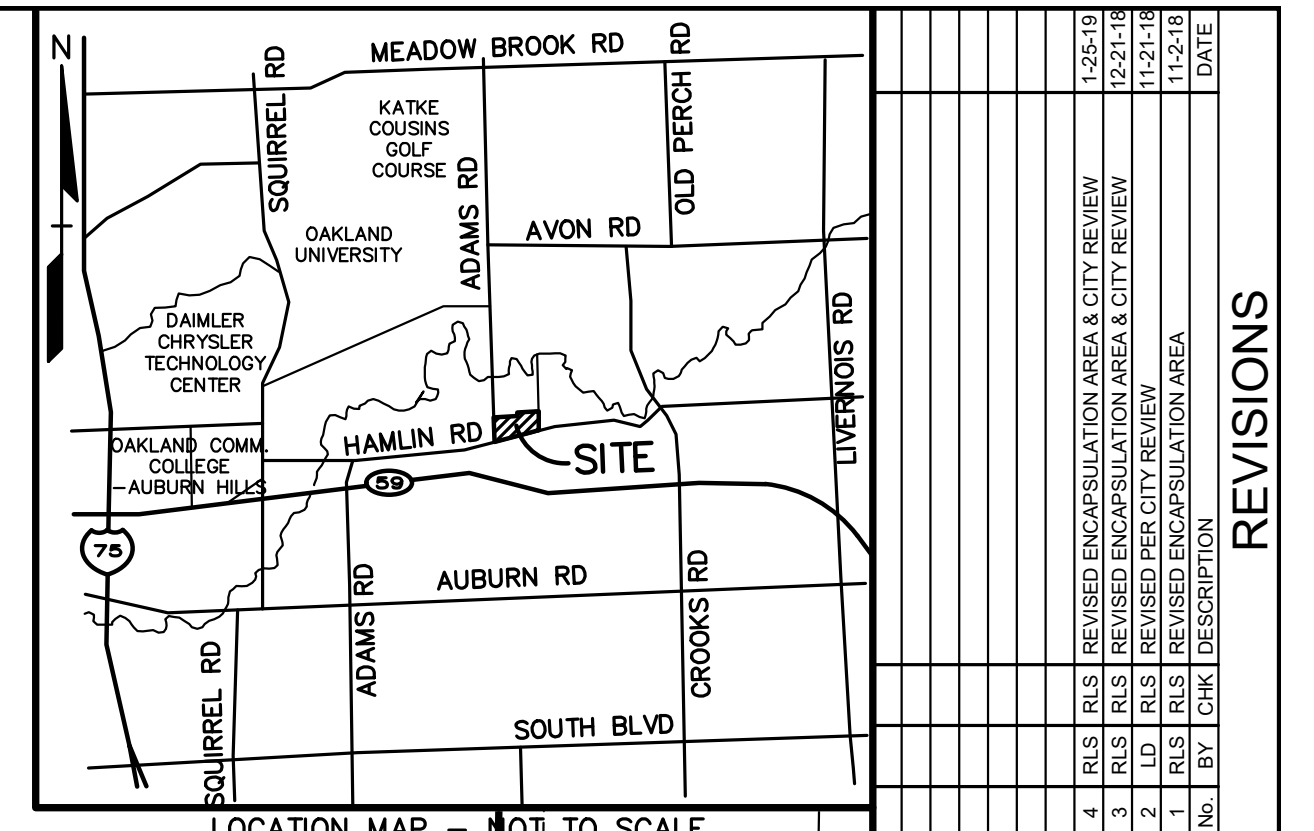
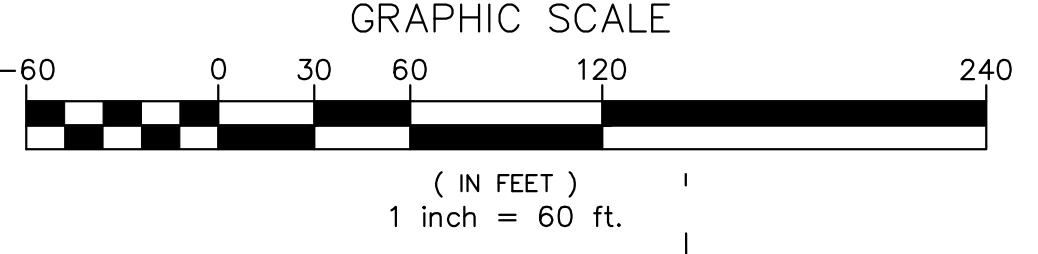
- RELOCATE TO ENCAPSULATION AREA, ADDITIONAL AREA OPEN FOR VEGETATION AND INFRASTRUCTURE
- ENCAPSULATION AREA
- EXCAVATE AND OFFSITE DISPOSAL, AREA OPEN FOR VEGETATION
- ENCAPSULATION NOT NECESSARY, ADDITIONAL AREA OPEN FOR VEGETATION

ENCAPSULATION AREA LEGEND:

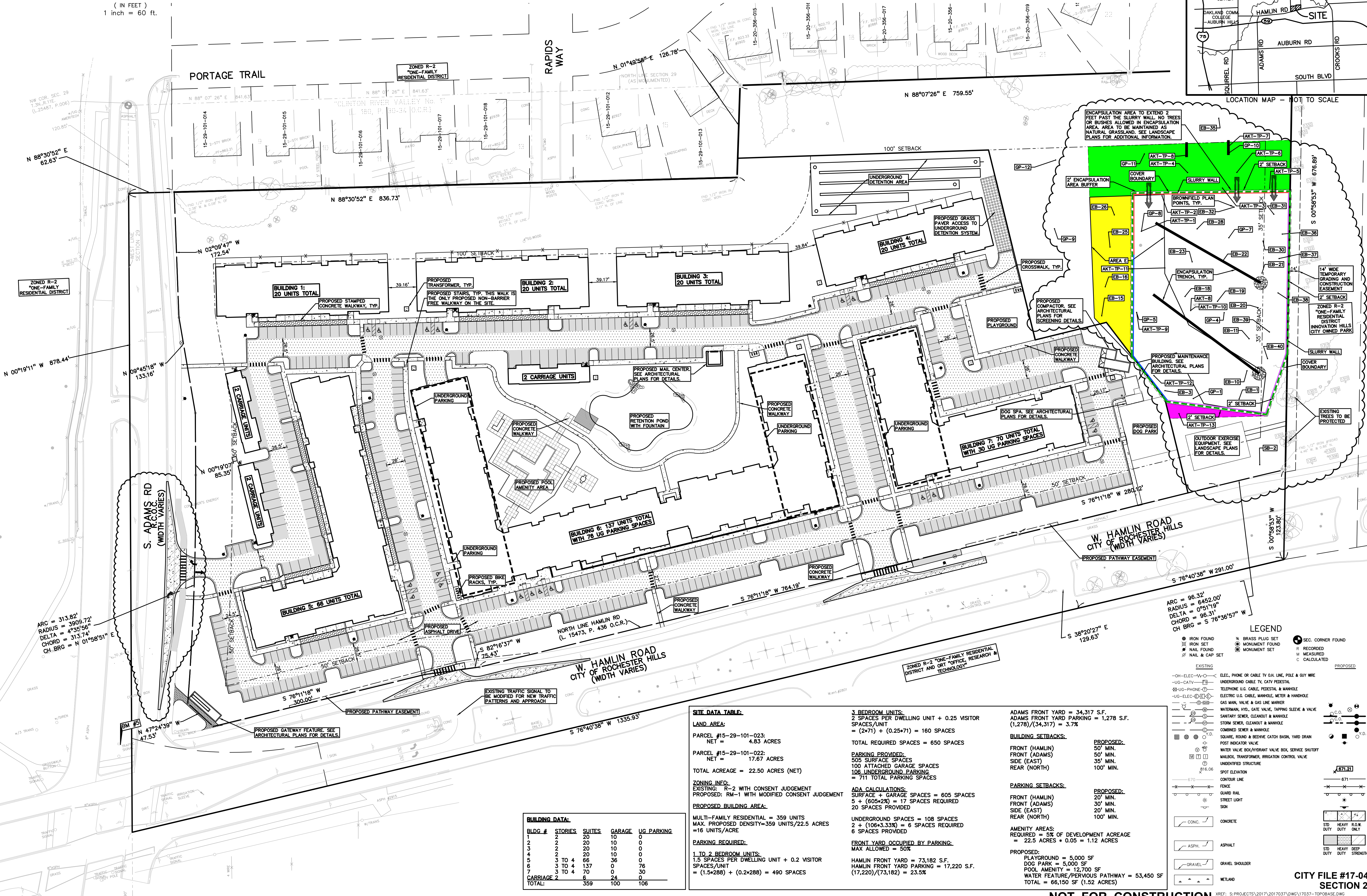
- 36" DEEP SLURRY WALL
- 40" DEEP SLURRY WALL
- 50" DEEP SLURRY WALL
- CAP BOUNDARY
- 2' BUFFER

ENCAPSULATION AREA QUANTITIES:

- SLURRY WALL 36" DEPTH LINEAR FEET: 295 LF
- SLURRY WALL 40" DEPTH LINEAR FEET: 216 LF
- SLURRY WALL 50" DEPTH LINEAR FEET: 444 LF
- SURFACE COVER AREA: 59,020 SQ. FT



NO.	BY	DESCRIPTION	DATE
1	RLS	REVISED ENCAPSULATION AREA & CITY REVIEW	11-21-18
2	RLS	REVISED PER CITY REVIEW	11-21-18
3	RLS	REVISED ENCAPSULATION AREA & CITY REVIEW	11-21-18
4	RLS	REVISED ENCAPSULATION AREA & CITY REVIEW	11-21-18



CAUTION!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS MADE AS TO THE ACCURACY OF THESE LOCATIONS OR ELEVATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.

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BEACHWOOD, OHIO 44122

**OVERALL PRELIMINARY SITE PLAN
LEGACY ROCHESTER HILLS**
PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, TOWNSHIP 11E, RANGE 14E, COUNTY OF CUYAHOGA, OHIO

DES: GB/RLS LDN: KPL/JSK SUR: KTR P.M.
DATE: 10/26/2017

ORIGINAL ISSUE DATE: OCTOBER 12, 2018
PEA JOB NO. 2017-037
SCALE: 1" = 60'
DRAWING NUMBER: C-2.0

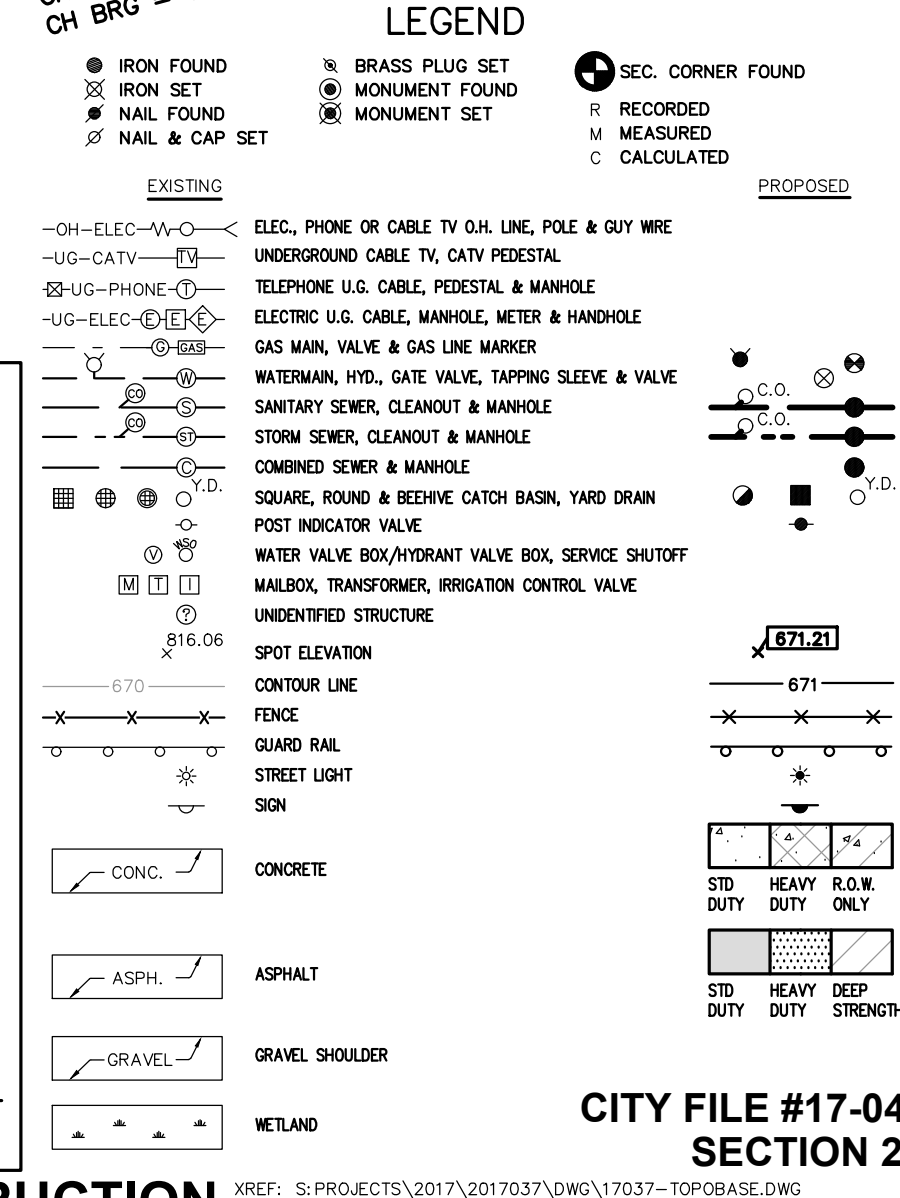
**CITY FILE #17-043
SECTION 29**

SITE DATA TABLE:

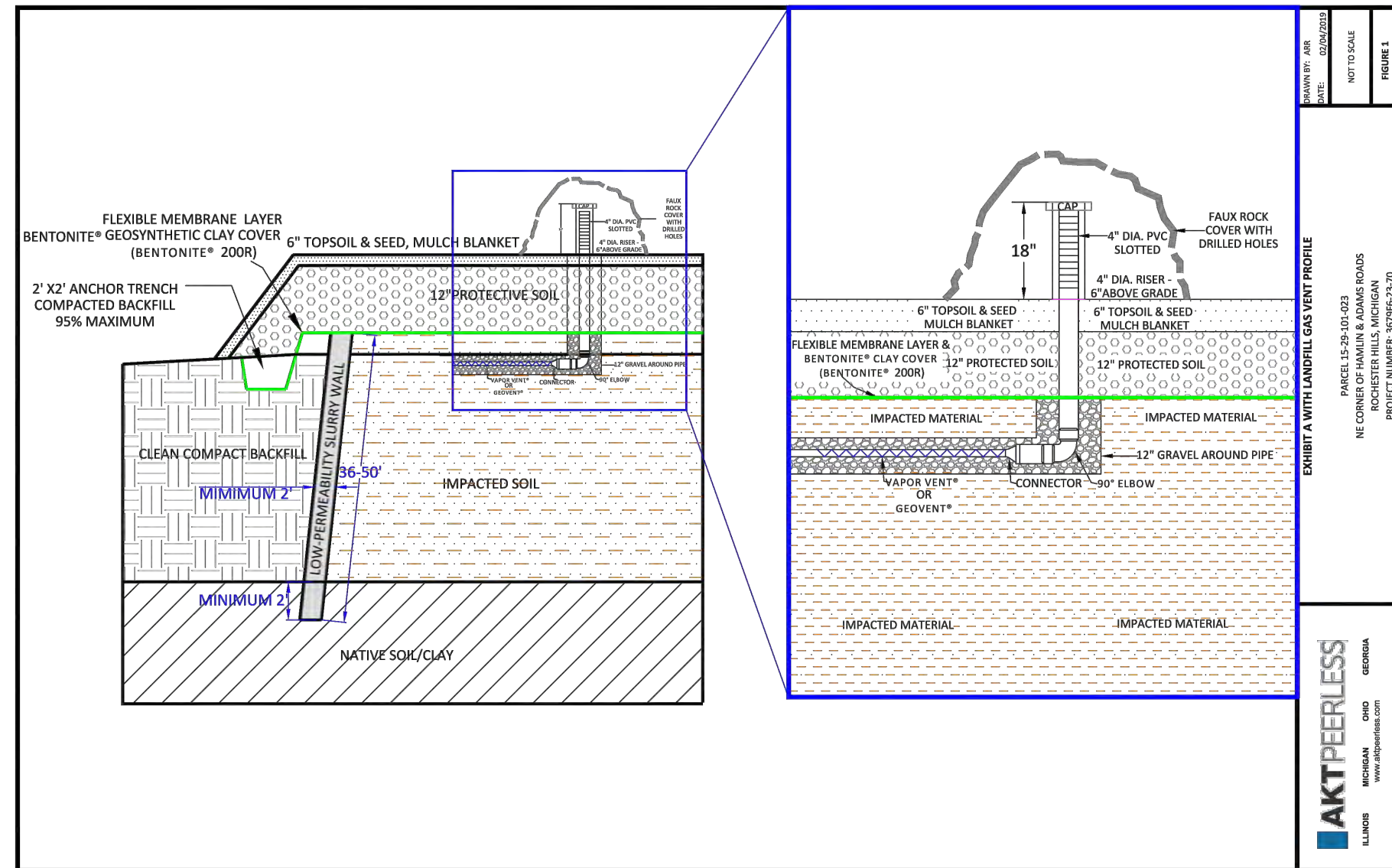
LAND AREA:	3 BEDROOM UNITS:	ADAMS FRONT YARD = 34,317 S.F.
PARCEL #15-29-101-023: NET = 4.83 ACRES	2 SPACES PER DWELLING UNIT + 0.25 VISITOR SPACES/UNIT = (2*71) + (0.25*71) = 160 SPACES	ADAMS FRONT YARD PARKING = 1,278 S.F. (1,278)/(34,317) = 3.7%
PARCEL #15-29-101-022: NET = 17.67 ACRES	TOTAL REQUIRED SPACES = 650 SPACES	
TOTAL ACREAGE = 22.50 ACRES (NET)	PARKING PROVIDED:	BUILDING SETBACKS:
	505 SURFACE SPACES	FRONT (HAMLIN) 50' MIN.
	100 ATTACHED GARAGE SPACES	FRONT (ADAMS) 35' MIN.
	106 UNDERGROUND PARKING SPACES	SIDE (EAST) 20' MIN.
	711 TOTAL PARKING SPACES	REAR (NORTH) 100' MIN.
ZONING INFO:	ADA CALCULATIONS:	PARKING SETBACKS:
EXISTING: R-2 WITH CONSENT JUDGEMENT	SURFACE + GARAGE SPACES = 605 SPACES	FRONT (ADAMS) 20' MIN.
PROPOSED: RM-1 WITH MODIFIED CONSENT JUDGEMENT	5 + (605/24) = 17 SPACES REQUIRED	SIDE (EAST) 20' MIN.
PROPOSED BUILDING AREA:	20 SPACES PROVIDED	REAR (NORTH) 100' MIN.
MULTI-FAMILY RESIDENTIAL = 359 UNITS	UNDERGROUND SPACES = 108 SPACES	
MAX. PROPOSED DENSITY=359 UNITS/22.5 ACRES = 16 UNITS/ACRE	2 + (108/3.33%) = 6 SPACES REQUIRED	
	6 SPACES PROVIDED	
PARKING REQUIRED:	FRONT YARD OCCUPIED BY PARKING:	AMENITY AREAS:
1 TO 2 BEDROOM UNITS:	MAX ALLOWED = 50%	REQUIRED = 5% OF DEVELOPMENT ACREAGE = 22.5 ACRES * 0.05 = 1.12 ACRES
1.5 SPACES PER DWELLING UNIT + 0.2 VISITOR SPACES/UNIT = (1.5*288) + (0.2*288) = 490 SPACES	HAMLIN FRONT YARD = 73,182 S.F.	
	HAMLIN FRONT YARD PARKING = 17,220 S.F. (17,220)/(73,182) = 23.5%	
		PROPOSED:
		PLAYGROUND = 5,000 SF
		DOG PARK = 5,000 SF
		POOL AMENITY = 12,700 SF
		WATER FEATURE/PERVIOUS PATHWAY = 53,450 SF
		TOTAL = 66,150 SF (1.52 ACRES)

BUILDING DATA:

BLDG. #	STORIES	SUITES	GARAGE	UG PARKING
1	2	20	10	0
2	2	20	10	0
3	2	20	10	0
4	2	20	10	0
6	3	4	66	36
7	3	4	70	30
CARRIAGE 2	6	6	24	0
TOTAL:		359	100	106



NOT FOR CONSTRUCTION



SECTION 02500
LOW-PERMEABILITY BARRIER WALL

PART 1 - GENERAL

1.01 SUMMARY

- Section includes placement of Low-Permeability Barrier Wall materials to encapsulate known PCB-contaminated soil.
- Contractor will provide all equipment, labor, materials, and supplies required to perform the work in accordance with the Contract and Drawings.

1.02 SUBMITTALS

- Submit detailed written work plans describing methodologies for performing all work-related items.
- Submit samples for laboratory testing.
- All materials shall meet the requirements set forth in these specifications.

1.03 MEASUREMENT AND PAYMENT

- The work of this section will be paid by the linear foot of contracted low-permeability barrier wall, as determined by field measurement upon completion. (Estimated quantity is based on an average soil depth of 18-feet below existing surface grade).
- Refer to Section 01025 - Measurement and Payment

PART 2 - PRODUCTS

2.01 LOW-PERMEABILITY BARRIER WALL

- Barrier Wall material shall consist of one of the following materials:
 - Compacted Clay Barrier Wall: Clay soil with >50% P200 and maximum permeability of 1x10⁻⁷ cm/sec.
 - Slurry Clay Barrier Wall: Bentonite slurry with maximum permeability of 1x10⁻⁷ cm/sec.
 - Approved alternate.

PART 3 - EXECUTION

3.01 PREPARATION

- Contractor shall submit his work plan for installation of the Low-Permeability Barrier Wall, including selection of compacted clay or slurry wall construction, or a combination thereof.
- Contractor shall submit laboratory testing to verify that the selected material meets the requirements listed in these Specifications.

3.02 PLACEMENT

- Contractor is responsible for coordinating the installation of the Barrier Wall with other work items. Contractor should minimize soil handling and arrange installation to take advantage of open excavations for scheduling.
- Contractor shall describe installation methods in his work plan for installation of the Barrier Wall.

GCI Construction, LLC
Due Care Response Activity
AKT Peerless Project #36796
May 9, 2018

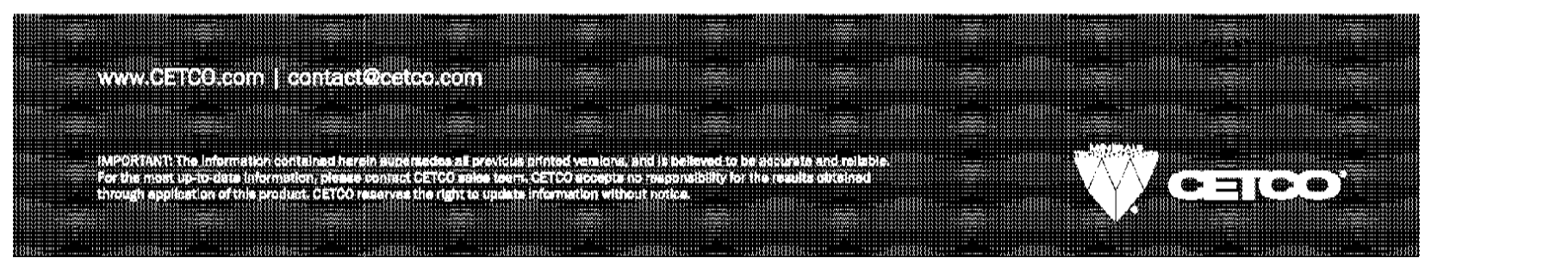
TECHNICAL REFERENCE

**BENTOMAT® 200R
CERTIFIED PROPERTIES**

CETCO's Bentomat® 200R is a reinforced geosynthetic clay liner (GCL) consisting of a layer of sodium bentonite between a polypropylene woven geotextile and a polypropylene nonwoven geotextile, which are needle-punched together.

MATERIAL PROPERTY	TEST METHOD	TEST FREQUENCY	CERTIFIED VALUES
Bentonite Moisture Content ¹	ASTM D2216	1 per 50 tonnes	12% max.
Bentonite Swell Index ¹	ASTM D6890	1 per 50 tonnes	24 mL/2g min.
Bentonite Fluid Loss ²	ASTM D5991	1 per 50 tonnes	18 mL max.
Bentonite Mass/Area ²	ASTM D5993	40,000 ft ² (4,000 m ²)	0.75 lb/ft ² (3.7 kg/m ²) min.
Total Mass/Area ²	ASTM D5993	40,000 ft ² (4,000 m ²)	0.79 lb/ft ² (3.9 kg/m ²) min.
GCL Moisture Content	ASTM D5993	40,000 ft ² (4,000 m ²)	35% max.
GCL Grab Strength ³	ASTM D6768	200,000 ft ² (20,000 m ²)	30 lbs/in (5.3 kN/m) min.
GCL Peel Strength	ASTM D6496	40,000 ft ² (4,000 m ²)	1.0 lbs/in (1.75 N/m) min.
GCL Hydraulic Conductivity ⁴	ASTM D5887	250,000 ft ² (25,000 m ²)	5 x 10 ⁻¹¹ m/s max.
GCL Index Flux ⁴	ASTM D5887	250,000 ft ² (25,000 m ²)	1 x 10 ⁻⁴ m ³ /m ² /s max.
GCL Hydrated Internal Shear Strength ⁵	ASTM D6243	1,000,000 ft ² (100,000 m ²)	150 psf (7.2 kPa) typ. @ 200 psf (9.6 kPa)

¹For the purposes of this specification, the bentonite shall be tested as described above and shall meet the following criteria:
²Topsoil and/or soil to be placed on top of bentonite shall be tested and shall meet the following criteria:
³Grab strength shall be tested on the bentonite liner with a minimum of 30 in. (762 mm) length and a minimum of 2 in. (50.8 mm) diameter pressure head.
⁴From each of the 200,000 ft² (20,000 m²) of sample area, a minimum of 100 ft² (9.3 m²) shall be tested.
⁵Test results shall be based on a minimum of 100 ft² (9.3 m²) of sample area.



IMPORTANT: The information contained herein represents all previous printed versions, and is believed to be accurate and reliable. For the most current information, please contact CETCO online here: www.CETCO.com or call 1-800-488-7117. No responsibility is assumed by CETCO for information obtained through application on this product. CETCO reserves the right to update information without notice.

SECTION 02510
COVER SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

- Contractor shall install a Cover System consisting of 2-feet of compacted clay with a flexible membrane liner (FML). Also include 12-inches of protective cover soil and 2-inches of topsoil above FML.
- Contractor will provide all equipment, labor, materials, and supplies required to perform the work in accordance with the Contract and Drawings.

1.02 SUBMITTALS

- Submit detailed written work plans describing methodologies for performing all work-related items.
- Submit samples for laboratory testing.
- Submit manufacturer certification and material testing information for all products.
- All materials shall meet the requirements set forth in these specifications.

1.03 MEASUREMENT AND PAYMENT

- The work of this section will be paid by as a lump sum item, based on completion and acceptance of the work by the Engineer and Owner.
- Refer to Section 01025 - Measurement and Payment

PART 2 - PRODUCTS

2.01 COVER SYSTEM

- Contractor shall provide necessary laboratory and field testing to verify material suitability, such as:
 - Laboratory testing: gradation, permeability, modified Proctor, moisture content, etc.
 - Field testing: gradation, confirmation, sampling, seep testing, etc.

2.02 FLEXIBLE MEMBRANE LINER (FML)

Flexible Membrane Liner shall consist of one of the following:

- PVC Liner
- 30-mil LLDPE or HDPE liner
- Approved alternate

2.03 CLAY

Clay will shall meet the following requirements:

- Maximum particle size 3 inches
- Maximum permeability of 1x10⁻⁷ cm/sec.
- Moisture content ± 5% of optimum as determined by modified Proctor test.

2.04 PROTECTIVE COVER SOIL

Protective cover soil shall consist of granular backfill (such as MDOT 2S5 sand or Class II sand) with maximum particle size of 1 inch. May also consist of onsite cut materials which meet the requirements of this specification, and can be spread without excessive handling.

2.05 TOPSOIL

Topsoil shall consist of striped material from site clearing operations or imported topsoil material. Shall consist of organic material suitable for vegetative growth, free of clods and clumps and large rocks.

GCI Construction, LLC
Due Care Response Activity
AKT Peerless Project #36796
May 9, 2018

SECTION 02510
COVER SYSTEM

7. Contractor shall employ precautions to (1) prevent worker contact with contaminated soil and (2) prevent exacerbation of contamination.

F. Flexible Membrane Liner (FML):

- Contractor shall place liner on prepared surface.
- Contractor shall provide seaming equipment as recommended by the manufacturer for the selected liner type.
- Contractor shall provide verification testing for each seam in the cover system.
- Contractor shall prevent equipment and vehicle traffic from contact with the liner.
 - A minimum of 12-inches of cover soil shall be installed between liner and equipment tires.
- Liner shall be installed in a relaxed condition to prevent tearing due to material expansion and contraction.
- Contractor shall employ precautions to (1) prevent worker contact with contaminated soil and (2) prevent exacerbation of contamination.

G. Cover systems shall extend a minimum of 2-feet beyond PCB-contaminated area boundary (at least to outer edge of low-permeability barrier wall).

H. Anchor trenches: Liners shall be anchored in a 2' x 2' anchor trench. Trench backfill shall consist of cover soil material, compacted to 95% of the maximum density as determined by the modified Proctor method.

- Anchor trench shall be constructed beyond the outside edge of the Low-Permeability Barrier Wall.

I. Protective Cover Soil:

- Contractor shall place cover soils by dumping at the perimeter of the cover area and pushing soils onto the liner, maintaining 12-inch minimum soil thickness between liner and equipment tires.
 - Minimize traffic and soil handling to reduce risk of damage to liner.
- Contractor shall remove oversize particles when observed during placement to prevent liner damage.
- Final cover soil thickness shall measure 12 inches minimum thickness.
- Contractor shall employ precautions to (1) prevent worker contact with contaminated soil and (2) prevent exacerbation of contamination.

J. Topsoil:

- Contractor shall place a minimum of 2-inches of salvaged or imported topsoil over cover soils to provide a vegetative growth matrix.
- Contractor shall apply topsoil at a rate of 2200/lb/acre.
- Topsoil shall be stabilized with mulch erosion blanket.

K. ALTERNATE: Geosynthetic Clay Liner (GCL):

- If approved, GCL may be considered as an alternate to replace the 2-foot thick compacted clay cover.
- Contractor shall place liner on prepared surface.
- Seams shall be overlapped as directed by the manufacturer.
- Contractor shall provide additional bentonite powder for seaming as recommended by the manufacturer.

GCI Construction, LLC
Due Care Response Activity
AKT Peerless Project #36796
May 9, 2018

SECTION 02500
LOW-PERMEABILITY BARRIER WALL

PART 1 - GENERAL

1.01 SUMMARY

- Contractor shall provide suitable equipment:
 - to achieve necessary compaction for Compacted Clay Barrier Wall.
 - to trench, mix, and place bentonite slurry for Slurry Clay Barrier Wall.
 - to provide dewatering as necessary for the selected construction method.

1.02 SUBMITTALS

- Contractor shall relocate soil excavated for construction of Low-Permeability Barrier Wall within the encapsulation area. Relocated soil shall be compacted and graded as part of the PCB-contaminated soil unit.

1.03 MEASUREMENT AND PAYMENT

- Equipment shall be decontaminated to prevent cross-contamination or excavation.
- Contractor shall employ Health and Safety measures to protect workers and prevent contact with contaminated soils.

E. For Compacted Clay Barrier Wall:

- Material excavated for construction of Clay Barrier Wall shall be relocated within the encapsulation area.
- Contractor shall place clay material in lifts not exceeding 9-inches in loose thickness.
- Contractor shall apply compaction using suitable equipment (i.e. sheepsfoot roller) to achieve a homogeneous soil, minimizing air voids.
- Contractor shall provide compaction testing on each lift of the barrier wall.
- Contractor shall remove large stones or clods of soil which would negatively impact the uniform quality of the barrier wall.
- Clay barrier wall shall be constructed a minimum of 2-feet thick and shall extend 2-feet into native soil below the PCB-contaminated soil.
 - Contractor shall provide dewatering to facilitate construction as needed.
- Contractor shall employ precautions to (1) prevent worker contact with contaminated soil and (2) prevent exacerbation of contamination.

E. For Slurry Clay Barrier Wall:

- Material excavated for construction of Clay Barrier Wall shall be relocated within the encapsulation area.
- Contractor shall place slurry material in a manner to provide a homogeneous, continuous barrier surrounding the PCB-contaminated area.
- Contractor shall periodically sample the slurry wall mixture to verify that the required permeability is achieved.
- Slurry wall shall be constructed a minimum of 2-feet thick and shall extend 2-feet into native soil below the PCB-contaminated fill.
- Contractor shall employ precautions to (1) prevent worker contact with contaminated soil and (2) prevent exacerbation of contamination.

3.03 VERIFICATION

Contractor shall provide copies of all verification testing to the Engineer for review.

-END OF SECTION-

GCI Construction, LLC
Due Care Response Activity
AKT Peerless Project #36796
May 9, 2018

SECTION 02510
COVER SYSTEM

2.06 ALTERNATE: GEOSYNTHETIC CLAY LINER (GCL)

Geosynthetic Clay Liner material shall provide maximum permeability of 1x10⁻⁷ cm/sec. GCL cover soil shall consist of granular backfill (such as MDOT 2S5 sand or Class II sand) with maximum particle size of 1 inch.

PART 3 - EXECUTION

3.01 PREPARATION

- Contractor shall submit his work plan for installation of the Cover System, including selection of FML and GCL products and cover soils.
- Contractor shall submit laboratory testing to verify that the selected material meets the requirements listed in these Specifications.
- Contractor shall prepare the work area (including anchor trenches) by removing topsoil, vegetation, and excavating to design grade.
 - Work surface shall be graded smooth and sloped to drain.
 - Protrusions, debris, and large particles shall be removed. Voids caused by excavation operation or by removal of large items shall be filled with clean backfill material.
 - Excavated material from low-permeability barrier wall shall be placed above existing materials after the area is cleared, and compacted and graded smooth.
- Cover System area shall be proof-rolled and compacted prior to placement of liners and cover soil to minimize future settlement and provide a smooth grade for liner placement.

3.02 PLACEMENT

- Contractor is responsible for coordinating the installation of the Cover System with other work items.
- Contractor should minimize soil handling and arrange installation to take advantage of other operations for scheduling.
- Contractor shall describe installation methods in his work plan for installation of the Cover System.
- Contractor shall provide suitable equipment:
 - to achieve necessary compaction for Cover System soils.
 - to protect liner and prevent damage to cover system during construction (e.g. rubber-tired equipment for traversing above cover).

E. Compacted Clay

- Clay shall be placed in lifts not exceeding 9 inches loose thickness.
- Contractor shall provide suitable equipment to compact clay soil (i.e. sheepsfoot roller).
- Contractor shall remove oversize particles during placement.
- Clay shall be handled and placed in a manner to achieve optimum moisture (±5%) and density (95% or greater).
 - Contractor shall provide density testing during placement.
- Clay shall be placed to provide a minimum 2-foot thick cover over the entire area, extending to the outer limit of the low-permeability barrier wall.
- Surface shall be graded smooth to provide a base for FML installation.

GCI Construction, LLC
Due Care Response Activity
AKT Peerless Project #36796
May 9, 2018

SECTION 02510
COVER SYSTEM

- Contractor shall prevent equipment and vehicle traffic from contact with the liner.
 - A minimum of 12-inches of cover soil shall be installed between liner and equipment tires.
- Liner shall be installed in a relaxed condition to prevent tearing due to material expansion and contraction.
- Contractor shall employ precautions to (1) prevent worker contact with contaminated soil and (2) prevent exacerbation of contamination.

3.03 VERIFICATION

- Contractor shall provide copies of all verification testing to the Engineer for review.

-END OF SECTION-

GCI Construction, LLC
Due Care Response Activity
AKT Peerless Project #36796
May 9, 2018

AKT PEERLESS
Venting System Specifications

Part 1 - General

1.01 Summary

- Contractor shall install a venting consisting of a low profile vapor collection system and associated vents.
- Contractor will provide all equipment, labor, materials and supplies required to perform the work in accordance with the Contract and Drawings.

1.02 Submittals

Submit product data for the venting system specified, including manufacturer's specifications.

Submit samples of the following for approval, if proposing material different from specifications:

- Venting pipe
- Venting accessories

1.03 Measurement and Payment

The work of this section will be paid by as a lump sum item, based on completion and acceptance of the work by the Engineer and Owner.

1.04 Quality Assurance

A pre-installation conference shall be held with the Contractor, Installer, and Engineer prior to installation of the venting system to assure proper site and installation conditions.

1.05 Delivery, Storage, and Handling

Deliver materials to project site as specified by manufacturer labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for handling.

Store materials as specified by the manufacturer in a clean, dry, protected location. Protect stored materials from direct sunlight.

Remove and replace damaged materials.

Part 2 - Products

2.01 Venting System Materials

Collection system shall be a low profile vapor collection system used in lieu of or in conjunction with perforated piping, as described below.

Geovent™ consists of a three dimensional vent core wrapped in a non-woven, needle punched filter fabric. Geovent™ is manufactured by CETCO, (847) 851-1800, www.CETCO.com.

AKT PEERLESS
Geovent™ Physical Properties

ITEM PROPERTY	TEST METHOD	MINIMUM	MAXIMUM
Compression Strength	ASTM D 3042	1000 (44.8 kPa)	4000 (176.6 kPa)
Thickness	ASTM D 3777	1.0 in. (25.4 mm)	
Flow Rate (Hydraulic gradient = 1)	ASTM D 4755	30 gpm/ft (102 l/min/ft)	
CLASS	ASTM D 4755	70 lbs/ft ² (3.2 kN/m ²)	100 lbs/ft ² (4.4 kN/m ²)
Grab Tensile Strength	ASTM D 6882	300 lbs. (133 kN)	
HDPE Tear Tensile Strength	ASTM D 6241	250 lbs. (111 kN)	
Thickness	ASTM D 4755	0.08 in. (2.0 mm)	

Alternatively, Vapor-Vent™ consists of a three dimensional vent core wrapped in a filter fabric. Vapor-Vent™ is manufactured by Land Science, (949) 481-8118, landsciencetech.com.

Auxiliary materials such as Geovent™ End Outlets or Vapor-Vent™ Pipe Reducer shall be used in accordance with manufacturer recommendations.

Four-inch diameter, Schedule 40 PVC piping shall be used to connect Geovent™ or Vapor-Vent™ as identified on project drawings.

Gravel shall be placed around the Schedule 40 PVC, connections, and Geovent™ or Vapor-Vent™ materials during installation.

2.02 Vent Risers

Vent risers shall be constructed with four-inch, Schedule 40 PVC piping to 6-inches above grade, followed by 12-inches of slotted Schedule 40 PVC and a 4-inch PVC cap.

Vent risers shall be placed in a trench surrounded by 12-inches of gravel for support.

Vent risers shall be covered with an appropriately sized faux stone above final cover grade.

Part 3 - Execution

3.01 Examination

Examine substrates, areas, and conditions under which venting system will be installed, with Installer present, for compliance with requirements. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 Venting System Installation

General Contractor shall be responsible for excavating the trenches and placement of gravel base. A minimum or 2-inches of gravel base should be placed beneath the vent material.

Install over substrate material where designated on drawings in accordance with manufacturer's recommendations.

At areas where venting systems intersect, cut and fold back fabric to expose the dimpled core. Arrange the strips so that the top strip interconnects into the bottom strip. Unfold fabric to cover the core and use reinforcing tape, as approved by the manufacturer, to seal the connection to prevent sand or gravel from entering the core.

Place vent risers per the Engineer's project specifications. Connect venting material to the appropriate end outlets and seal with fabric reinforced tape.

All overlying and adjacent material shall be placed or installed using approved procedures and guidelines to prevent damage to the vent.

3.04 Vent Riser Installation

Vent risers shall be placed by the Installer per the Engineer's project specifications.

Vent risers will be installed within the interior of decorative rock by the General Contractor. Vent risers will extend in length to 2-feet above final finish grade, based on the final cover design (refer to Section 02510). Vent risers shall be constructed in accordance with accepted industry standards for PVC piping.

3.05 Quality Assurance/Quality Control

The Engineer shall provide oversight during installation of the venting system. The General Contractor shall notify the Engineer a minimum of one week prior to commencement of installation activities. The Engineer's oversight shall not affect the General Contractor and Installer's obligation to comply with the project specifications, nor shall it provide relief from full administration of the warranty.

AKT PEERLESS

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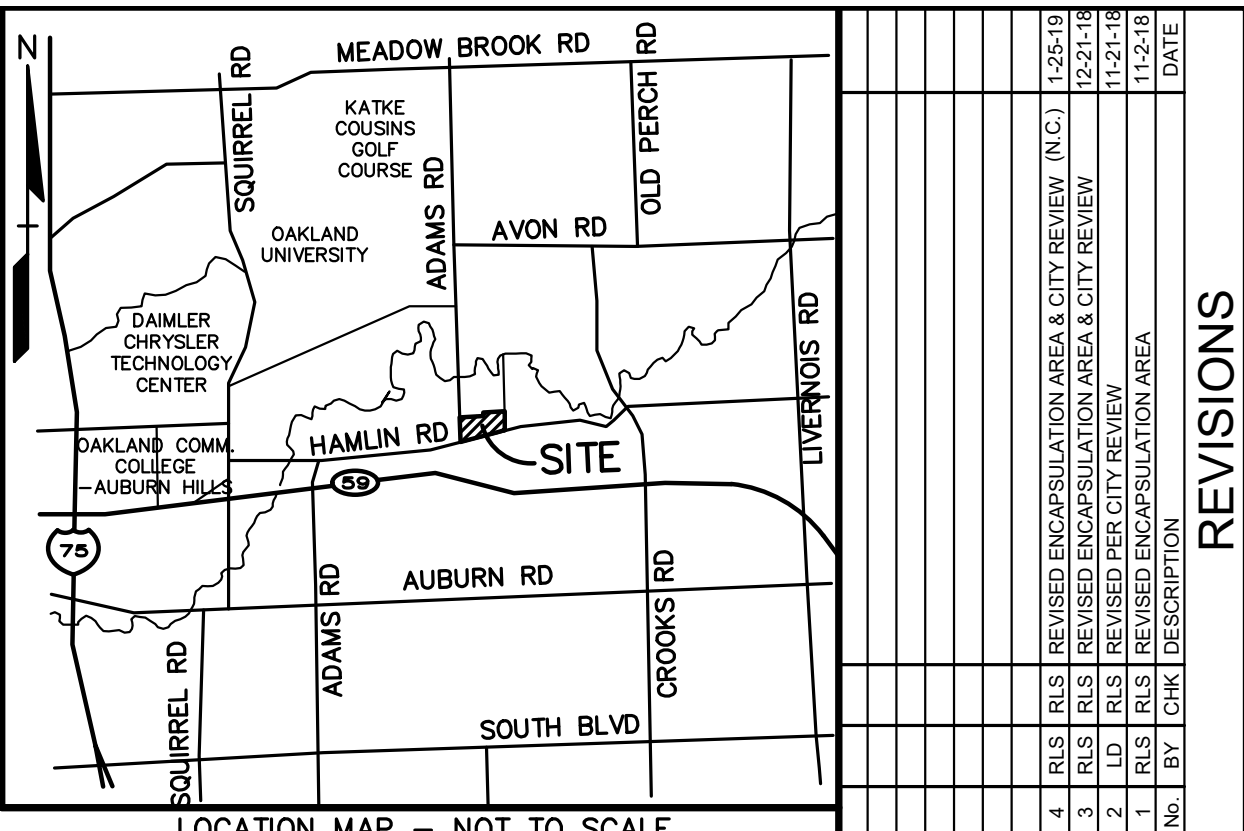
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REVISIONS

NO.	BY	CHK	DESCRIPTION	DATE
1	RLS	RLS	REVISION ENCLOSURE AREA & CITY REVIEW	11-21-18
2	RLS	RLS	REVISION PERMITS AREA	11-21-18
3	RLS	RLS	REVISION ENCLOSURE AREA & CITY REVIEW	11-21-18
4	RLS	RLS	REVISION ENCLOSURE AREA & CITY REVIEW	11-21-18

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BROWNFIELD DETAILS
LEGACY ROCHESTER HILLS
PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, TOWNSHIP 11E, R11E
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES: GBR/RLS | SUR: KTR | P.M.
K: K/RLS | SUR: KTR | P.M.

ORIGINAL ISSUE DATE:
OCTOBER 12, 2018

PEA JOB NO. 2017-037

SCALE: N.T.S.

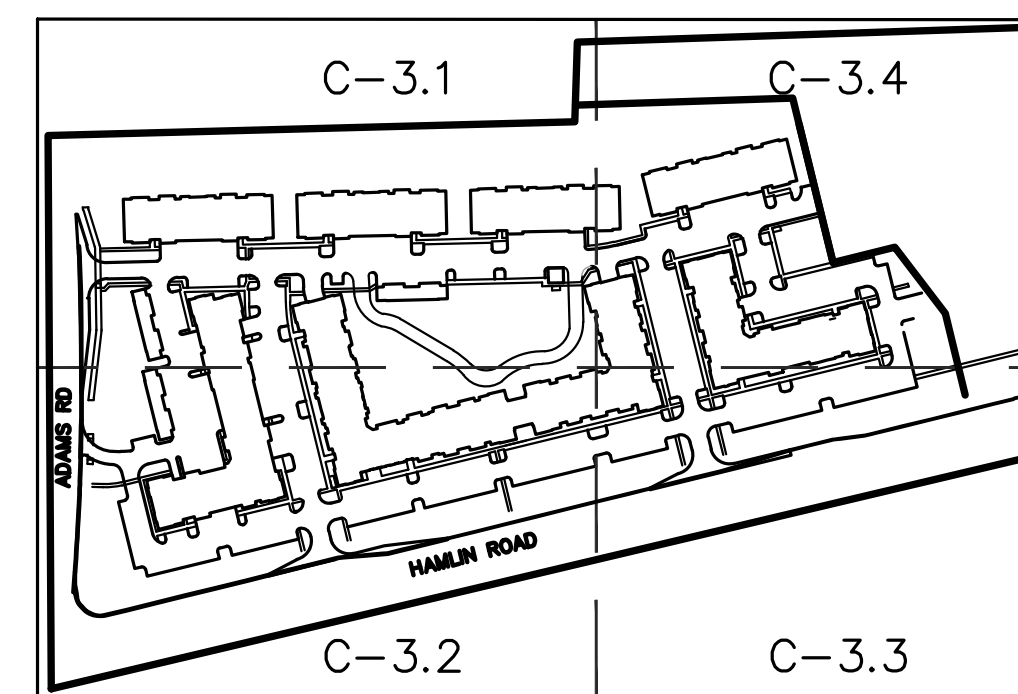
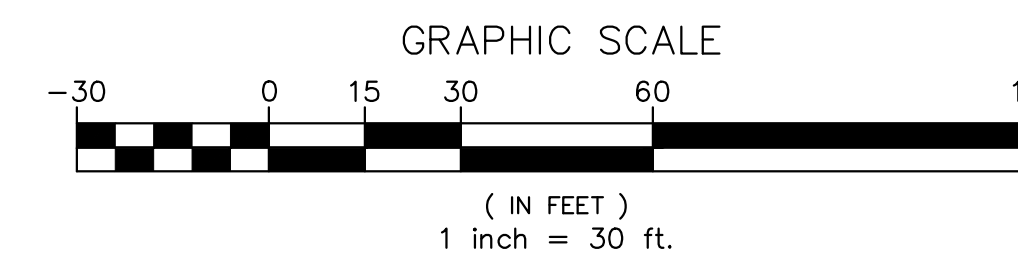
DRAWING NUMBER:
C-2.1

CITY FILE #17-043
SECTION 29

GENERAL NOTES:

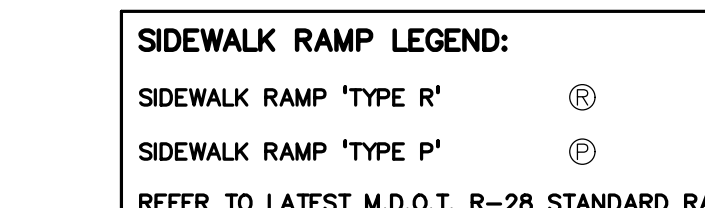
- THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.
1. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
 2. REFER TO SHEET C-7.0 FOR ON-SITE PAVING DETAILS.
 3. REFER TO SHEET C-7.0 FOR ON-SITE SIDEWALK RAMP DETAILS.
 4. 'NO STOPPING, STANDING OR PARKING FIRE LANE' SIGNS SHALL BE POSTED ALONG ALL FIRE LANES AT 100 FOOT INTERVALS OR AS DIRECTED BY THE FIRE OFFICIAL.
 5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF ROCHESTER HILLS CURRENT STANDARDS AND REGULATIONS.
 6. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
 7. ANY WORK WITHIN THE STREET OR HIGHWAY RIGHTS-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
 8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND/OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.

LEGEND		
EXISTING		PROPOSED
● IRON FOUND	⊗ BRASS PLUG SET	● SEC. CORNER FOUND
⊗ IRON SET	⊗ MONUMENT FOUND	⊗ RECORDED
● NAIL FOUND	⊗ MONUMENT SET	⊗ MEASURED
⊗ NAIL & CAP SET		⊗ CALCULATED
—OH-ELEC-W—	ELEC. PHONE OR CABLE TV OH LINE, POLE & GUY WIRE	
—UC-GLTY—	UNDERGROUND CABLE TV, CITY FEEDAL	
—UC-PHON—	TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE	
—UC-ELEC—	ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE	
—GAS—	GAS MAN, VALVE & GAS LINE MARKER	
—WTR—	WATERMAN, HYD., GATE VALVE, TAPPING SLAVE & VALVE	
—SAN—	SANITARY SINKER, CLEANOUT & MANHOLE	
—STORM—	STORM SINKER, CLEANOUT & MANHOLE	
—COMB—	COMBINED SINKER & MANHOLE	
—SQR.—	SQUARE, ROUND & BEEHIVE CATCH BASIN, YARD DRAIN	
—POST—	POST INDICATOR VALVE	
—MTR.—	WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF	
—MTR.—	MALIBU, TRANSFORMER, IRRIGATION CONTROL VALVE	
—UNSTR.—	UNIDENTIFIED STRUCTURE	
—SPOT—	SPOT ELEVATION	871.21
—CONTOUR—	CONTOUR LINE	671
—FENCE—	FENCE	
—RAIL—	GUARD RAIL	
—LIGHT—	STREET LIGHT	
—SIGN—	SIGN	
—CONC.—	CONCRETE	
—ASPH.—	ASPHALT	
—GRAVEL—	GRAVEL SHOULDER	
—WETLAND—	WETLAND	
—STD.—	STD. HEAVY R.O.W. DUTY ONLY	
—S.D.—	S.D. HEAVY REF. DUTY STRENGTH	



SHEET INDEX

SIDEWALK RAMP LEGEND:
SIDEWALK RAMP 'TYPE R'
SIDEWALK RAMP 'TYPE P'
REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS



NO.	BY	DATE	DESCRIPTION
1	CLS	12-21-18	REVISED ENCLOSURE AREA & CITY REVIEW
2	CLS	12-21-18	REVISED ENCLOSURE AREA & CITY REVIEW
3	CLS	11-22-18	REVISED PER CITY REVIEW
4	CLS	11-22-18	REVISED ENCLOSURE AREA

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DES. GB/R/LS DN. KP/JKS | SUR. KTR | P.M.
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ORIGINAL ISSUE DATE:
OCTOBER 12, 2018

PEA JOB NO. 2017-037

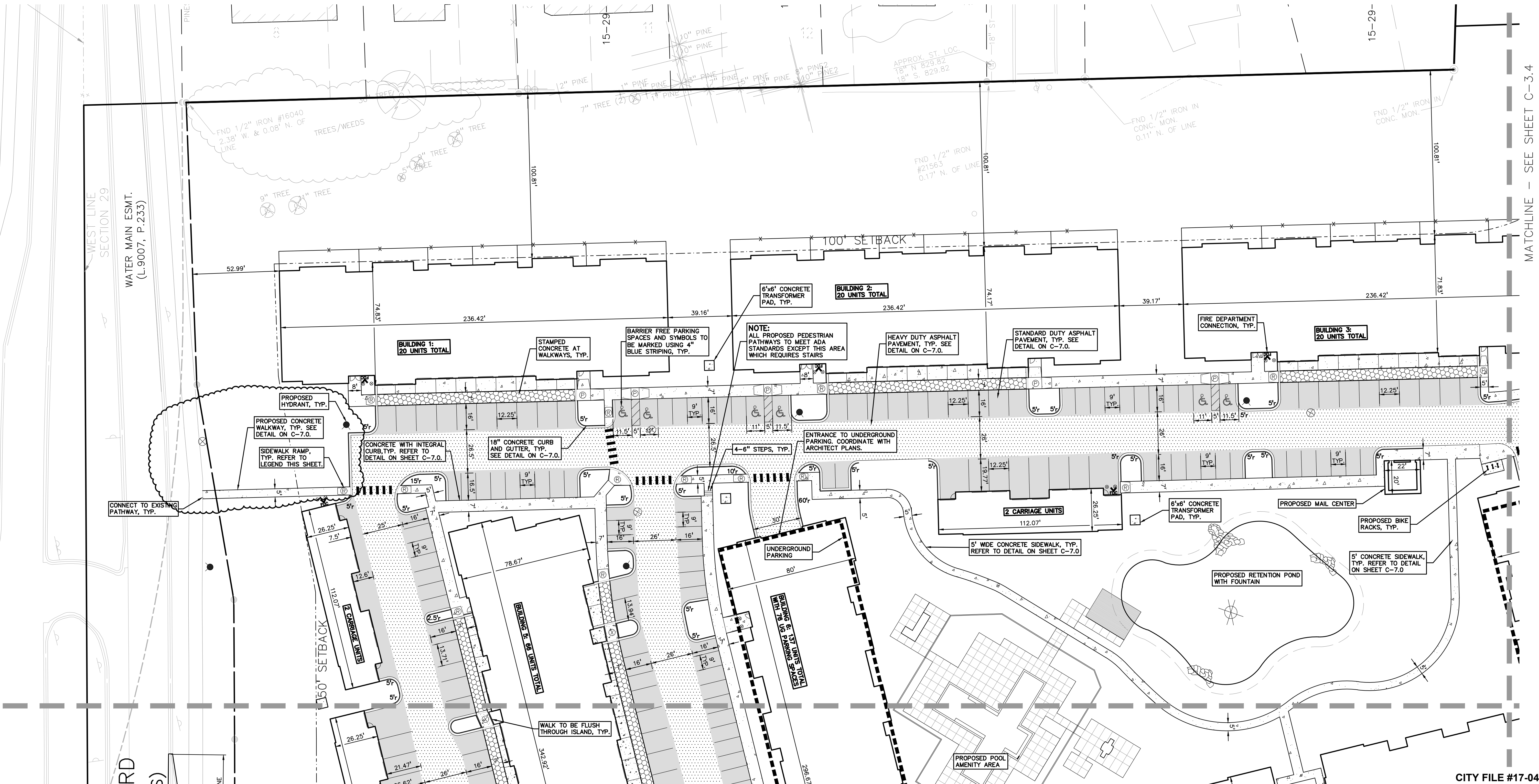
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DRAWING NUMBER:

C-3.1

CITY FILE #17-043
SECTION 29

NOT FOR CONSTRUCTION

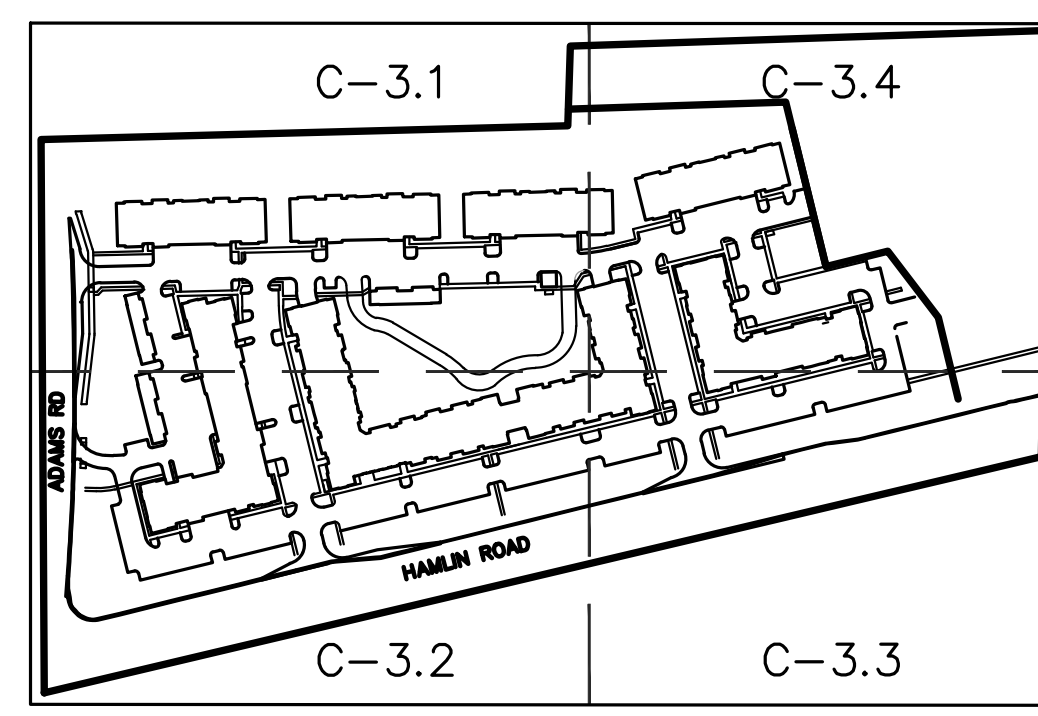
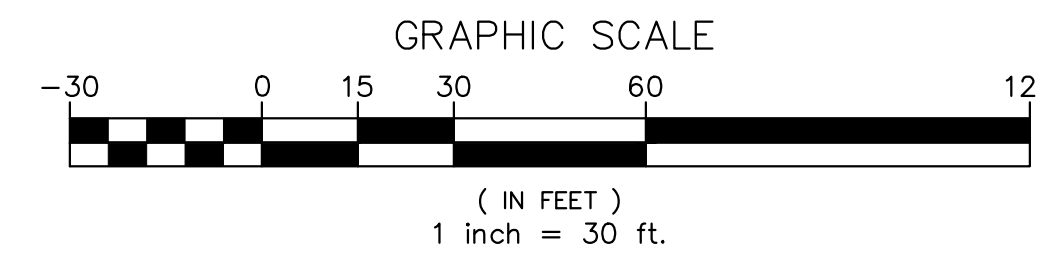


MATCHLINE - SEE SHEET C-3.2

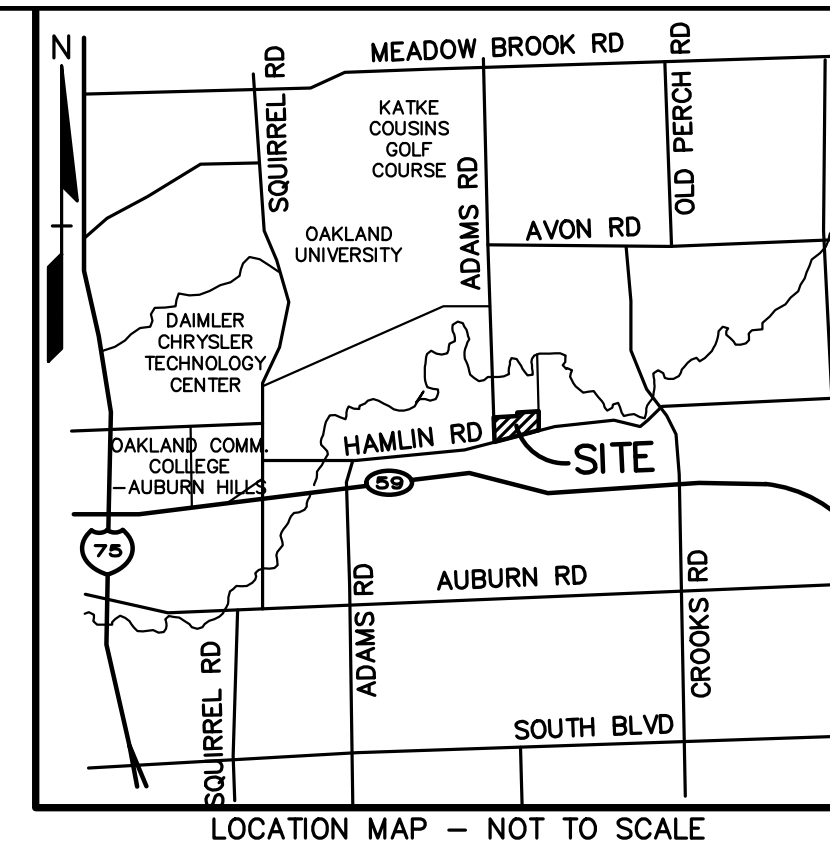
MATCHLINE - SEE SHEET C-3.4

RD (S)

- LEGEND**
- | | | |
|------------------|------------------|---------------------|
| ● IRON FOUND | ⊕ BRASS PLUG SET | ⊙ SEC. CORNER FOUND |
| ⊙ IRON SET | ⊙ MONUMENT FOUND | ⊙ RECORDED |
| ⊙ NAIL FOUND | ⊙ MONUMENT SET | ⊙ MEASURED |
| ⊙ NAIL & CAP SET | ⊙ MONUMENT SET | ⊙ CALCULATED |
- PH-ELEC—W—G— UNDERGROUND CABLE TV, CTV, PEDESTAL
 —UG—PHONE—C— TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
 —UG—ELEC—C—E— ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
 —GAS— VALVE & GAS LINE MARKER
 —WATERMAN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
 —SANITARY SENER, CLEANOUT & MANHOLE
 —STORM SENER, CLEANOUT & MANHOLE
 —COMBINED SENER & MANHOLE
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 —POST INDICATOR VALVE
 —WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
 —MALLION, TRANSFORMER, IRRIGATION CONTROL VALVE
 —UNIDENTIFIED STRUCTURE
 —SPOT ELEVATION
 —CONTOUR LINE
 —FENCE
 —GUARD RAIL
 —STREET LIGHT
 —SIGN
- CONG. — CONCRETE
 — ASPH. — ASPHALT
 — GRAVEL — GRAVEL SHOULDER
 — WELAND — WELAND

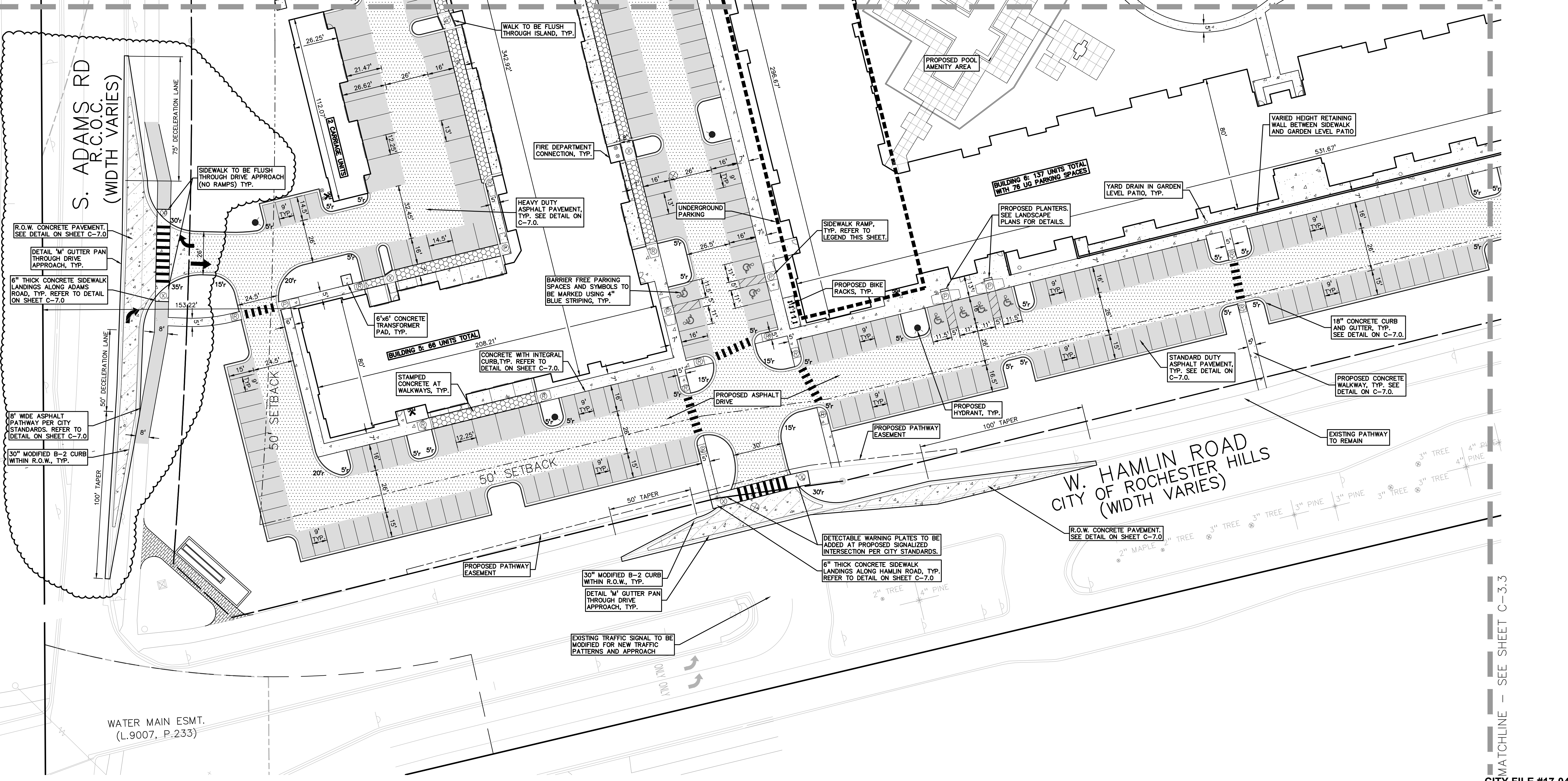


SHEET INDEX



- SIDEWALK RAMP LEGEND:**
- SIDEWALK RAMP 'TYPE R' (Symbol)
 - SIDEWALK RAMP 'TYPE P' (Symbol)
- REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

MATCHLINE - SEE SHEET C-3.1



MATCHLINE - SEE SHEET C-3.3

REVISIONS	
NO.	BY CHG DESCRIPTION
1	RLS REVIS PER CITY REVIEW
2	RLS REVIS PER CITY REVIEW
3	RLS REVIS PER CITY REVIEW
4	RLS REVIS ENCAPSULATION AREA & CITY REVIEW
5	RLS REVIS ENCAPSULATION AREA & CITY REVIEW

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**PRELIMINARY SITE PLAN - SW
 LEGACY ROCHESTER HILLS**
 PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 28, T03N, R11E
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

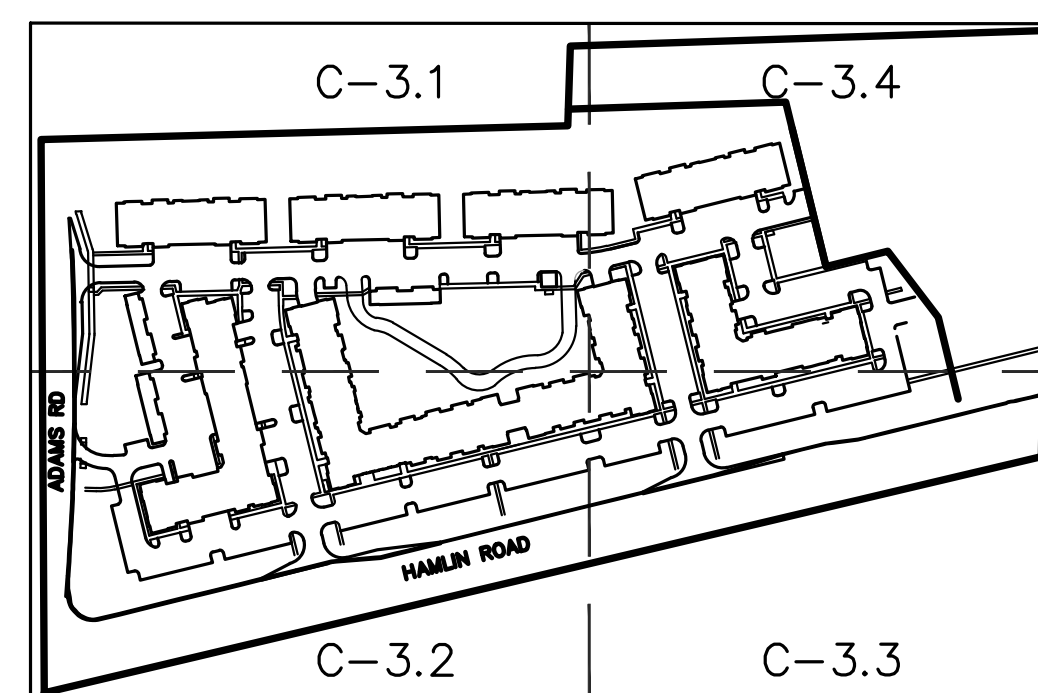
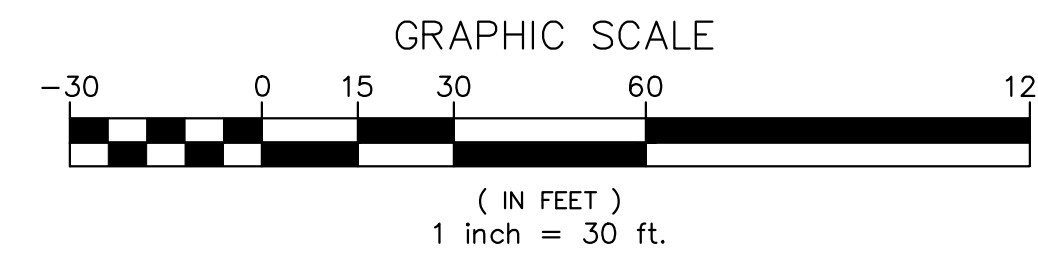
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 KPL/JSK | SUR: KTR | P.M.

ORIGINAL ISSUE DATE:
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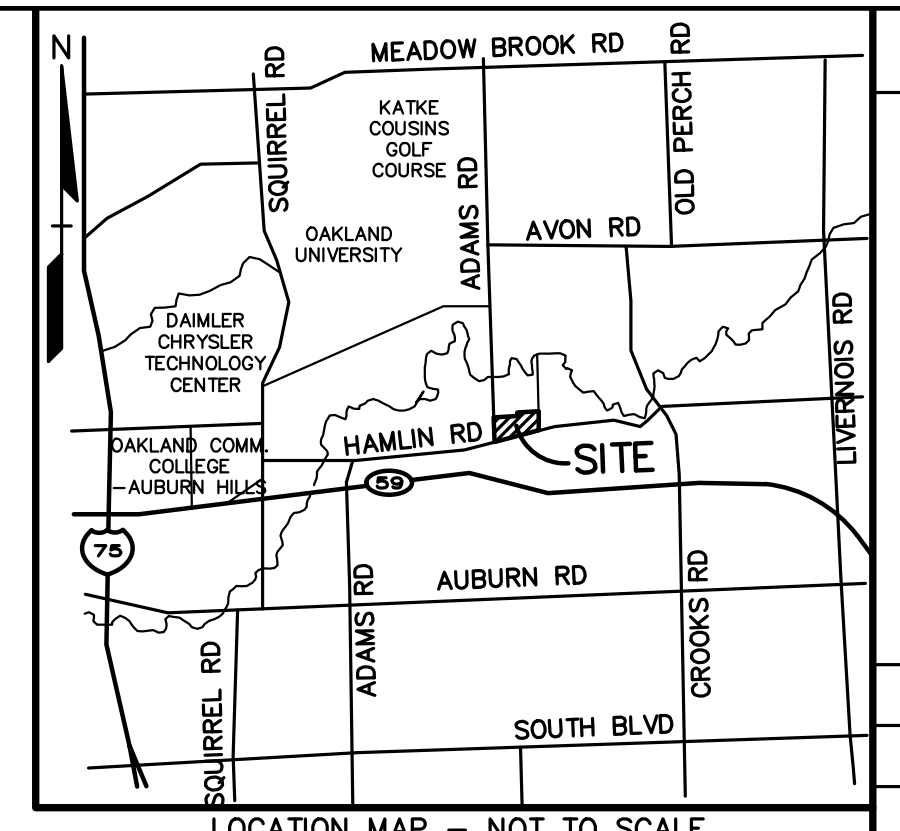
PE&A JOB NO. 2017-037

SCALE: 1" = 30'

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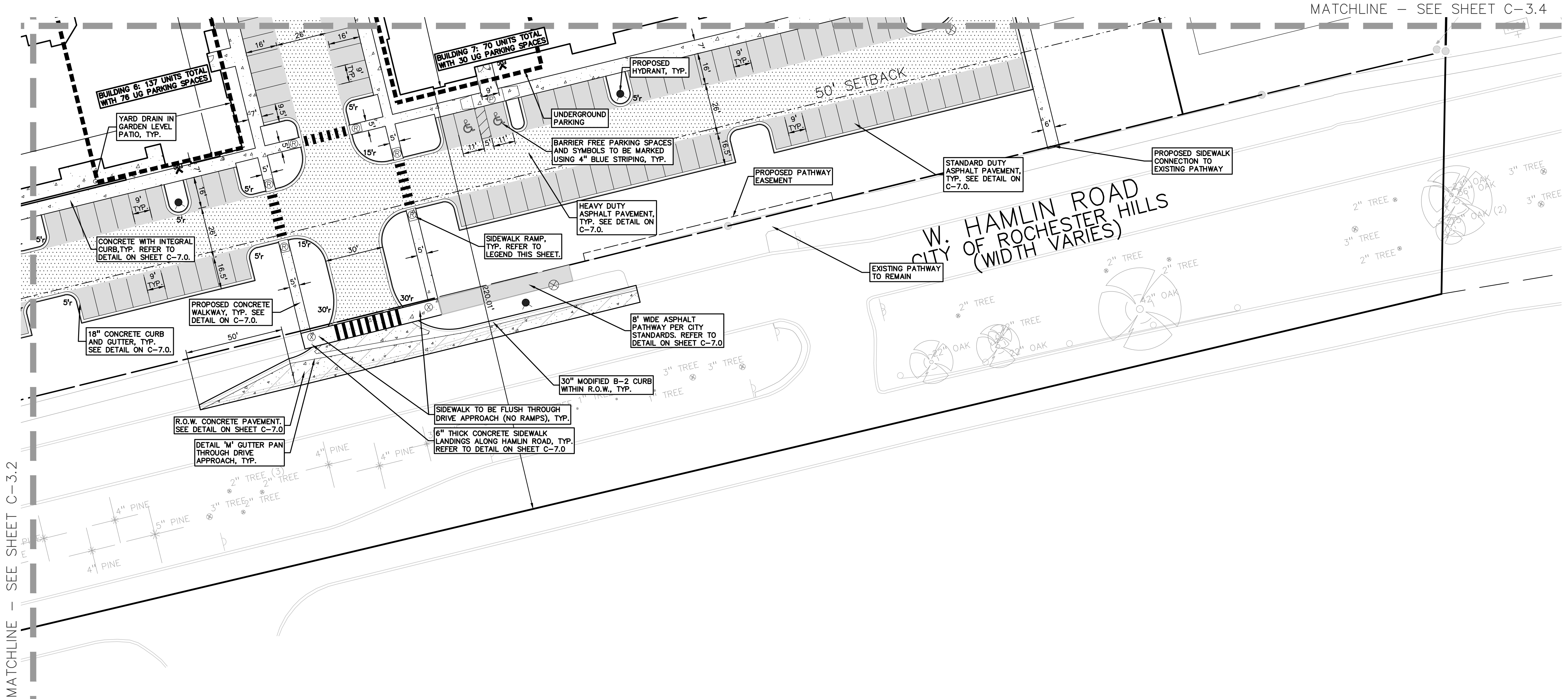


SHEET INDEX



SIDEWALK RAMP LEGEND:
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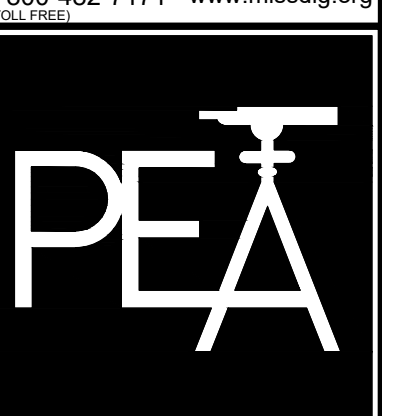
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2	RLS	RLS	REVISED PER CITY REVIEW	11-2-18
3	RLS	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	12-2-18
4	RLS	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	12-2-18



LEGEND	
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⊗ IRON SET	⊗ MONUMENT FOUND
⊗ NAIL FOUND	⊗ MONUMENT SET
⊗ NAIL & CAP SET	⊗ RECORDED
	⊗ MEASURED
	⊗ CALCULATED
⊗ SEC. CORNER FOUND	
⊗ EXISTING	⊗ PROPOSED
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—UG-CATV—	UNDERGROUND CABLE TV, GUY PEDESTAL
—UG-PHONE—	TELEPHONE U.S. CABLE, PEDESTAL & MANHOLE
—UG-ELEC—	ELECTRIC U.S. CABLE, MANHOLE, METER & HANDHOLE
—GAS—	GAS MAN, VALVE & GAS LINE MARKER
—WATER—	WATERMAN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
—SEWER—	SEWERY, CLEANOUT & MANHOLE
—STORM—	STORM SEWER, CLEANOUT & MANHOLE
—COMB—	COMBINED SEWER & MANHOLE
—SQUARE—	SQUARE, ROUND & BEEHIVE CATCH BASIN, YARD DRAIN
—POST—	POST INDICATOR VALVE
—VALVE—	WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
—MTR—	MALBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
—UNID—	UNIDENTIFIED STRUCTURE
—SPOT—	SPOT ELEVATION
—CONTOUR—	CONTOUR LINE
—FENCE—	FENCE
—GUARD—	GUARD RAIL
—STREET—	STREET LIGHT
—SIGN—	SIGN
—CONC—	CONCRETE
—ASPH—	ASPHALT
—GRAVEL—	GRAVEL SHOULDER
—WETLAND—	WETLAND
—TREE—	TREE
—CURB—	CURB
—PARKING—	PARKING
—UNDERGROUND—	UNDERGROUND
—HYDRANT—	HYDRANT
—BARRIER—	BARRIER
—EASEMENT—	EASEMENT
—SETBACK—	SETBACK
—PATIO—	PATIO
—DRAIN—	DRAIN
—GUTTER—	GUTTER
—PAVEMENT—	PAVEMENT
—ASPHALT—	ASPHALT
—CONCRETE—	CONCRETE
—GRAVEL—	GRAVEL
—WETLAND—	WETLAND

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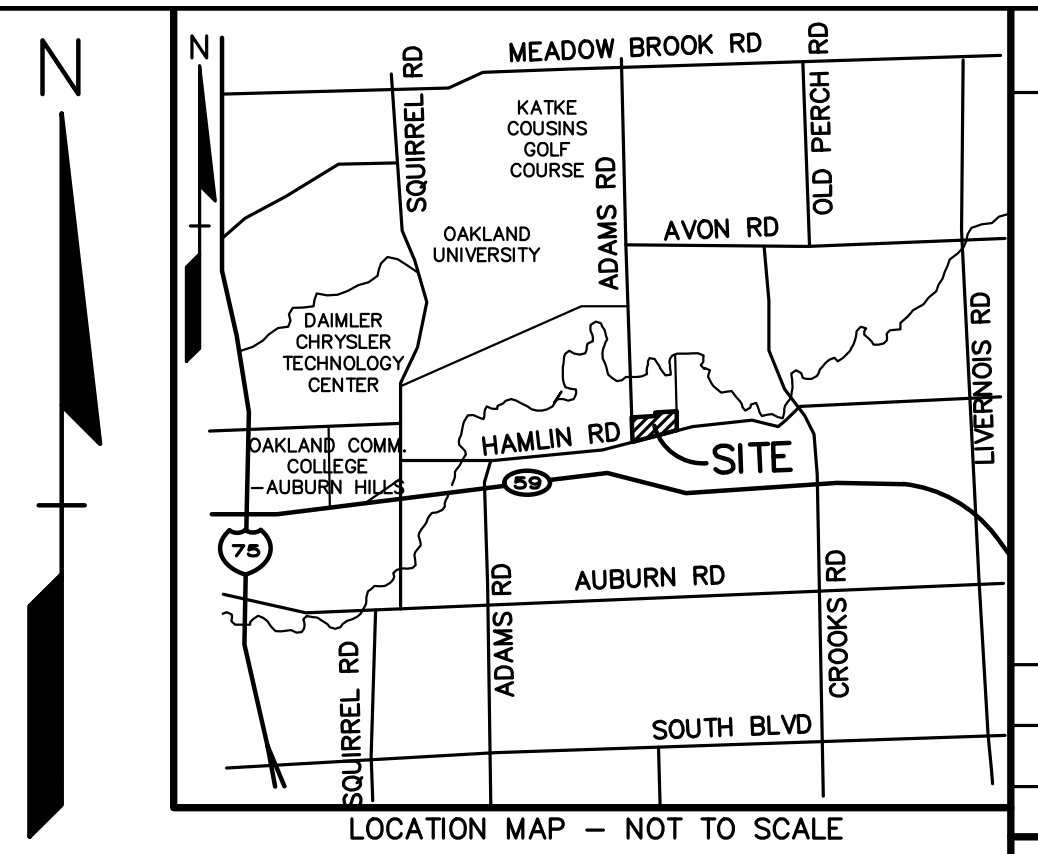
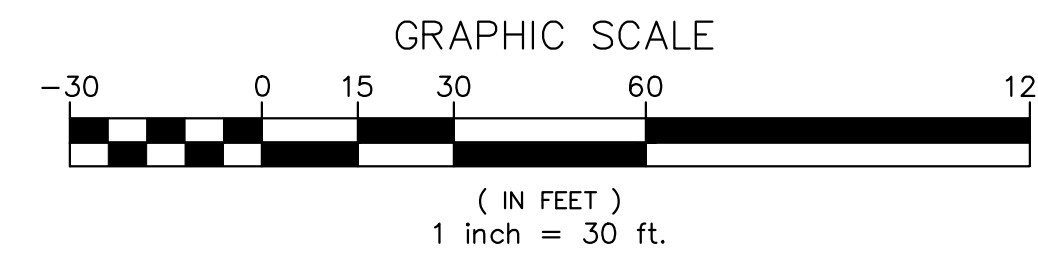
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GOLDBERG COMPANIES, INC.
 25101 CHAGRIN BOULEVARD
 BEACHWOOD, OHIO 44122
PRELIMINARY SITE PLAN - SE LEGACY ROCHESTER HILLS
 PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, T03N, R11E
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN
 DES. GB/RLS | DN. KP/JSK | SUR. KTR | P.M. | RLS

ORIGINAL ISSUE DATE:
 OCTOBER 12, 2018
 PEA JOB NO. 2017-037
 SCALE: 1" = 30'
 DRAWING NUMBER:
C-3.3

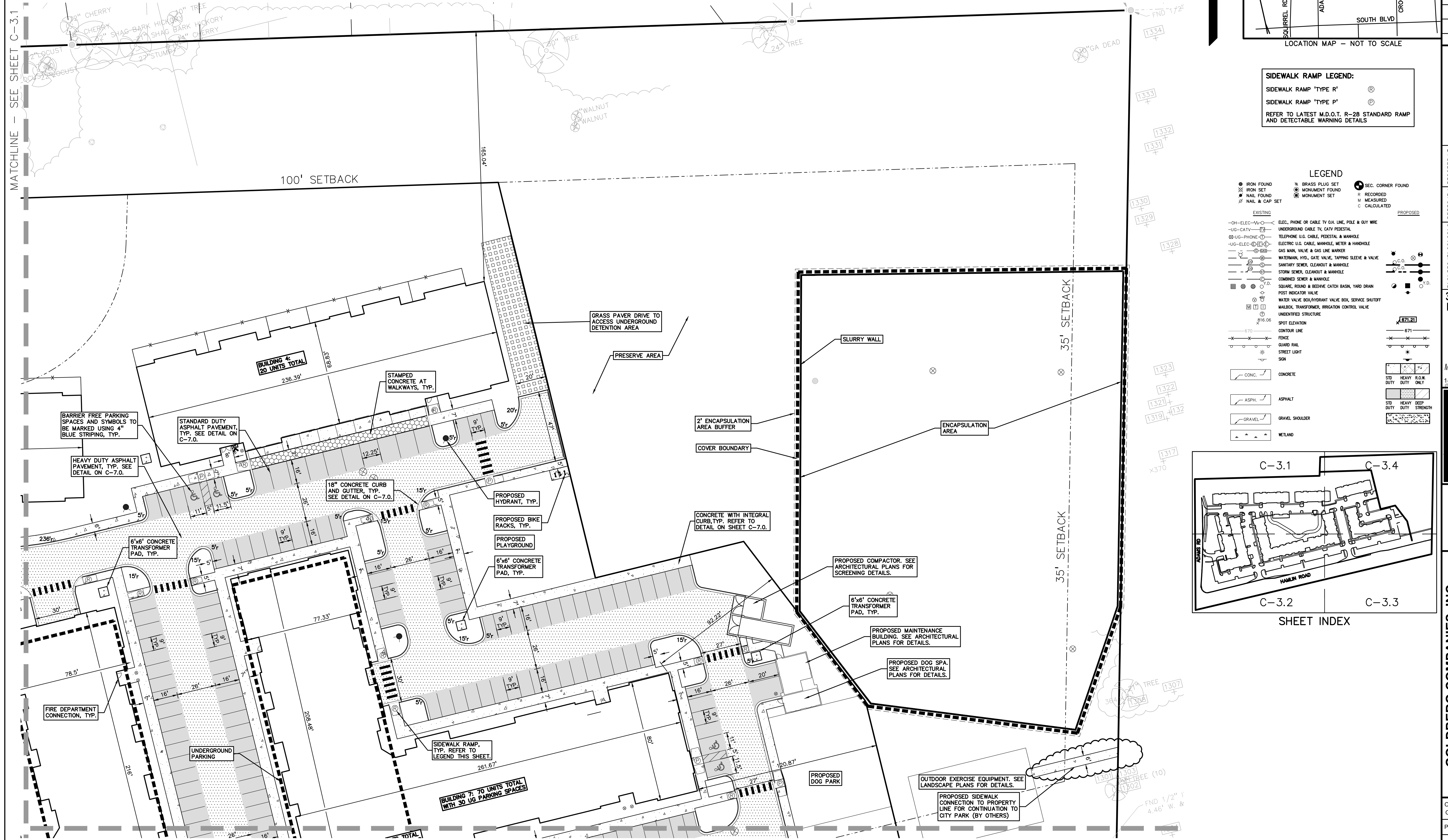
MATCHLINE - SEE SHEET C-3.2

MATCHLINE - SEE SHEET C-3.4



NO.	BY	DESCRIPTION	DATE
1	RLS	REVISED ENCAPSULATION AREA & CITY REVIEW	11-2-18
2	RLS	REVISED PER CITY REVIEW	11-2-18
3	RLS	REVISED ENCAPSULATION AREA & CITY REVIEW	12-2-18
4	RLS	REVISED ENCAPSULATION AREA & CITY REVIEW	1-26-19

MATCHLINE - SEE SHEET C-3.1



SIDEWALK RAMP LEGEND:
 SIDEWALK RAMP 'TYPE R' (Symbol)
 SIDEWALK RAMP 'TYPE P' (Symbol)
 REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

LEGEND		SEC. CORNER FOUND
⊗ IRON FOUND	⊗ BRASS PLUG FOUND	⊗ RECORDED
⊙ IRON SET	⊙ MONUMENT FOUND	⊙ MEASURED
⊙ NAIL FOUND	⊙ MONUMENT SET	⊙ CALCULATED
⊙ NAIL & CAP SET		

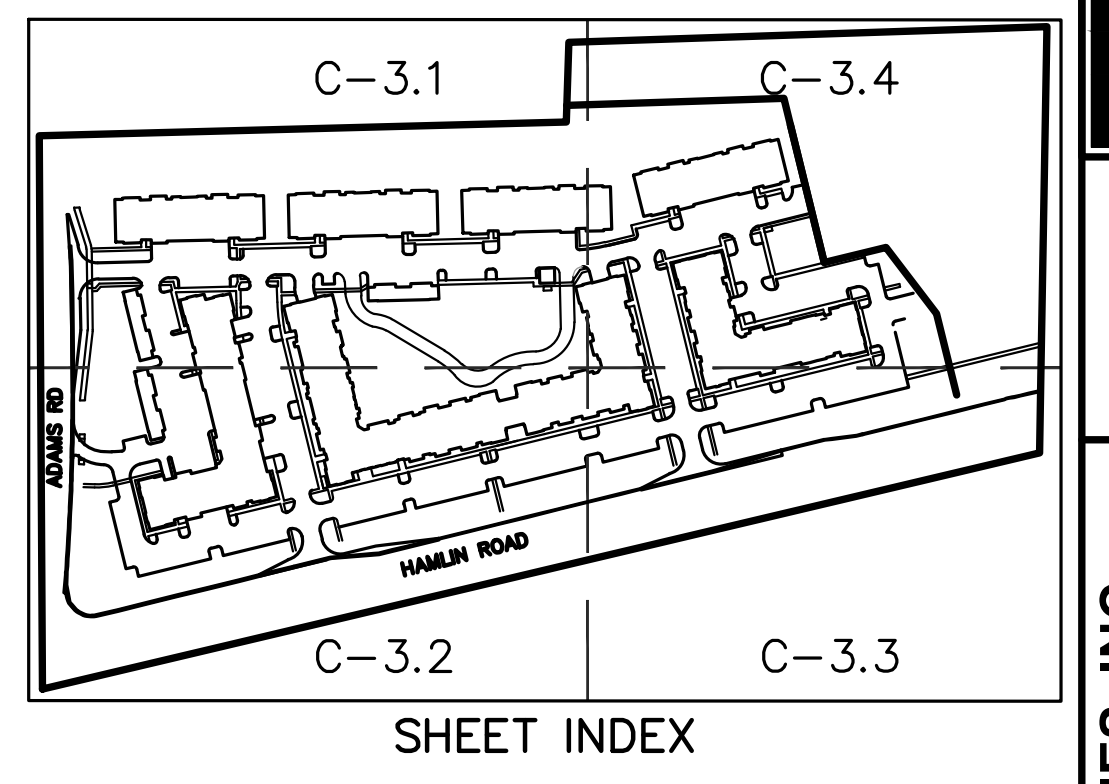
EXISTING	PROPOSED
—OH-ELEC—	—ELEC. PHONE OR CABLE TV OH LINE, POLE & GUY WIRE
—UG-CATV—	—UNDERGROUND CABLE TV, CATV PRESTAL
—UG-PHONE—	—TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
—UG-ELEC—	—ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
—GAS—	—GAS MAN. VALVE & GAS LINE MARKER
—WATER—	—WATERMAN, HYD., GATE VALVE, TAPPING SLEEVE & VALVE
—SEWER—	—SANITARY SEWER, CLEANOUT & MANHOLE
—STORM—	—STORM SEWER, CLEANOUT & MANHOLE
—COMB—	—COMBINED SEWER & MANHOLE
—SQUARE, ROUND & BEEHIVE CATCH BASIN, YARD DRAIN	
—POST INDICATOR VALVE	
—WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF	
—MANHOLE, TRANSFORMER, IRRIGATION CONTROL VALVE	
—UNIDENTIFIED STRUCTURE	
—SPOT ELEVATION	
—CONTOUR LINE	
—FENCE	
—GUARD RAIL	
—STREET LIGHT	
—SIGN	
—CONC.—	—CONCRETE
—ASPH.—	—ASPHALT
—GRAVEL—	—GRAVEL SHOULDER
—WETLAND	—WETLAND

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GOLDBERG COMPANIES, INC.
 25101 CHAGRIN BOULEVARD
 BEACHWOOD, OHIO 44122
PRELIMINARY SITE PLAN - NE LEGACY ROCHESTER HILLS
 PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, T03N, R11E
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN
 DES. GB/RLS | SUR. KTR | P.M.
 S:\PROJECTS\2017\2017037\DWG\SITE PLANS\LV-TLBK-17037.DWG

ORIGINAL ISSUE DATE:
 OCTOBER 12, 2018
 PEA JOB NO. 2017-037
 SCALE: 1" = 30'

DRAWING NUMBER:
C-3.4

MATCHLINE - SEE SHEET C-3.3

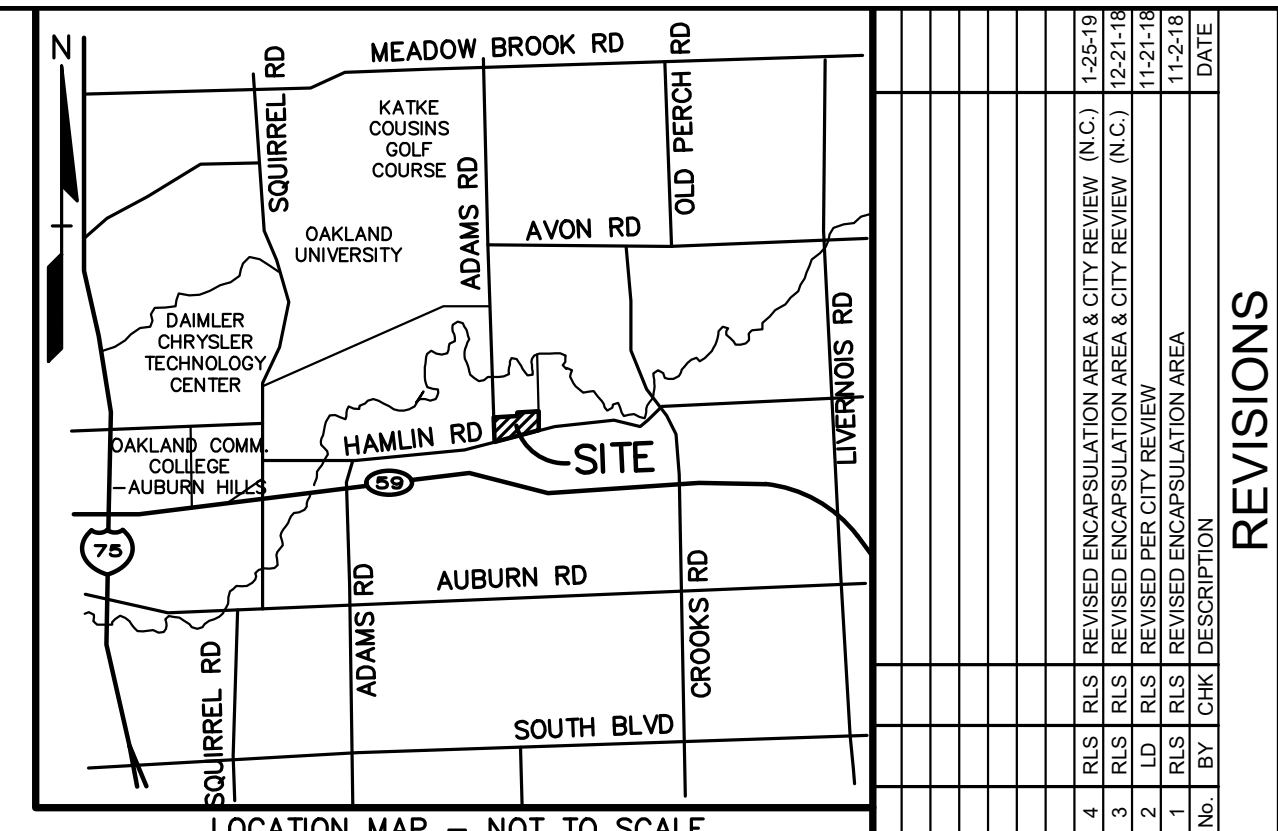
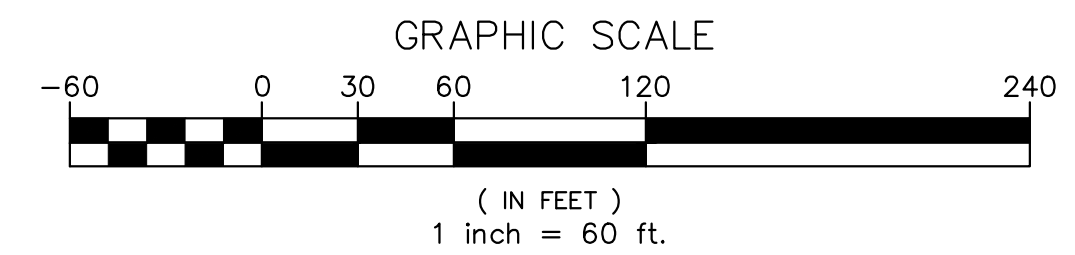
NOT FOR CONSTRUCTION CITY FILE #17-043 SECTION 29

REF: S:\PROJECTS\2017\2017037\DWG\17037-TOPOBASE.DWG
 XREF: S:\PROJECTS\2017\2017037\DWG\SITE PLANS\LV-BASE-17037.DWG
 XREF: S:\PROJECTS\2017\2017037\DWG\SITE PLANS\LV-TLBK-17037.DWG

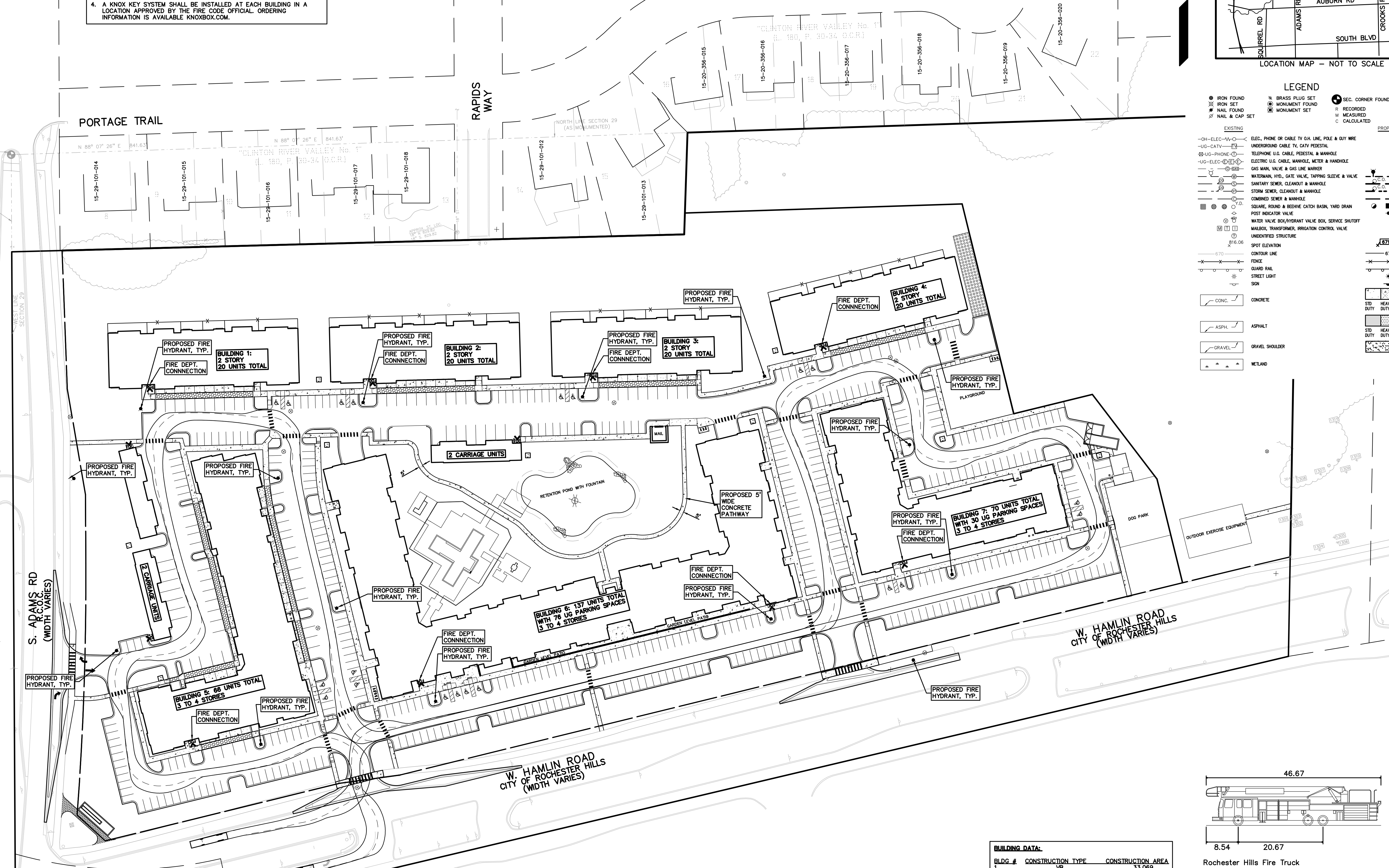
FIRE DEPARTMENT NOTES:

1. FIRE LANES SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOTMORE THAN 100 FEET APART. FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE", AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 503
2. CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC CHAPTER 14.
3. OPEN BURNING IS NOT PERMITTED, INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. CONTACT ROCHESTER HILLS FIRE DEPARTMENT FOR PERMIT INFORMATION. FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 307.6.2 & 307.6.2.3
4. A KNOX KEY SYSTEM SHALL BE INSTALLED AT EACH BUILDING IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE KNOXBOX.COM.

NOTE:
CLASS III STANDPIPES WILL BE PROVIDED IN BUILDINGS 5, 6, AND 7 IN EVERY INTERIOR STAIRWELL. BUILDINGS 1, 2, 3, 4 AND 6 SHALL HAVE NFPA13 FIRE SUPPRESSION SYSTEMS. SEE ARCHITECTURAL PLANS.



NO.	BY	DESCRIPTION	DATE
1	RLS	REVISED ENCLOSURE AREA & CITY REVIEW (N.C.)	12/21/18
2	RLS	REVISED PER CITY REVIEW	11/21/18
3	RLS	REVISED ENCLOSURE AREA & CITY REVIEW (N.C.)	12/21/18
4	RLS	REVISED ENCLOSURE AREA & CITY REVIEW (N.C.)	12/21/18



LEGEND

EXISTING	PROPOSED
● IRON FOUND	○ SEC. CORNER FOUND
⊗ IRON SET	⊗ RECORDED
⊗ NAIL FOUND	⊗ MEASURED
⊗ NAIL & CAP SET	○ CALCULATED
— OH-ELEC-VV —	ELEC. PHONE OR CABLE TV OH. LINE, POLE & GUY WIRE
— UG-CATV —	UNDERGROUND CABLE TV, CITY PEDESTAL
— UG-PHONE —	TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
— UG-ELEC —	ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
— GAS —	GAS MAIN, VALVE & GAS LINE MARKER
— WATER —	WATERMAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
— SANITARY —	SANITARY SEWER, CLEANOUT & MANHOLE
— STORM —	STORM SEWER, CLEANOUT & MANHOLE
— CONCRETE —	CONCRETE SEWER & MANHOLE
— SQUARE —	SQUARE, ROUND & RESHEE CATCH BASIN, YARD DRAIN
— POST —	POST INDICATOR VALVE
— WATER VALVE —	WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
— MALBOX —	MALBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
— UNIDENTIFIED —	UNIDENTIFIED STRUCTURE
— SPOT —	SPOT ELEVATION
— CONTOUR —	CONTOUR LINE
— FENCE —	FENCE
— GUARD RAIL —	GUARD RAIL
— STREET LIGHT —	STREET LIGHT
— SON —	SON
— CONC. —	CONCRETE
— ASPH. —	ASPHALT
— GRAVEL —	GRAVEL SHOULDER
— WETLAND —	WETLAND
— STD HEAVY R.O.W. —	STD HEAVY R.O.W. DUTY ONLY
— STD HEAVY DEEP —	STD HEAVY DEEP DUTY ONLY
— STD HEAVY DEEP —	STD HEAVY DEEP DUTY STRENGTH

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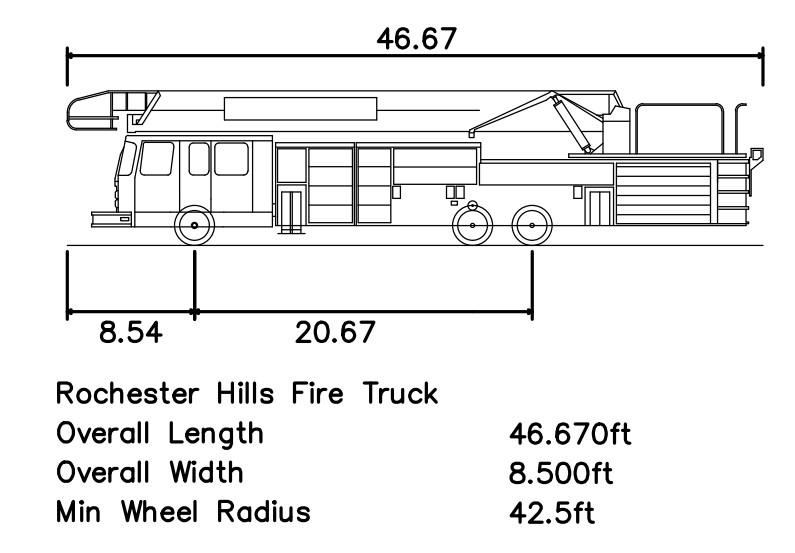
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BUILDING DATA:

BLDG #	CONSTRUCTION TYPE	CONSTRUCTION AREA
1	VB	33,069
2	VB	33,069
3	VB	33,069
4	VB	33,069
5	VA	115,310
6	VA	264,416
7	VA	112,871
CARRIAGE 2 MAINTENANCE	VB	2,706
		921



GOLDBERG COMPANIES, INC.
25101 CHAGRIN BOULEVARD
BEACHWOOD, OHIO 44122

**FIRE PROTECTION PLAN
LEGACY ROCHESTER HILLS**
PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, TOWNSHIP 11E, RANGE 14E, COUNTY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES: GB/RLS | SUR: KTR | P.M.
S:\PROJECTS\2017\2017037\DWG\SITE PLANS\V-BASE-17037.DWG

ORIGINAL ISSUE DATE:
OCTOBER 12, 2018
PEA JOB NO. 2017-037

SCALE: 1" = 60'
DRAWING NUMBER:
C-4.0

NOT FOR CONSTRUCTION
CITY FILE #17-043 SECTION 29
XREF: S:\PROJECTS\2017\2017037\DWG\17037-TOPBASE.DWG
XREF: S:\PROJECTS\2017\2017037\DWG\SITE PLANS\V-BASE-17037.DWG
XREF: S:\PROJECTS\2017\2017037\DWG\SITE PLANS\V-TLR-17037.DWG

GENERAL GRADING AND EARTHWORK NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT

- CONTRACTOR TO FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
- ALL GRADES ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
- THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
- ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF THE CITY OF ROCHESTER HILLS. AN EROSION CONTROL PERMIT MUST BE SECURED FROM THE CITY PRIOR TO CONSTRUCTION.
- ALL EARTHWORK AND GRADING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE SOILS INVESTIGATION AND REPORT PREPARED BY PEA DATED JULY 24, 2017.
- REFER TO CONSTRUCTION PLANS FOR ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES.
- ALL SLOPES EXCEEDING 1:6 MUST BE STABILIZED BY SOODING OR BY PLACING A MULCH BLANKET PEGGED IN PLACE OVER SEED.
- ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 3" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE SITE. BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL, IN THE OPINION OF THE GEOTECHNICAL ENGINEER, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.

SYMBOLS: GRADING

PROPOSED SPOT GRADE ELEVATION. ALL GRADES INDICATED ARE TOP OF PAVEMENT UNLESS OTHERWISE NOTED.

PROPOSED CONTOUR LINE

EARTHWORK BALANCING NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

BENCHMARKS:

SITE & REFERENCE BENCHMARKS PER PEA JOB No. 2001216 M-59 BETWEEN ADAMS & CROOKS MDT AERIAL CONTROL PROJECT CS63043 JN30154

SITE BM#4: CUT CROSS & BOX AT THE WEST END OF A SEGMENT OF SIDEWALK THAT RUNS PARALLEL TO HAMLIN ROAD AND IS NEXT TO THE FIRST PARKING SPACE AS YOU ENTER THE SUBURBAN SPORTS COMPLEX. ELEV. 832.445

SITE BM#5: CUT CROSS & BOX SET ON TOP OF A CONCRETE PEDESTAL THAT SUPPORTS A TRAFFIC LIGHT SIGNAL BOX APPROX. 30' NORTH OF HAMLIN ROAD AND IN THE MIDDLE OF THE MEDIAN BETWEEN THE NORTH & SOUTHWEST CORNER OF ADAMS RD. ELEV. 871.215

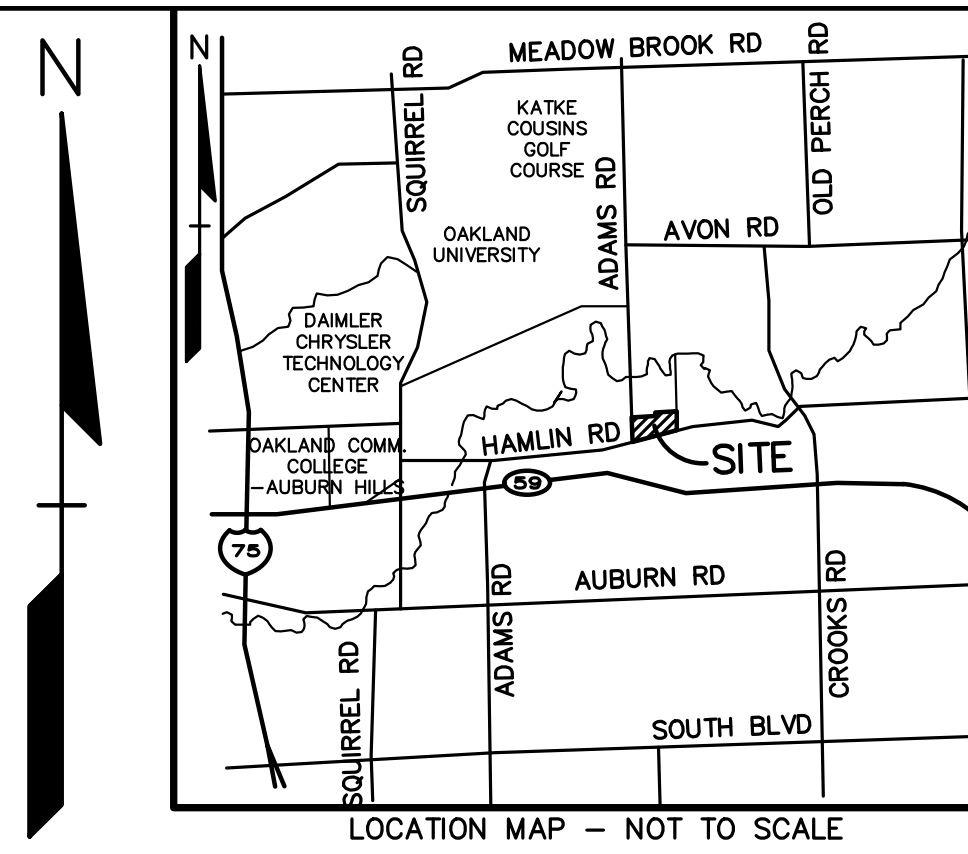
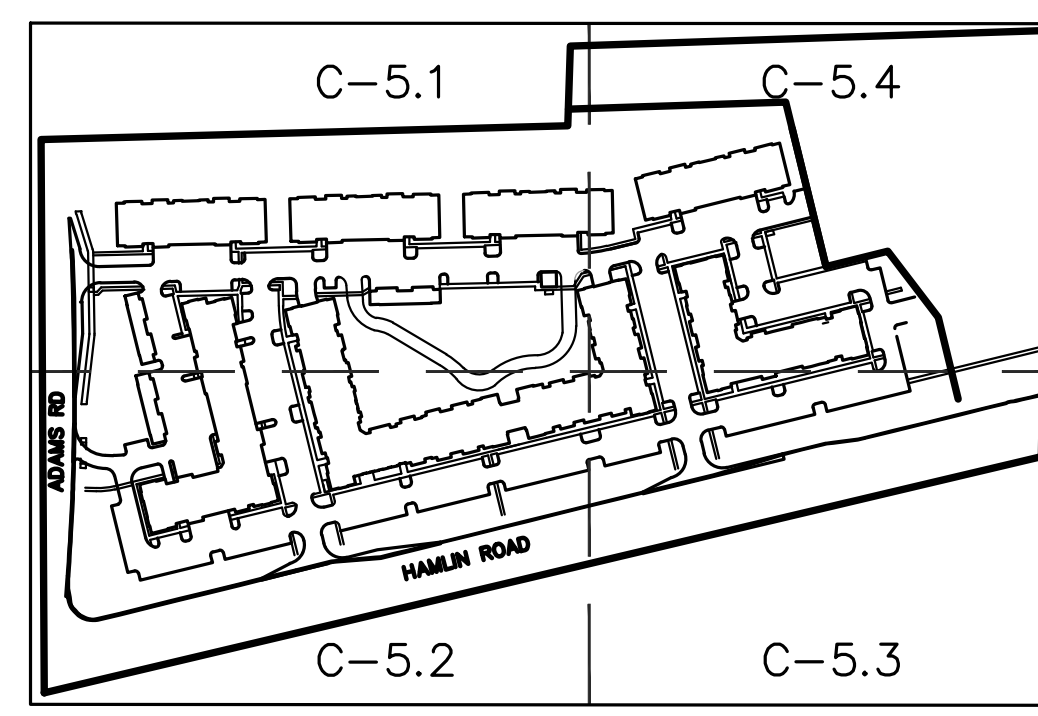
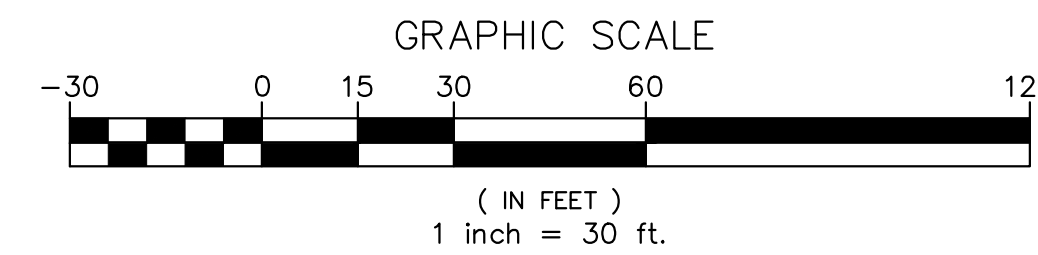
LEGEND

IRON FOUND, IRON SET, NAIL FOUND, NAIL & CAP SET, BRASS PLUG SET, MONUMENT FOUND, MONUMENT SET, SEC. CORNER FOUND, RECORDED, MEASURED, CALCULATED.

EXISTING: ELEC. PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE, UNDERGROUND CABLE TV, CATV PEDESTAL, TELEPHONE U.S. CABLE, PEDESTAL & MANHOLE, ELECTRIC U.S. CABLE, MANHOLE, METER & HANDHOLE, GAS MAIN, VALVE & GAS LINE MARKER, WATERMAIN, HYD. GATE VALVE, TAPPING SLUICE & VALVE, SANITARY SEWER, CLEANOUT & MANHOLE, STORM SEWER, CLEANOUT & MANHOLE, COMBINED SEWER & MANHOLE, SQUARE, ROUND & RESERVE CATCH BASIN, YARD DRAIN, POST INDICATOR VALVE, WATER VALVE, BOX/HYDRANT VALVE, BOX, SERVICE SHUTOFF, METER, TRANSFORMER, IRRIGATION CONTROL VALVE, UNIDENTIFIED STRUCTURE.

PROPOSED: SPOT ELEVATION, CONTOUR LINE, FENCE, GUARD RAIL, STREET LIGHT, SIGN, CONC., ASPH., GRAVEL SHOULDER, METALD.

SDI HEAVY DUTY ONLY, SDI HEAVY DUTY DEEP DUTY STRENGTH.



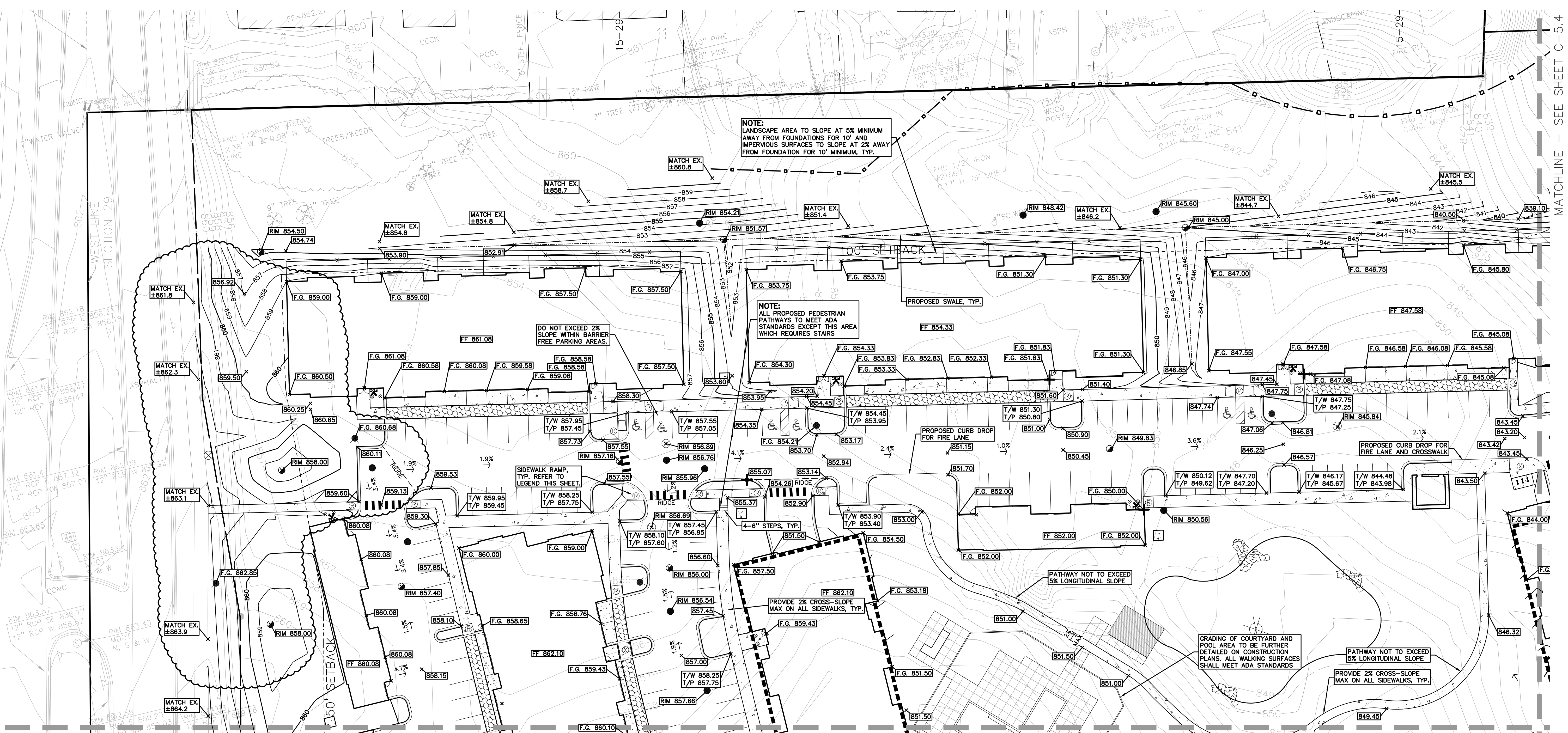
SIDEWALK RAMP LEGEND:

SIDEWALK RAMP 'TYPE R' (Symbol)

SIDEWALK RAMP 'TYPE P' (Symbol)

CURB DROP, NO RAMP (Symbol)

REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS



MATCHLINE - SEE SHEET C-5.2

MATCHLINE - SEE SHEET C-5.4

NO.	BY	CHK	DESCRIPTION	DATE
1	RLS	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	12-28-18
2	RLS	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	12-28-18
3	RLS	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	12-28-18
4	RLS	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	12-28-18
5	RLS	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	12-28-18

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PRELIMINARY GRADING PLAN - NW LEGACY ROCHESTER HILLS
PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, TOWNSHIP 11E, RANGE 12E, COUNTY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES: GBR/LS | SUR: KTR | P.M. | RLS
S:\PROJECTS\2017\2017037\DWG\PLANS\LV-TLKB-17037.dwg

ORIGINAL ISSUE DATE: OCTOBER 12, 2018

PEA JOB NO. 2017-037

SCALE: 1" = 30'

DRAWING NUMBER:

C-5.1

NOT FOR CONSTRUCTION

CITY FILE #17-043 SECTION 29

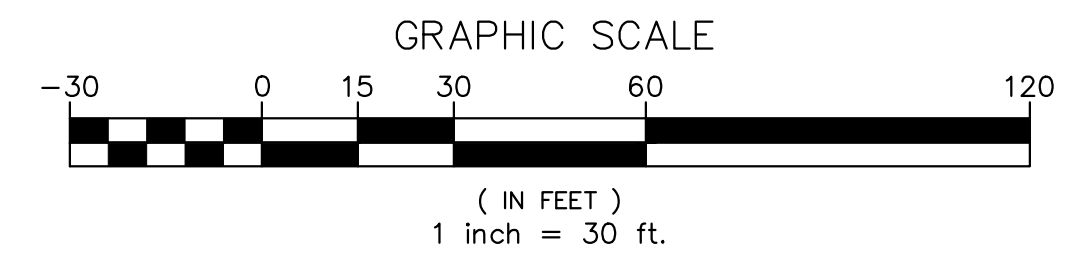
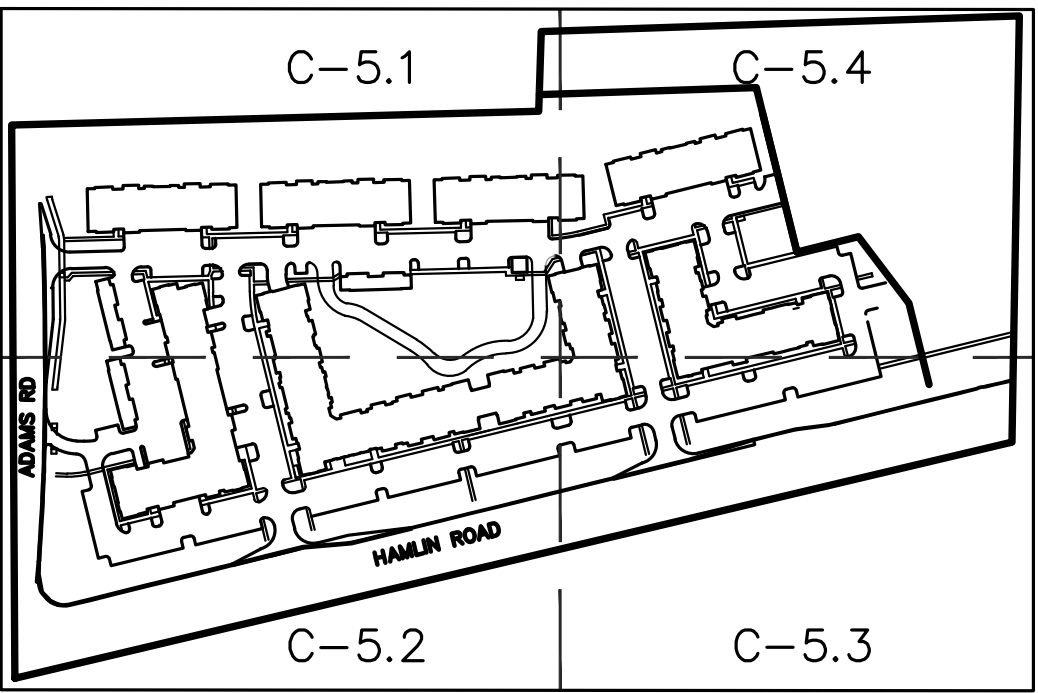
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BENCHMARKS:
(NAVD 88)

SITE & REFERENCE BENCHMARKS PER PEA JOB No. 2001216
M-59 BETWEEN ADAMS & CROOKS MDOT AERIAL CONTROL
PROJECT C563043 JN30154

SITE BM#4:
CUT CROSS & BOX AT THE WEST END OF A SEGMENT OF SIDEWALK
THAT RUNS PARALLEL TO HAMLIN ROAD AND IS NEXT TO THE FIRST
PARKING SPACE AS YOU ENTER THE SUBURBAN
SPORTS COMPLEX.
ELEV. 832.445

SITE BM#5:
CUT CROSS & BOX SET ON TOP OF A CONCRETE PEDESTAL THAT
SUPPORTS A TRAFFIC LIGHT SIGNAL BOX APPROX. 30' NORTH OF
HAMLIN ROAD AND IN THE MIDDLE OF THE MEDIAN BETWEEN THE
NORTH & SOUTHBOUND LAND OF ADAMS RD.
ELEV. 871.215



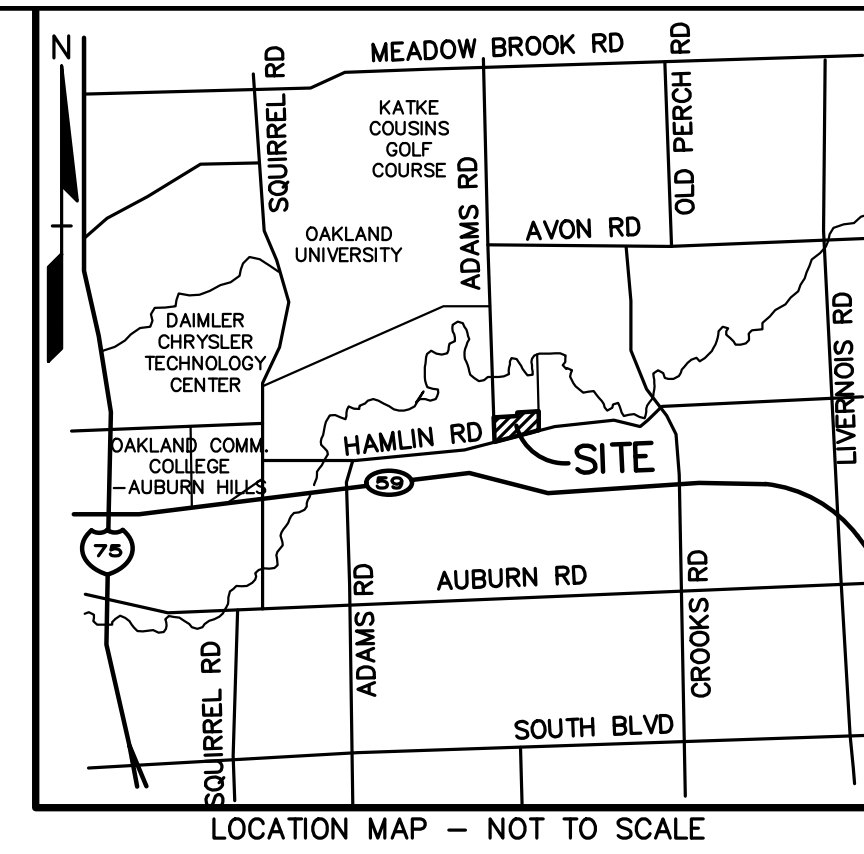
SIDEWALK RAMP LEGEND:

SIDEWALK RAMP 'TYPE R' (Symbol: R in a circle)

SIDEWALK RAMP 'TYPE P' (Symbol: P in a circle)

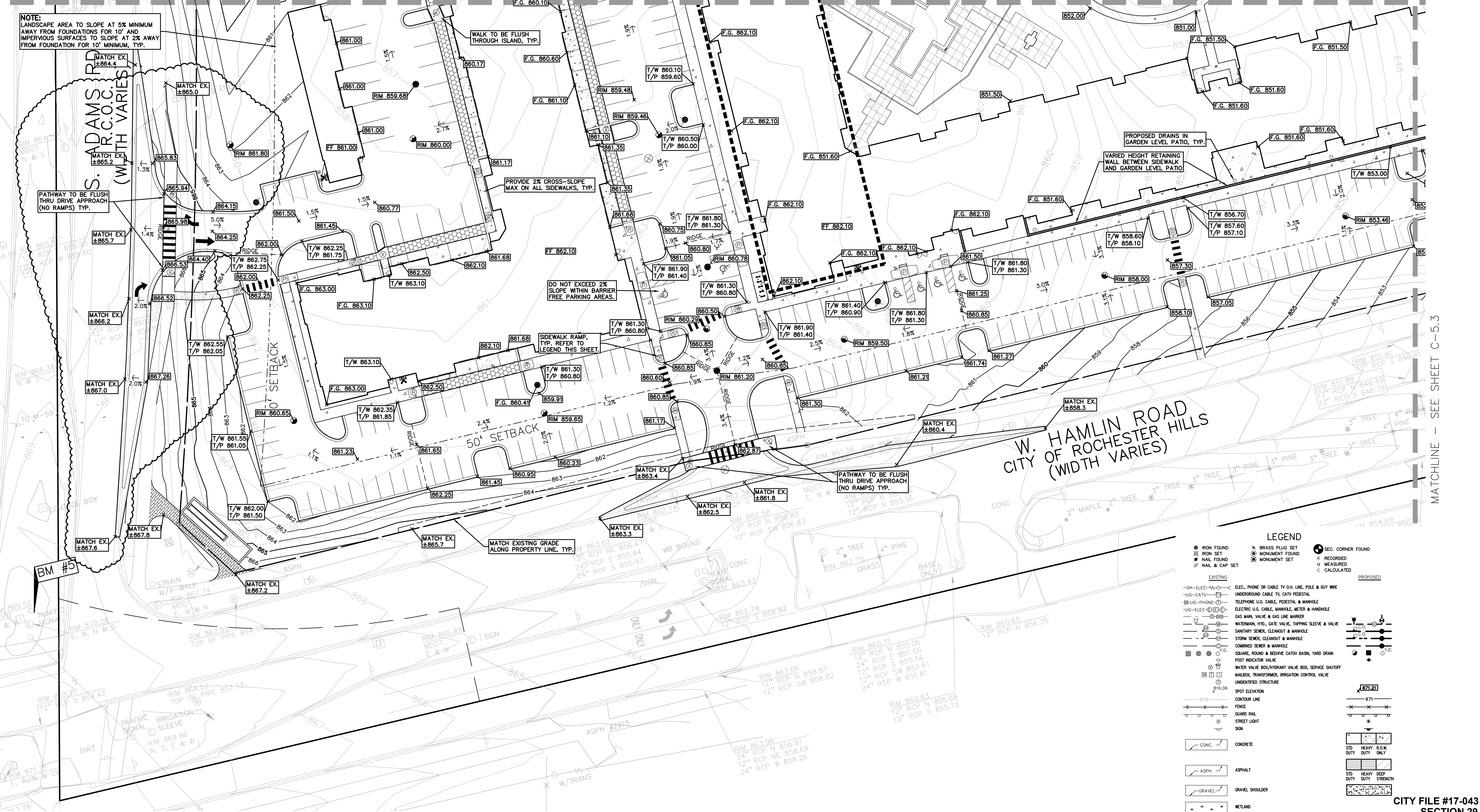
CURB DROP, NO RAMP (Symbol: X in a circle)

REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP
AND DETECTABLE WARNING DETAILS



NO.	BY	CHK	DESCRIPTION	DATE
1	RLS	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	11-22-18
2	RLS	RLS	REVISED PER CITY REVIEW	11-22-18
3	RLS	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	12-21-18
4	RLS	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	11-22-18

MATCHLINE - SEE SHEET C-5.1



LEGEND

● IRON FOUND	⊗ BRASS PLUG SET	⊕ SEC. CORNER FOUND
⊗ IRON SET	⊗ MONUMENT FOUND	⊗ R RECORDED
⊗ NAIL FOUND	⊗ MONUMENT SET	⊗ M MEASURED
⊗ NAIL & CAP SET		⊗ C CALCULATED

—ELEC—	ELEC. PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE	—PROPOSED—
—UG-CATV—	UNDERGROUND CABLE TV, CATV PEDESTAL	
—UG-PHONE—	TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE	
—ELEC-UG—	ELECTRIC U.G. CABLE, MANHOLE, WETTER & HANDHOLE	
—GAS—	GAS MAIN, VALVE & GAS LINE W/ MARKER	
—WATER—	WATERMAIN, HD, GATE VALVE, TAPPING SLAVE & VALVE	
—SEWER—	SANITARY SEWER, CLEANOUT & MANHOLE	
—STORM—	STORM SEWER, CLEANOUT & MANHOLE	
—COMB—	COMBINED SEWER & MANHOLE	
—SQUARE—	SQUARE, ROUND & BEEHIVE CATCH BASIN, YARD DRAIN	
—POST—	POST INDICATOR VALVE	
—WATER—	WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF	
—MBOX—	MALBOX, TRANSFORMER, IRRIGATION CONTROL VALVE	
—UNID—	UNIDENTIFIED STRUCTURE	
—ELEV—	SPOT ELEVATION	
—CONC—	CONCRETE	
—ASPH—	ASPHALT	
—GRAVEL—	GRAVEL SHOULDER	
—WETLAND—	WETLAND	

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PRELIMINARY GRADING PLAN - SW LEGACY ROCHESTER HILLS
PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 28, TOWNSHIP 11N, RANGE 11E, COUNTY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. GB/RLS LN. KPL/JSK JSUR. KTR P.M.
S:\PROJECTS\2017\2017037\DWG\PLANS\LV-17037.dwg

ORIGINAL ISSUE DATE:
OCTOBER 12, 2018

PEA JOB NO. 2017-037

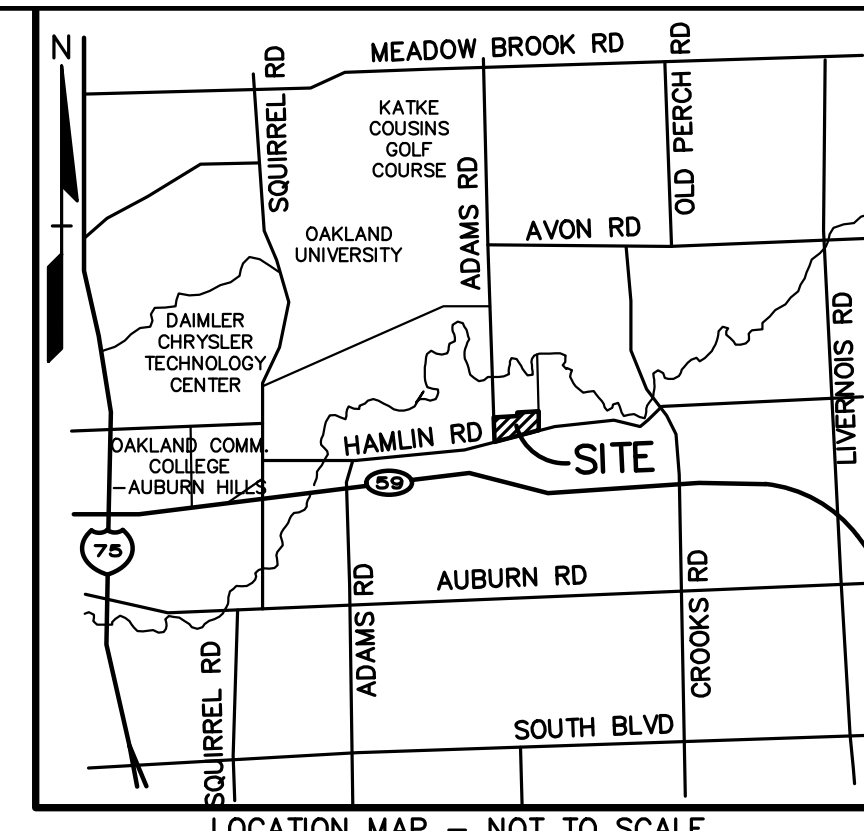
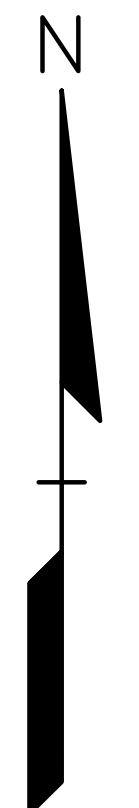
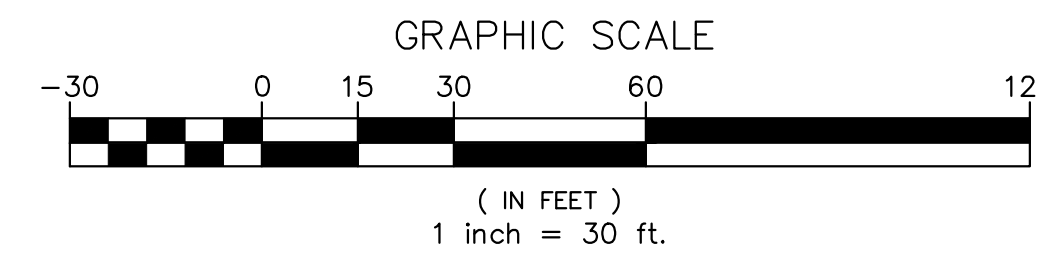
SCALE: 1" = 30'

DRAWING NUMBER:
C-5.2

NOT FOR CONSTRUCTION

CITY FILE #17-043 SECTION 29

REF: S:\PROJECTS\2017\2017037\DWG\17037-TOPBASE.DWG
XREF: S:\PROJECTS\2017\2017037\DWG\SITE PLANS\LV-BASE-17037.DWG
XREF: S:\PROJECTS\2017\2017037\DWG\SITE PLANS\LV-TK-17037.DWG



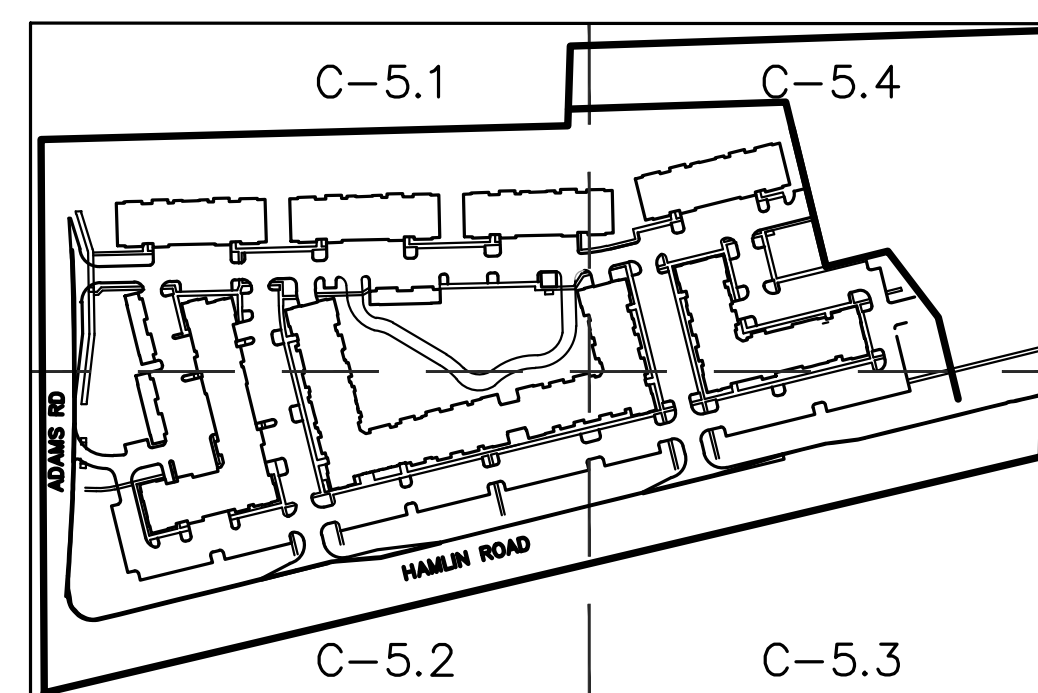
NO.	BY	DESCRIPTION	DATE
1	RLS	REVISED ENCASULATION AREA & CITY REVIEW	11-2-18
2	RLS	REVISED ENCASULATION AREA & CITY REVIEW	11-2-18
3	RLS	REVISED ENCASULATION AREA & CITY REVIEW	11-2-18
4	RLS	REVISED ENCASULATION AREA & CITY REVIEW	11-2-18

BENCHMARKS:
(NAVD 88)

SITE & REFERENCE BENCHMARKS PER PEA JOB No. 2001216
M-59 BETWEEN ADAMS & CROOKS MDT AERIAL CONTROL
PROJECT C563043 JN30154

SITE BM#4:
CUT CROSS & BOX AT THE WEST END OF A SEGMENT OF SIDEWALK THAT RUNS PARALLEL TO HAMLIN ROAD AND IS NEXT TO THE FIRST PARKING SPACE AS YOU ENTER THE SUBURBAN SPORTS COMPLEX.
ELEV. 832.445

SITE BM#5:
CUT CROSS & BOX SET ON TOP OF A CONCRETE PEDESTAL THAT SUPPORTS A TRAFFIC LIGHT SIGNAL BOX APPROX. 30' NORTH OF HAMLIN ROAD AND IN THE MIDDLE OF THE MEDIAN BETWEEN THE NORTH & SOUTHBOUND LAND OF ADAMS RD.
ELEV. 871.215



SIDEWALK RAMP LEGEND:

SIDEWALK RAMP 'TYPE R' (Symbol)

SIDEWALK RAMP 'TYPE P' (Symbol)

CURB DROP, NO RAMP (Symbol)

REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

LEGEND

● IRON FOUND	● BRASS PLUG SET	● SEC. CORNER FOUND
⊗ IRON SET	⊗ MONUMENT FOUND	R: RECORDED
⊗ NAIL FOUND	⊗ MONUMENT SET	M: MEASURED
⊗ NAIL & CAP SET		C: CALCULATED

EXISTING

- OH-ELEC—: ELEC. PHONE OR CABLE TV OH. LINE, POLE & OUT WIRE
- UG-CATV—: UNDERGROUND CABLE TV, CATV PEDESTAL
- UG-PHONE—: TELEPHONE U.S. CABLE, PEDESTAL & MANHOLE
- UG-ELEC—: ELECTRIC U.S. CABLE, MANHOLE, W/TER & MANHOLE
- GAS—: GAS MAIN, VALVE & GAS LINE MARKER
- WATER—: WATERMAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
- SEWER—: SANITARY SEWER, CLEANOUT & MANHOLE
- STORM—: STORM SEWER, CLEANOUT & MANHOLE
- SEWER & MANHOLE
- SQUARE, ROUND & BENTWATER CATCH BASIN, YARD DRAIN
- POST INDICATOR VALVE
- WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
- MALLEO, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNIDENTIFIED STRUCTURE

PROPOSED

- CONC.—: CONCRETE
- ASPH.—: ASPHALT
- GRAVEL—: GRAVEL SHOULDER
- METLND—: METLAND

SPOT ELEVATION

—CONTOUR LINE

—FENCE

—QUAD RAIL

—STREET LIGHT

—SIGN

—STD HEAVY R.O.W. DUTY ONLY

—STD HEAVY DEEP DUTY STRENGTH

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BEACHWOOD, OHIO 44122

PRELIMINARY GRADING PLAN - SE LEGACY ROCHESTER HILLS
PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, T03N, R11E
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

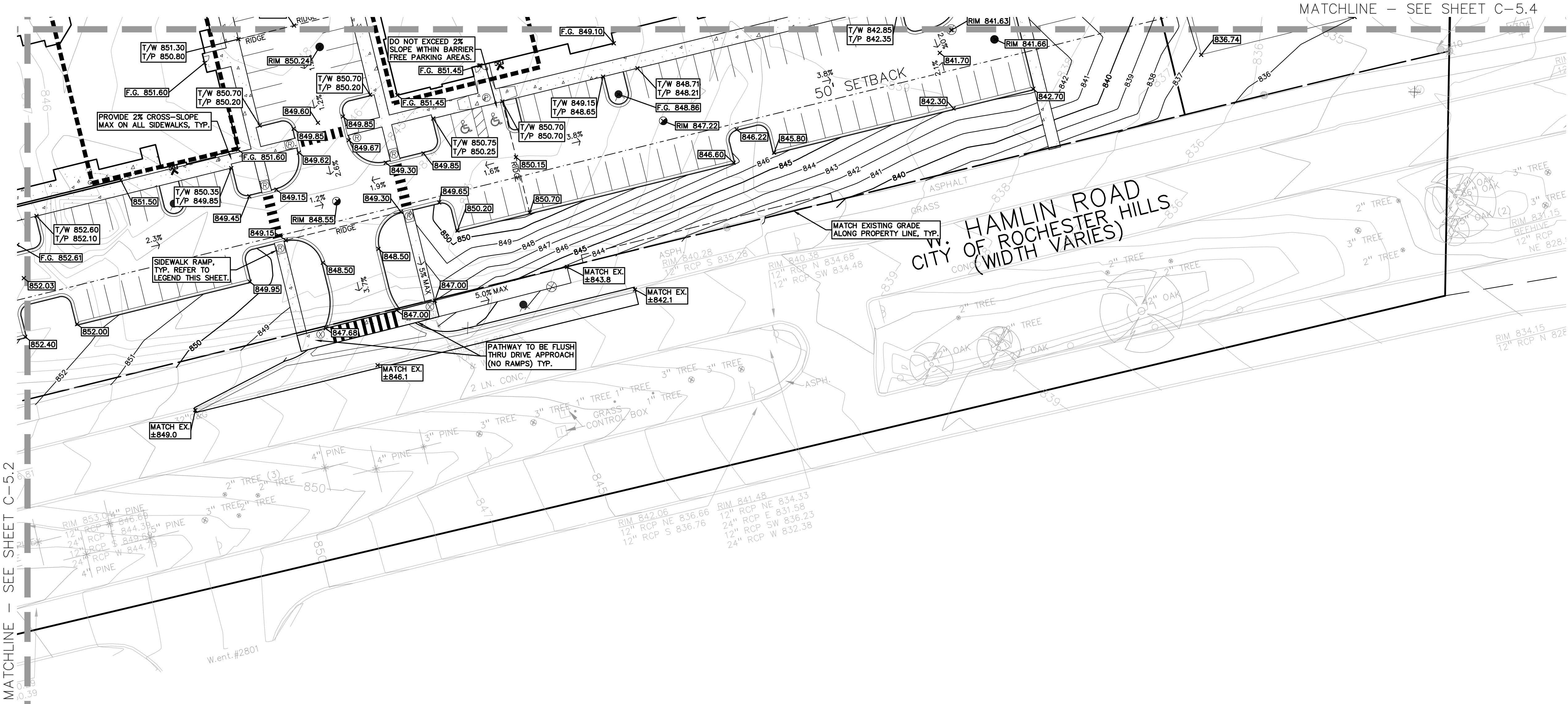
DES: GB/RLS | SUR: KTR | P.M.
DATE: 10/12/2018

ORIGINAL ISSUE DATE:
OCTOBER 12, 2018

PEA JOB NO. 2017-037

SCALE: 1" = 30'

DRAWING NUMBER:
C-5.3



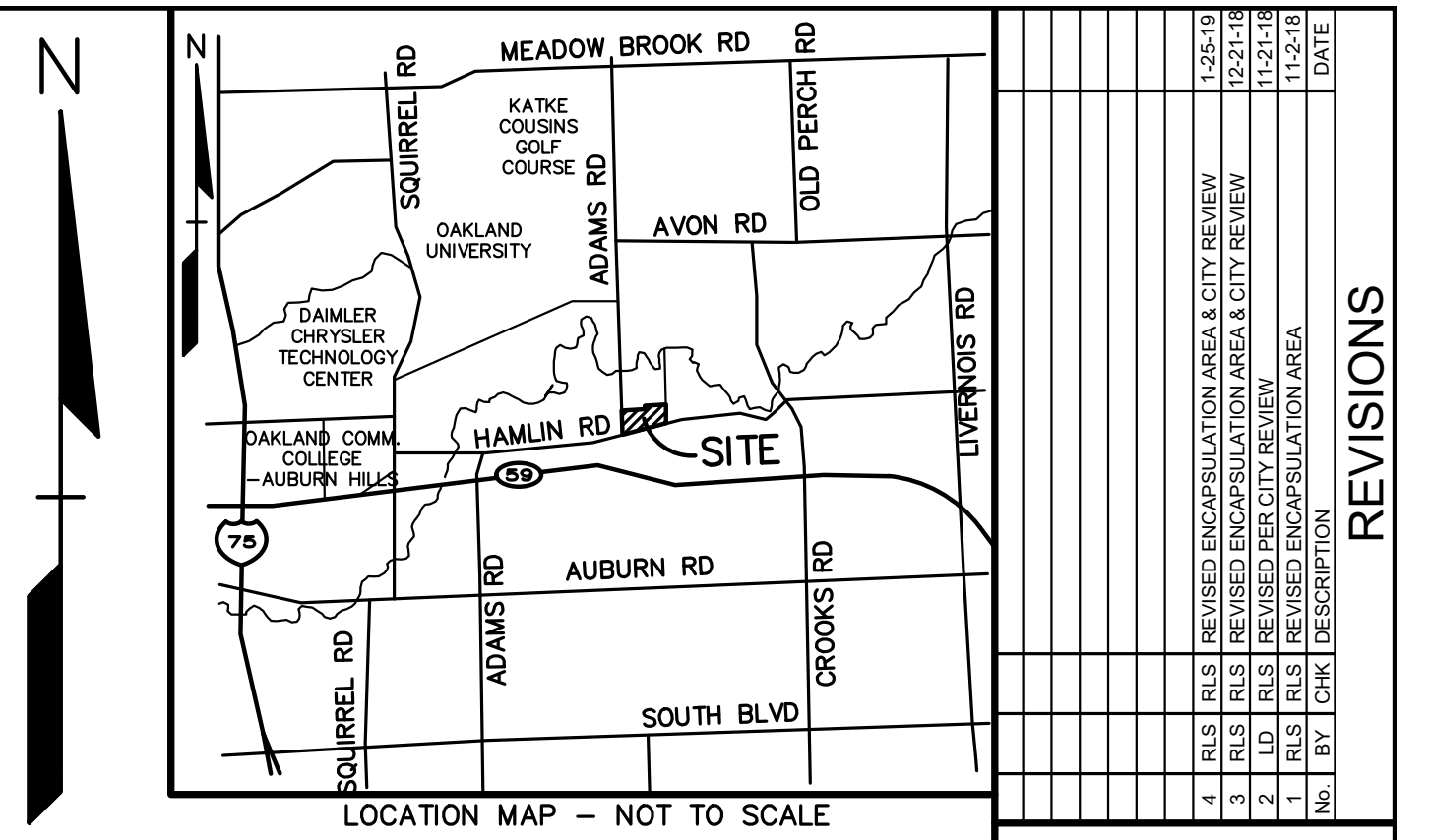
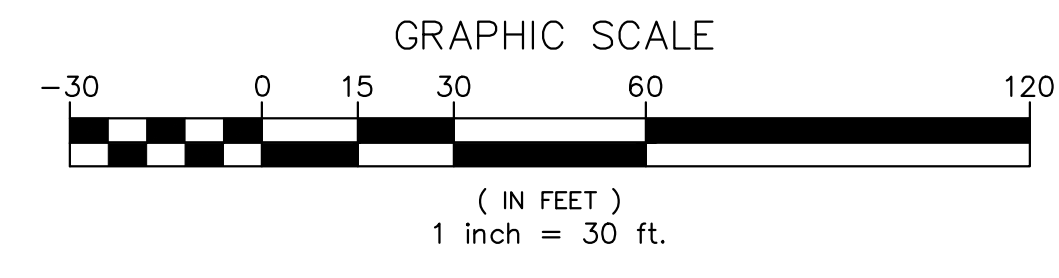
MATCHLINE - SEE SHEET C-5.2

MATCHLINE - SEE SHEET C-5.4

NOT FOR CONSTRUCTION

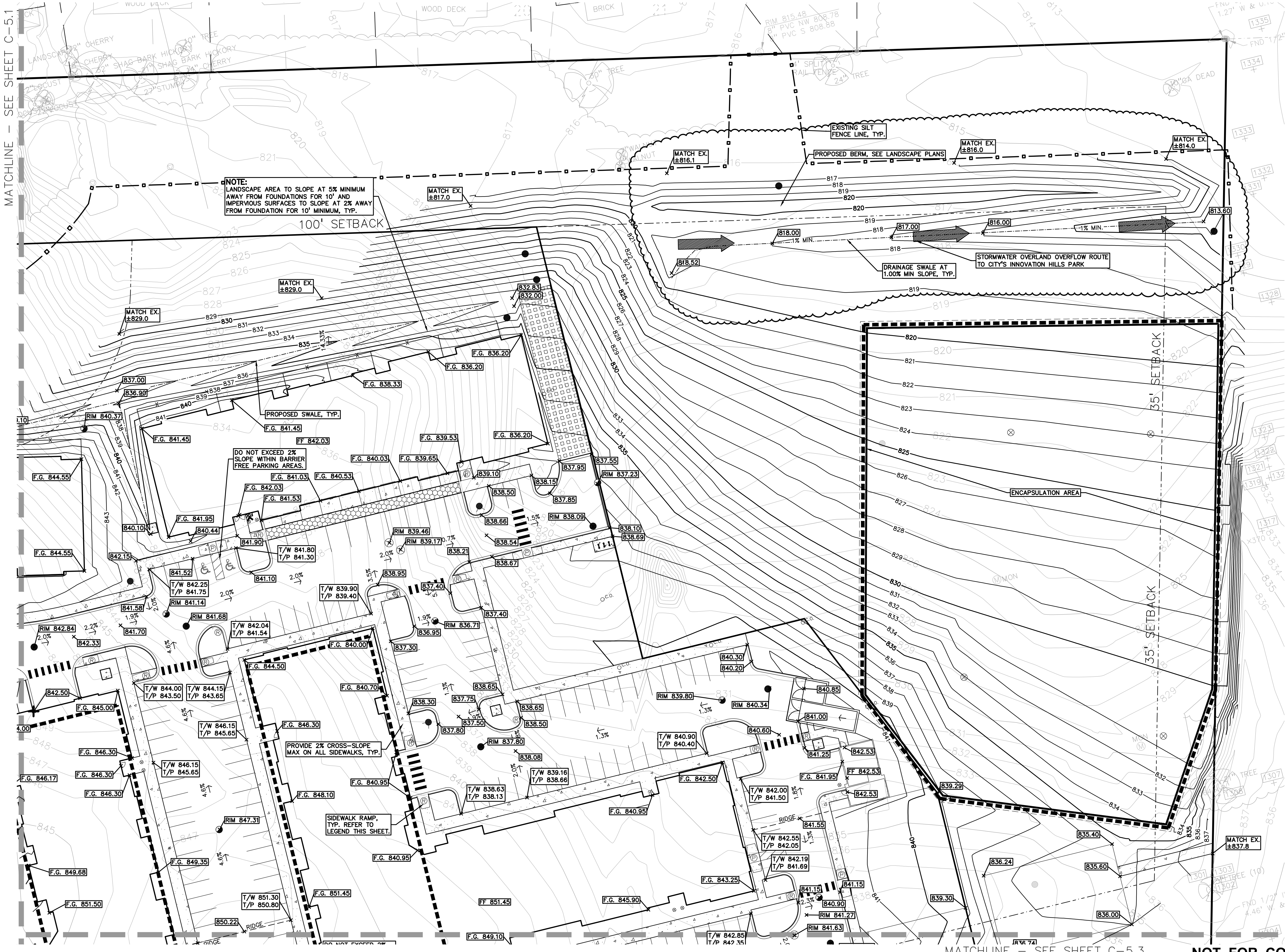
CITY FILE #17-043
SECTION 29

PROJECTS: 2017\2017037\DWG\17037-TOPOBASE.DWG
PROJECTS: 2017\2017037\DWG\SITE PLANS\V-BASE-17037.DWG
PROJECTS: 2017\2017037\DWG\SITE PLANS\V-TLBK-17037.DWG



NO.	BY	DATE	DESCRIPTION
1	RLS	11-2-18	REVISED ENCASULATION AREA & CITY REVIEW
2	RLS	11-2-18	REVISED PER CITY REVIEW
3	RLS	11-2-18	REVISED ENCASULATION AREA & CITY REVIEW
4	RLS	11-2-18	REVISED ENCASULATION AREA & CITY REVIEW

MATCHLINE - SEE SHEET C-5.1



SIDEWALK RAMP LEGEND:

SIDEWALK RAMP 'TYPE R' (Symbol)

SIDEWALK RAMP 'TYPE P' (Symbol)

CURB DROP, NO RAMP (Symbol)

REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

LEGEND

EXISTING

- IRON FOUND
- IRON SET
- NAIL FOUND
- NAIL & CAP SET
- BRASS PLUG SET
- MONUMENT FOUND
- MONUMENT SET
- SEC. CORNER FOUND
- RECORDED
- MEASURED
- CALCULATED

PROPOSED

- ELEC. PHONE OR CABLE TV OH. LINE, POLE & CITY WIRE
- UNDERGROUND CABLE TV, CATV, PEDESTAL
- TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
- GAS MAIN, VALVE & GAS LINE MARKER
- WATERTANK, H.H. DATE VALVE, TAPPING SLEEVE & VALVE
- SANITARY SEWER, CLEANOUT & MANHOLE
- STORM SEWER, CLEANOUT & MANHOLE
- COMBINED SEWER & MANHOLE
- SQUARE, ROUND & BEDDIE CATCH BASIN, YARD DRAIN
- POST INDICATOR VALVE
- WATER VALVE BOX/FRONT VALVE BOX, SERVICE SHUTOFF
- MALBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNIDENTIFIED STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SIEN
- CONC.
- ASPH.
- GRAVEL
- WETLAND

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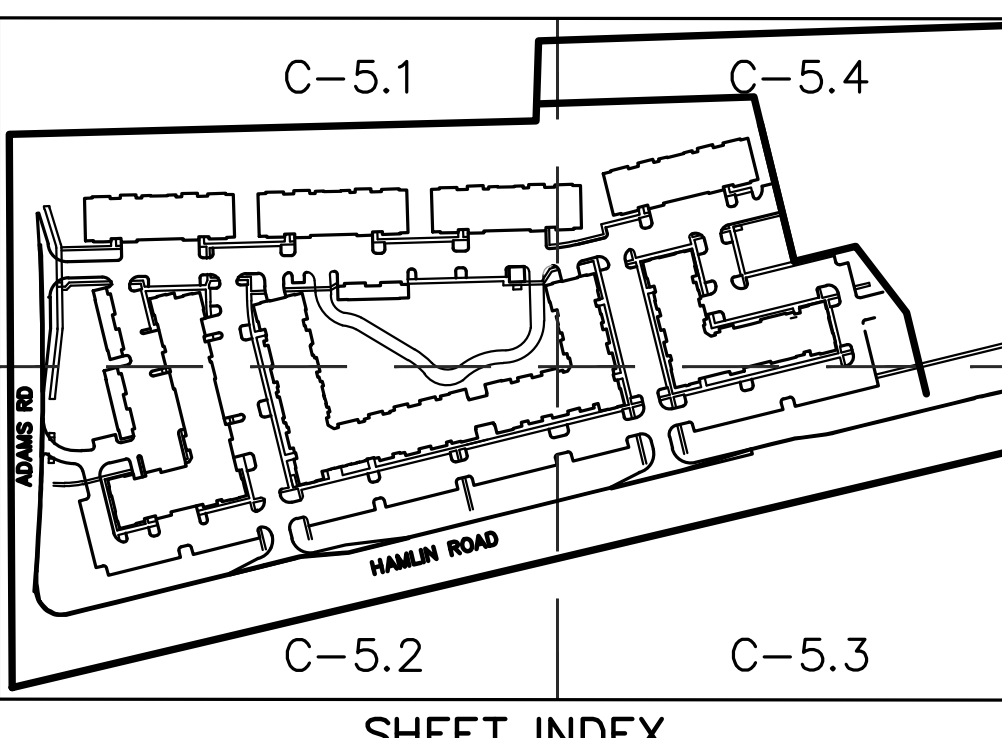
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BENCHMARKS:

(NAVD 88)

SITE & REFERENCE BENCHMARKS PER PEA JOB NO. 2001216 M-59 BETWEEN ADAMS & CROOKS MOOT AERIAL CONTROL. PROJECT CS63043 JN30154

SITE BM#4: CUT CROSS & BOX AT THE WEST END OF A SEGMENT OF SIDEWALK THAT RUNS PARALLEL TO HAMLIN ROAD AND IS NEXT TO THE FIRST PARKING SPACE AS YOU ENTER THE SUBURBAN SPORTS COMPLEX. ELEV. 832.445

SITE BM#5: CUT CROSS & BOX SET ON TOP OF A CONCRETE PEDESTAL THAT SUPPORTS A TRAFFIC LIGHT SIGNAL BOX APPROX. 30' NORTH OF HAMLIN ROAD AND IN THE MIDDLE OF THE MEDIAN BETWEEN THE NORTH & SOUTHBOUND LANE OF ADAMS RD. ELEV. 871.215

GOLDBERG COMPANIES, INC.

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BEACHWOOD, OHIO 44122

PRELIMINARY GRADING PLAN - NE LEGACY ROCHASTER HILLS

PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, T03N, R11E CITY OF ROCHASTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. GBR/RLS DN. KPA/JSK | SUR. KTR | P.M. RLS

ORIGINAL ISSUE DATE: OCTOBER 12, 2018

PEA JOB NO. 2017-037

SCALE: 1" = 30'

DRAWING NUMBER: **C-5.4**

CITY FILE #17-043 SECTION 29

NOT FOR CONSTRUCTION

MATCHLINE - SEE SHEET C-5.1

MATCHLINE - SEE SHEET C-5.3

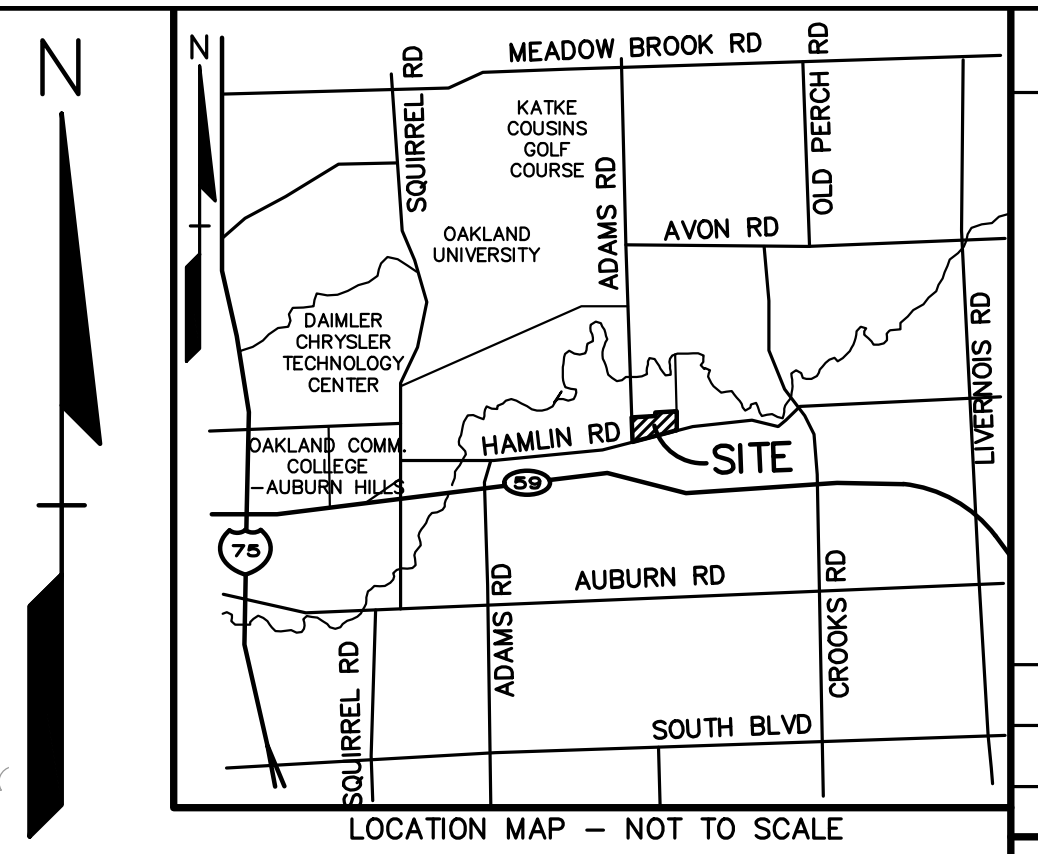
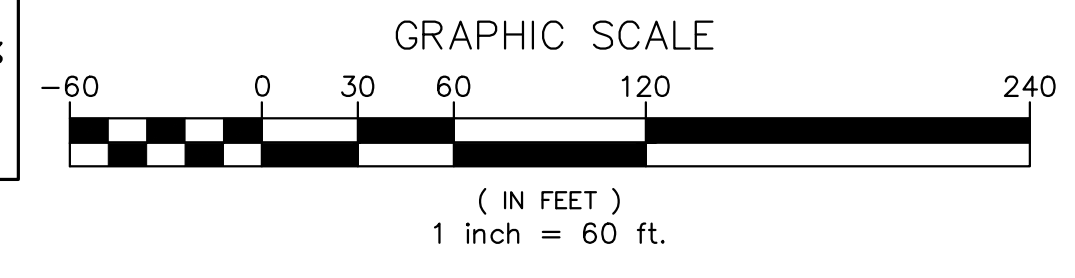
NOT FOR CONSTRUCTION

TEN YEAR STORM DETENTION DESIGN (OAKLAND COUNTY DESIGN METHOD)		
Contributing Area (A):	17.66 AC.	
Allowable Discharge (Qa):	3.53 C.F.S. (+ 0.2 CFS/AC)	
Coefficient of Runoff (Co):	0.71	
Calculation of Required Discharge/Acre		
Qo = ((Qa)(A)(Cr):	0.28	GRASS: 6.56 AC 0.30 IMPERVIOUS 11.10 AC 0.95
T = 25 + ((6562.5/Qo))0.5:	127.63	
Storage Volume Required:		
Vs = (10500(T)/(T+25)) + 40Qo(T):	7342.07	
Vt = (Vs)(A)(Co):	92059.3	
PIPE STORAGE:		
L = 1840 ft.	PIPE STORAGE:	815 ft.
SIZE = 96 in.	SIZE =	144 in.
C.F./FT = 50.24 c.f./ft.	C.F./FT =	113.04 c.f./ft.
VOLUME = 92,441.60 c.f.	VOLUME =	92,127.60 c.f.

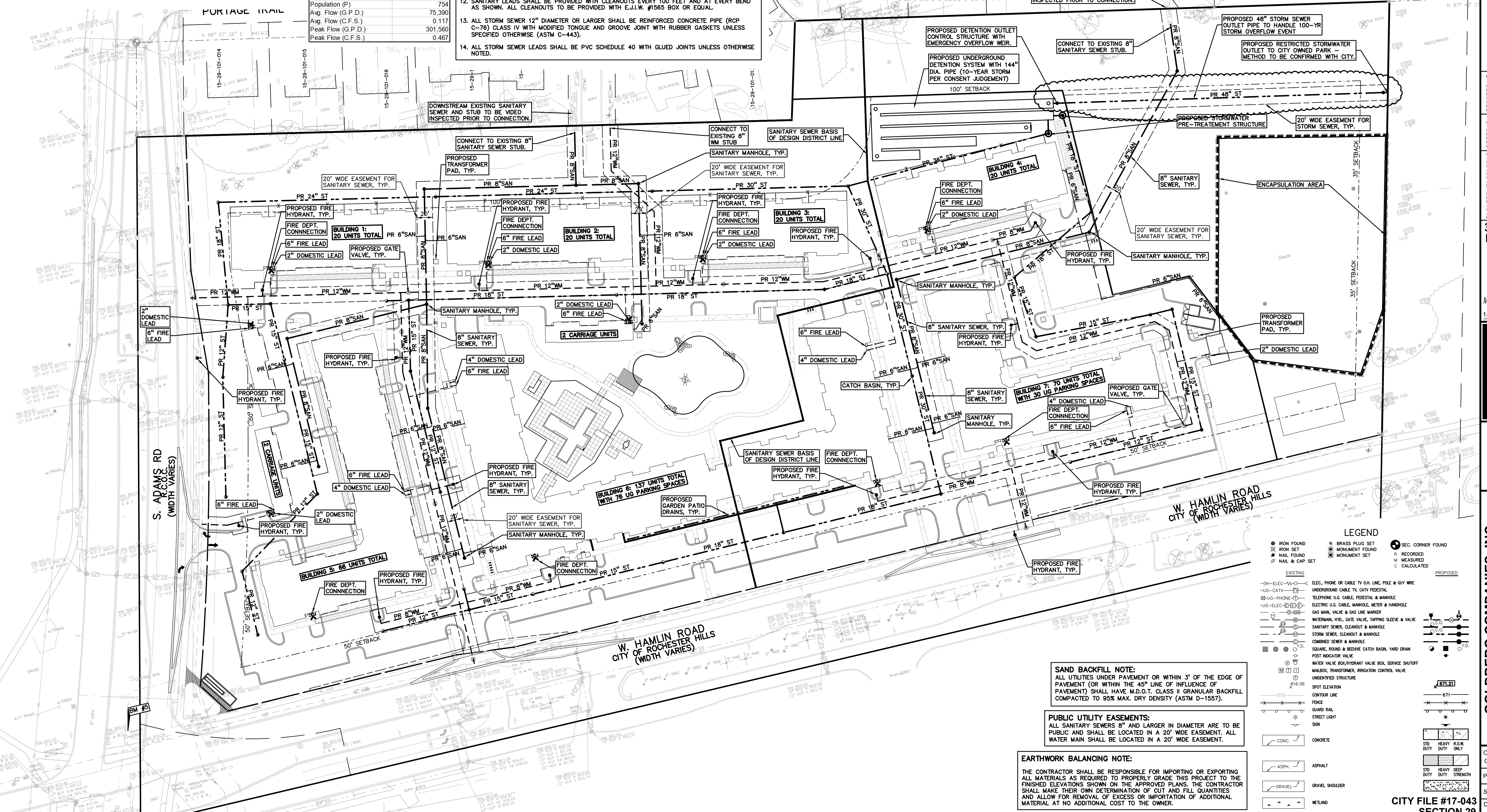
SANITARY SEWER BASIS OF DESIGN 2017-037 HAMLIN ADAMS APARTMENTS		
MULT-FAMILY WEST		
Units	230	
conversion factor	0.6	
REU (Units x CF)	138	
Population (P)	483	
Avg. Flow (G.P.D.)	48,300	
Avg. Flow (C.F.S.)	0.075	
Peak Flow (G.P.D.)	193,200	
Peak Flow (C.F.S.)	0.299	
MULT-FAMILY EAST		
Units	129	
conversion factor	0.6	
REU (Units x CF)	77	
Population (P)	271	
Avg. Flow (G.P.D.)	27,090	
Avg. Flow (C.F.S.)	0.042	
Peak Flow (G.P.D.)	108,360	
Peak Flow (C.F.S.)	0.168	
MULT-FAMILY TOTAL		
Units	359	
conversion factor	0.6	
REU (Units x CF)	215	
Population (P)	754	
Avg. Flow (G.P.D.)	75,390	
Avg. Flow (C.F.S.)	0.117	
Peak Flow (G.P.D.)	301,560	
Peak Flow (C.F.S.)	0.467	

- GENERAL UTILITY NOTES:**
- ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE CITY OF ROCHESTER HILLS.
 - NO PHYSICAL CONNECTION TO THE EXISTING WATER MAIN CAN BE MADE UNTIL ALL NEW WATER MAIN PASSES PRESSURE AND BACTERIOLOGICAL TESTS TO THE SATISFACTION OF THE CITY.
 - ALL WATER MAIN AND FITTINGS (3" DIAMETER AND LARGER) SHALL BE DUCTILE IRON, CLASS 54.
 - WATER MAIN SERVICE LEADS SHALL BE TYPE 'K' ANNEALED SEAMLESS COPPER WITH FLARED FITTINGS, UNLESS OTHERWISE NOTED.
 - ALL WATER MAIN SHALL BE PROVIDED WITH 6' OF COVER UNLESS OTHERWISE NOTED.
 - ALL FIRE HYDRANTS SHALL BE E.I.W. #58R MODEL #250 PER CITY STANDARDS.
 - ALL HYDRANTS TO BE A MINIMUM OF 5' FROM BACK OF CURB, TYP.
 - ALL NECESSARY FITTINGS, THRUST BLOCKS, RESTRAINING GLANDS, BLOW OFFS, ETC. FOR WATER MAIN ARE CONSIDERED INCIDENTAL TO THIS PROJECT. THE CONTRACTOR SHALL INSTALL THESE ITEMS AS NECESSARY AND AS REQUIRED BY THE CITY OF ROCHESTER HILLS.
 - THE WATER MAIN CONTRACTOR SHALL NOTIFY THE INSPECTION SECTION OF THE DETROIT WATER AND SEWER DEPARTMENT AT (313) 833-4682 AT LEAST THREE WORKING DAYS IN ADVANCE OF STARTING CONSTRUCTION.
 - ALL SANITARY SEWER 10" OR LARGER SHALL BE P.V.C. TRUSS PIPE (ASTM D2688) AND FITTINGS, WITH ELASTOMERIC GASKET JOINTS PER ASTM D3212 UNLESS OTHERWISE NOTED.
 - ALL SANITARY SEWER LEADS SHALL BE POLYVINYL CHLORIDE (PVC) SDR 23.5 PIPE AND FITTINGS. ALL JOINTS TO BE ELASTOMERIC GASKET JOINTS PER ASTM D3212 UNLESS OTHERWISE NOTED.
 - SANITARY LEADS SHALL BE PROVIDED WITH CLEANOUTS EVERY 100 FEET AND AT EVERY BEND AS SHOWN. ALL CLEANOUTS TO BE PROVIDED WITH E.I.W. #156S BOX OR EQUAL.
 - ALL STORM SEWER 12" DIAMETER OR LARGER SHALL BE REINFORCED CONCRETE PIPE (RCP C-76) CLASS IV WITH MODIFIED TONGUE AND GROOVE JOINT WITH RUBBER GASKETS UNLESS SPECIFIED OTHERWISE (ASTM C-443).
 - ALL STORM SEWER LEADS SHALL BE PVC SCHEDULE 40 WITH GLUED JOINTS UNLESS OTHERWISE NOTED.

FLOOD PLAIN:
BY GRAPHICAL PLOTTING, THE SITE IS WITHIN ZONE 'X', AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD PLAIN PER FLOOD INSURANCE RATE MAPS NUMBER 26125C-0389F & 26125C-0393F, DATED SEPTEMBER 29, 2006.



NO.	BY	DESCRIPTION	DATE
1	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	12-04-18
2	RLS	REVISED ENCLOSURE AREA & CITY REVIEW	12-22-18
3	RLS	REVISED PER CITY REVIEW	11-27-18
4	RLS	REVISED ENCLOSURE AREA	11-27-18



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25101 CHAGRIN BOULEVARD
BEACHWOOD, OHIO 44122

**OVERALL PRELIMINARY UTILITY PLAN
LEGACY ROCHESTER HILLS**
PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, T03N, R11E
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES: GB/RLS | SUR: KTR | P.M.
DATE: 10/12/18

ORIGINAL ISSUE DATE:
OCTOBER 12, 2018

PEA JOB NO. 2017-037

DRAWING NUMBER:
CITY FILE #17-043
SECTION 29
C-6.0

SAND BACKFILL NOTE:
ALL UTILITIES UNDER PAVEMENT OR WITHIN 3' OF THE EDGE OF PAVEMENT (OR WITHIN THE 45° LINE OF INFLUENCE OF PAVEMENT) SHALL HAVE M.D.O.T. CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAX. DRY DENSITY (ASTM D-1557).

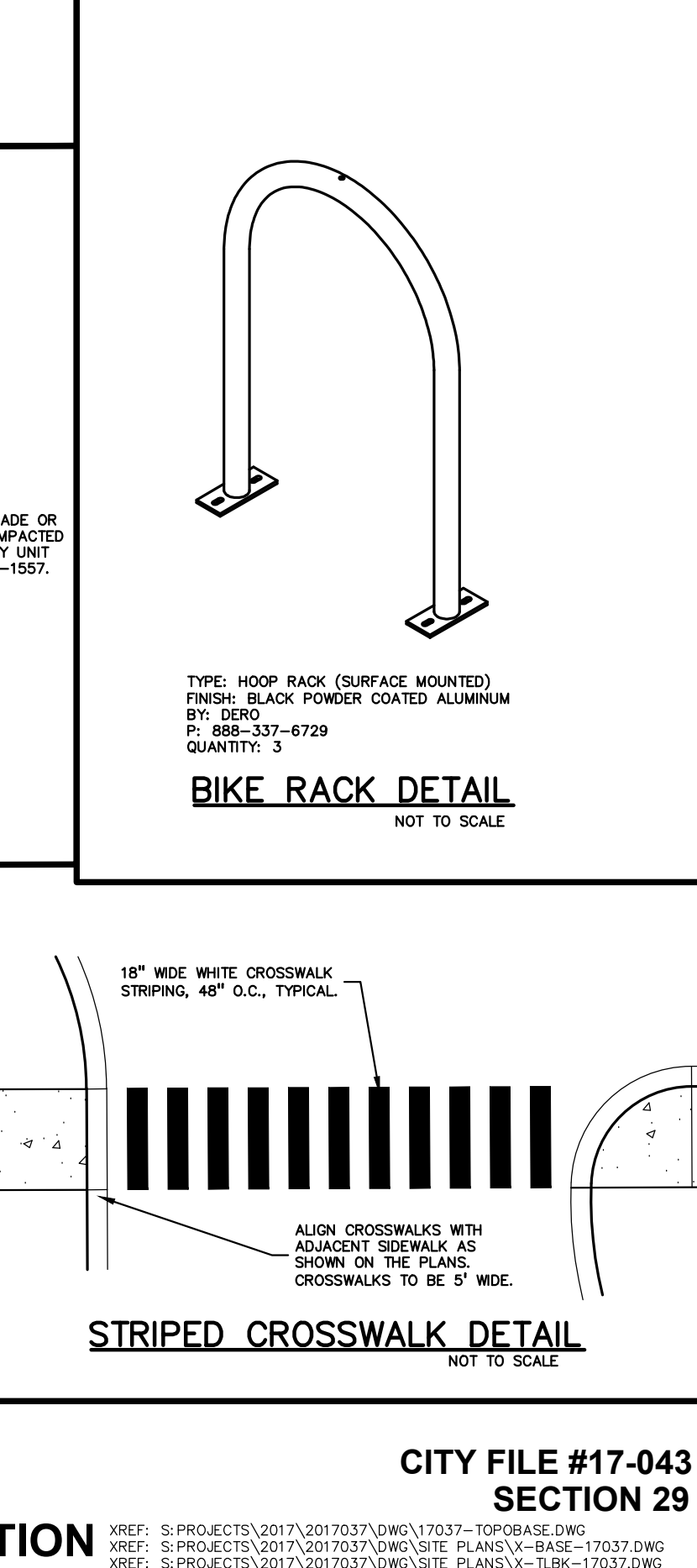
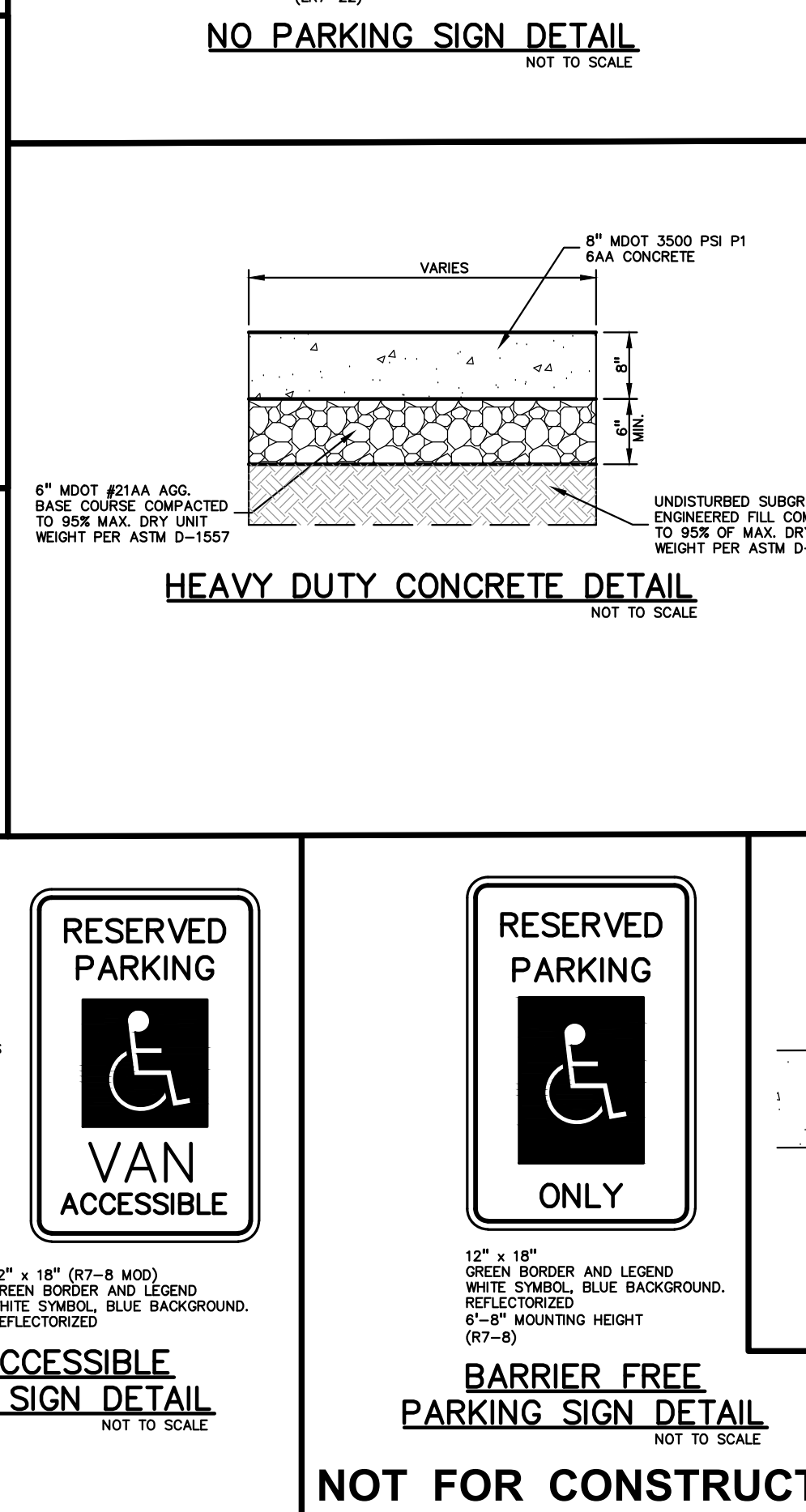
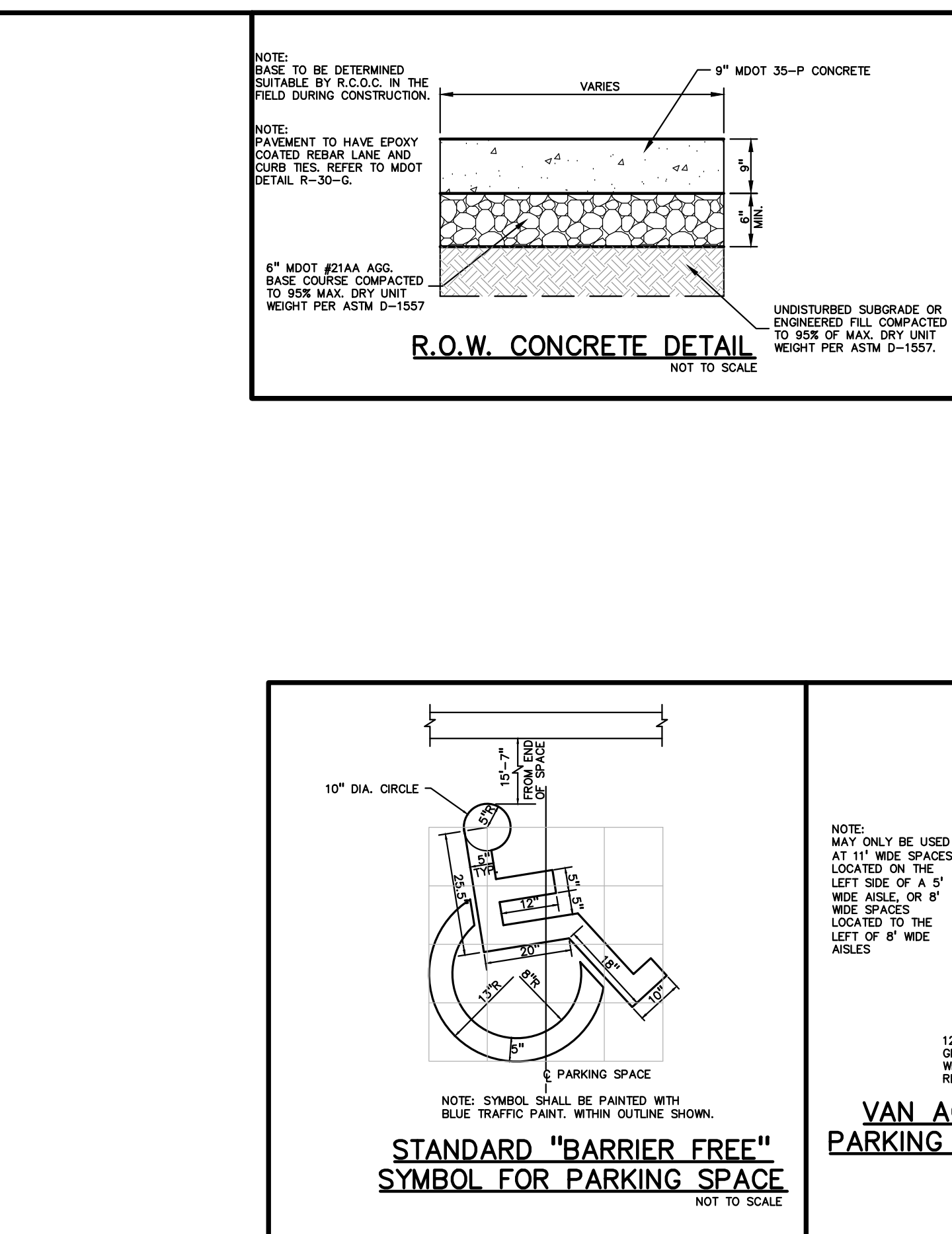
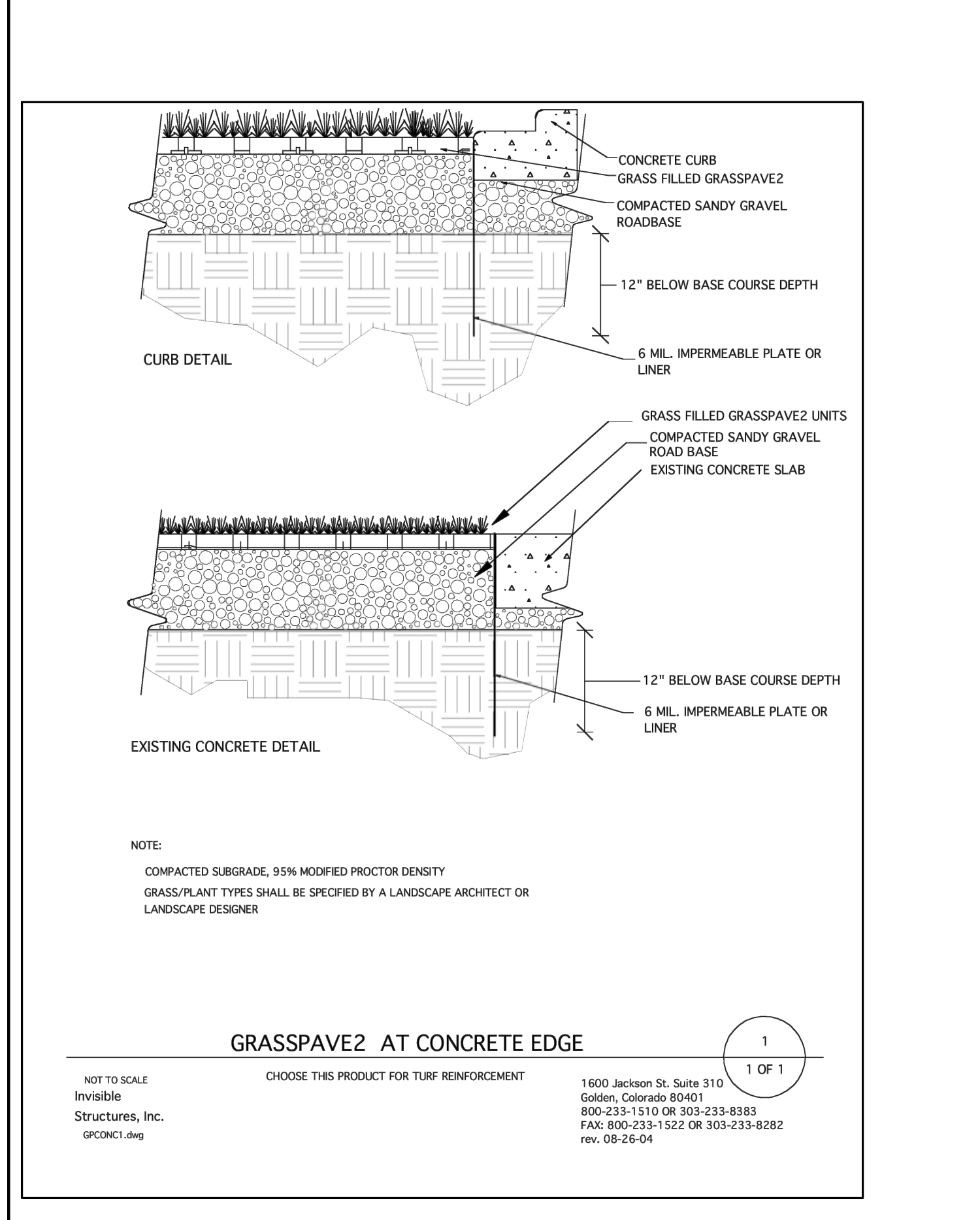
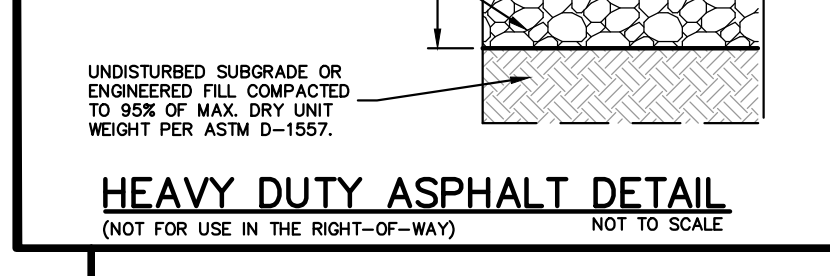
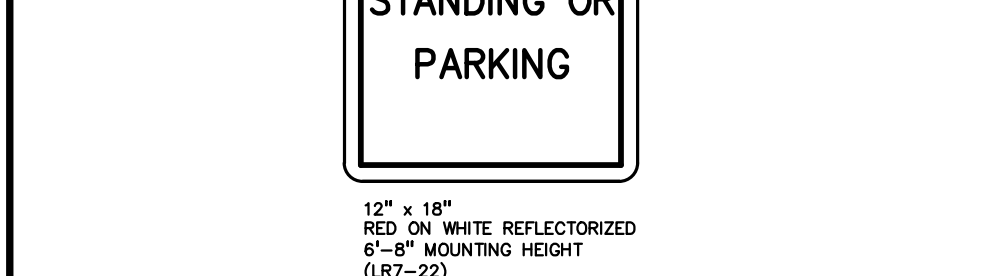
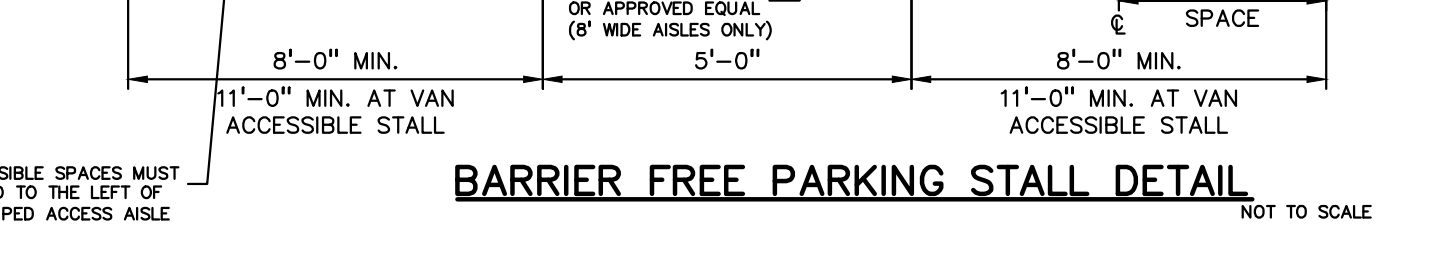
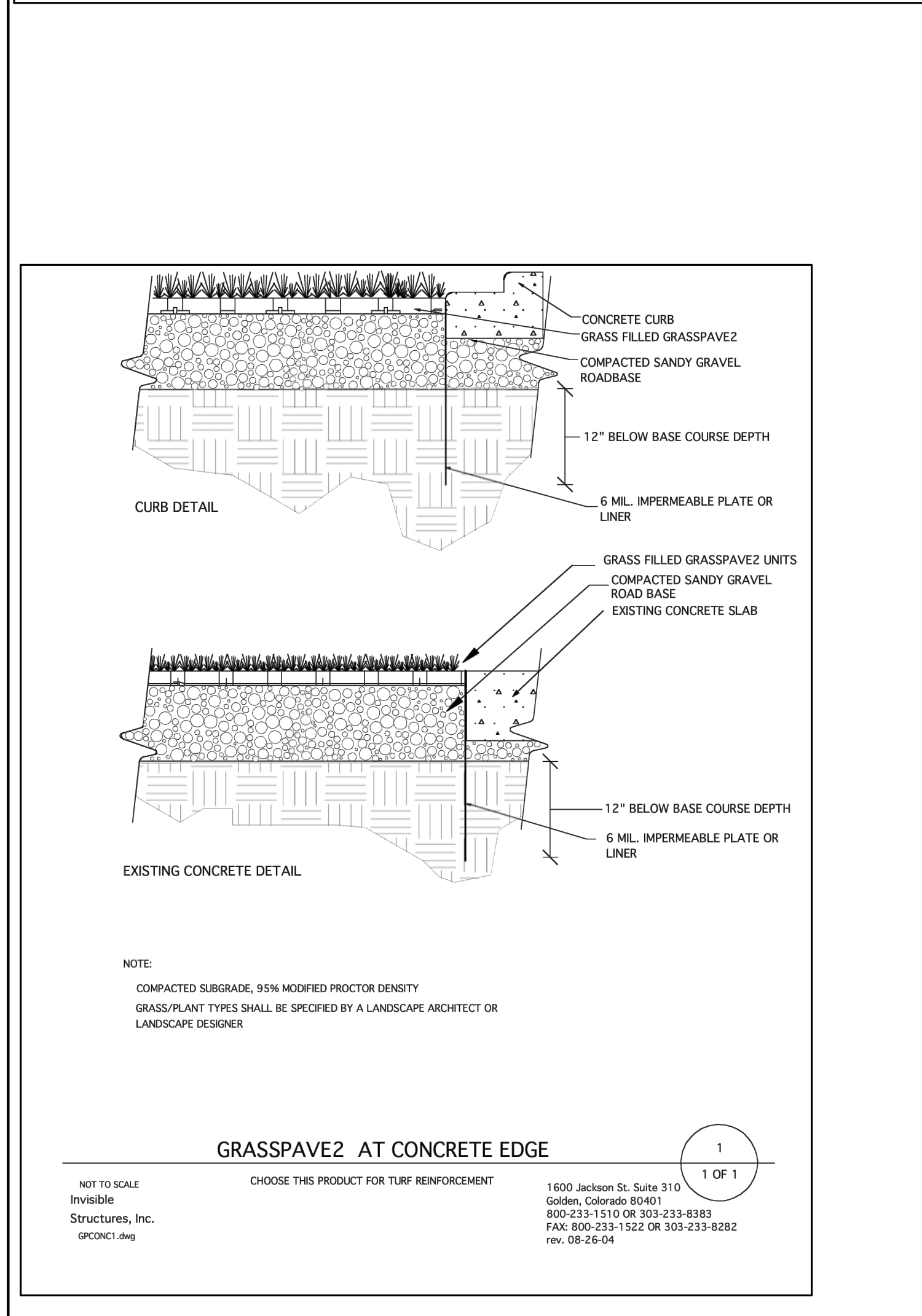
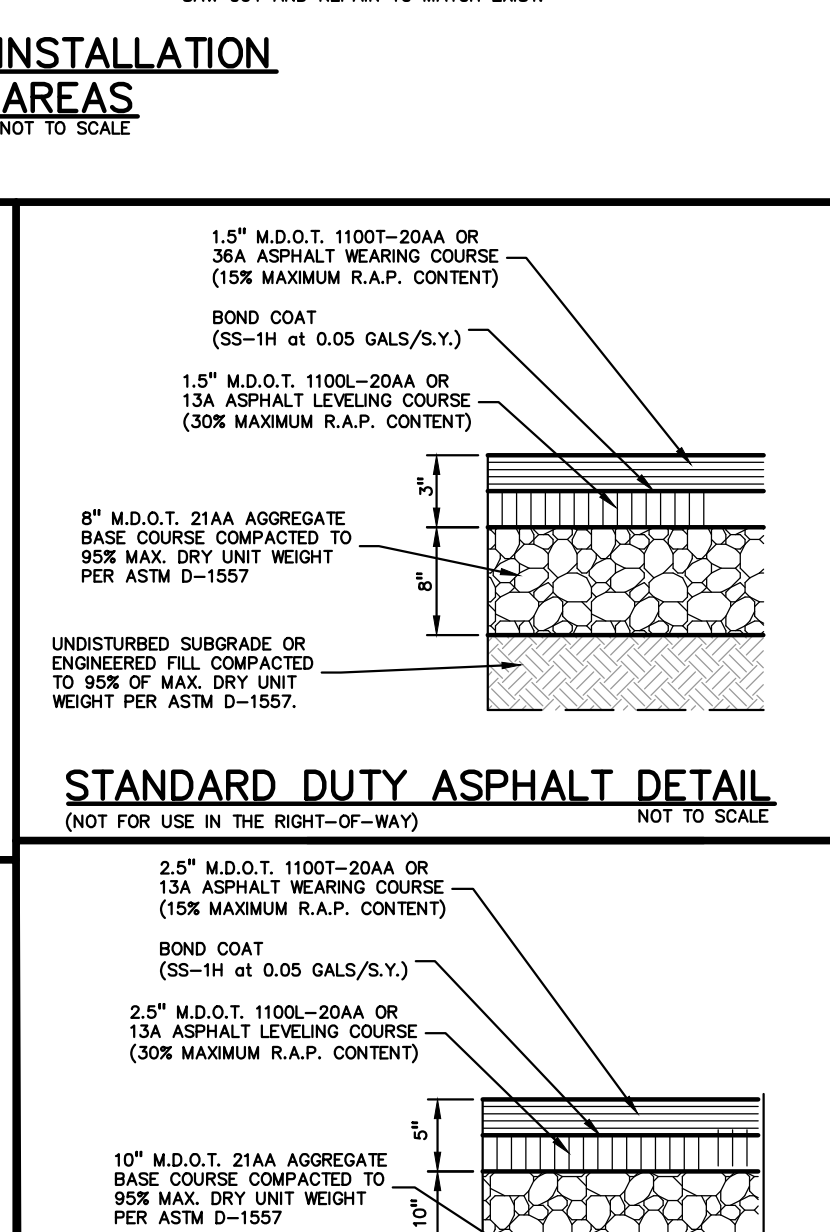
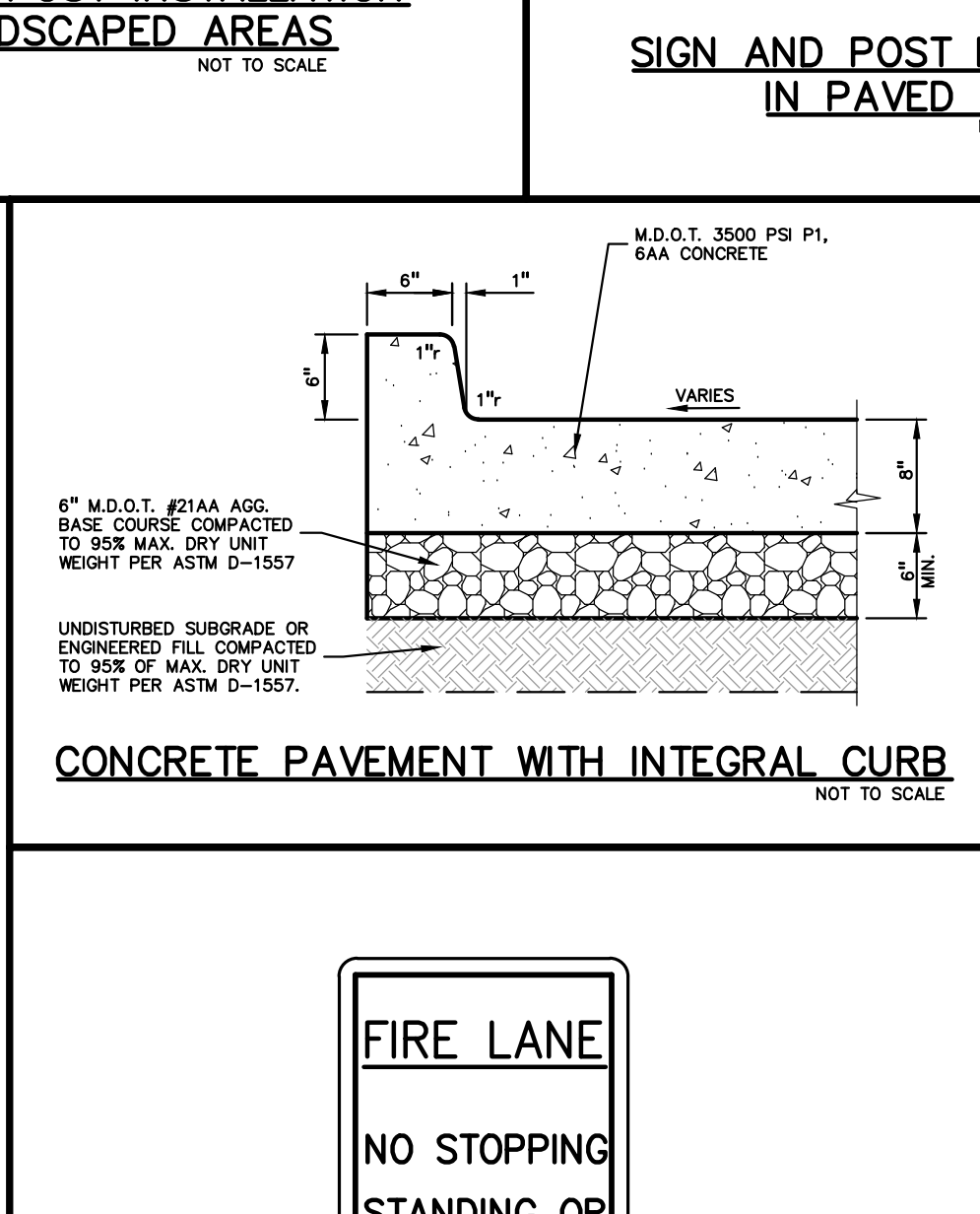
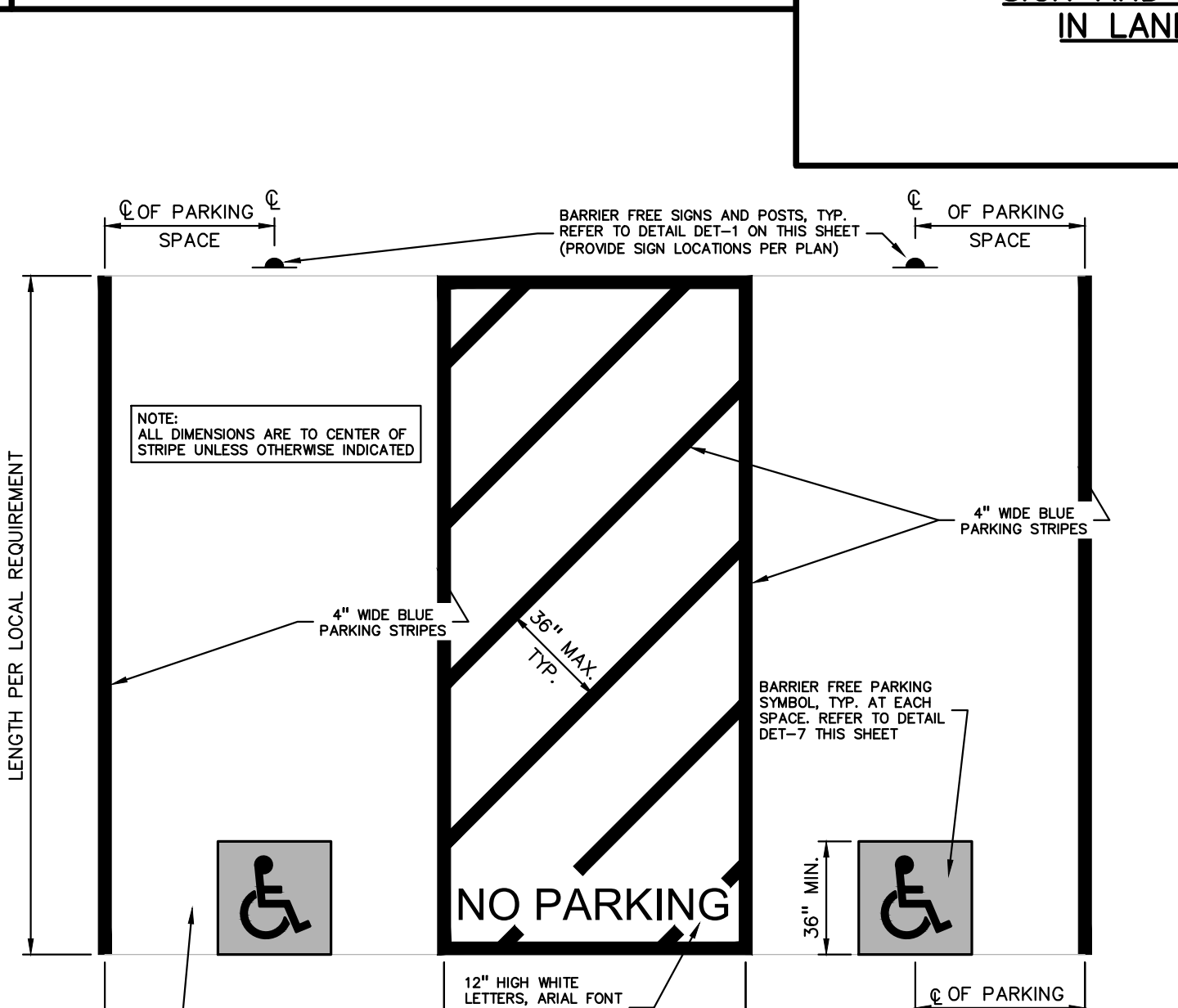
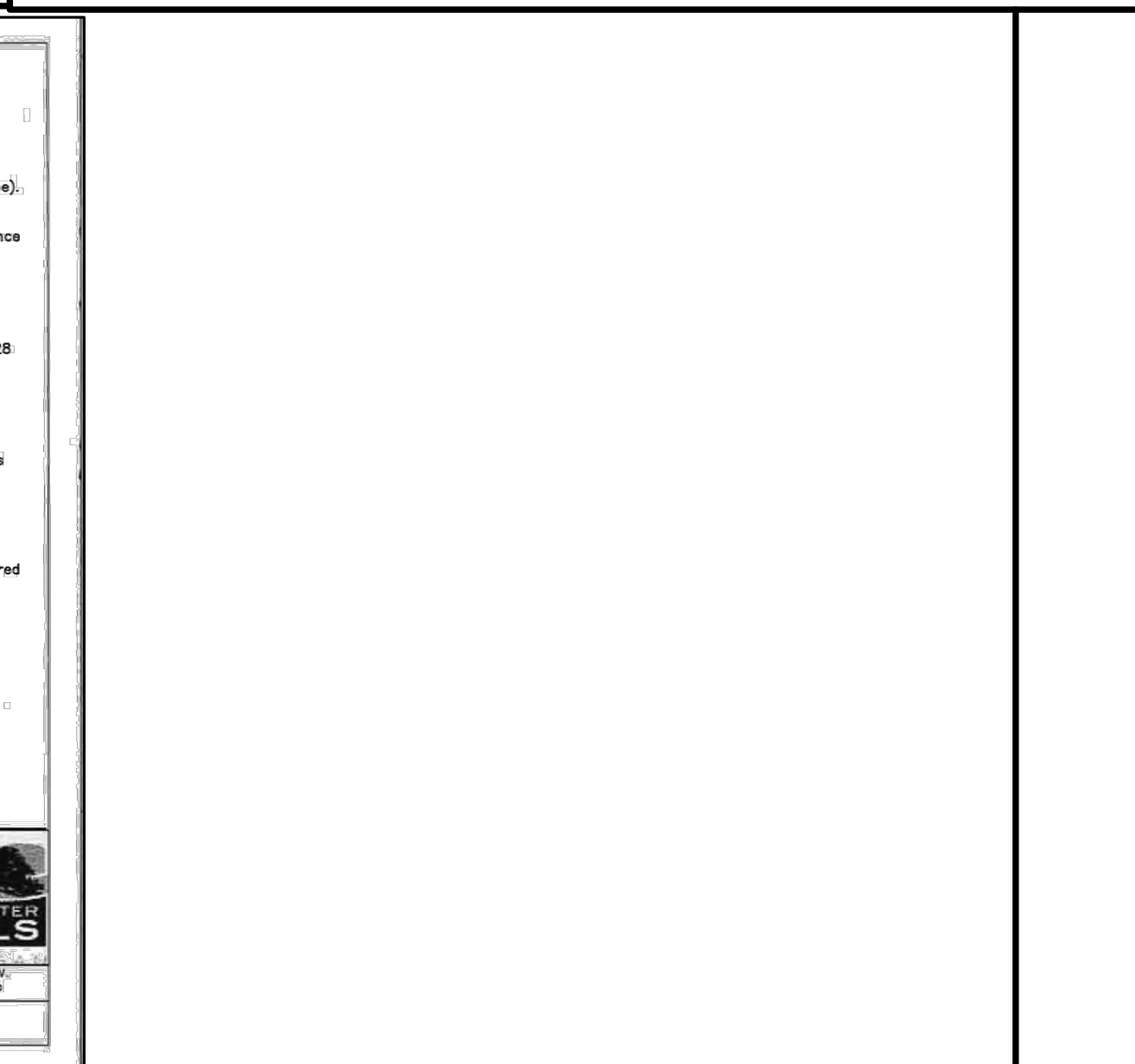
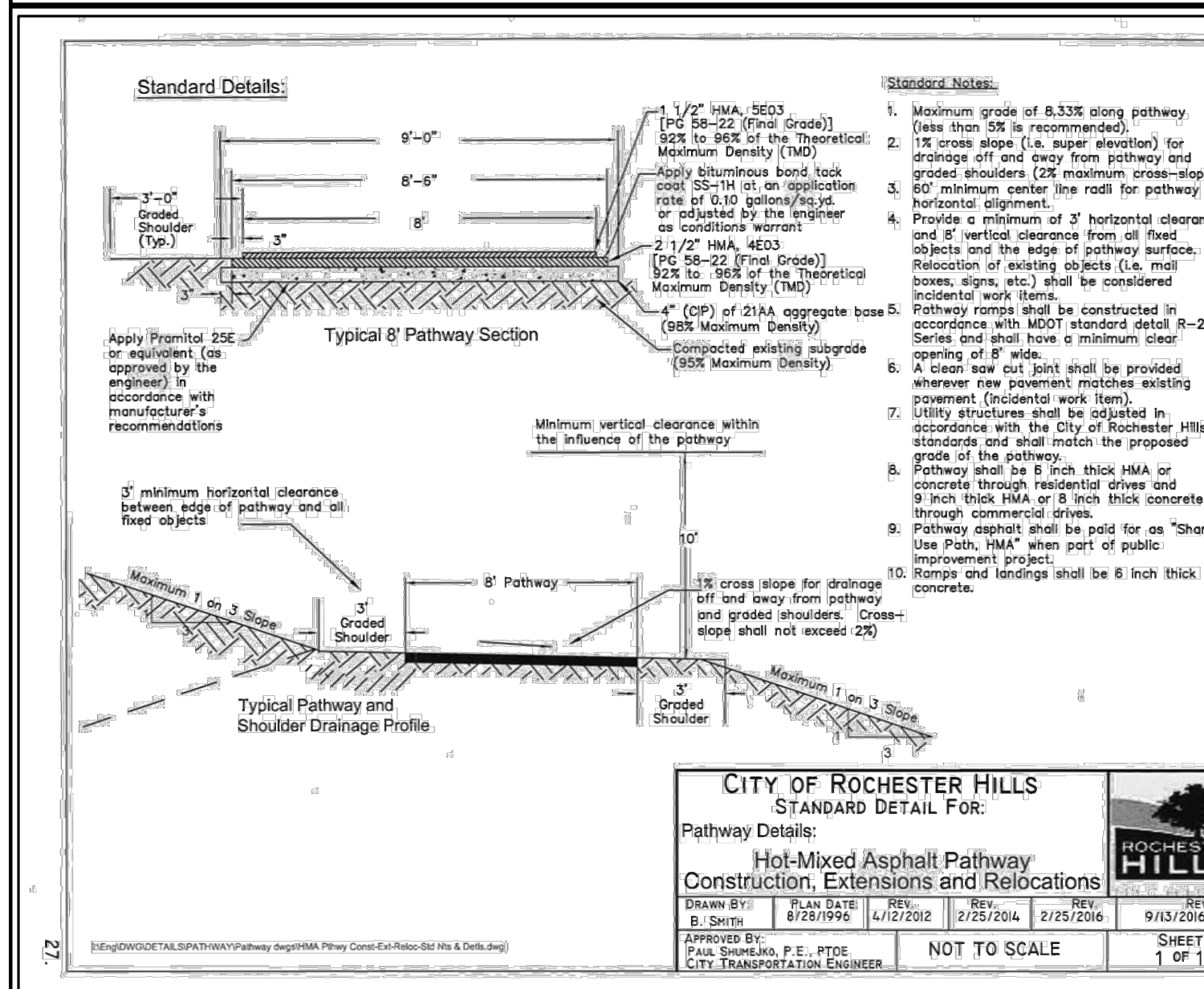
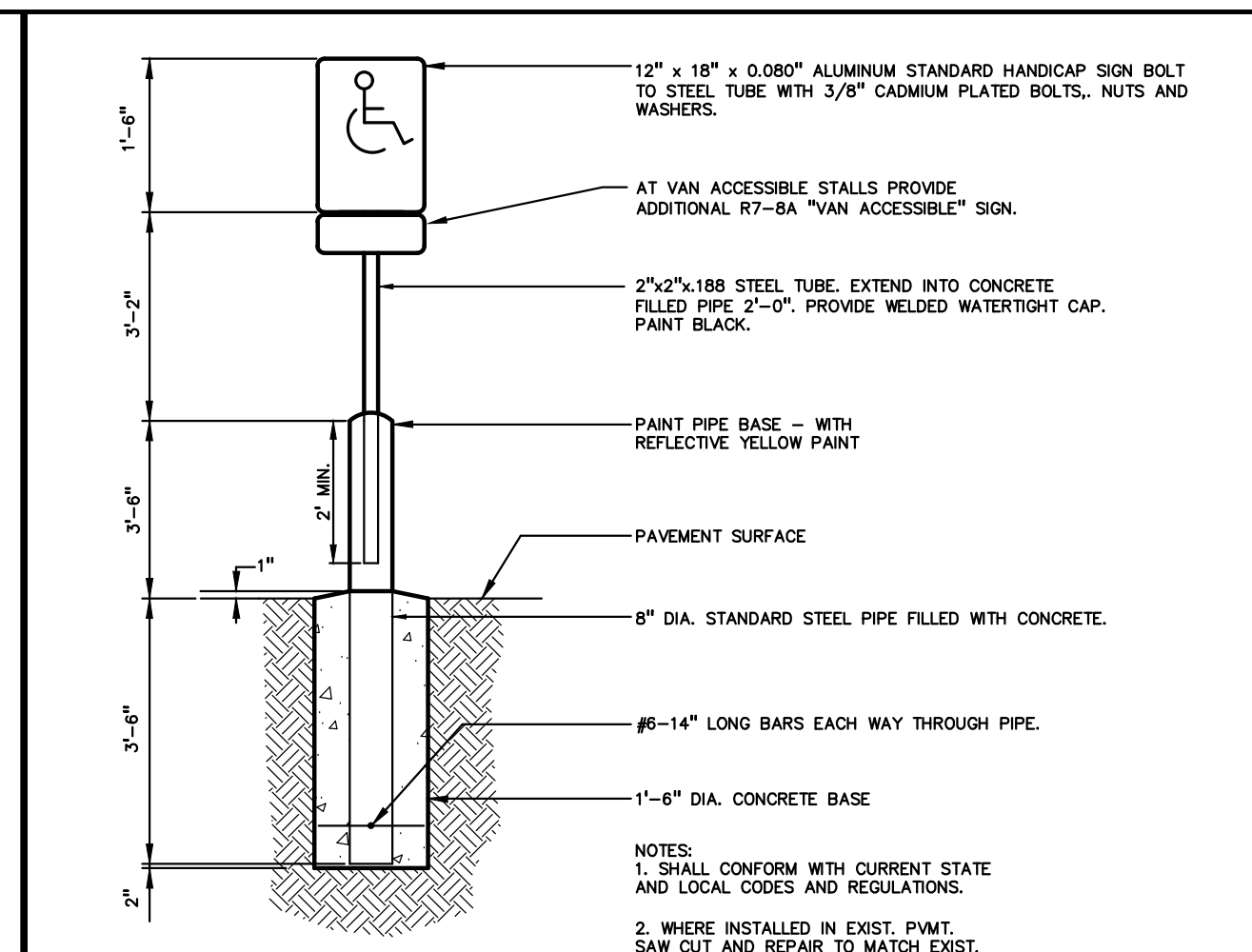
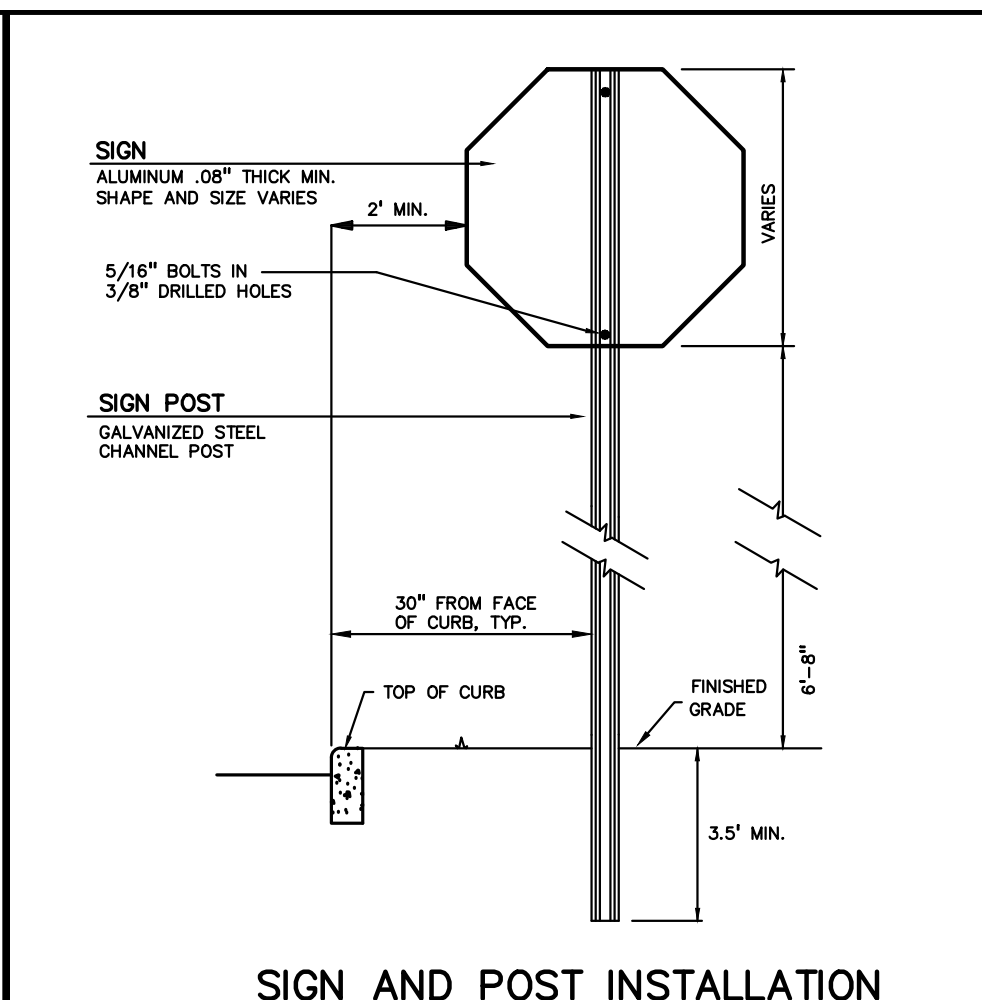
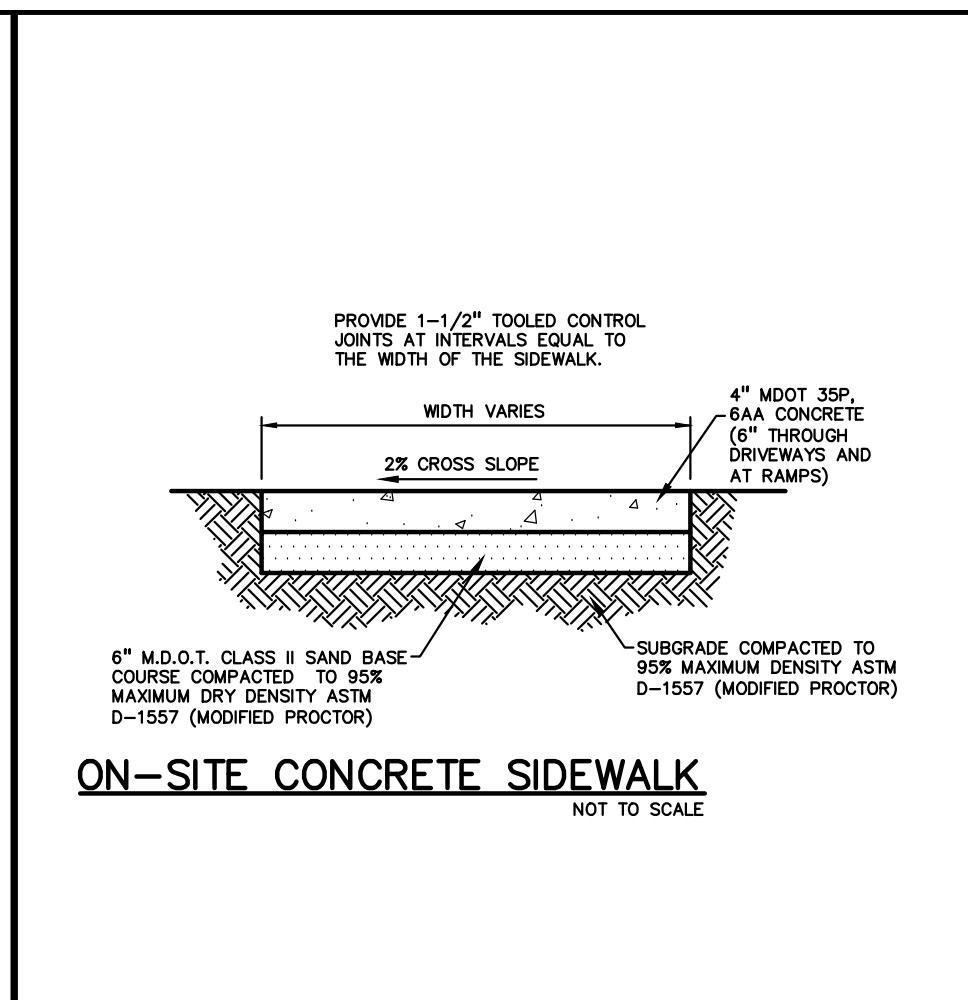
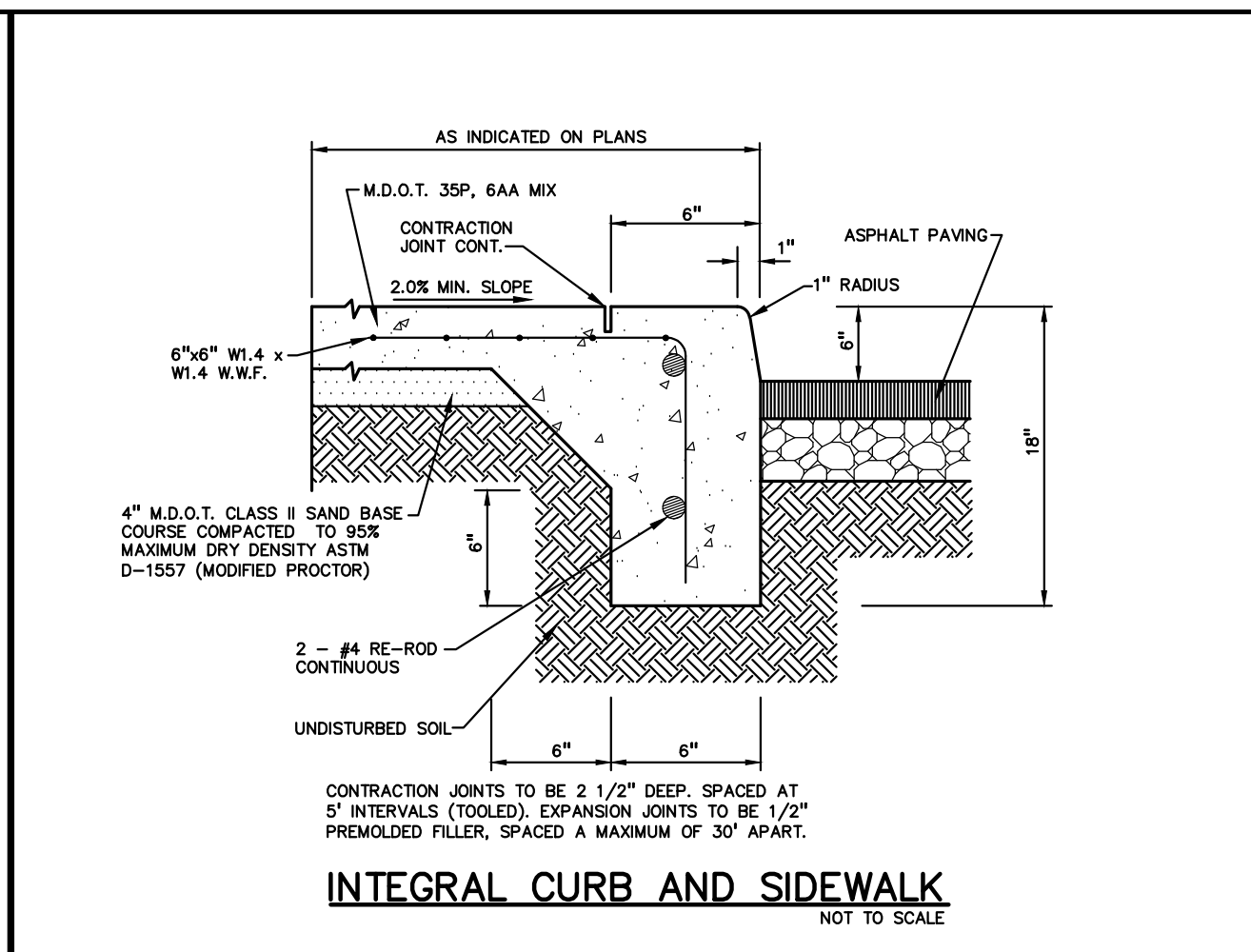
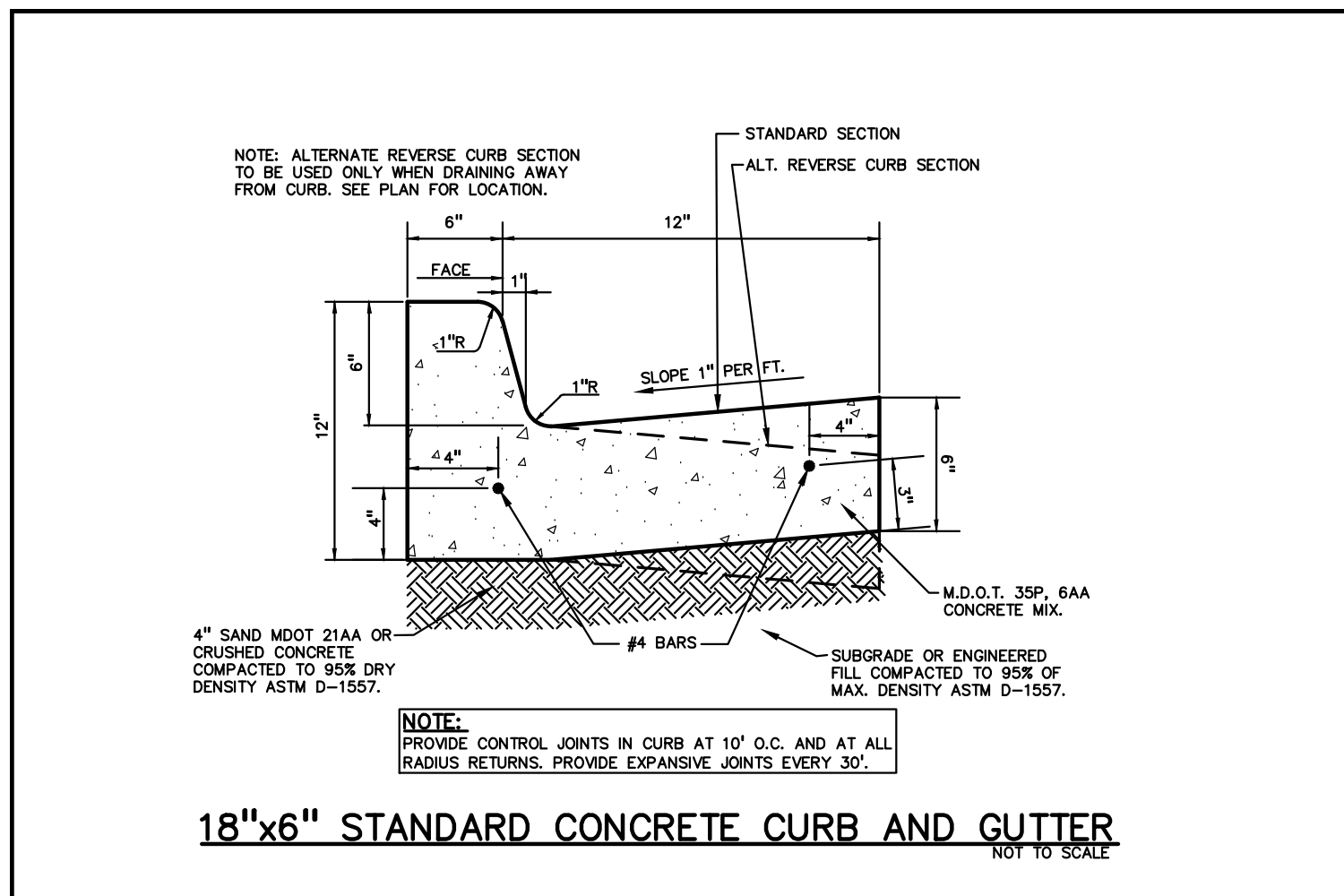
PUBLIC UTILITY EASEMENTS:
ALL SANITARY SEWERS 8" AND LARGER IN DIAMETER ARE TO BE PUBLIC AND SHALL BE LOCATED IN A 20' WIDE EASEMENT. ALL WATER MAIN SHALL BE LOCATED IN A 20' WIDE EASEMENT.

EARTHWORK BALANCING NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

LEGEND

● IRON FOUND	⊗ MONUMENT FOUND	⊙ SEC. CORNER FOUND
⊗ IRON SET	⊗ MONUMENT SET	⊙ RECORDED
⊗ NAIL FOUND	⊗ MONUMENT SET	⊙ MEASURED
⊗ NAIL & CAP SET		⊙ CALCULATED
EXISTING		
-OH-ELEC-W-	ELEC. PHONE OR CABLE TV OH. LINE, POLE & GUY WIRE	
-OH-CATV-	UNDERGROUND CABLE TV, CATV FEEDER	
-UG-PHONE-	TELEPHONE U.S. CABLE, PEDESTAL & MANHOLE	
-UG-ELEC-E-	ELECTRIC U.S. CABLE, MANHOLE, METER & MANHOLE	
-UG-ELEC-G-	GAS MAN. VALVE & GAS LINE MARKER	
-WATERMAN, HYD. & GATE VALVE, TAPPING SLEEVE & VALVE		
-SANITARY SEWER, CLEANOUT & MANHOLE		
-STORM SEWER, CLEANOUT & MANHOLE		
-COMBINED SEWER & MANHOLE		
-SQUARE, ROUND & BEEHIVE CATCH BASIN, YARD DRAIN		
-POST INDICATOR VALVE		
-WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF		
-MANSION, TRANSFORMER, IRRIGATION CONTROL VALVE		
-UNIDENTIFIED STRUCTURE		
-816.00		
-SPOT ELEVATION		
-CONTOUR LINE		
-FENCE		
-GUARD RAIL		
-STREET LIGHT		
-SIGN		
-CONC.	CONCRETE	
-ASPH.	ASPHALT	
-GRAVEL	GRAVEL SHOULDER	
-WELAND	WELAND	
-STD. HEAVY R.O.W. DUTY	STD. HEAVY R.O.W. DUTY	
-STD. HEAVY DEEP DUTY	STD. HEAVY DEEP DUTY	

NOT FOR CONSTRUCTION



NO.	BY	CHK	DESCRIPTION	DATE
1	RLS	RLS	REVISED ENCAPSULATION AREA & CITY REVIEW (N.C.)	11-22-18
2	RLS	RLS	REVISED PER CITY REVIEW	11-22-18
3	RLS	RLS	REVISED ENCAPSULATION AREA & CITY REVIEW (N.C.)	11-22-18
4	RLS	RLS	REVISED ENCAPSULATION AREA & CITY REVIEW (N.C.)	11-22-18

CAUTION!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS MADE AS TO THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION.

CONSTRUCTION CONTRACTOR AGREES THAT IN CONNECTION WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO MAINTAIN SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR SHALL HOLD DESIGN PROFESSIONAL ENGINEER AND HOLD DESIGN PROFESSIONAL ENGINEER IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL ENGINEER.

3 FULL WORKING DAYS BEFORE YOU DIG CALL 811
Know what's below
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F: 248.689.1044
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25101 CHAGRIN BOULEVARD
BEACHWOOD, OHIO 44122

NOTES AND DETAIL SHEET
LEGACY ROCHESTER HILLS
PART OF THE WEST 1/2 OF THE NORTHWEST 1/4, SECTION 29, T03N, R11E
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. GBR/RLS | SUR. KTR | P.M. RLS
D.E.S. GBR/RLS | D.N. KPA/RLS | SUR. KTR | P.M. RLS

ORIGINAL ISSUE DATE: OCTOBER 12, 2018
PEA JOB NO. 2017-037
SCALE: N/A
DRAWING NUMBER: **C-7.0**

CITY FILE #17-043 SECTION 29

NOT FOR CONSTRUCTION

REF: S:\PROJECTS\2017\2017037\DWG\17037-TOPOBASE.DWG
REF: S:\PROJECTS\2017\2017037\DWG\SITE PLANS\V-BASE-17037.DWG
REF: S:\PROJECTS\2017\2017037\DWG\SITE PLANS\V-TLR-17037.DWG