



12.15

SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, CFM
Surveyor of Hamilton County
Phone (317) 776-8495
Fax (317) 776-9628

Suite 188
One Hamilton County Square
Noblesville, Indiana 46060-2230

December 7, 2020

To: Hamilton County Drainage Board

Re: Little Eagle Creek Drain; Troy Estates Arm

Attached is a petition filed by Lennar homes of Indiana Inc., along with a non-enforcement request, plans, calculations, quantity summary and assessment roll for Troy Estates, Little Eagle Creek Drain to be located in Clay Township. I have reviewed the submittals and petition and have found each to be in proper form.

Upon reviewing these plans, I believe that the drain is practicable, will improve the public health, benefit a public highway, and be of public utility and that the costs, damages and expenses of the proposed drain will probably be less than the benefits accruing to the owners of land likely to be benefited. The drain will consist of the following:

12" RCP	2,451 feet	24" RCP	153 feet
15" RCP	400 feet	30" RCP	105 feet
18" RCP	1,376 feet	SSD	2,905 feet
21" RCP	822 feet		

The total length of the drain will be 8212 feet.

The subsurface drains (SSD) to be part of the regulated drain are those main lines located in rear yards and common areas. The SSD's in the street will not be part of the regulated drain due to street trees and the Hamilton County Drainage Board discussion on July 9, 2018, (see Hamilton County Drainage Board Minute Book 18, pages 204 to 206). The street SSD will be the maintenance responsibility of the City of Carmel. Only the main SSD lines which are located within the platted easement are to be maintained as regulated drain. Laterals for individual lots will not be considered part the of the regulated drain. The portion of the SSD which will be regulated are as follows:

- Rear Yard Lots 1 to 4 and 5 to 8 from Str. 163 to 165
- Rear Yard Lots 9 to 12 from Str. 150 to 110 feet east of Str. 166
- Rear yard lots 14 to 20 from Str. 126 to Str. 150

Rear yard lots 34 to 39 from Str. 117 to Str. 120.

The drain maintenance shall include the inlets, outlets, sub-surface drains and reinforced concrete pipes that are listed as part of the new regulated drain. The maintenance of the detention pond such as, erosion control or mowing and the maintenance of water quality BMP structures will be the responsibility of the Troy Estates HOA or the city of Carmel. The Board will also retain jurisdiction for ensuring the storage volume for which the pond was designed will be retained. Thereby, allowing no fill or easement encroachments.

I have reviewed the plans and believe the drain will benefit each lot equally. Therefore, I recommend each lot to be assessed equally. I also believe that no damages will result to landowners by the constructor of this drain. I recommend a maintenance assessment of \$65.00 per lot, \$10.00 per acre for common areas, with \$65.00 minimum, and \$10.00 per acre for roadways. With this assessment the total annual assessment for this drain will be \$3,203.50.

The petitioner has submitted surety for the proposed drain at this time. The sureties which are in the form of a performance bond are as follows:

Agent: Atlantic Specialty Insurance Company

Date: November 23rd, 2020

Number: 800055112

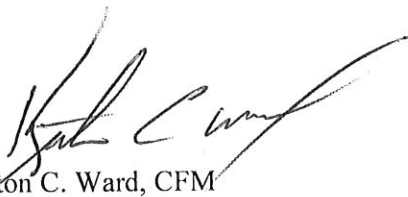
For: Storm Sewer/Subsurface Drain/Stormwater Pond/Erosion Control/Stormwater BMP

Amount: \$882,756.00

I believe this proposed drain meets the requirements for urban drain classification as set out in IC 36-9-27-67 to 69. Therefore, this drain shall be designed as an urban drain.

I recommend that upon approval of the above proposed drain that the board also approve the attached non-enforcement request for Troy Estates. The request will be for the encroachment into the statutory regulated drain easements as shown on the secondary plat for Troy Estates.

I recommend the Board set a hearing for this proposed drain for March 22, 2021.



Kenton C. Ward, CFM

Hamilton County Surveyor

KCW/pll

The Petitioner further requests that the Drain be classified as an Urban Drain as per IC 36-9-27-69(d).

RECORDED OWNER(S) OF LAND INVOLVED



Signed

Keith Lash

Printed Name

9/14/20

Date

Signed

Printed Name

Date

Signed

Printed Name

Date

Signed

Printed Name

Date

FINDINGS AND ORDER


CONCERNING THE MAINTENANCE OF THE

Little Eagle Creek Drain, Troy Estates Arm

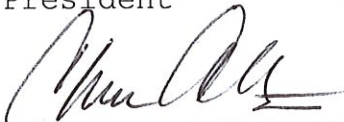
On this 22nd day of March, 2021, the Hamilton County Drainage Board has held a hearing on the Maintenance Report and Schedule of Assessments of the **Little Eagle Creek Drain, Troy Estates Arm**.

Evidence has been heard. Objections were presented and considered. The Board then adopted the original/amended Schedule of Assessments. The Board now finds that the annual maintenance assessment will be less than the benefits to the landowners and issues this order declaring that this Maintenance Fund be established.

HAMILTON COUNTY DRAINAGE BOARD



President



Member



Member

Attest: 
Executive Secretary

FILED

NOV 16 2020

OFFICE OF HAMILTON COUNTY SURVEYOR

Lennar Homes of Indiana, Inc.
Project: Troy Estates
HWC Project No. 2019-305-S
Date: 11/11/2020



HWC
ENGINEERING

REGULATED DRAIN - PERFORMANCE BOND - ENGINEERS ESTIMATE					
	ITEM NAME:	UNIT	QUANTITY	UNIT COST	AMOUNT
EARTHWORK	LAKE EXCAVATION	CY	23010	\$ 3.91	\$ 90,003.91
STORM SEWER	12" RCP	LF	2451	\$ 31.00	\$ 75,981.00
	15" RCP	LF	427	\$ 36.00	\$ 15,372.00
	18" RCP	LF	1376	\$ 40.00	\$ 55,040.00
	21" RCP	LF	735	\$ 47.00	\$ 34,545.00
	24" RCP	LF	346	\$ 55.00	\$ 19,030.00
	30" RCP	LF	105	\$ 71.00	\$ 7,455.00
	36" RCP	LF	141	\$ 93.00	\$ 13,113.00
	TYPE A INLET W/ CASTING	EA	19	\$ 2,125.00	\$ 40,375.00
	TYPE E INLET W/ CASTING	EA	1	\$ 2,600.00	\$ 2,600.00
	DOUBLE CURB INLET W/ CASTING	EA	2	\$ 3,500.00	\$ 7,000.00
	OUTLET STRUCTURE W/ CASTING	EA	1	\$ 2,680.00	\$ 2,680.00
	48" STORM MANHOLE	EA	25	\$ 2,700.00	\$ 67,500.00
	60" STORM MANHOLE	EA	3	\$ 3,990.00	\$ 11,970.00
	DIVERSION MANHOLE	EA	2	\$ 5,275.00	\$ 10,550.00
	WATER QUALITY STRUCTURE (BMP-1)	EA	1	\$ 18,400.00	\$ 18,400.00
	WATER QUALITY STRUCTURE (BMP-2)	EA	1	\$ 65,557.00	\$ 65,557.00
	12" CONCRETE END SECTION W/ DEBRIS GUARD	EA	3	\$ 1,970.00	\$ 5,910.00
	15" CONCRETE END SECTION W/ DEBRIS GUARD	EA	2	\$ 2,031.00	\$ 4,062.00
	18" CONCRETE END SECTION W/ DEBRIS GUARD	EA	1	\$ 2,148.00	\$ 2,148.00
	36" CONCRETE END SECTION W/ DEBRIS GUARD	EA	1	\$ 3,267.00	\$ 3,267.00
	GRANULAR BACKFILL	TON	479	\$ 18.50	\$ 8,861.50
	WATER QUALITY STRUCTURE BMP-1	EA	1	\$ 18,400.00	\$ 18,400.00
	WATER QUALITY STRUCTURE BMP-2	EA	1	\$ 65,557.00	\$ 65,557.00
	SWALE SSD	LF	3160	\$ 10.13	\$ 32,010.80
EROSION CONTROL	Perimeter Silt Fence	LFT	4,270	\$ 1.00	\$ 4,270.00
	Rear Yard Silt Fence	LFT	4,350	\$ 1.00	\$ 4,350.00
	Front Yard Silt Fence	LFT	5,430	\$ 1.00	\$ 5,430.00
	Paved Area Inlet Protection (Flexstorm)	EA	25	\$ 150.00	\$ 3,750.00
	Yard Area Inlet Protection	EA	21	\$ 65.00	\$ 1,365.00
	Permanent Seed with Blanket (S150)	SYS	6,727	\$ 1.17	\$ 7,870.59
	Permanent Seed with Mulch	SYS	44,279	\$ 0.45	\$ 19,925.55
	Temporary Seed with Mulch (Pads)	AC	9	\$ 1,200.00	\$ 11,280.00
REGULATED DRAIN TOTAL:					\$ 735,629.35
REGULATED DRAIN PERFORMANCE BOND (120%):					\$ 882,755.22

This Engineer's Estimate is an opinion of probable construction cost made on the basis of Engineer's experience and represent Engineer's judgement as a qualified professional generally familiar with the industry. However, since Engineer has no control over the cost of materials, equipment, labor or market conditions, Engineer cannot guarantee that actual construction cost will not vary from this Engineer's Estimate.

Kristopher K. Eichhorn

Kristopher K. Eichhorn, PE PS
11/11/2020
HWC Engineering



BEFORE THE HAMILTON COUNTY DRAINAGE BOARD
IN THE MATTER OF

Little Eagle Creek Drain, Troy Estates Arm

NOTICE

To Whom It May Concern and: _____

Notice is hereby given of the hearing of the Hamilton County Drainage Board on the **Little Eagle Creek Drain, Troy Estates Arm** on **March 22, 2021** at **9:00 A.M.** in Commissioners Court, Hamilton County Judicial Center, One Hamilton County Square, Noblesville, Indiana, and which construction and maintenance reports of the Surveyor and the Schedule of Assessments made by the Drainage Board have been filed and are available for public inspection in the office of the Hamilton County Surveyor.

Hamilton County Drainage Board

Attest: Lynette Mosbaugh

ONE TIME ONLY

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD
IN THE MATTER OF THE
Little Eagle Creek Drain, Troy Estates Arm

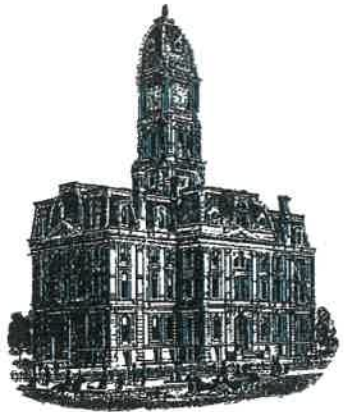
NOTICE

Notice is hereby given pursuant to Section 405 of the 1965 Indiana Drainage Code that this Board, prior to final adjournment on **March 22, 2021** has issued an order adopting the Schedule of Assessments, filed the same and made public announcement thereof at the hearing and ordered publication. If judicial review of the findings and order of the Board is not requested pursuant to Article Eight of this code within twenty (20) days from the date of this publication, the order shall be conclusive.

Hamilton County Drainage Board

Attest: Lynette Mosbaugh

ONE TIME ONLY



SURVEYOR'S OFFICE
Hamilton County

Kenton C. Ward, CFM
Surveyor of Hamilton County
Phone (317) 776-8495
Fax (317) 776-9628

Suite 188
One Hamilton County Square
Noblesville, Indiana 46060-2230

To: Hamilton County Drainage Board

September 8, 2022

Re: Little Eagle Creek Drain – Troy Estates Arm

Attached are as-built, certificate of completion & compliance, and other information for Troy Estates Arm. An inspection of the drainage facilities for this section has been made and the facilities were found to be complete and acceptable.

During construction, changes were made to the drain, which will alter the plans submitted with my report for this drain-dated December 7, 2020. The report was approved by the Board at the hearing held March 22, 2021. (See Drainage Board Minutes Book 19, Pages 556-557) The changes are as follows: the 12" RCP was shortened from 2451 to 2431 feet. The 15" RCP was shortened from 400 feet to 397 feet. The 18" RCP was shortened from 1376 feet to 1375 feet. The 21" RCP was shortened from 832 feet to 822 feet. The 24" RCP was lengthened from 260 feet to 153 feet. The 30" RCP was shortened from 105 feet to 104 feet. The 6" SSD was lengthened from 2905 to 2974 feet. The length of the drain due to the changes described above is now **8511 feet**.

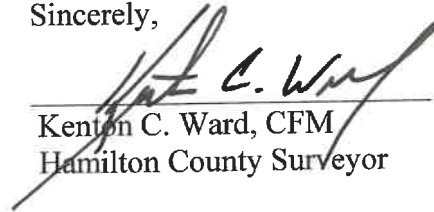
The non-enforcement was approved by the Board at its meeting on March 22, 2021 and recorded under instrument #2022015013.

The following sureties were guaranteed by Atlantic Specialty Insurance Company and released by the Board on its September 12, 2022 meeting.

Bond-LC No: PB11328100044
Amount: \$215,120.04
For: Storm Sewers & SSD
Issue Date: June 24, 2014

I recommend the Board approve the drain's construction as complete and acceptable.

Sincerely,



Kenton C. Ward, CFM
Hamilton County Surveyor

CERTIFICATE OF COMPLETION AND COMPLIANCE

To: Hamilton County Surveyor

Re: Troy Estates (near of 141st Street & Shelbourne Rd., Carmel)

I hereby certify that:

1. I am a Registered Land Surveyor or Engineer in the State of Indiana.
2. I am familiar with the plans and specifications for the above referenced subdivision.
3. I have personally observed and supervised the completion of the drainage facilities for the above referenced subdivision.
4. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been installed and completed in conformity with all plans and specifications.
5. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been correctly represented on the Record Drawings, Digital Record Drawings and the Structure Data Spreadsheet.

Signature:  Date: 9/15/2021

Type or Print Name: Luke A. Jahn

Business Address: 135 N. Pennsylvania Street

Suite #2800

Telephone Number: 317-981-1269



INDIANA REGISTRATION NUMBER

PS #20900171

OVERALL GENERAL PROJECT NOTES

- 1. NOT ALL GAS, POWER, OR TELEPHONE LINES...
2. SAFETY PROVISIONS FOR THE WORK SHALL BE IN FULL COMPLIANCE WITH ALL APPLICABLE RULES AND REGULATIONS...
3. WHERE PROPERTY MARKERS, SECTION CORNERS, SURVEY MARKS OR BENCHMARKS...
4. ALL MATERIALS DENOTED "SALVAGED" SHALL BE STORED AND PROTECTED AT THE SITE...

MINIMUM FLOOD PROTECTION GRADE (MFG) AND MINIMUM LOWEST ADJACENT GRADE (MLAG) DEFINITIONS FROM CITY OF CARMEL STORMWATER TECHNICAL STANDARDS MANUAL SECTION 104.02:

All buildings shall have a minimum flood protection grade shown on the secondary plot. Minimum Flood Protection Grade of all structures fronting a pond or open ditch shall be no less than 2 feet above any adjacent 100-year local or regional flood elevations...

The Lowest Adjacent Grade for residential, commercial, or industrial buildings outside a FEMA or IDNR designated floodplain shall have two feet of freeboard above the flooding source's 100-year flood elevation under proposed conditions...

For areas outside a FEMA or IDNR designated floodplain, the Lowest Adjacent Grade (including without basement floor elevation) for all residential, commercial, or industrial buildings adjacent to ponds shall be set a minimum of 2 feet above the 100-year pond elevation or 2 feet above the emergency overflow weir elevation...



CARMEL GENERAL NOTES:

- 1. UTILITY RELOCATIONS REQUIRED BY THE PROJECT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER...
2. NO EARTH DISTURBING ACTIVITY MAY COMMENCE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.
3. DAMAGE TO THE EXISTING RIGHT-OF-WAY SHALL BE RESTORED/REPAIRED TO THE SATISFACTION OF THE CITY AT THE COMPLETION OF THE PROJECT...

GRAPHIC SCALE



(IN FEET)

LEGEND:

Table with two columns: EXISTING and PROPOSED. Lists symbols for utility lines, easements, centerlines, swales, drains, sewers, culverts, manholes, and other features.

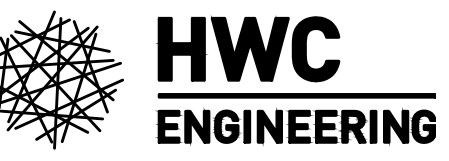
- BC - BACK OF CURB
CL - CENTERLINE
FG - FINISHED GRADE
FL - FLOW LINE
HP - HIGH POINT
LP - LOW POINT
NP - NORMAL POOL (ELEVATION)

LEGEND:

- 25 - LOT NUMBER
D.E. - DRAINAGE EASEMENT
D.&U.E. - DRAINAGE & UTILITY EASEMENT
B.S.L. - BUILDING SETBACK LINE
R.S.L. - REAR SETBACK LINE
B.Y.E. - BUFFERYARD EASEMENT
C.A. - COMMON AREA
S.F. - SQUARE FOOT
Ac. - ACRE

REVISIONS

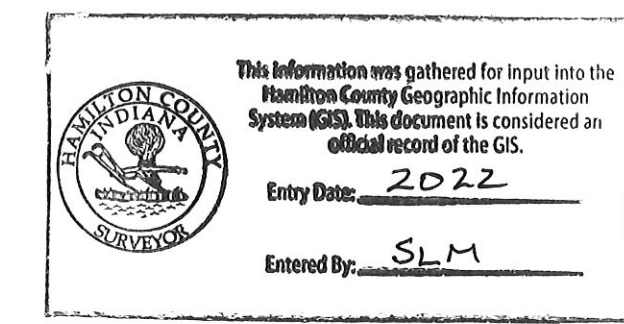
Table with columns: DATE, DESCRIPTION, BY. Lists revisions from 06/12/20 to 08/18/20.



INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCE - NEW ALBANY

www.hwceengineering.com

TROY ESTATES
CARMEL, INDIANA
DEVELOPMENT PLAN



BENCHMARK NOTE

ORIGINATING BENCHMARK: Hamilton County Benchmark HAM 38: DNR tablet set in the top of the Northwest concrete abutment of the West 14th Street bridge over Little Eagle Creek.

TBM #1 The North rim of a sanitary manhole on the South side of 146th Street, approximately 236 feet west of the Southeast corner of the site.

TBM #2 The North rim of a sanitary manhole on the West side of Kodiak Drive at its South end.

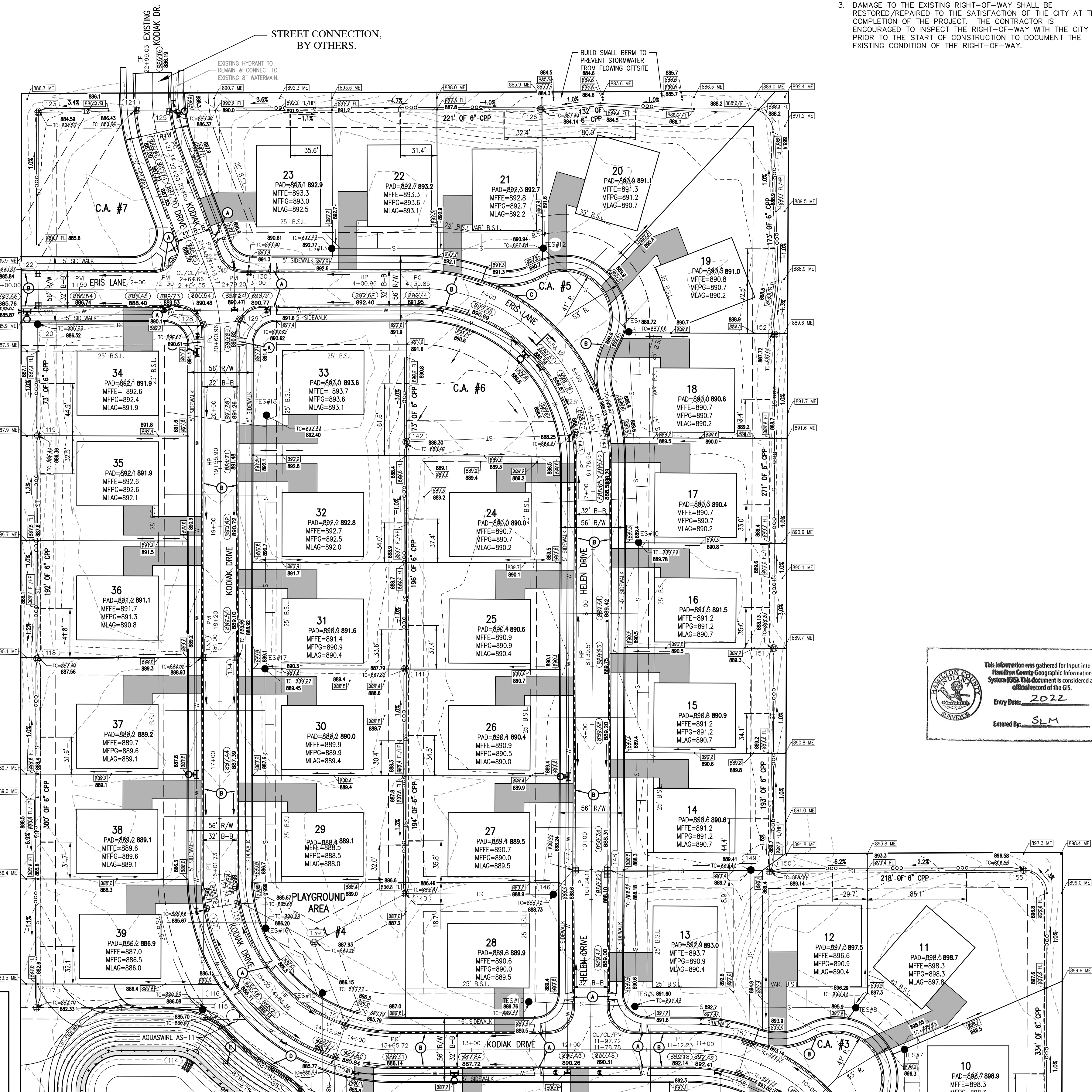
CERTIFICATION FOR "RECORD DRAWING"

CERTIFIED BY: LUKE A. JAHN
HWC ENGINEERING
135 N. PENNSYLVANIA STREET, SUITE 2800
INDIANAPOLIS, INDIANA 46204



NOTE: Record drawing certification only for storm sewer, sanitary sewer, sub-surface drainage, and grading.

DATE: 9/15/2021



FOR CONTINUATION SEE SHEET C1.2

Table with columns: DRAWN BY, CHECKED BY, DATE, SCALE, AS SHOWN, SHEET. Lists drawing details.

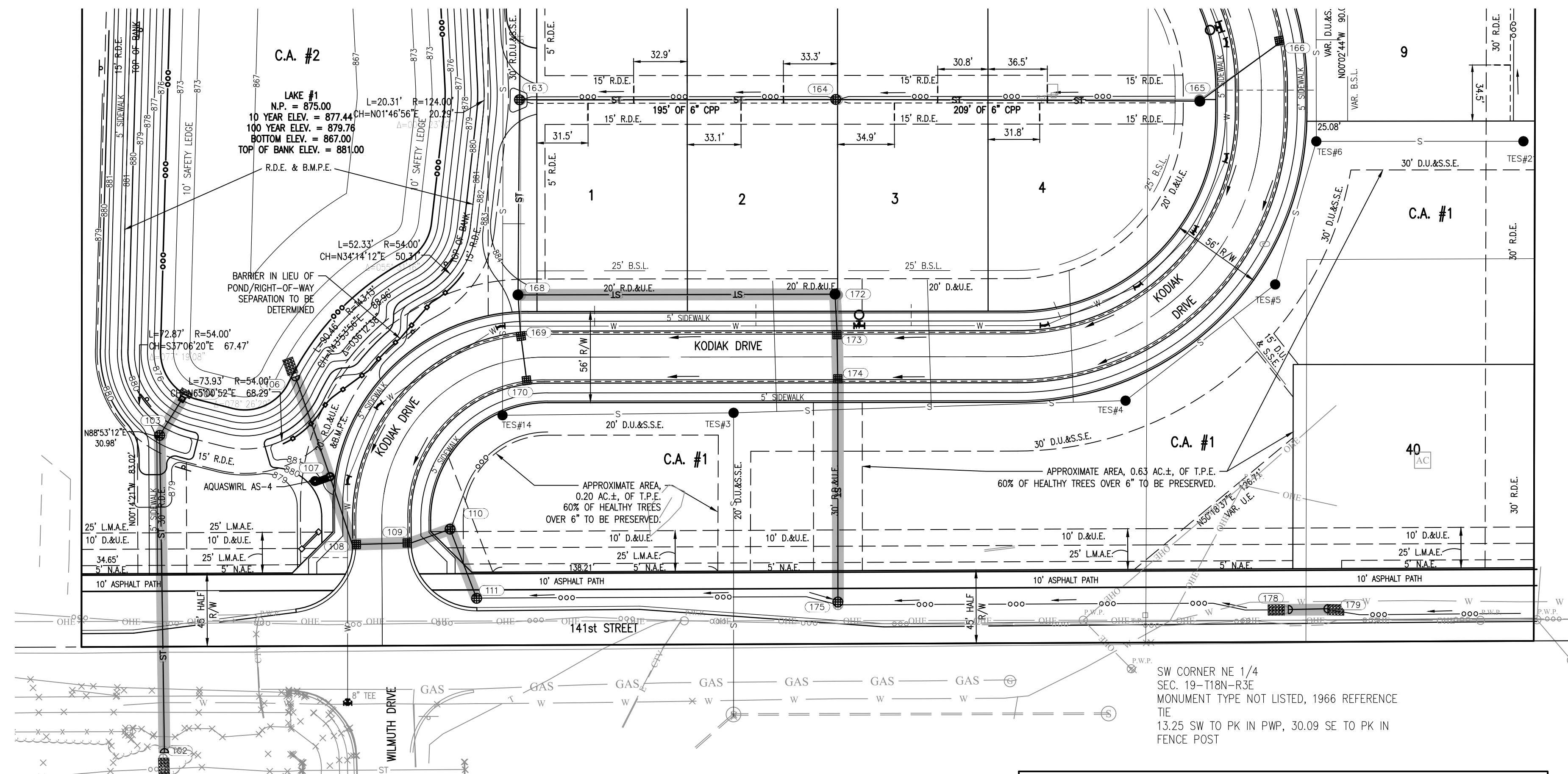
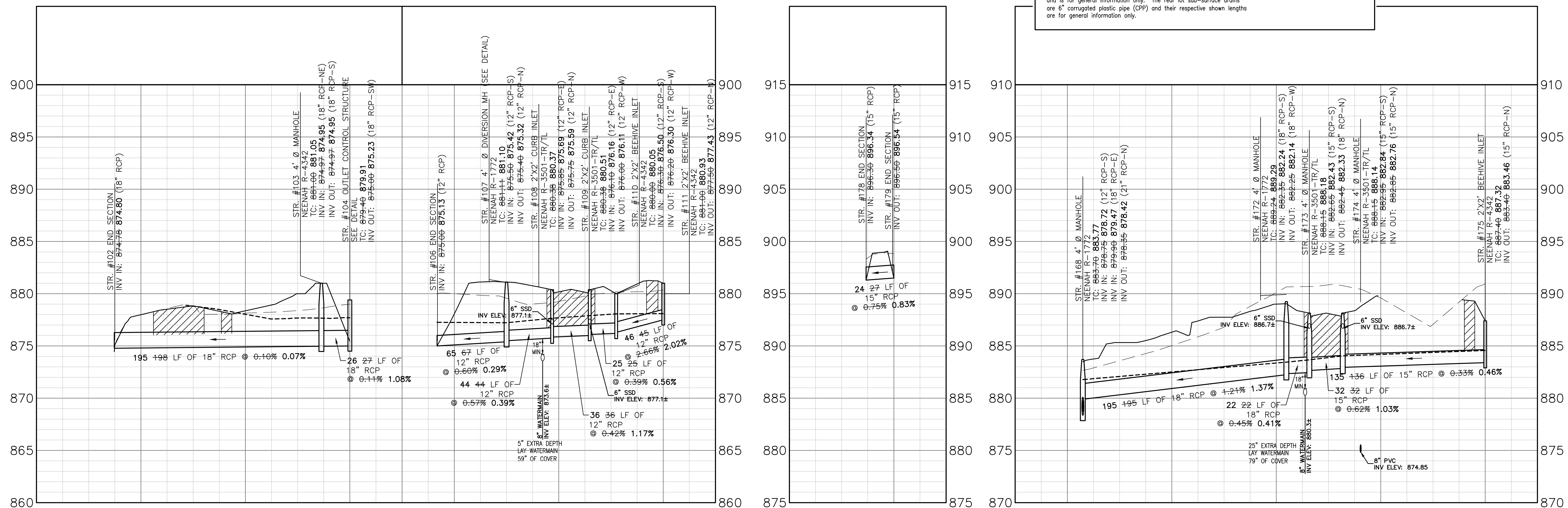
C1.1
DEVELOPMENT PLAN

File Name: W:\CalAtlantic Homes\2019-305 Lennar-Troy Estates\Design\CAD\19305 Storm Plan-Asbuilt.dwg, Layout: C6.0 By: sdonaldson Plot Date: Sep 15, 2021 Plot Time: 2:36pm

LEGEND:	
EXISTING	PROPOSED
	RIGHT-OF-WAY LINE
	EASEMENT LINE
	SETBACK LINE
	CENTERLINE
	SWALE / FLOWLINE
	SUBSURFACE DRAIN
	SANITARY SEWER
	STORM SEWER
	STORM CULVERT
	WATER MAIN
	SANITARY MANHOLE
	STORM MANHOLE
	STORM INLET
	STORM END SECTION
	FIRE HYDRANT
	PROFILED PIPELINE
EX	- EXISTING
INV	- INVERT ELEVATION
MH	- MANHOLE
RCP	- REINFORCED CONCRETE PIPE
TC	- TOP OF CASTING GRADE
LPGPS	- LOW PRESSURE GRINDER PUMP SYSTEM

- GENERAL NOTES:**
- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
 - ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
 - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL UTILITY LOCATIONS BEFORE CONSTRUCTION BEGINS.
 - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL EXISTING ELEVATIONS BEFORE CONSTRUCTION BEGINS.
 - THE STORM SEWER SYSTEM SHALL BE CONSTRUCTED PER DESIGN SPECIFICATIONS AND AS APPROVED BY THE CITY OF CARMEL ON THE FINAL APPROVED CONSTRUCTION PLANS. DEVIATIONS FROM THE APPROVED DESIGN SHALL ONLY BE PERMITTED DUE TO SPECIAL CIRCUMSTANCES OR DIFFICULTY DURING CONSTRUCTION AND WILL REQUIRE PRIOR FIELD APPROVAL FROM A DESIGNATED REPRESENTATIVE OF THE CITY OF CARMEL IN ADDITION TO SUPPLEMENTAL APPROVAL BY THE DESIGN ENGINEER. AN EXPLANATION OF ANY SUCH DEVIATION SHALL BE INCLUDED AS A REQUIREMENT ON AS-BUILT/RECORD DRAWINGS SUBMITTED FOR RELEASE OF PERFORMANCE GUARANTEES. APPROVED DESIGN SLOPES IDENTIFIED AS GENERATING VELOCITIES OF 2.5 FPS OR LESS OR 10 FPS OR GREATER (AT FULL FLOW CAPACITY) SHALL REQUIRE AS-BUILT CERTIFICATION AT THE TIME OF CONSTRUCTION, PRIOR TO BACKFILLING THE PIPE. THE CONTRACTOR IS INSTRUCTED TO AS-BUILT EACH SECTION OF STORM PIPE AS IT IS BEING INSTALLED TO ENSURE COMPLIANCE WITH THE DESIGN PLANS AND AS APPROVED BY THE CITY OF CARMEL.
 - NO EARTH DISTURBING ACTIVITY MAY COMMENCE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.
 - ALL STORMWATER DRAINAGE CASTINGS SHALL BE LABELED WITH ENVIRONMENTAL MESSAGING "DUMP NO WASTE"
 - ALL CONCRETE PIPE JOINTS SHALL BE CONTINUOUS O-RING RUBBER GASKET CONFORMING TO ASTM C 443
 - 18" OF VERTICAL SEPARATION MUST BE MAINTAINED FOR ALL UTILITY CROSSINGS.
 - FOR STORM SEWER BACKFILL SPECIFICATIONS, REFER TO STORM SEWER TRENCH DETAIL STANDARD DRAWING 10-31 ON SHEET C8.5.

STORM PROFILE
 VERTICAL SCALE: 1" = 5'
 HORIZONTAL SCALE: 1" = 50'



Indiana 811
 KNOW WHAT'S BELOW.
 CALL BEFORE YOU DIG.
 Call 811 or 800-382-5544 Before you Dig!

GRAPHIC SCALE
 0' 50' 100' 150'
 (IN FEET)

REVISIONS		
DATE	DESCRIPTION	BY
06/12/20	REVISED PER CITY REVIEW COMMENTS	DC
07/31/20	REVISED PER CITY REVIEW COMMENTS	KE
08/13/20	REVISED PER CITY REVIEW COMMENTS	TS
08/18/21	RECORD DRAWING	SD

HWC ENGINEERING
 INDIANAPOLIS - TERRE HAUTE
 LAFAYETTE - MUNCIE - NEW ALBANY
 www.hwcengineering.com

CERTIFICATION FOR "RECORD DRAWING"

CERTIFIED BY:
 LUKE A. JAHN
 REGISTERED PROFESSIONAL ENGINEER
 No. 20900171
 STATE OF INDIANA
 EXPIRES 06/30/2026

HWC ENGINEERING
 135 N. PENNSYLVANIA STREET, SUITE 2800
 INDIANAPOLIS, INDIANA 46204
 (317) 347-3663 FAX (317) 347-3664

NOTE:
 Record drawing certification only for top of casting, invert elevations and lengths of pipe. Slope percentage represents a calculated figure and is for general information only. The rear lot sub-surface drains are 6" corrugated plastic pipe (CPP) and their respective shown lengths are for general information only.

DATE: 9/15/2021

BENCHMARK NOTE
 ORIGINATING BENCHMARK:
 Hamilton County Benchmark HAM 38: DNR tablet set in the top of the Northwest concrete abutment of the West 146th Street bridge over Little Eagle Creek.
 ELEV=869.76 (NAVD 88)

TEM #1
 The North rim of a sanitary manhole on the South side of 146th Street, approximately 236 feet west of the Southeast corner of the site.
 ELEV=898.18 (NAVD 88)

TEM #2
 The North rim of a sanitary manhole on the West side of Kodiak Drive at its South end.
 ELEV=887.62 (NAVD 88)

- GRANULAR BACKFILL PER CITY OF CARMEL TRENCH (GENERAL NOTE #10)
- EXISTING GRADE
- PROPOSED GRADE
- 10-YEAR HGL

**TROY ESTATES
 CARMEL, INDIANA
 STORM SEWER PLAN AND PROFILE**

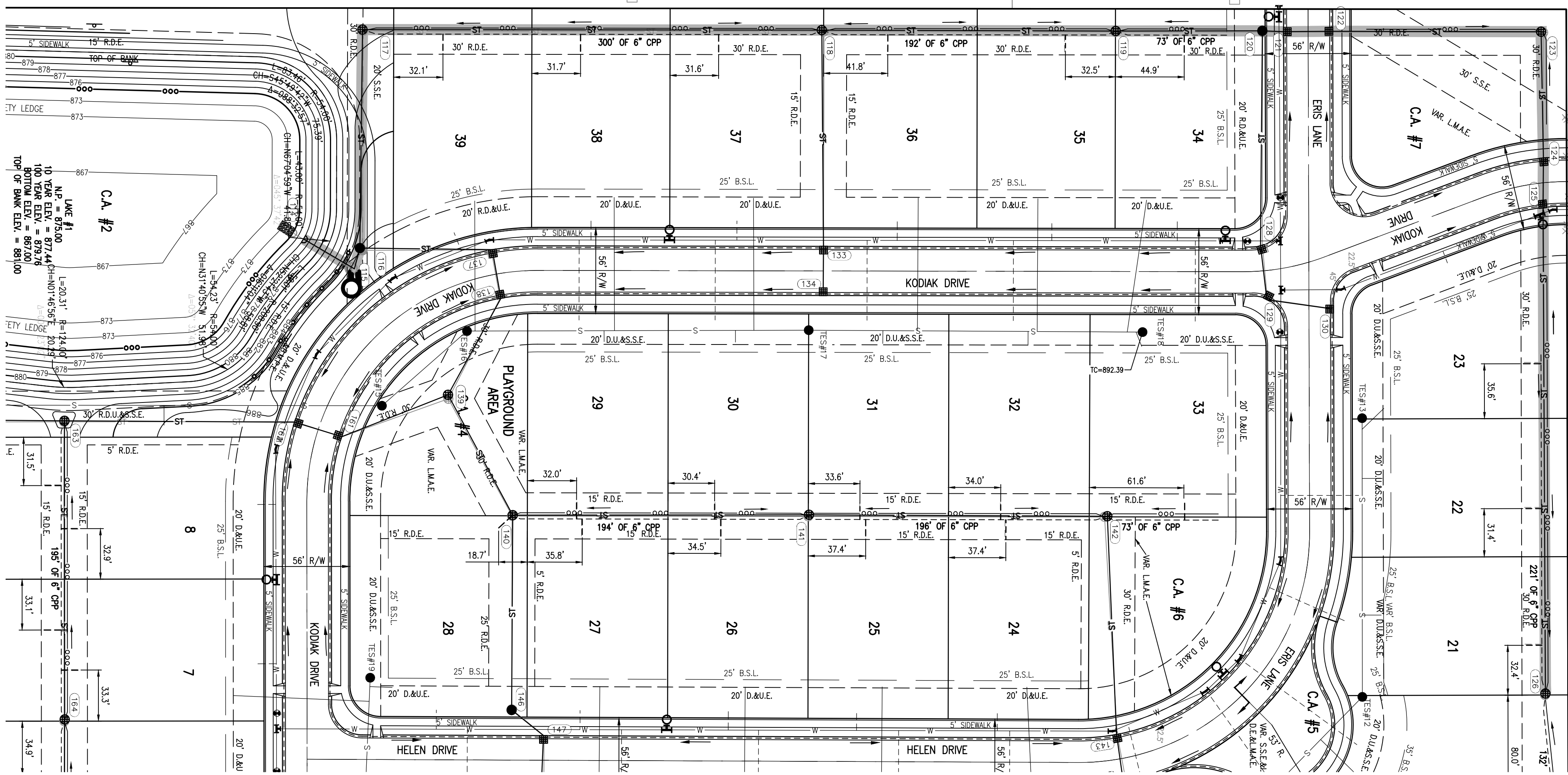
No. 114005
 STATE OF INDIANA
 REGISTERED PROFESSIONAL ENGINEER
 EXPIRES 06/30/2026

DRAWN BY: TS
 CHECKED BY: KE
 DATE: JANUARY 15, 2020
 SCALE: AS SHOWN
 SHEET

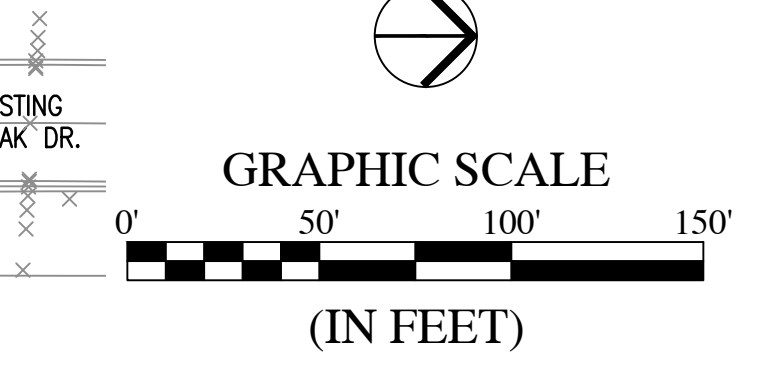
C6.0
 STORM SEWER PLAN AND PROFILE

LEGEND:	
EXISTING	PROPOSED
	RIGHT-OF-WAY LINE
	EASEMENT LINE
	SETBACK LINE
	CENTERLINE
	SWALE / FLOWLINE
	SUBSURFACE DRAIN
	SANITARY SEWER
	STORM SEWER
	STORM CULVERT
	WATER MAIN
	SANITARY MANHOLE
	STORM MANHOLE
	STORM INLET
	STORM END SECTION
	FIRE HYDRANT
	PROFILED PIPELINE
	EXISTING
	INVERT ELEVATION
	MANHOLE
	REINFORCED CONCRETE PIPE
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 - FOR STORM SEWER BACKFILL SPECIFICATIONS, REFER TO STORM SEWER TRENCH DETAIL STANDARD DRAWING 10-31 ON SHEET C6.5.



Call 811 or 800-382-5544 Before you Dig!



BENCHMARK NOTE
 ORIGINATING BENCHMARK:
 Hamilton County Benchmark HAM 38: DNR tablet set in the top of the Northwest concrete abutment of the West 146th Street bridge over Little Eagle Creek. ELEV=869.76 (NAVD 88)

TBM #1
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 The North rim of a sanitary manhole on the West side of Kodiak Drive at its South end. ELEV=887.62 (NAVD 88)

STORM PROFILE
 VERTICAL SCALE: 1" = 5'
 HORIZONTAL SCALE: 1" = 50'

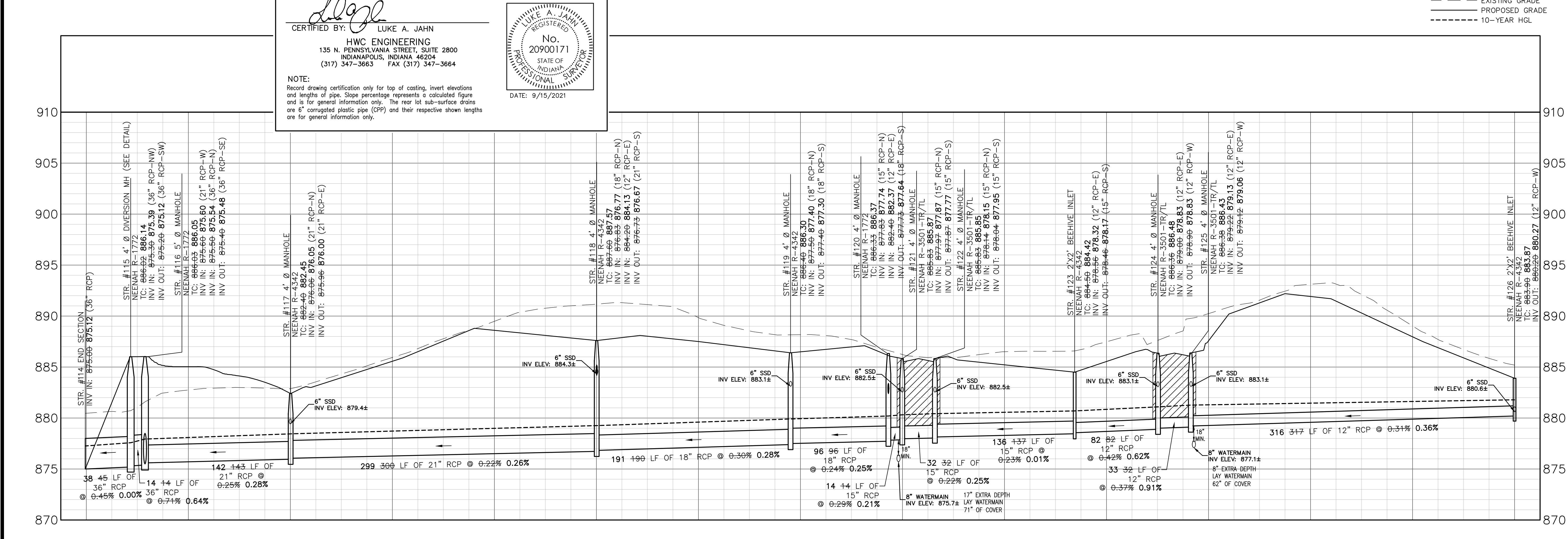
CERTIFICATION FOR "RECORD DRAWING"

CERTIFIED BY: *LUKE A. JAHN*
 LUKE A. JAHN
 REGISTERED PROFESSIONAL SURVEYOR
 No. 20900171
 STATE OF INDIANA

HWC ENGINEERING
 135 N. PENNSYLVANIA STREET, SUITE 2800
 INDIANAPOLIS, INDIANA 46204
 (317) 347-3663 FAX (317) 347-3664

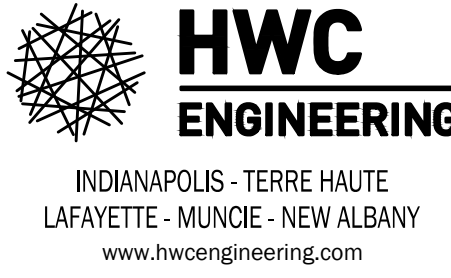
NOTE:
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DATE: 9/15/2021



GRANULAR BACKFILL PER CITY OF CARMEL TRENCH (GENERAL NOTE #10)
 --- EXISTING GRADE
 --- PROPOSED GRADE
 --- 10-YEAR HGL

DATE	DESCRIPTION	BY
06/12/20	REVISED PER CITY REVIEW COMMENTS	DC
07/31/20	REVISED PER CITY REVIEW COMMENTS	KE
08/13/20	REVISED PER CITY REVIEW COMMENTS	TS



TROY ESTATES
CARMEL, INDIANA
STORM SEWER PLAN AND PROFILE



DRAWN BY: TS
 CHECKED BY: KE
 DATE: JANUARY 15, 2020
 SCALE: AS SHOWN
 SHEET

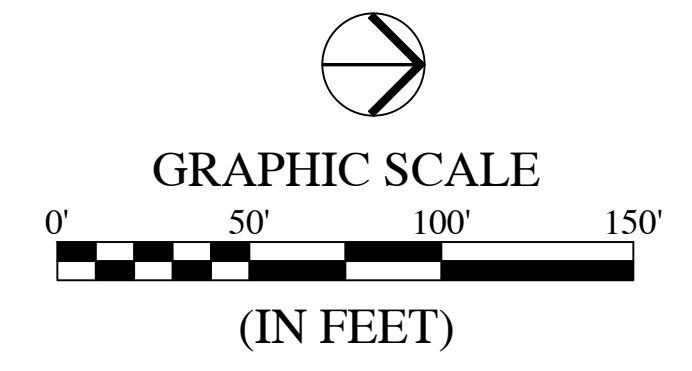
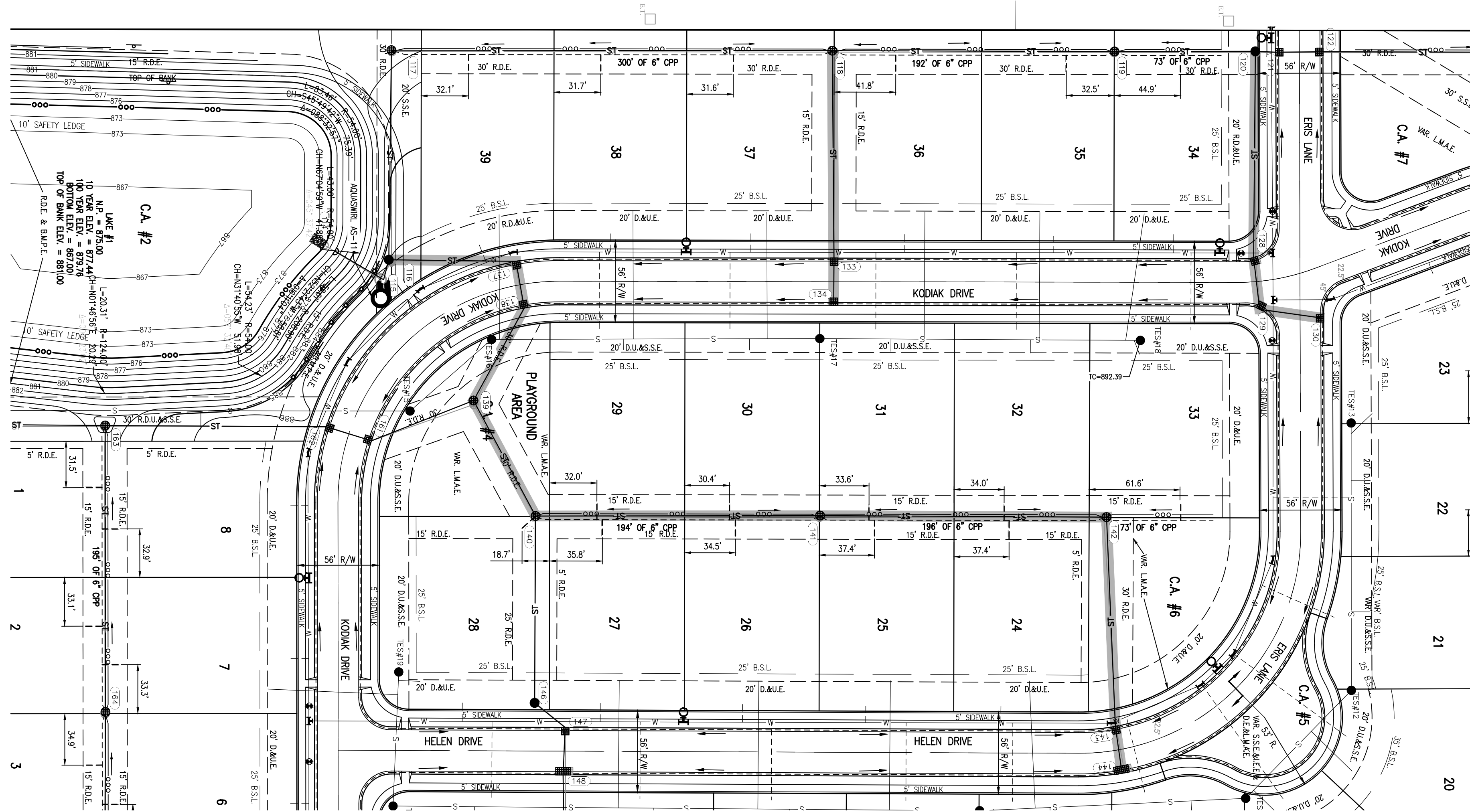
C6.1
 STORM SEWER PLAN AND PROFILE

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LEGEND:	
EXISTING	PROPOSED
	RIGHT-OF-WAY LINE
	EASEMENT LINE
	SETBACK LINE
	CENTERLINE
	SWALE / FLOWLINE
	SUBSURFACE DRAIN
	SANITARY SEWER
	STORM SEWER
	STORM CULVERT
	WATER MAIN
	SANITARY MANHOLE
	STORM MANHOLE
	STORM INLET
	STORM END SECTION
	FIRE HYDRANT
	PROFILED PIPELINE
	EX - EXISTING
	INV - INVERT ELEVATION
	MH - MANHOLE
	RCP - REINFORCED CONCRETE PIPE
	TC - TOP OF CASTING GRADE
	LPGPS - LOW PRESSURE GRINDER PUMP SYSTEM

GENERAL NOTES:

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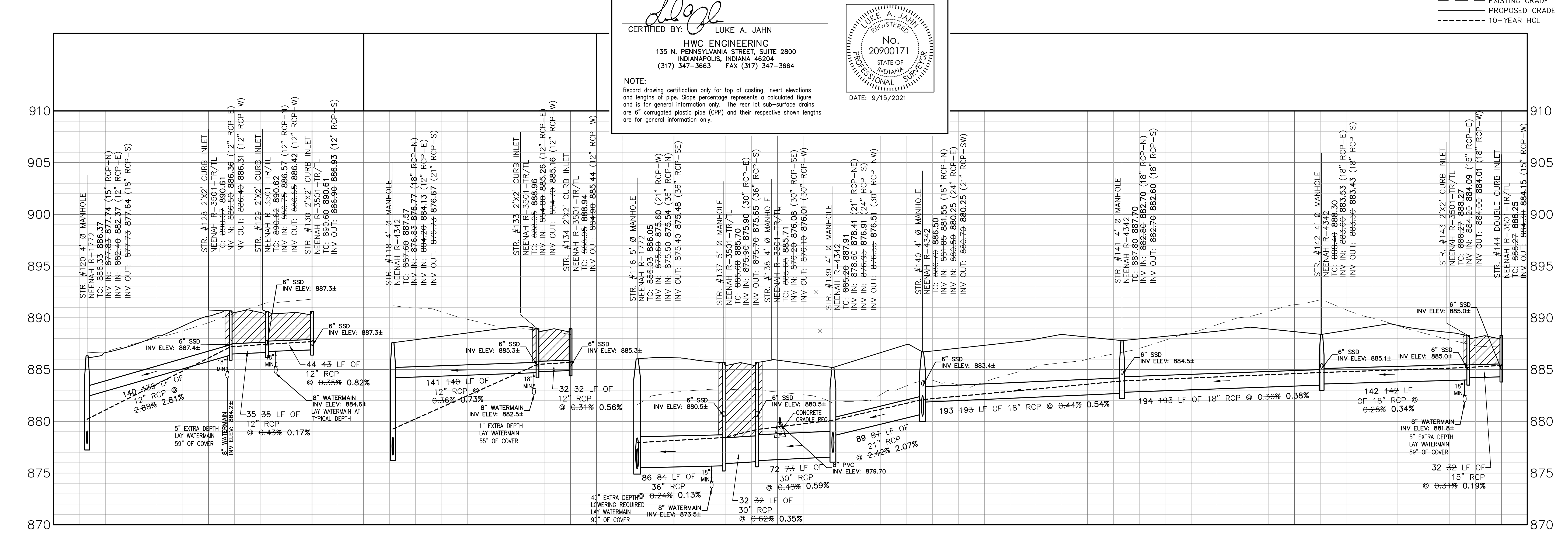
BENCHMARK NOTE

ORIGINATING BENCHMARK:
Hamilton County Benchmark HAM 38: DN2 tablet set in the top of the Northwest concrete abutment of the West 146th Street bridge over Little Eagle Creek. ELEV=869.76 (NAVD 88)

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STORM PROFILE
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



CERTIFICATION FOR "RECORD DRAWING"

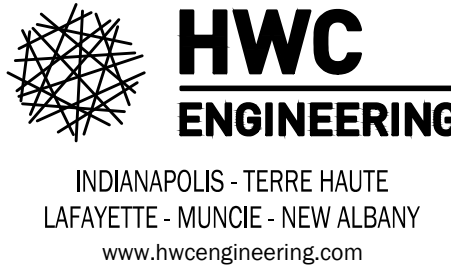
CERTIFIED BY: LUKE A. JAHN
 HWC ENGINEERING
 135 N. PENNSYLVANIA STREET, SUITE 2800
 INDIANAPOLIS, INDIANA 46204
 (317) 347-3663 FAX (317) 347-3664

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LUKE A. JAHN REGISTERED PROFESSIONAL SURVEYOR
 No. 20900171
 STATE OF INDIANA
 DATE: 9/15/2021

GRANULAR BACKFILL PER CITY OF CARMEL TRENCH (GENERAL NOTE #10)
 EXISTING GRADE
 PROPOSED GRADE
 10-YEAR HGL

REVISIONS		
DATE	DESCRIPTION	BY
06/12/20	REVISED PER CITY REVIEW COMMENTS	DC
07/31/20	REVISED PER CITY REVIEW COMMENTS	KE
08/13/20	REVISED PER REVIEW COMMENTS	TS



**TROY ESTATES
CARMEL, INDIANA**

STORM SEWER PLAN AND PROFILE

DRAWN BY: TS
CHECKED BY: KE
DATE: JANUARY 15, 2020
SCALE: AS SHOWN
SHEET

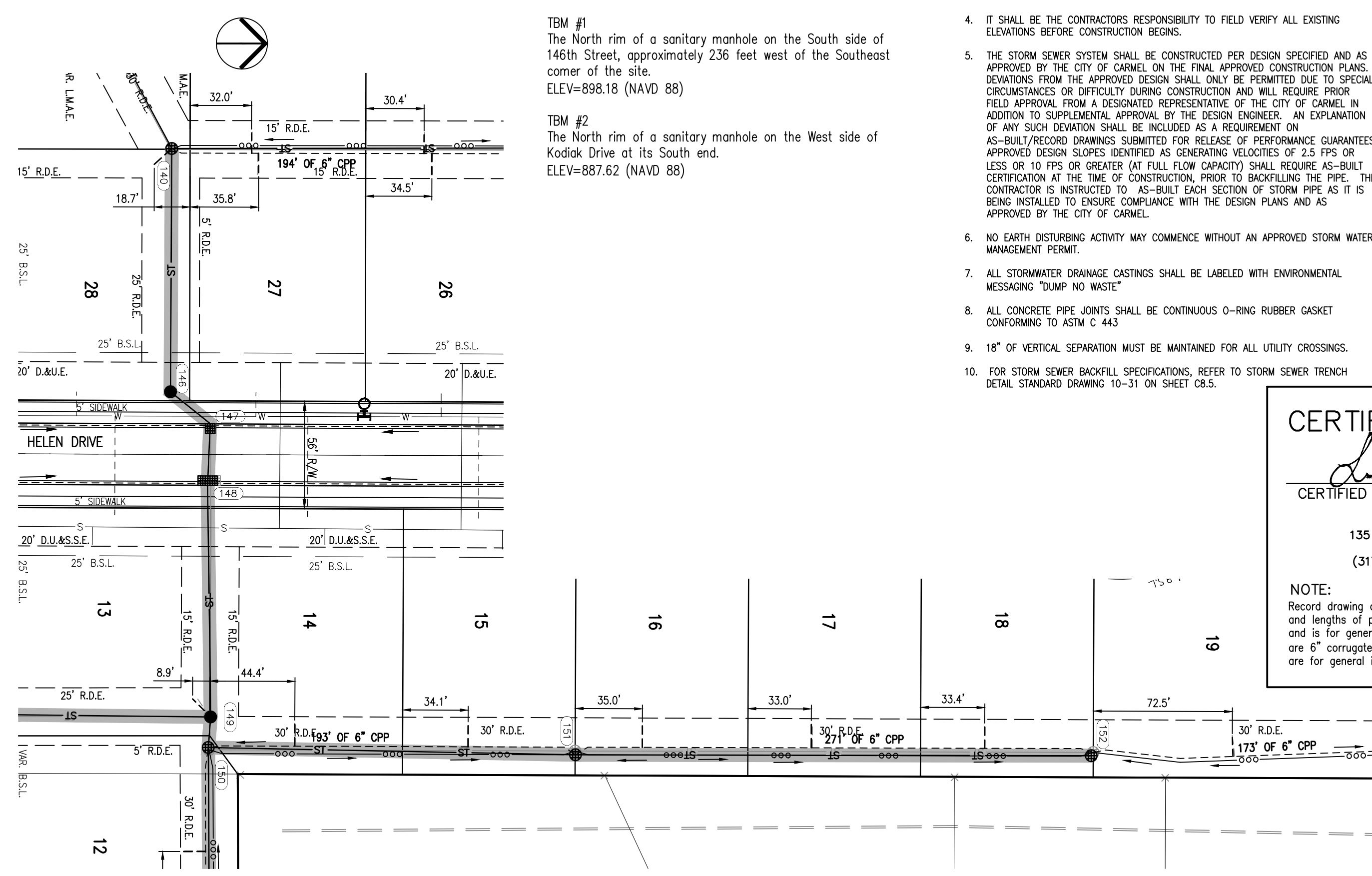
JOB NUMBER: 2017-232-A

C6.2
STORM SEWER PLAN AND PROFILE

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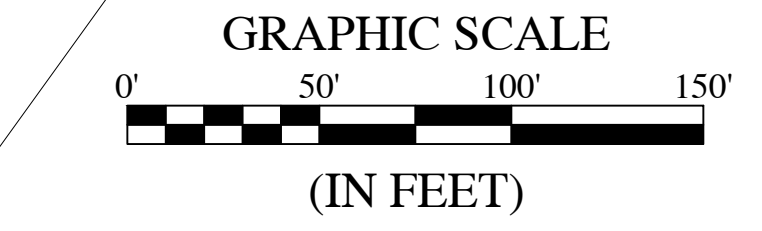
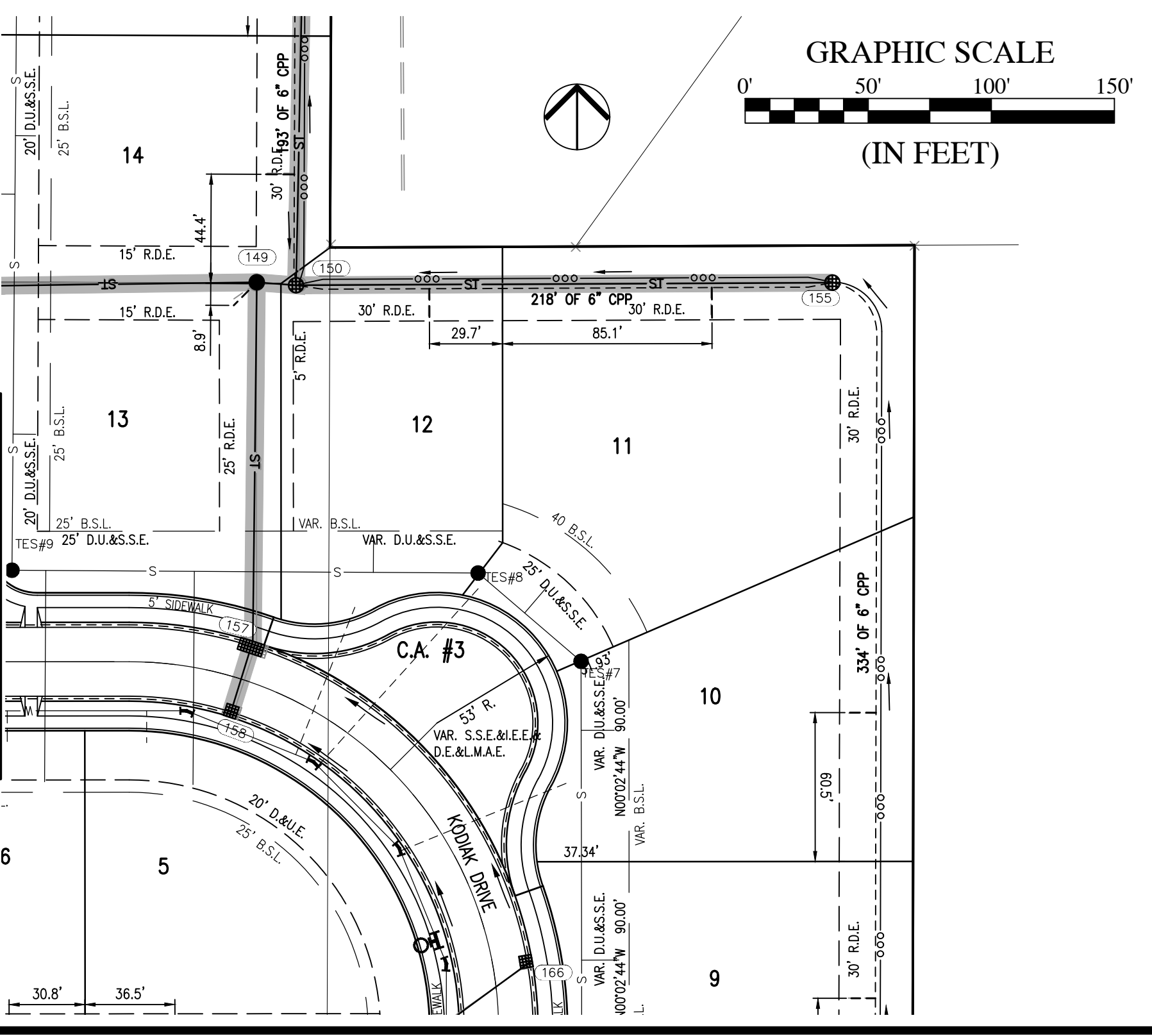
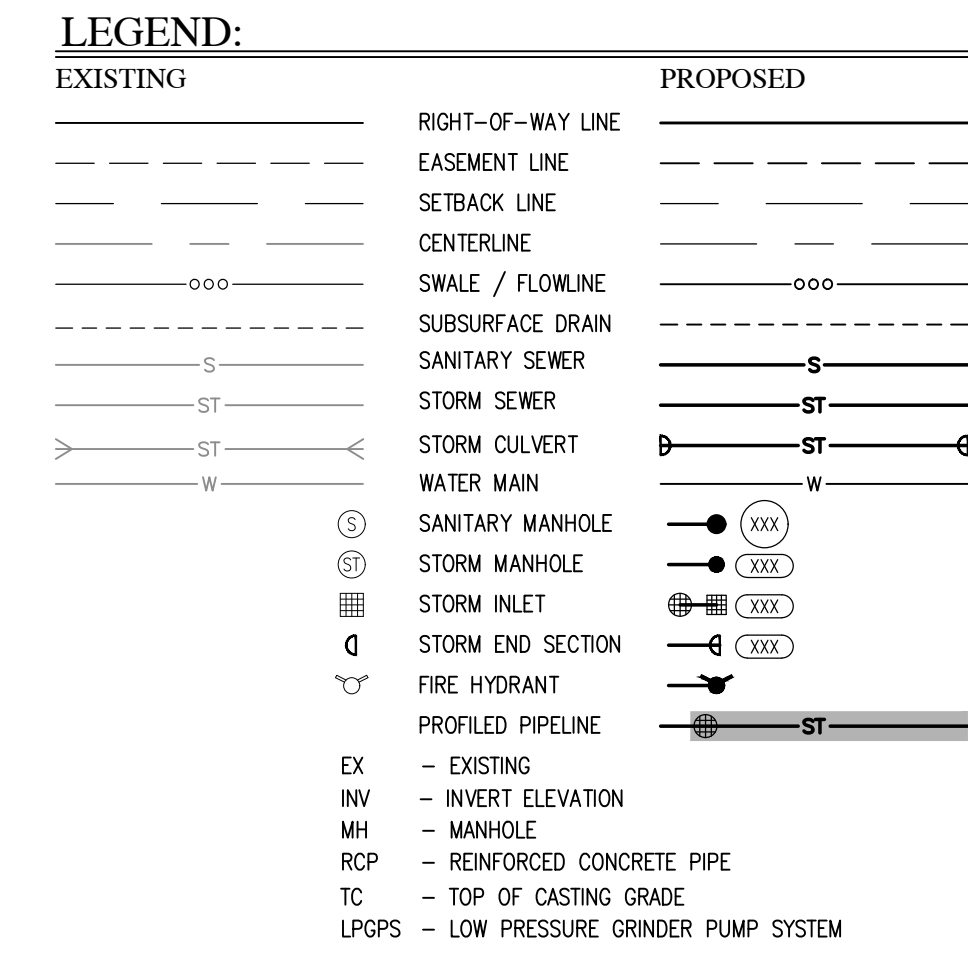


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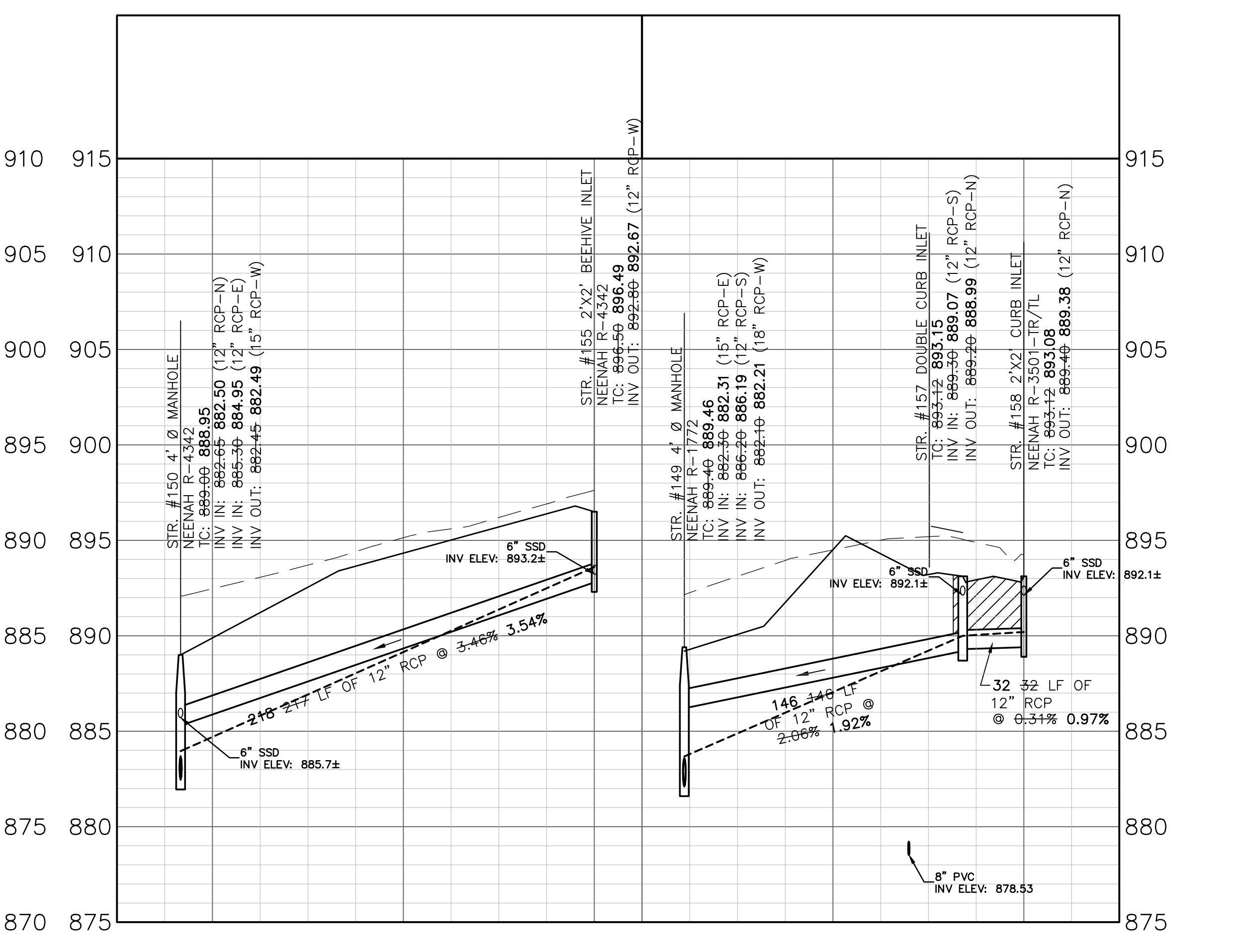
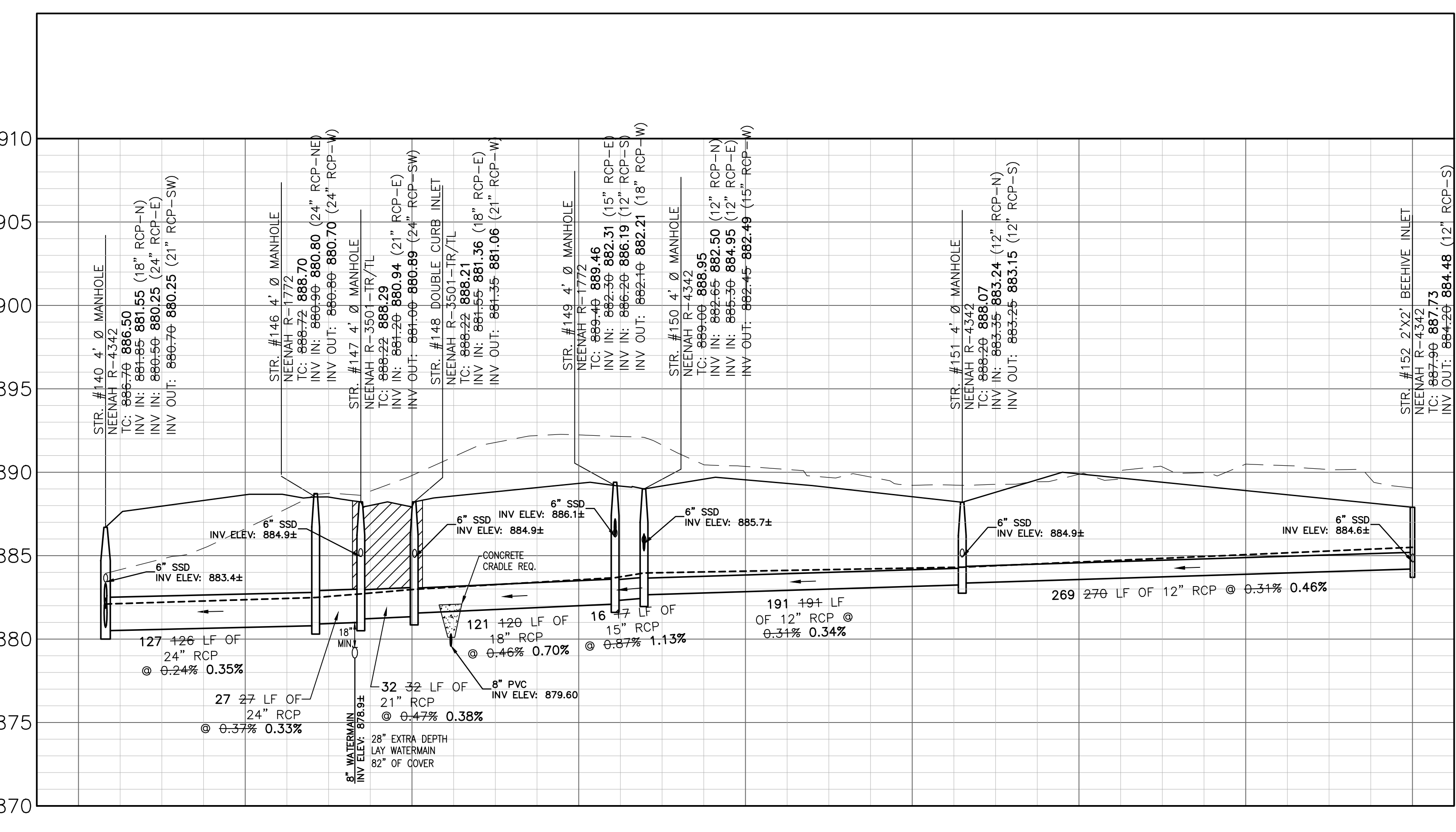
CERTIFICATION FOR "RECORD DRAWING"

CERTIFIED BY: *LUKE A. JAHN* LUKE A. JAHN
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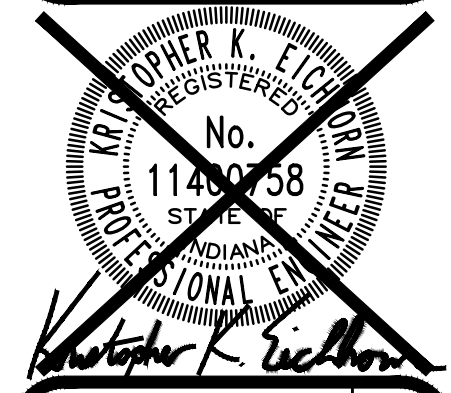


REVISIONS

DATE	DESCRIPTION	BY
06/12/20	REVISED PER CITY REVIEW COMMENTS	DC
07/31/20	REVISED PER CITY REVIEW COMMENTS	KE
08/13/20	REVISED PER REVIEW COMMENTS	TS

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
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www.hwcengineering.com

**TROY ESTATES
CARMEL, INDIANA
STORM SEWER PLAN AND PROFILE**



DRAWN BY: TS
CHECKED BY: KE
DATE: JANUARY 15, 2020
SCALE: AS SHOWN
SHEET

C6.3
STORM SEWER PLAN AND PROFILE

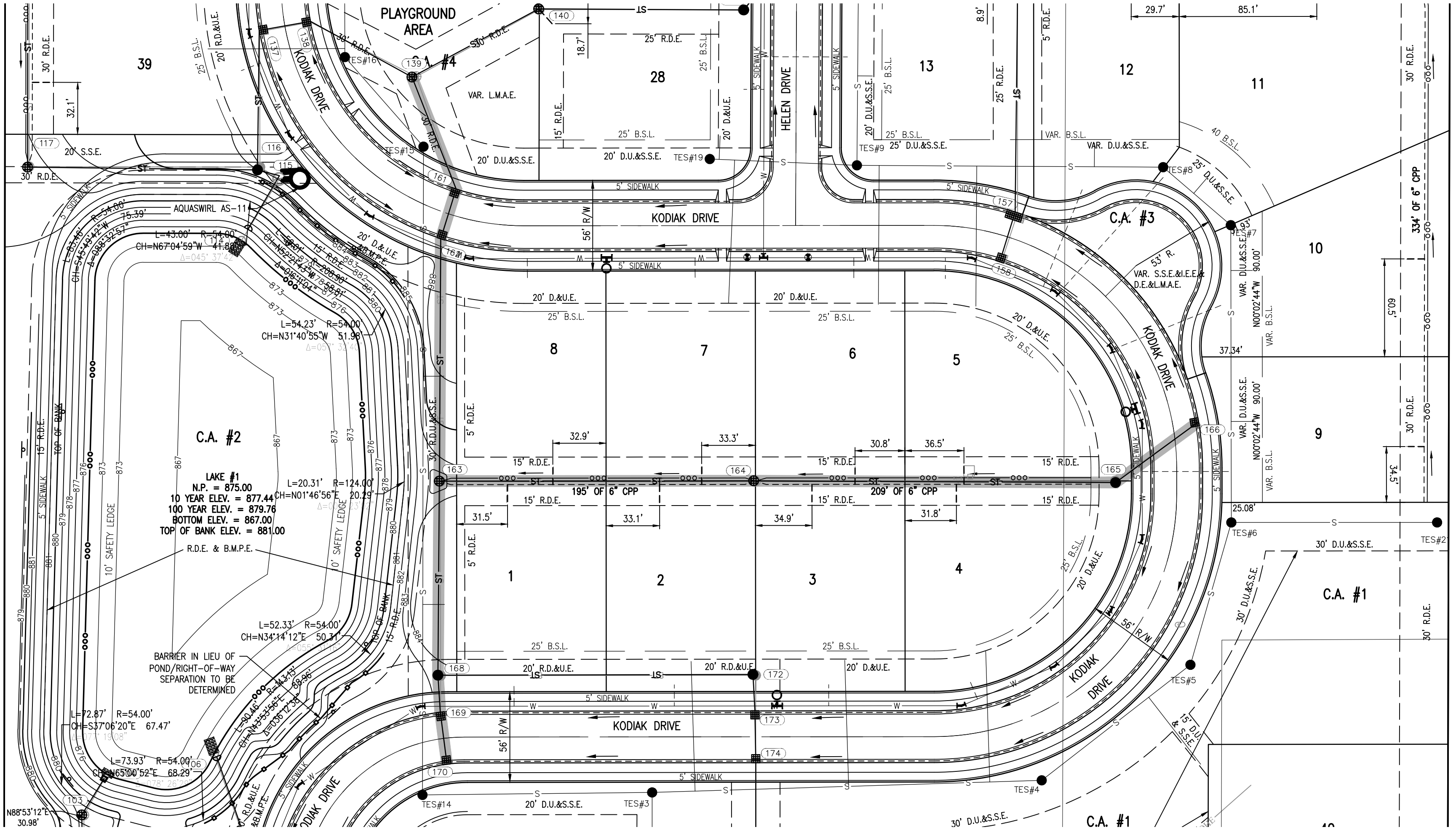
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Plot Date: Sep 15, 2021
Plot Time: 2:36pm
By: stonardson

LEGEND:

EXISTING	PROPOSED
	RIGHT-OF-WAY LINE
	EASEMENT LINE
	SETBACK LINE
	CENTERLINE
	SWALE / FLOWLINE
	SUBSURFACE DRAIN
	SANITARY SEWER
	STORM SEWER
	STORM CULVERT
	WATER MAIN
	SANITARY MANHOLE
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INDIANA 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
Call 811 or 800-382-5544 Before you Dig!

GRAPHIC SCALE
0' 50' 100' 150'
(IN FEET)

REVISIONS

DATE	DESCRIPTION	BY
06/12/20	REVISED PER CITY REVIEW COMMENTS	DC
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HWC ENGINEERING
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www.hwcengineering.com

BENCHMARK NOTE

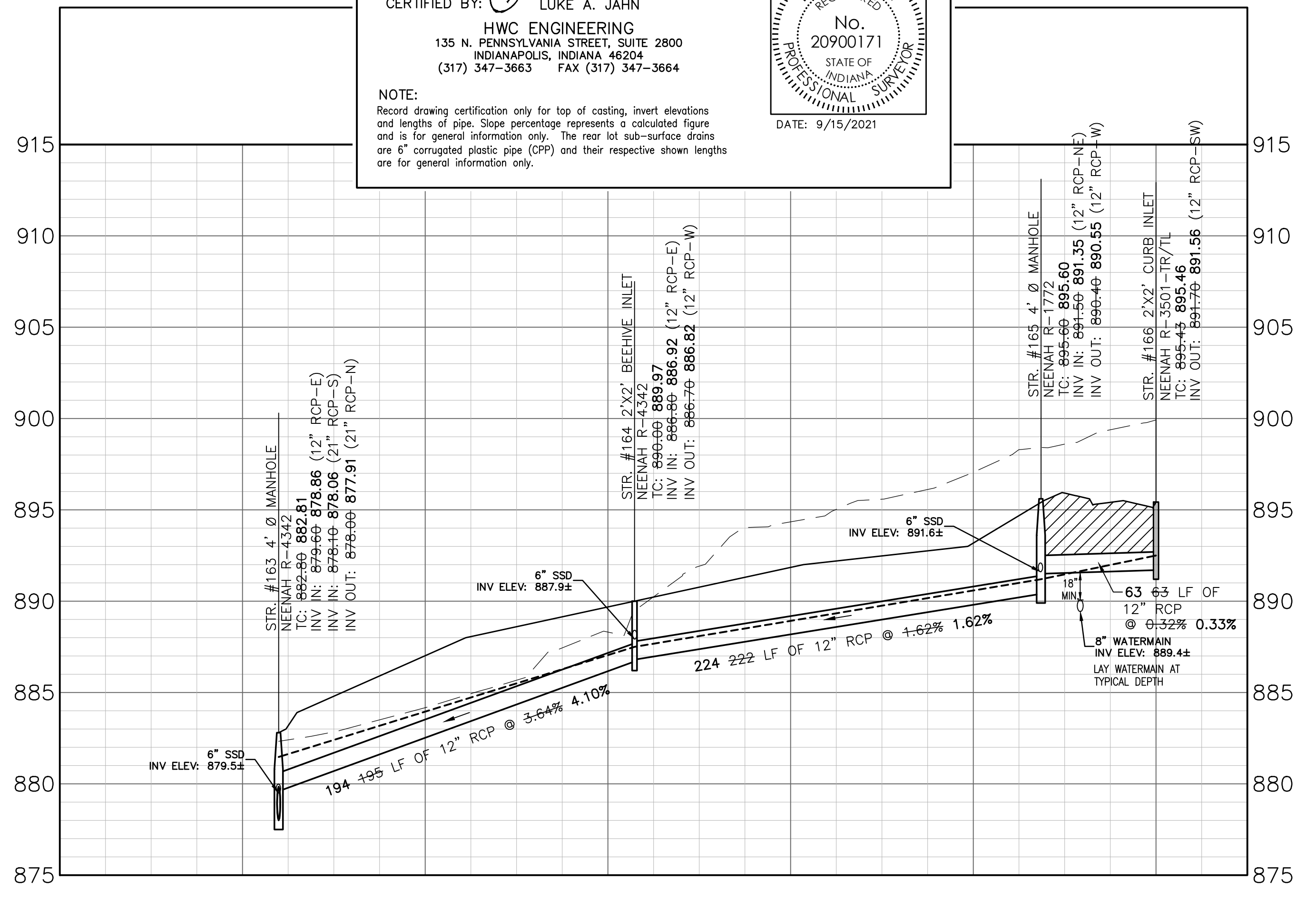
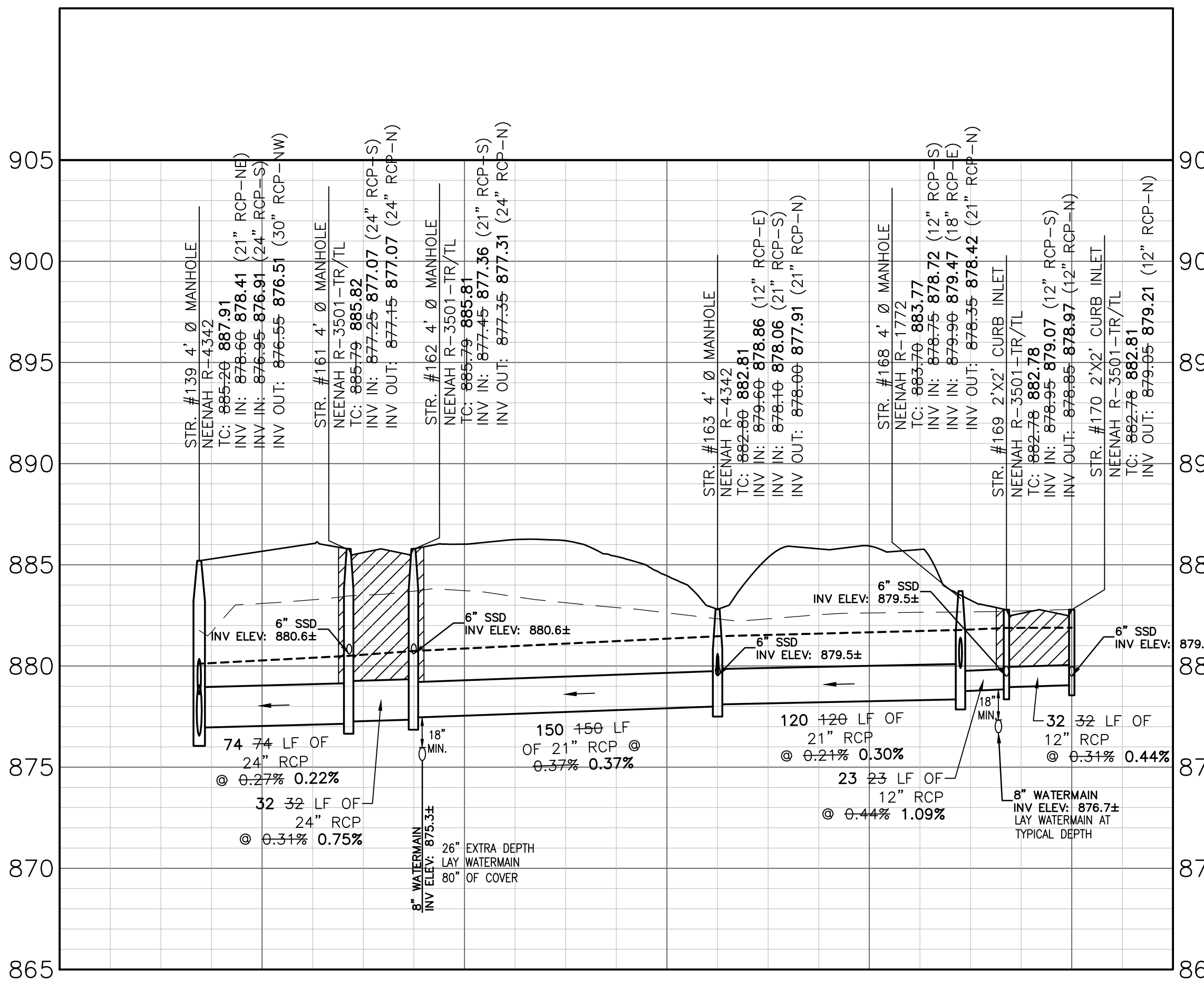
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DATE: 9/15/2021

-
-
-
-

TROY ESTATES
CARMEL, INDIANA

STORM SEWER PLAN AND PROFILE

DRAWN BY: TS
CHECKED BY: KE
DATE: JANUARY 15, 2020
SCALE: AS SHOWN
SHEET

C6.4
STORM SEWER PLAN AND PROFILE

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