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SEE SHEET 1B FOR CONVENTIONAL PLAN SHEET SYMBOLS

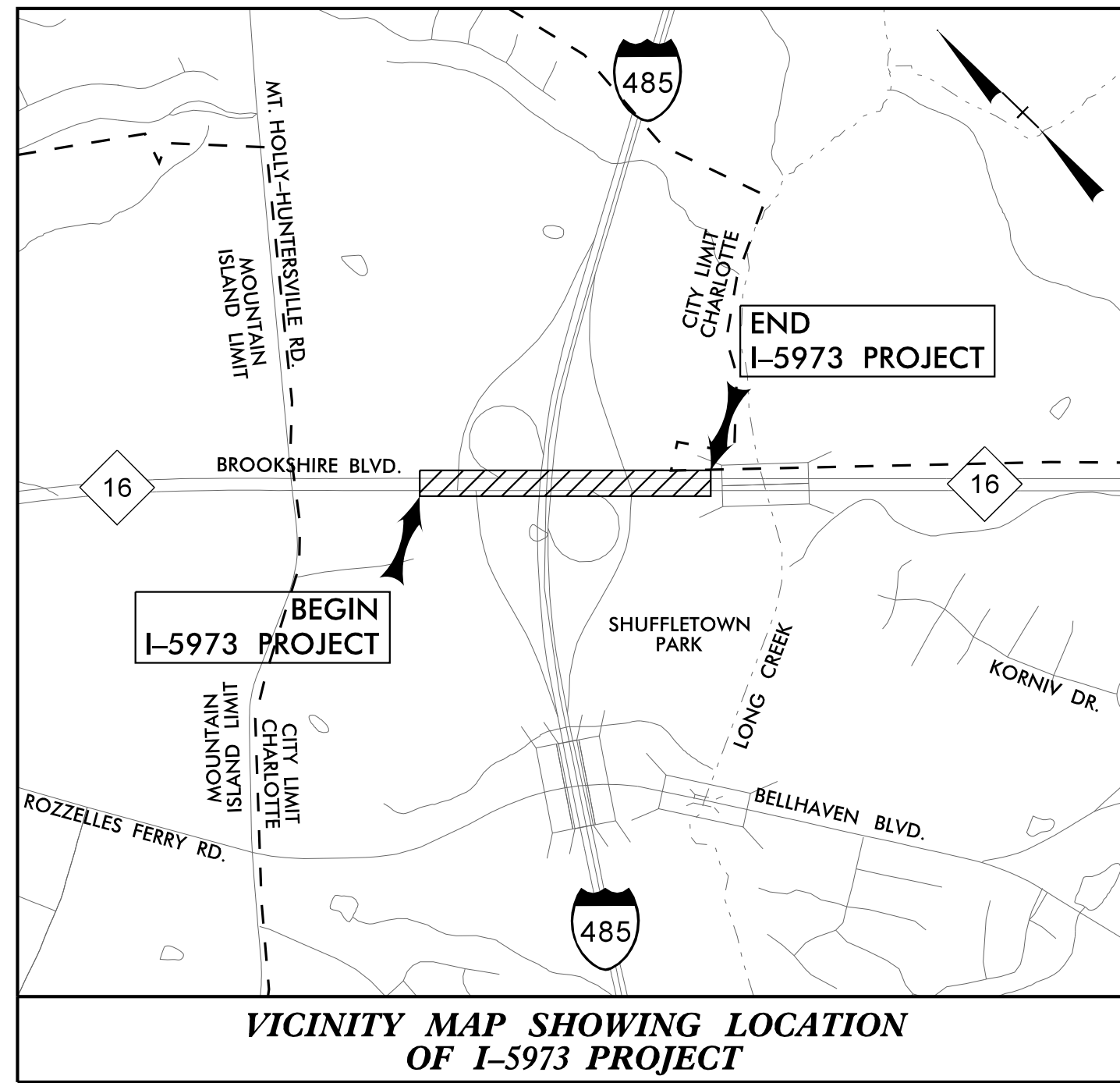
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5973	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44990.1.1		PE	
44990.2.1	NHP-0485(052)	R/W & UTIL	
44990.3.1		CONST.	

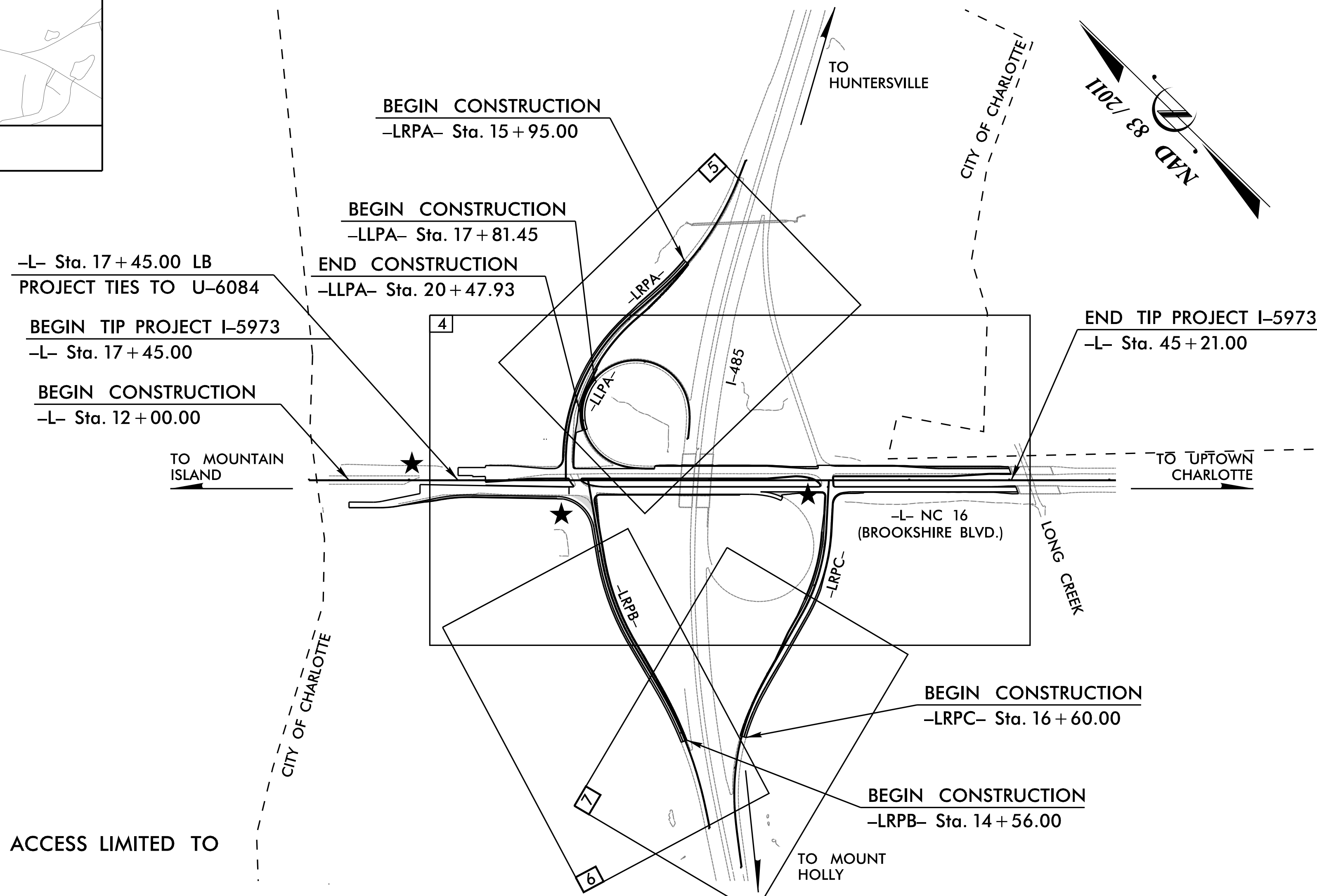
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TIP PROJECT: I-5973



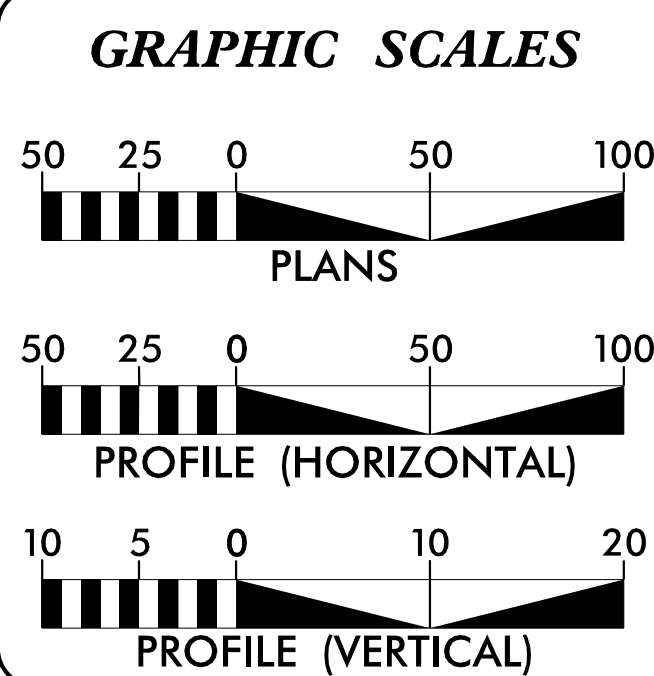
LOCATION: I-485 AT NC 16 (BROOKSHIRE BLVD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND SIGNALS



★ TRAFFIC SIGNAL
THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS LIMITED TO POINTS AS SHOWN ON THE PLANS

CONTRACT: C204805



DESIGN DATA

ADT 2022 =	53,570
ADT 2042 =	71,270
DHV =	8 %
D =	60 %
T =	10 % *
V =	60 MPH
* (TTST 4% + DUAL 6%)	
FUNC. CLASS = ARTERIAL REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5973	=	0.526 MILES
TOTAL LENGTH OF TIP PROJECT I-5973	=	0.526 MILES

PLANS PREPARED FOR THE NCDOT BY:
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 4, 2021

LETTING DATE:
NOVEMBER 15, 2022

Kimley Horn
NC LICENSE #K-0102
200 SOUTH TRYON STREET, SUITE 200
CHARLOTTE, NORTH CAROLINA 28202
PHONE: (704) 333-5131

GREGORY BREW, PE
PROJECT ENGINEER

TONY SPACEK, PE
PROJECT DESIGN ENGINEER

DONALD GRIFFITH
DM-STIP PROJECT MANAGER
NCDOT HIGHWAY DIVISION 10

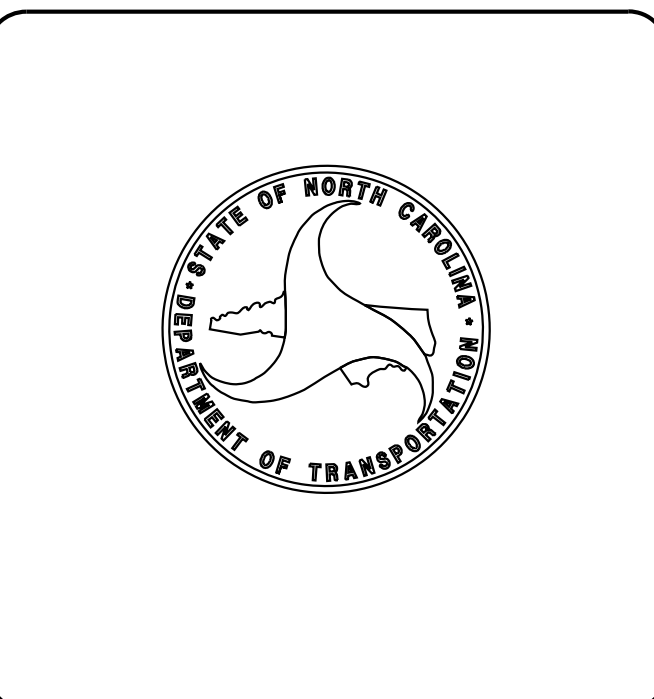
HYDRAULICS ENGINEER

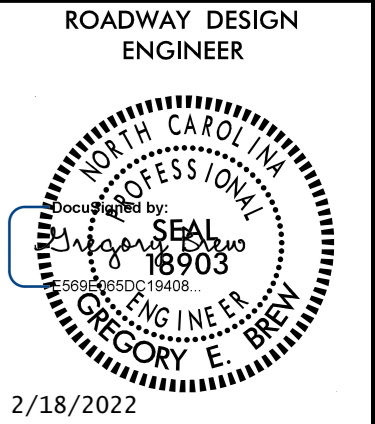
10/5/2022

DocuSigned by:
Jason Lewis
SIGNATURE: _____
ROADWAY DESIGN ENGINEER

10/5/2022

DocuSigned by:
Breagyn Brew
SIGNATURE: _____
ROADWAY DESIGN ENGINEER





STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

GENERAL NOTES

I-5973
MECKLENBURG COUNTY

INDEX OF SHEETS

SHEET NUMBER	SHEET
I	TITLE SHEET
IA	INDEX OF SHEETS, GENERAL NOTES, LIST OF ROADWAY STANDARD DRAWINGS
IB	CONVENTIONAL SYMBOLS SHEET
2A-1 THRU 2A-4	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND MISCELLANEOUS DETAILS
2C-1	CONCRETE GRATED DROP INLET TYPE 1/2 A 1/2, MINIMUM DEPTH DETAIL
2C-2	MODIFIED DOUBLE FACED CONCRETE BARRIER DETAIL
2C-3	DETAIL FOR W-BEAM GUARDRAIL
3B-1	SUMMARY OF EARTHWORK, REMOVAL OF EXISTING ASPHALT PAVEMENT
3B-2	SUMMARIES OF GUARDRAIL, SHOULDER BERM GUTTER, CONCRETE BARRIER
3D-1 THRU 3D-2	SUMMARY OF DRAINAGE QUANTITIES
3G-1	SUMMARY OF GEOTEXTILE, AGGREGATE STABILIZATION
4 THRU 7	PLAN SHEETS
8 THRU 11	PROFILE SHEETS
RW01	RIGHT OF WAY TITLE SHEET
RW02C-2 THRU RW02C-4	SURVEY CONTROL SHEETS
TMP-1 THRU TMP-12	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-7	PAVEMENT MARKING PLANS
E-1 THRU E-3	LIGHTING PLANS
EC-1 THRU EC-11	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-9	SIGNING PLANS
SIG. 1,0 THRU SIG. M8	SIGNAL PLANS
SCPI THRU SCP9	SIGNAL COMMUNICATION PLANS
UC-1 THRU UC-8	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-5	UTILITIES BY OTHERS PLANS
X-0	CROSS-SECTION INDEX
X-1A	CROSS-SECTION SUMMARY SHEETS
X-1 THRU X-39	CROSS-SECTIONS

GENERAL NOTES: 2018 SPECIFICATIONS EFFECTIVE: 01-16-2018

EFF. 01-16-2018

REV.

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 AND 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 AND 560.02

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS 'EXTRA WORK' IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE Duke Energy Progress
Charlotte Water

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in 'Roadway Standard Drawings' Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.01	Guide for Grading Subgrade - Interstate and Freeway
225.02	Guide for Grading Subgrade - Secondary and Local
225.03	Deceleration and Acceleration Lanes
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.05	Method of Obtaining Superelevation - Divided Highways
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
560.02	Method of Shoulder Construction - High Side of Superelevated Curve - Method II
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
610.03	Guide for Paving Shoulders Under Bridges - Method III
654.01	654.01 Pavement Repairs
DIVISION 8 - INCIDENTALS	
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12' thru 54" Pipe
840.02	Concrete Catch Basin - 12' thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.04	Concrete Open Throat Catch Basin - 12' thru 48" Pipe
840.05	Brick Open Throat Catch Basin - 12' thru 48" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12' thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.22	Frames and Wide Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12' thru 36" Pipe
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.02	Drop Inlet Installation in Expressway Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
852.01	Concrete Islands
854.02	Double Faced Concrete Barrier - Types 'T', 'T1' and 'T2'
857.01	Precast Reinforced Concrete Barrier - 41" Single Faced
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

REVISIONS

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	✕
Property Monument	◻ ECM
Parcel/Sequence Number	123
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	◻
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-w-l-b-
Proposed Wetland Boundary	-w-l-b-
Existing Endangered Animal Boundary	-e-a-b-
Existing Endangered Plant Boundary	-e-p-b-
Existing Historic Property Boundary	-h-p-b-
Known Contamination Area: Soil	☠-s-☠
Potential Contamination Area: Soil	☠-s-☠
Known Contamination Area: Water	☠-w-☠
Potential Contamination Area: Water	☠-w-☠
Contaminated Site: Known or Potential	☠☠

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○ W
Small Mine	✕
Foundation	◻
Area Outline	◻
Cemetery	†
Building	◻
School	◻
Church	✙
Dam	▬

HYDROLOGY:

Stream or Body of Water	~~~~~
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	-j-s-
Buffer Zone 1	-b-z-1-
Buffer Zone 2	-b-z-2-
Flow Arrow	→
Disappearing Stream	→
Spring	○
Wetland	▭
Proposed Lateral, Tail, Head Ditch	▬
False Sump	▭

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	◻ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	◻
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	⊠
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	○ R W
New Right of Way Line with Pin and Cap	○ R W ▲
New Right of Way Line with Concrete or Granite R/W Marker	▲ R W
New Control of Access Line with Concrete C/A Marker	△ C/A
Existing Control of Access	△ C/A
New Control of Access	△ C/A
Existing Easement Line	-e-
New Temporary Construction Easement	-e-
New Temporary Drainage Easement	-t-d-e-
New Permanent Drainage Easement	-p-d-e-
New Permanent Drainage / Utility Easement	-d-u-e-
New Permanent Utility Easement	-p-u-e-
New Temporary Utility Easement	-t-u-e-
New Aerial Utility Easement	-a-u-e-

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-c-
Proposed Slope Stakes Fill	-f-
Proposed Curb Ramp	◻ CR
Existing Metal Guardrail	▬
Proposed Guardrail	▬
Existing Cable Guiderail	▬
Proposed Cable Guiderail	▬
Equality Symbol	⊕
Pavement Removal	▭

VEGETATION:

Single Tree	☼
Single Shrub	☼

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

Hedge	~~~~~
Woods Line	~~~~~
Orchard	☼ ☼ ☼ ☼
Vineyard	◻ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	▭ CONC
Bridge Wing Wall, Head Wall and End Wall	▭ CONC WW
MINOR:	
Head and End Wall	▭ CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	◻ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊙
Storm Sewer	-s-

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊙
Power Line Tower	⊠
Power Transformer	⊠
H-Frame Pole	●
U/G Power Cable Hand Hole	-----
U/G Power Line LOS B (S.U.E.*)	-----
U/G Power Line LOS C (S.U.E.*)	-----
U/G Power Line LOS D (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊙
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	-----
U/G Telephone Cable LOS B (S.U.E.*)	-----
U/G Telephone Cable LOS C (S.U.E.*)	-----
U/G Telephone Cable LOS D (S.U.E.*)	-----
U/G Telephone Conduit LOS B (S.U.E.*)	-----
U/G Telephone Conduit LOS C (S.U.E.*)	-----
U/G Telephone Conduit LOS D (S.U.E.*)	-----
U/G Fiber Optics Cable LOS B (S.U.E.*)	-----
U/G Fiber Optics Cable LOS C (S.U.E.*)	-----
U/G Fiber Optics Cable LOS D (S.U.E.*)	-----

WATER:

Water Manhole	⊙
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	-a/g water-

TV:

TV Pedestal	⊠
TV Tower	⊗
U/G TV Cable Hand Hole	-----
U/G TV Cable LOS B (S.U.E.*)	-----
U/G TV Cable LOS C (S.U.E.*)	-----
U/G TV Cable LOS D (S.U.E.*)	-----
U/G Fiber Optic Cable LOS B (S.U.E.*)	-----
U/G Fiber Optic Cable LOS C (S.U.E.*)	-----
U/G Fiber Optic Cable LOS D (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	-----
U/G Gas Line LOS C (S.U.E.*)	-----
U/G Gas Line LOS D (S.U.E.*)	-----
Above Ground Gas Line	-a/g gas-

SANITARY SEWER:

Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-a/g sanitary sewer-
SS Forced Main Line LOS B (S.U.E.*)	-----
SS Forced Main Line LOS C (S.U.E.*)	-----
SS Forced Main Line LOS D (S.U.E.*)	-----

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	⊠
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	-----
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	⊠ UST
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	-----
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

PAVEMENT SCHEDULE

C1	PROPOSED APPROX 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E1	PROPOSED APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	PROPOSED EXPRESSWAY GUTTER	V2	INCIDENTAL MILLING
C2	PROPOSED APPROX 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E2	PROPOSED APPROX. 4.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.	R4	PROPOSED SINGLE FACED CONCRETE BARRIER	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)
C3	PROPOSED VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. TO BE PLACED IN LAYERS NOT GREATER THAN 2" IN DEPTH.	E3	PROPOSED APPROX. 7.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 855 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R5	PROPOSED CONCRETE MEDIAN BARRIER		
D1	PROPOSED APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	E4	PROPOSED VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.	T	EARTH MATERIAL		
D2	PROPOSED APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R1	PROPOSED 2'-6" CONCRETE CURB & GUTTER	U	EXISTING PAVEMENT		
D3	PROPOSED VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.	R2	PROPOSED SHOULDER BERM GUTTER	V1	MILLING ASPHALT PAVEMENT, 3" DEPTH		

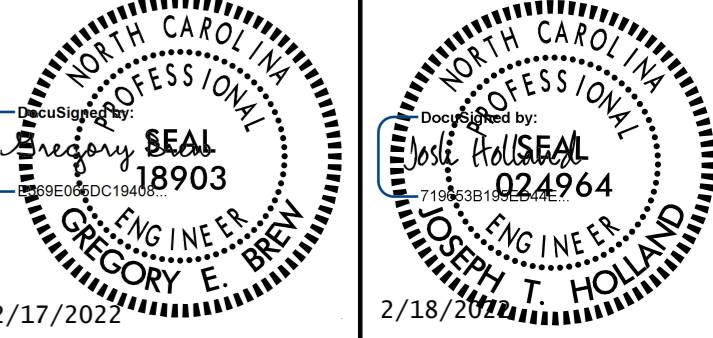
Kimley Horn

200 S. TRYON ST. • CHARLOTTE, NC 28202

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO. 1-5973 SHEET NO. 2A-1

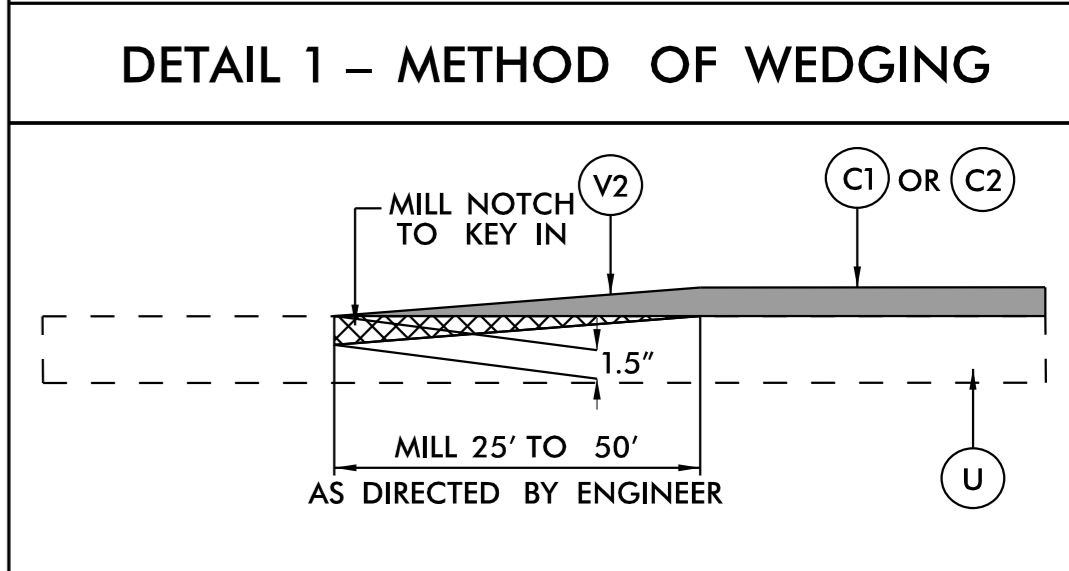
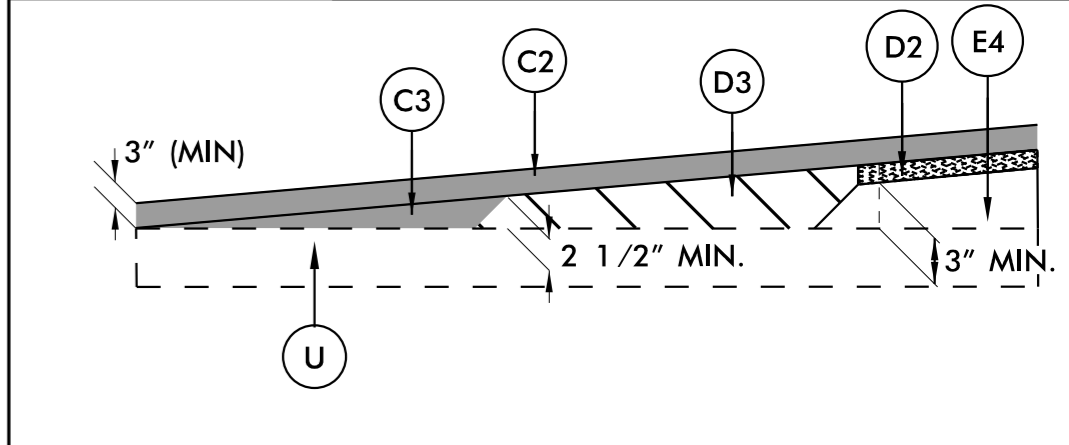
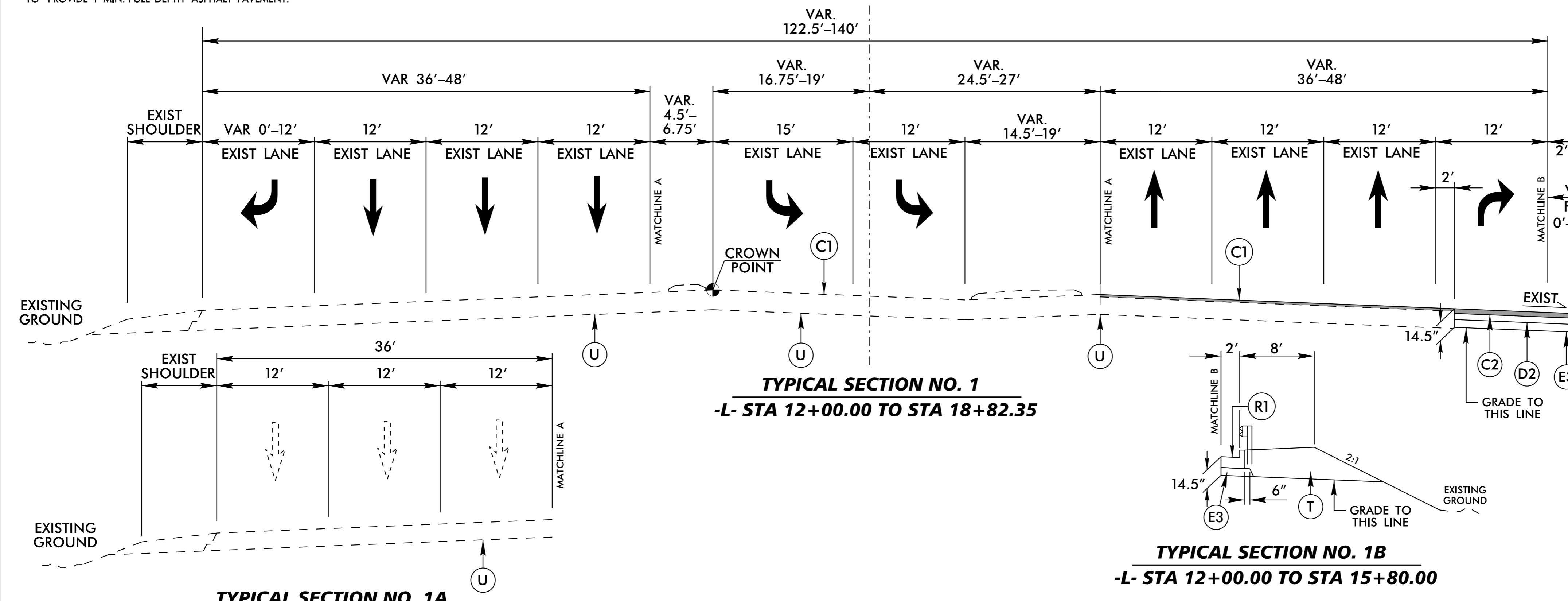
ROADWAY DESIGN ENGINEER PAVEMENT DESIGN ENGINEER



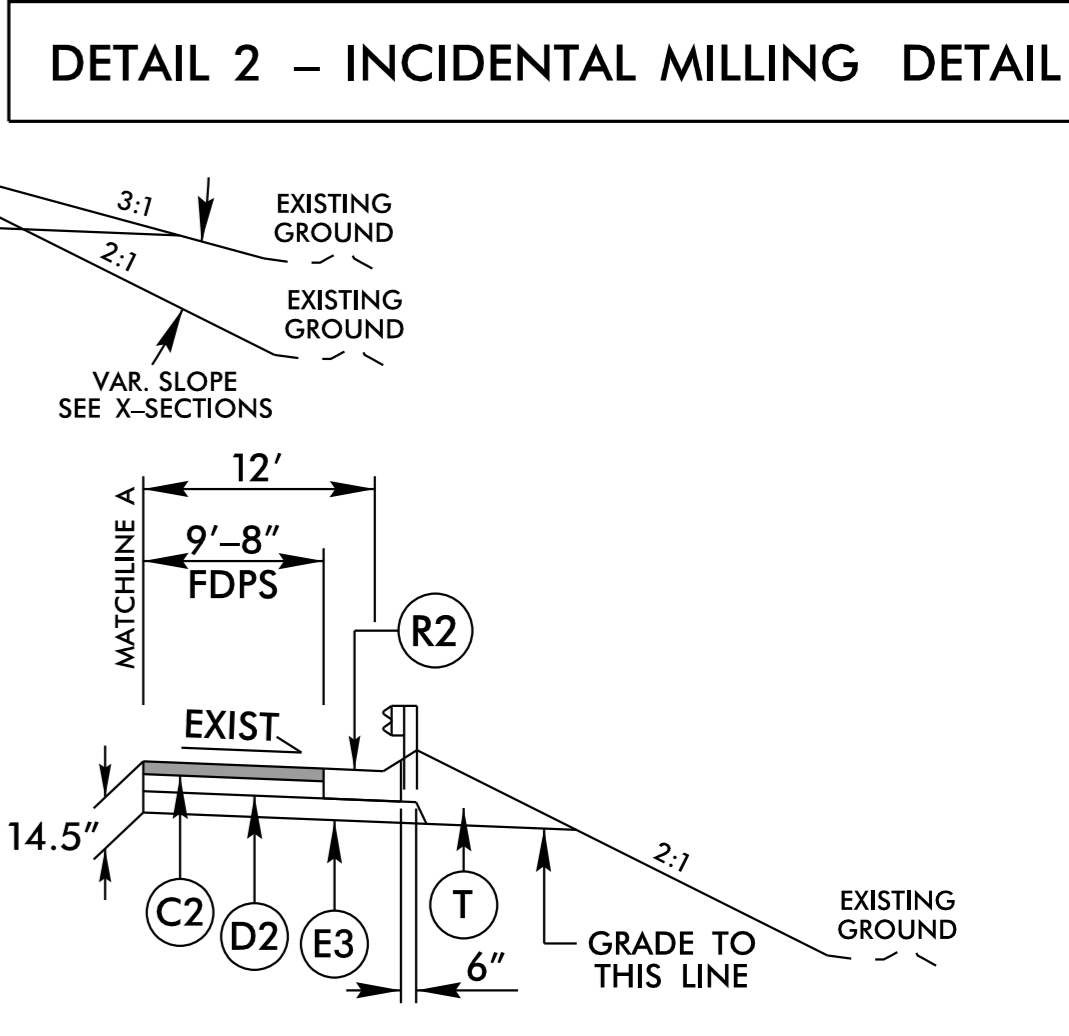
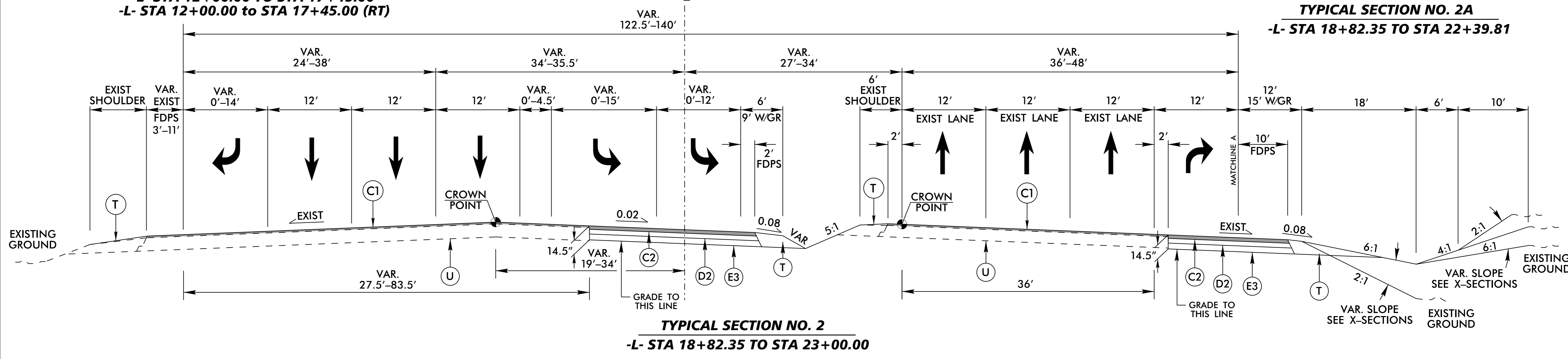
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

- NOTES:
 1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE INDICATED.
 2. REFER TO PLAN SHEETS FOR VARIABLE WIDTHS.
 3. SAWCUT AND REMOVE EXISTING ASPHALT PAVEMENT TO PROVIDE 1' MIN. FULL DEPTH ASPHALT PAVEMENT.

CL- NC 16 (BROOKSHIRE BLVD)



CL- NC 16 (BROOKSHIRE BLVD)



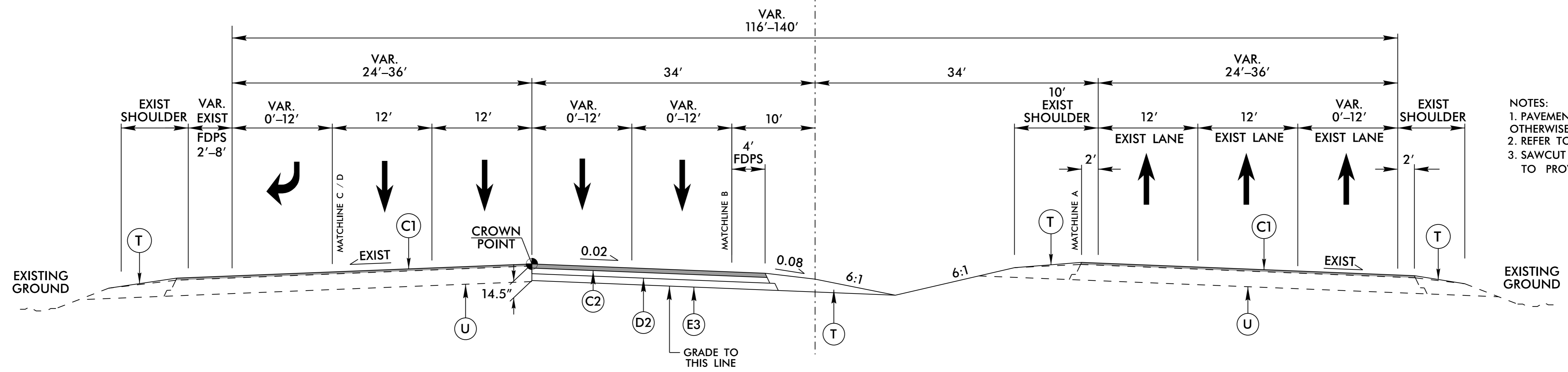
REVISIONS

K:\CHL_PR\01036453 - 1-5973 (1-485 Brookshire)\Roadway\Pro\1-5973_rdy_ttyp.dgn

2/17/2022

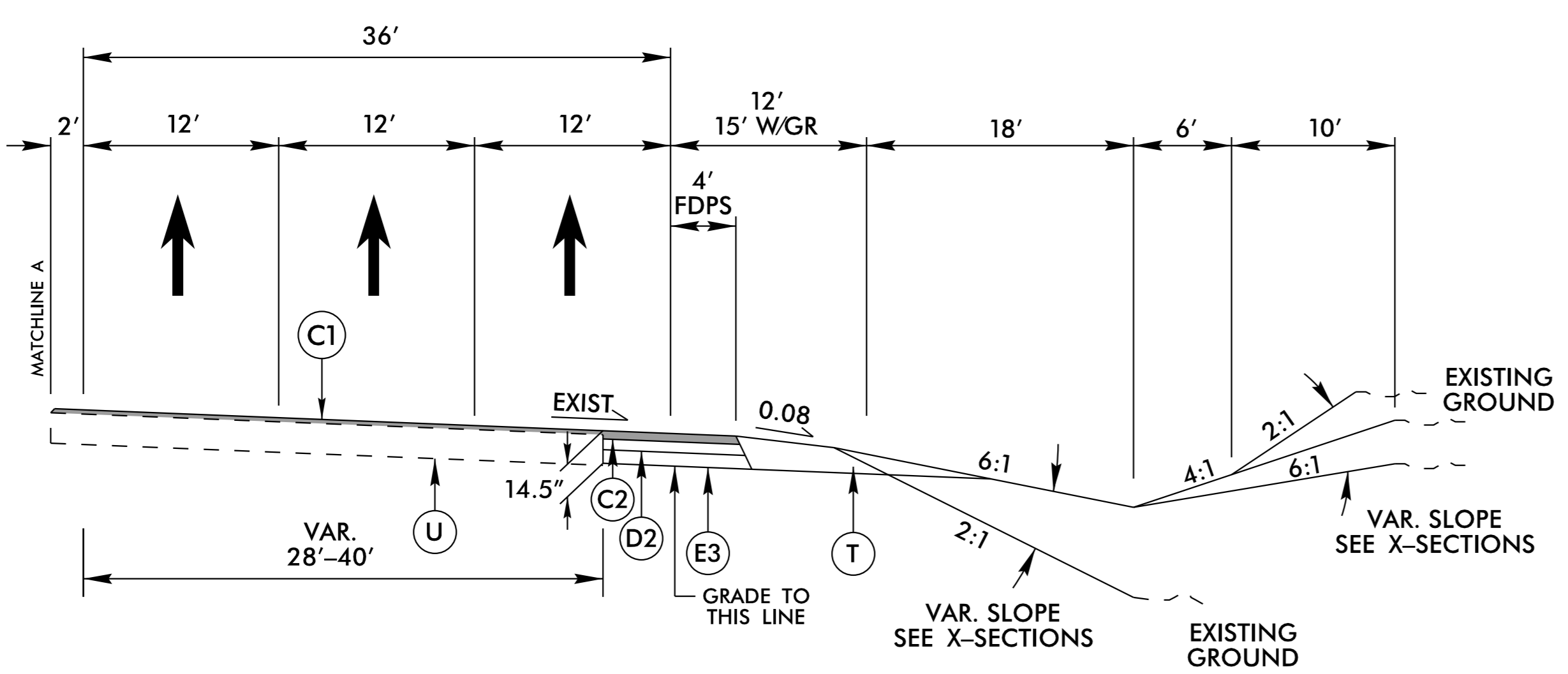
PROJECT REFERENCE NO. 1-5973	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER GREGORY E. BREW	PAVEMENT DESIGN ENGINEER JOSEPH T. HOLLAND
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NC 16 (BROOKSHIRE BLVD)

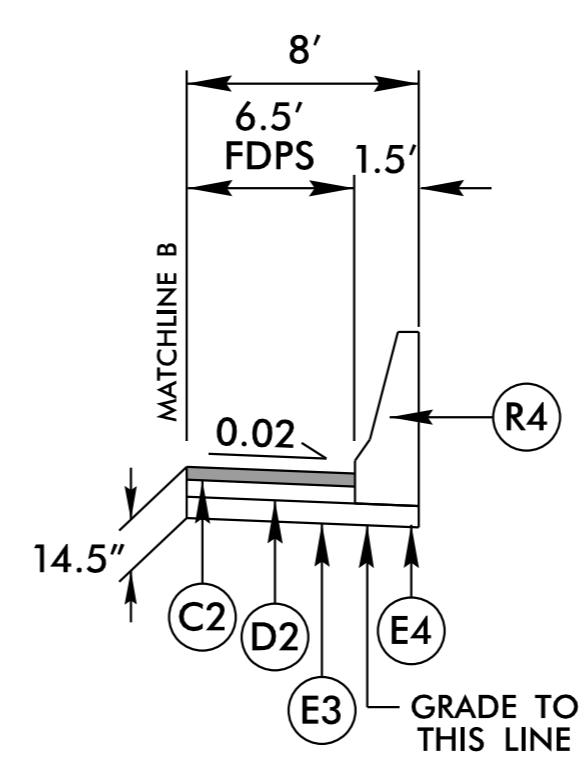


TYPICAL SECTION NO. 3
-L- STA 23+00.0 TO STA 45+21.00

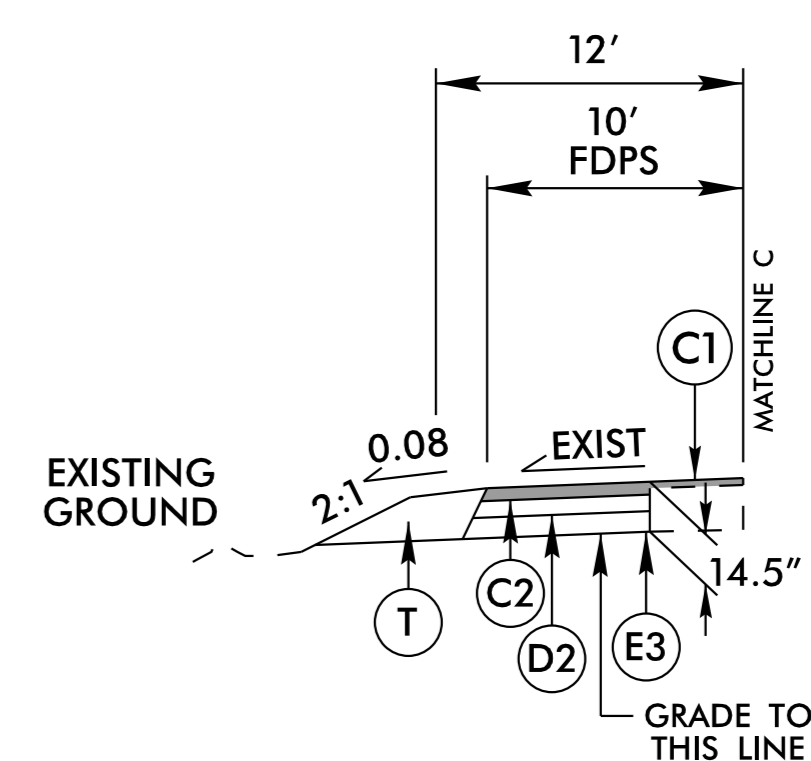
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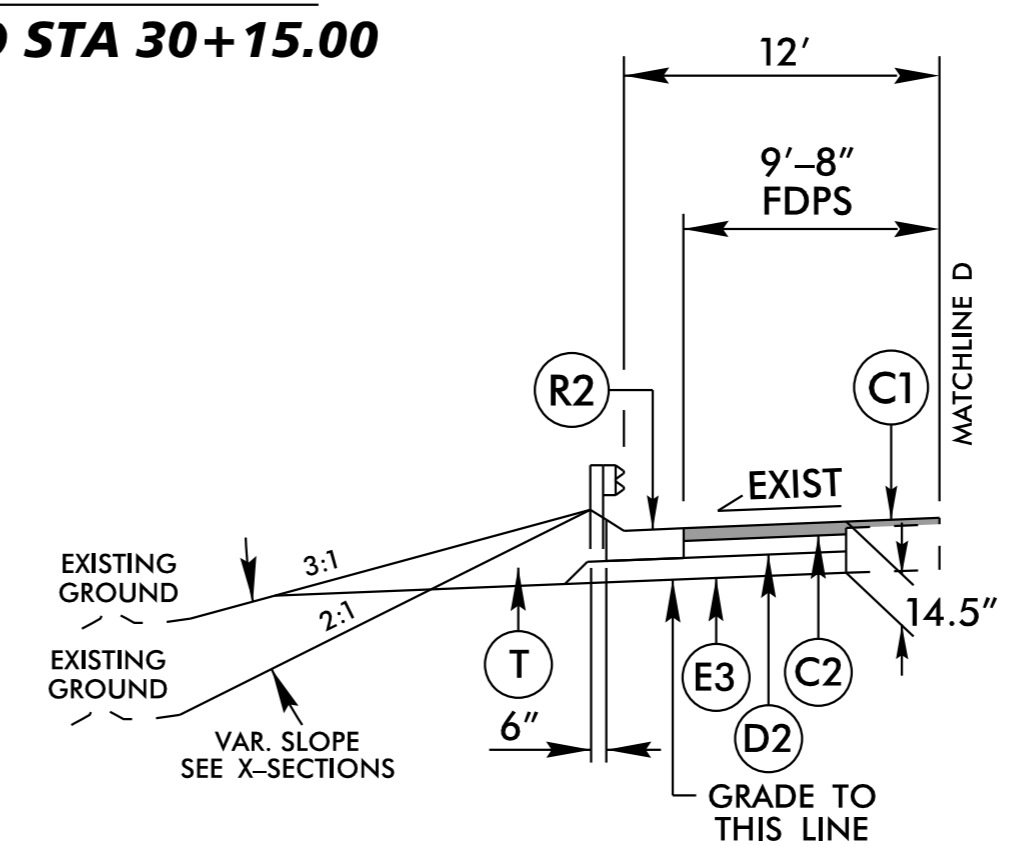
TYPICAL SECTION NO. 3A
-L- STA 23+00.00 TO 26+85.00



TYPICAL SECTION NO. 3B
-L- STA 28+52.00 TO STA 30+15.00



TYPICAL SECTION NO. 3C
-L- STA 34+10.00 TO STA 35+40.00

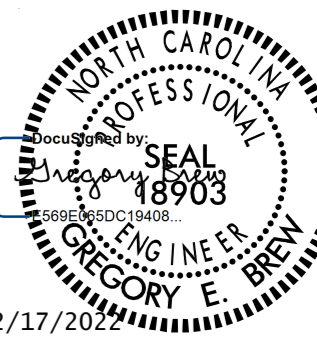


TYPICAL SECTION NO. 3D
-L- STA 40+82.60 TO STA 44+97.09

PRELIMINARY PAVEMENT SCHEDULE	
C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR. S9.5C
D1	2.5" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	4" B25.0C
E2	4.5" B25.0C
E3	7.5" B25.0C
E4	VAR. B25.0C
R1	2'-6" CURB AND GUTTER
R2	SHOULDER BERM GUTTER
R3	EXPRESSWAY GUTTER
R4	SINGLE FACED CONC. BARRIER
R5	CONCRETE MEDIAN BARRIER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	3" MILLING
V2	INCIDENTAL MILLING
W	VAR. WEDGING

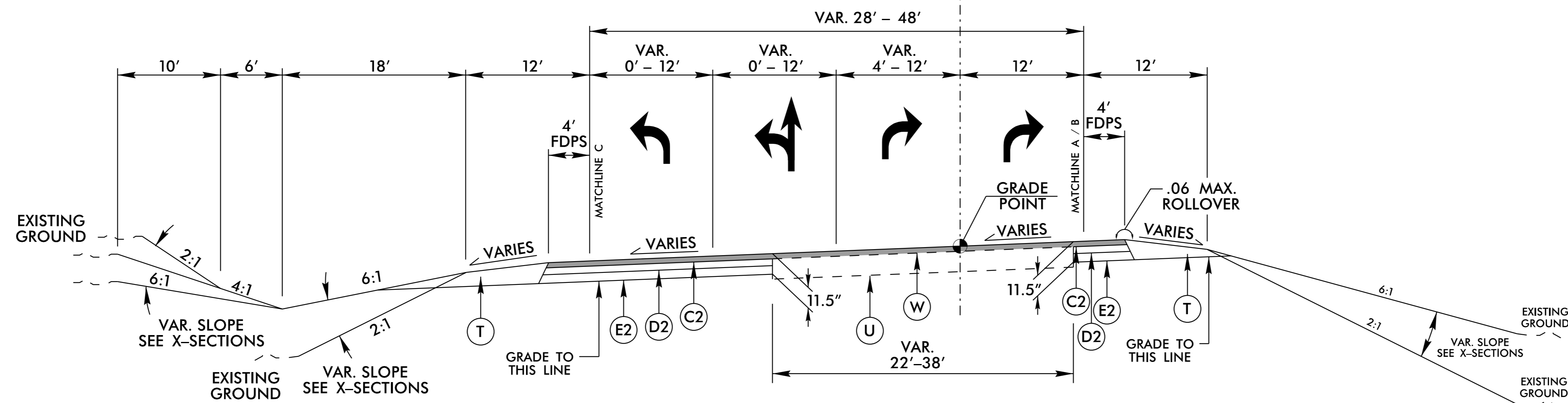
REVISIONS

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 2/17/2022

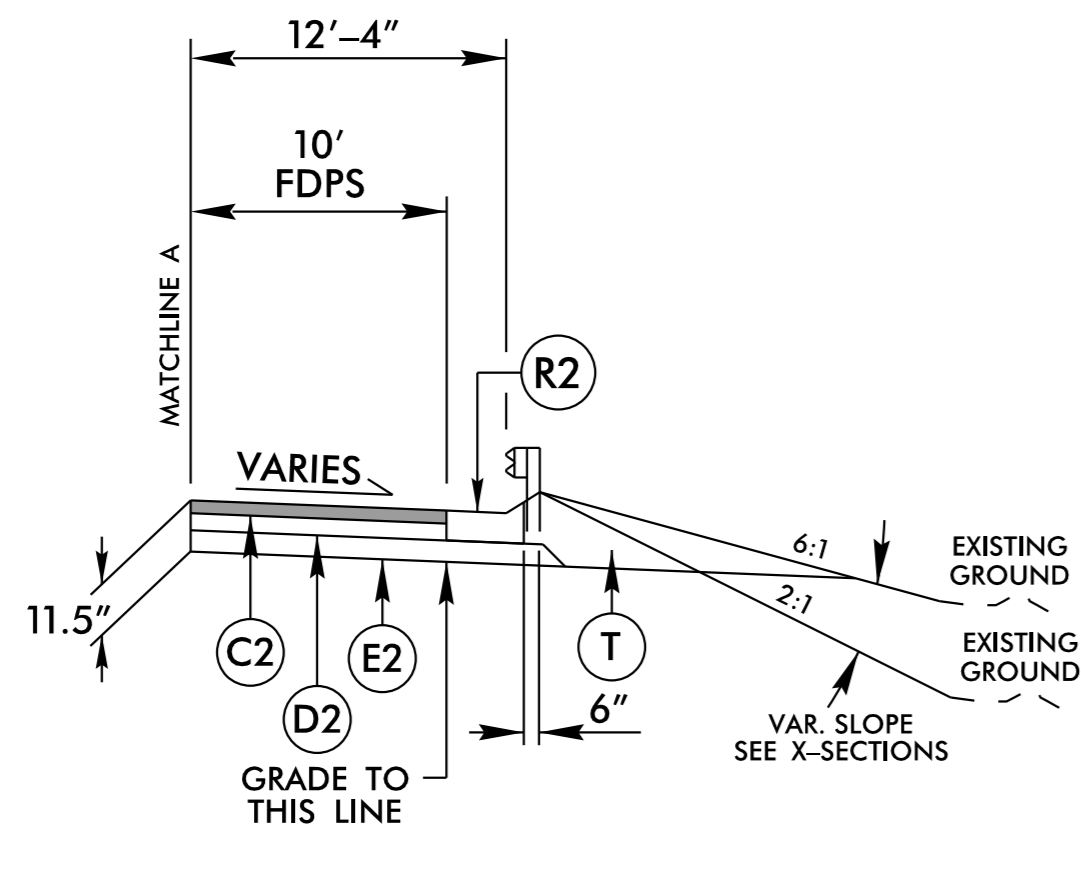


**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

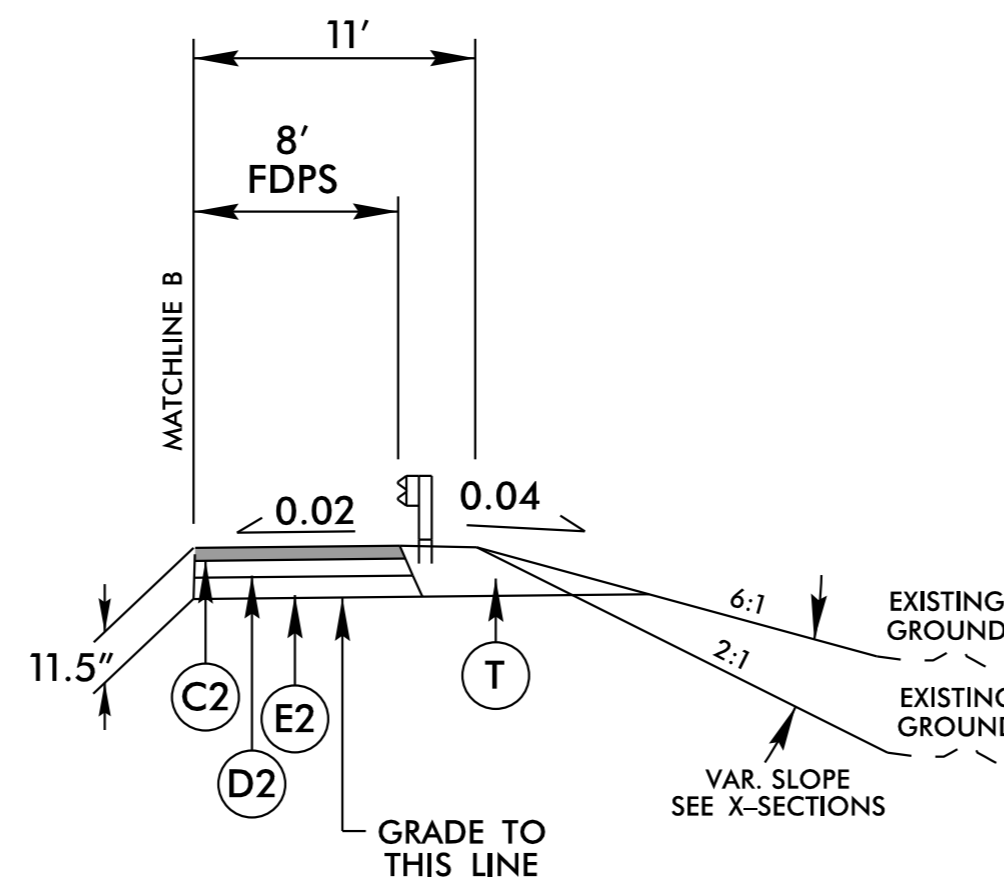
☒ -LRPA- I-485 SOUTHBOUND OFF RAMP



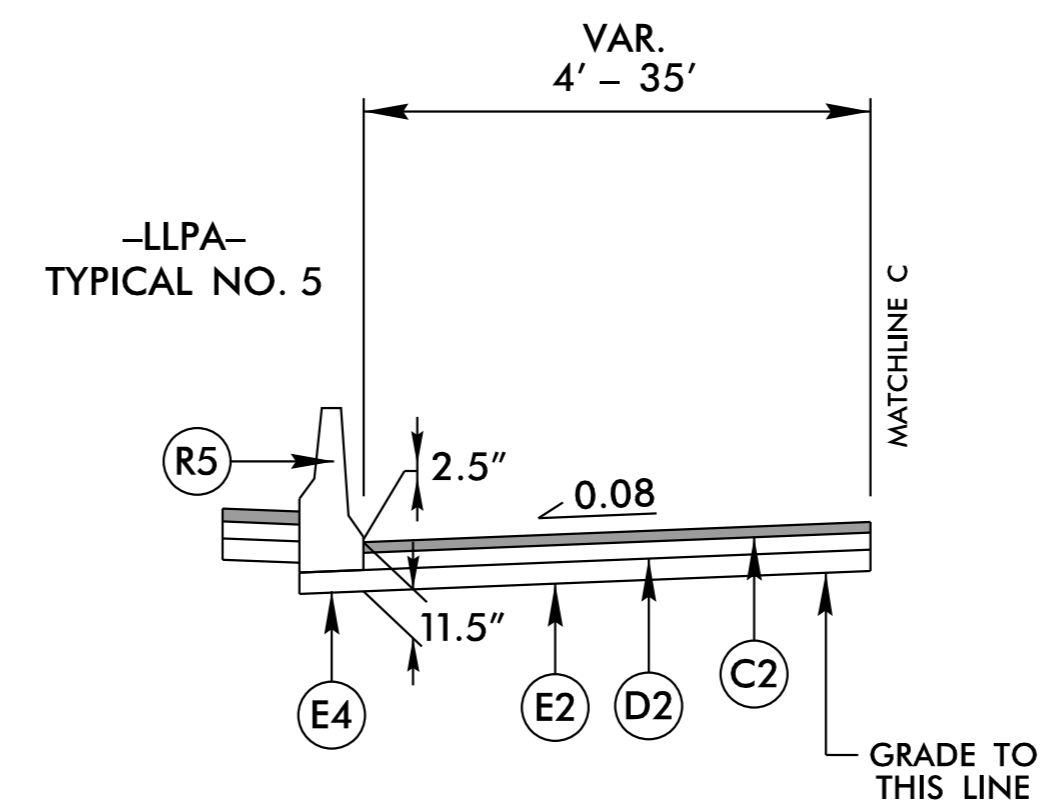
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-LRPA- STA 15+95.00 TO STA 28+38.74



TYPICAL SECTION NO. 4A
-LRPA- STA 15+95.00 TO STA 19+08.00

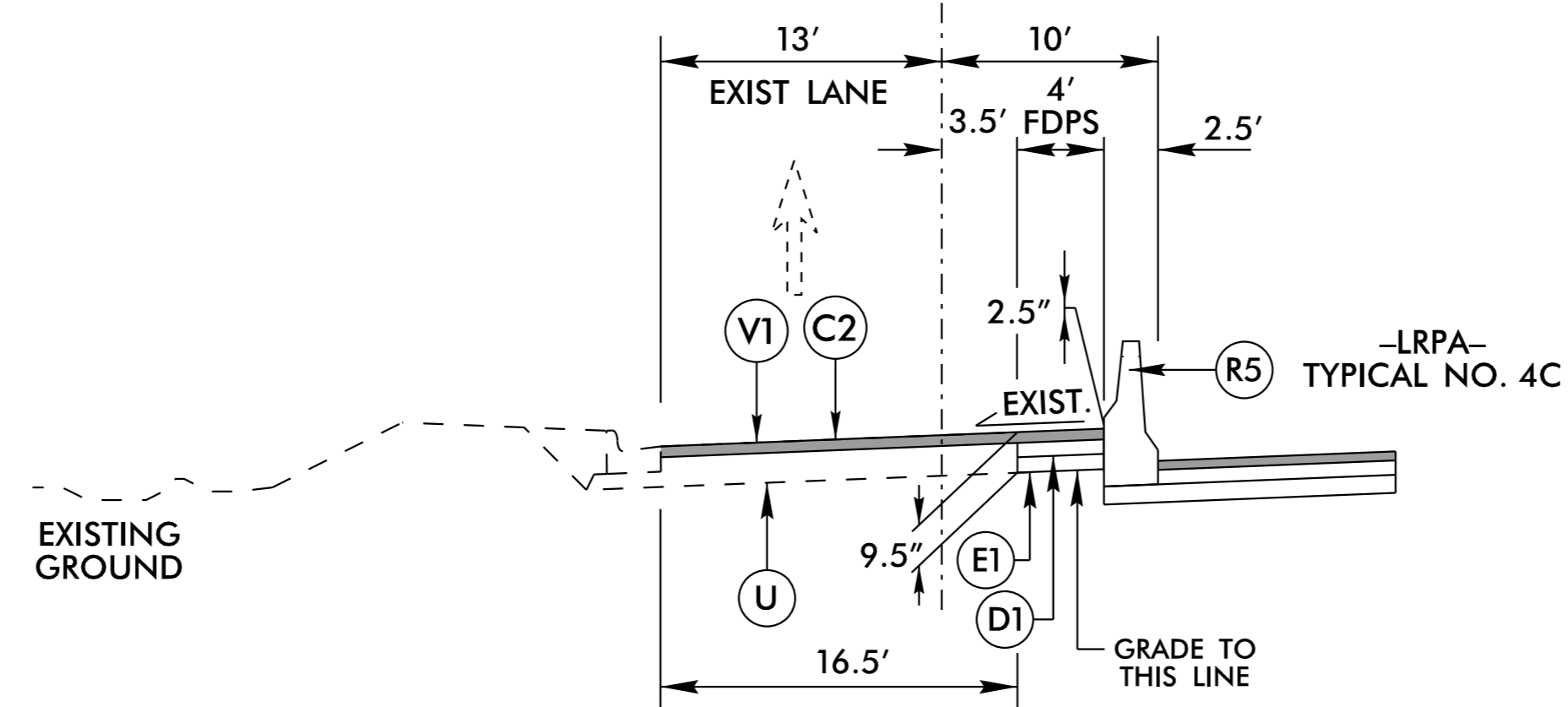


TYPICAL SECTION NO. 4B
-LRPA- STA 19+08.00 TO STA 24+35.00



TYPICAL SECTION NO. 4C
-LRPA- STA 23+00.00 TO STA 26+35.00

☒ -LLPA- I-485 SOUTHBOUND LOOP



TYPICAL SECTION NO. 5
-LLPA- STA 17+81.45 TO STA 20+47.93

PRELIMINARY PAVEMENT SCHEDULE	
C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR. S9.5C
D1	2.5" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	4" B25.0C
E2	4.5" B25.0C
E3	7.5" B25.0C
E4	VAR. B25.0C
R1	2'-6" CURB AND GUTTER
R2	SHOULDER BERM GUTTER
R3	EXPRESSWAY GUTTER
R4	SINGLE FACED CONC. BARRIER
R5	CONCRETE MEDIAN BARRIER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	3" MILLING
V2	INCIDENTAL MILLING
W	VAR. WEDGING

- NOTES:
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE INDICATED.
 2. REFER TO PLAN SHEETS FOR VARIABLE WIDTHS.
 3. SAWCUT AND REMOVE EXISTING ASPHALT PAVEMENT TO PROVIDE 1' MIN. FULL DEPTH ASPHALT PAVEMENT.

REVISIONS

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2/17/2022

Kimley Horn

200 S. TRYON ST. • CHARLOTTE, NC 28202

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.
1-5973

ROADWAY DESIGN ENGINEER

2/17/2022

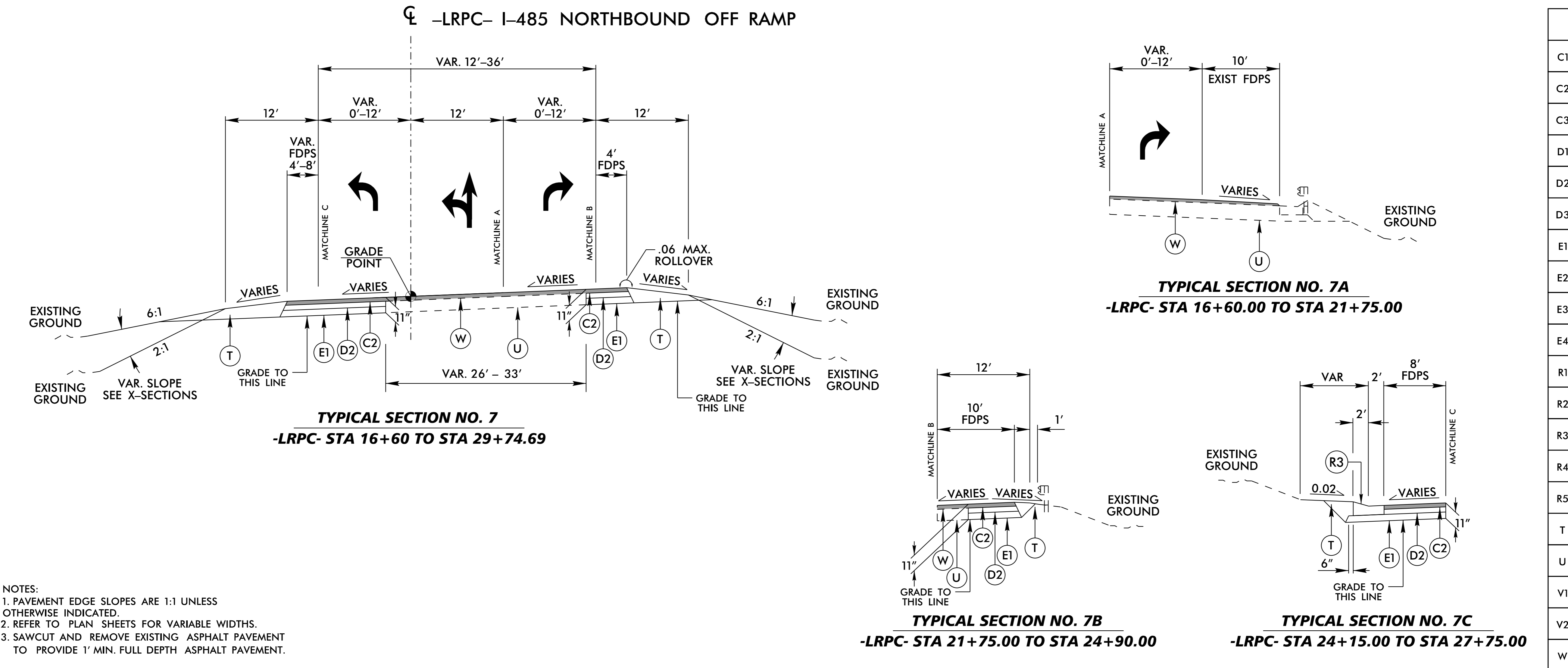
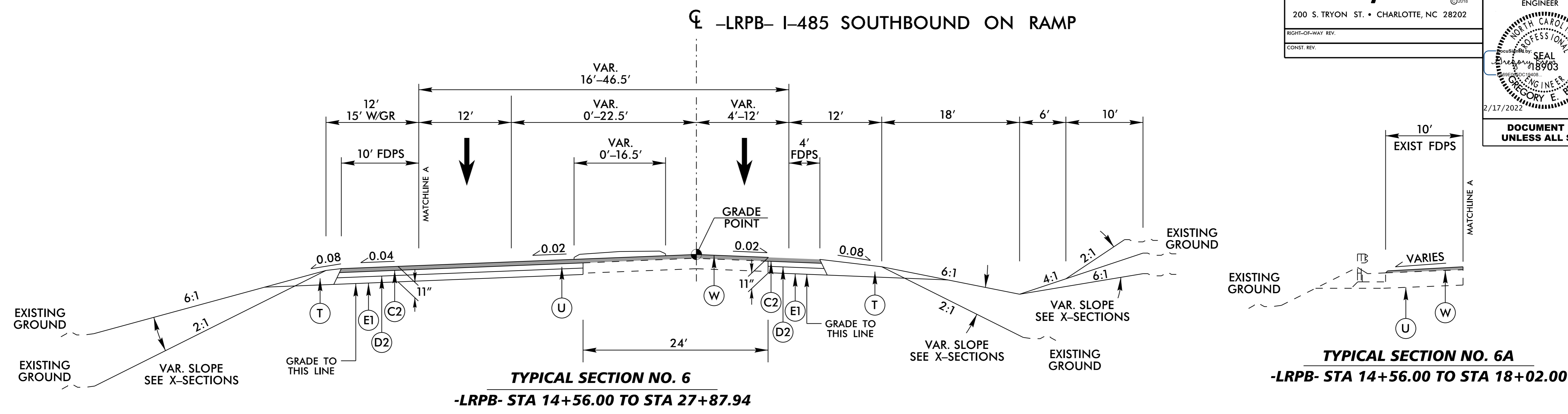
SHEET NO.
2A-4

PAVEMENT DESIGN ENGINEER

2/18/2022

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

REVISIONS



PRELIMINARY PAVEMENT SCHEDULE	
C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR. S9.5C
D1	2.5" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	4" B25.0C
E2	4.5" B25.0C
E3	7.5" B25.0C
E4	VAR. B25.0C
R1	2'-6" CURB AND GUTTER
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T	EARTH MATERIAL
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V1	3" MILLING
V2	INCIDENTAL MILLING
W	VAR. WEDGING

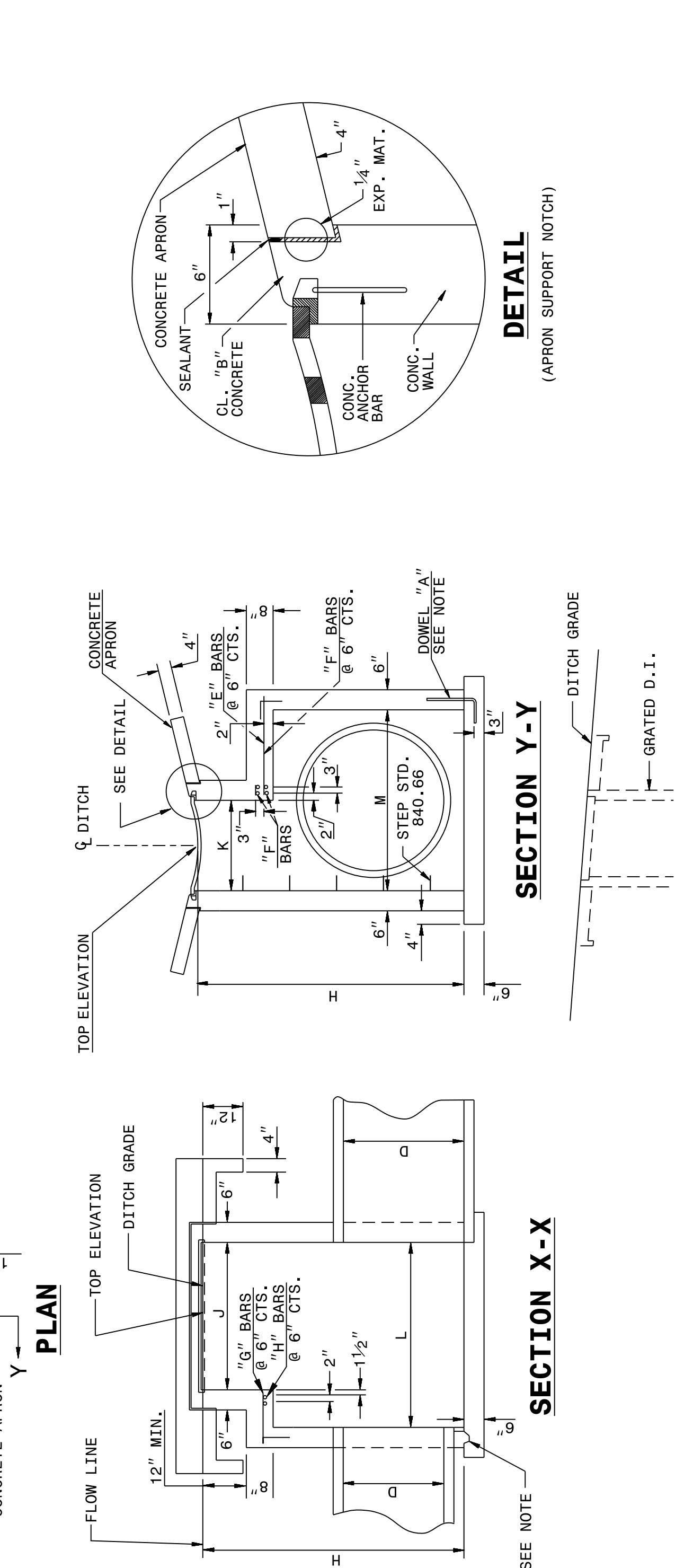
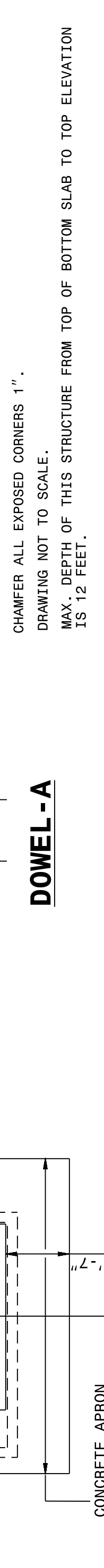
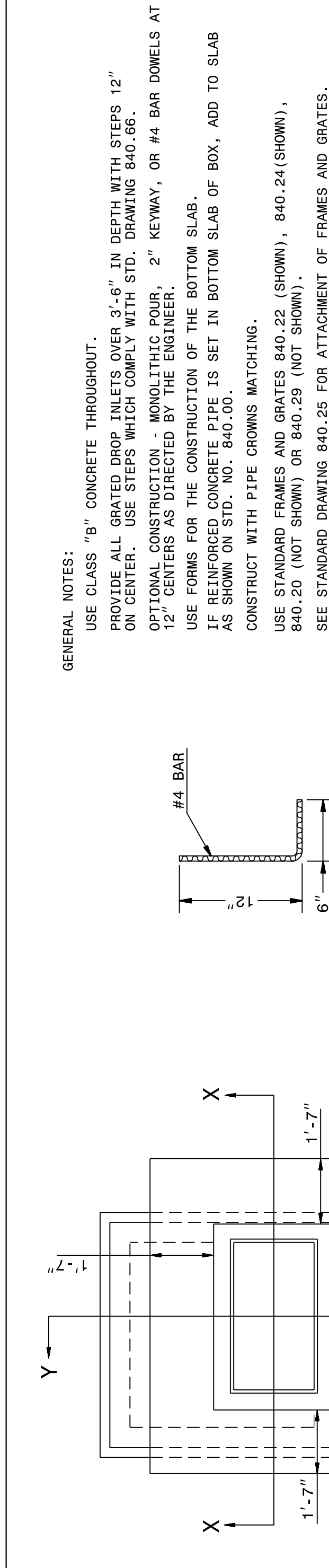
- NOTES:**
- PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE INDICATED.
 - REFER TO PLAN SHEETS FOR VARIABLE WIDTHS.
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K:\CHL\PROJECTS\I-485 Brookshire\Roadway\Pro\1-5973_rdy_ttyp.dgn 2/17/2022

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR CONCRETE GRATED DROP INLET TYPE 'A' MINIMUM DEPTH 12" THRU 72" PIPE

SHEET 1 OF 2 840d17

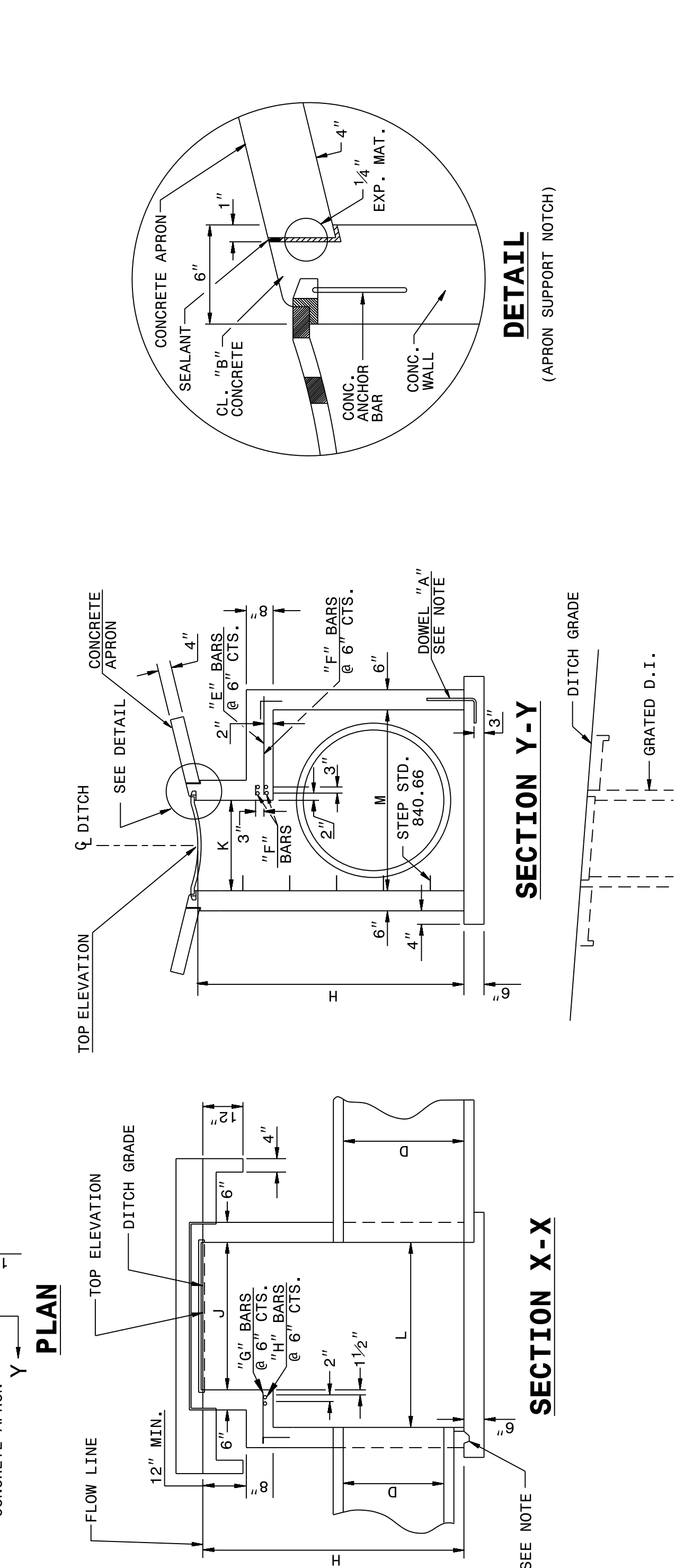
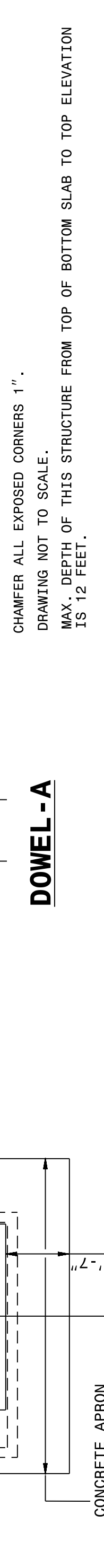


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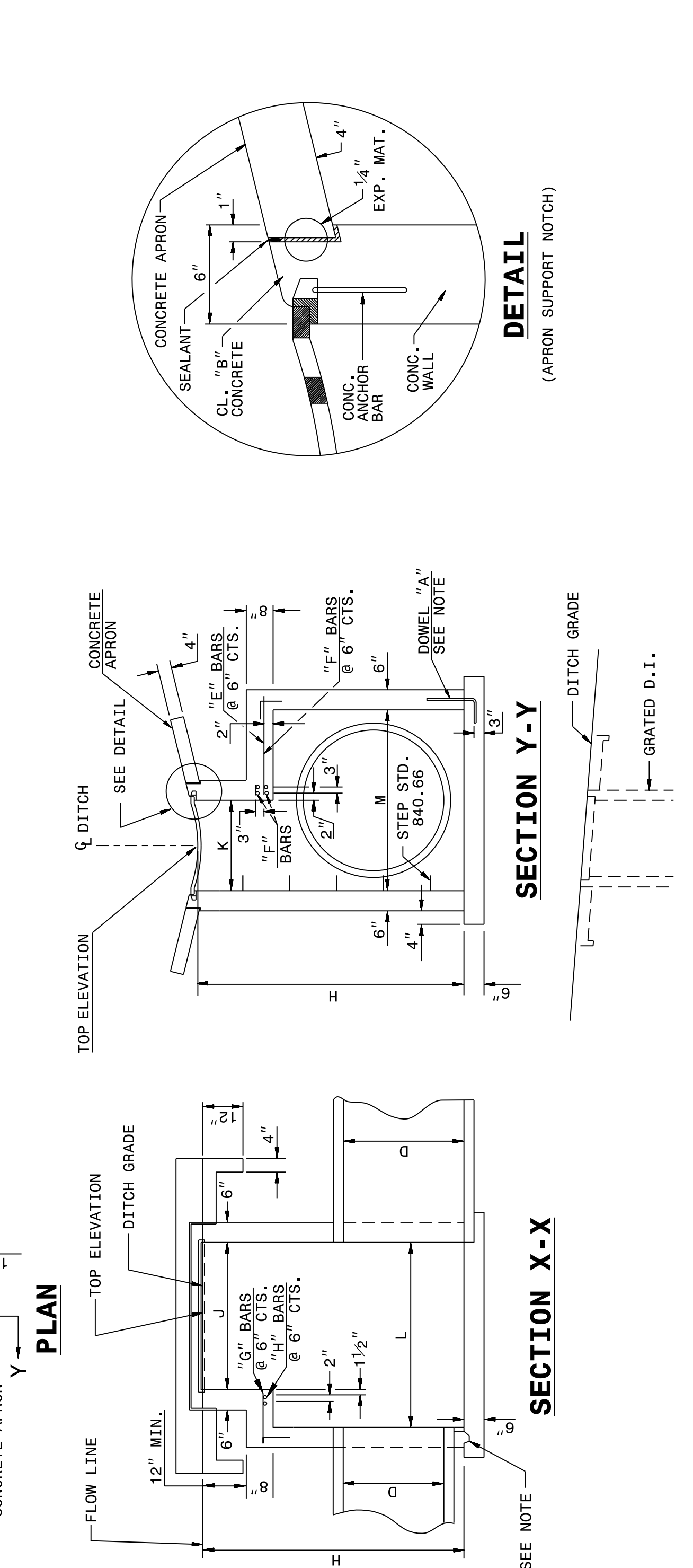
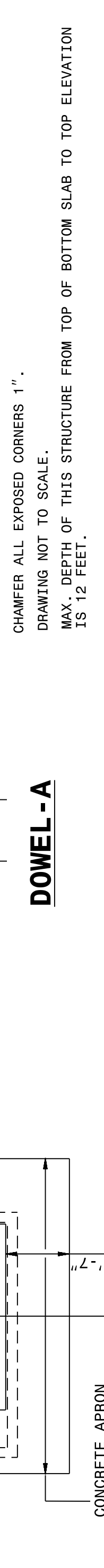
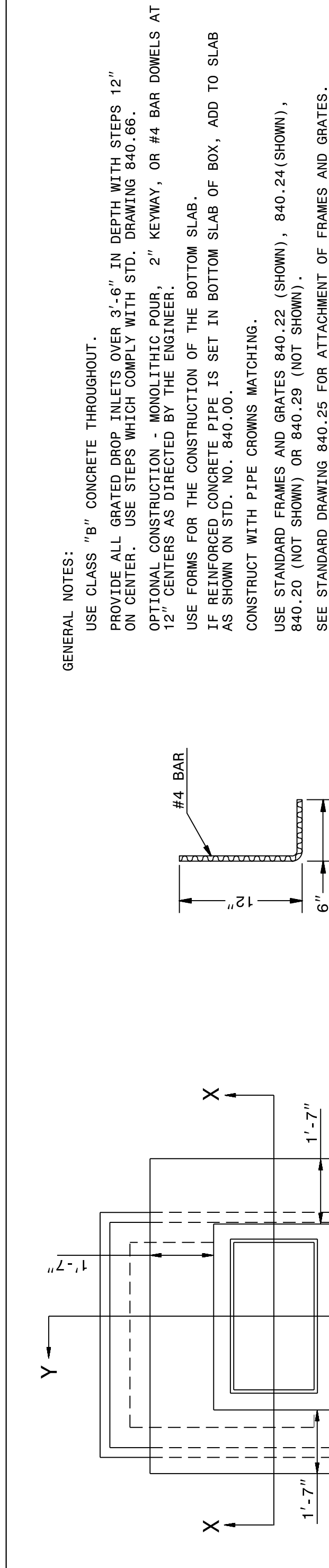
GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE ALL GRATED DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
 REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
 CONSTRUCT WITH PIPE CROWNS MATCHING.
 USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24 (SHOWN), 840.20 (NOT SHOWN) OR 840.29 (NOT SHOWN).
 SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES.
 CHAMFER ALL EXPOSED CORNERS 1".
 DRAWING NOT TO SCALE.
 MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.



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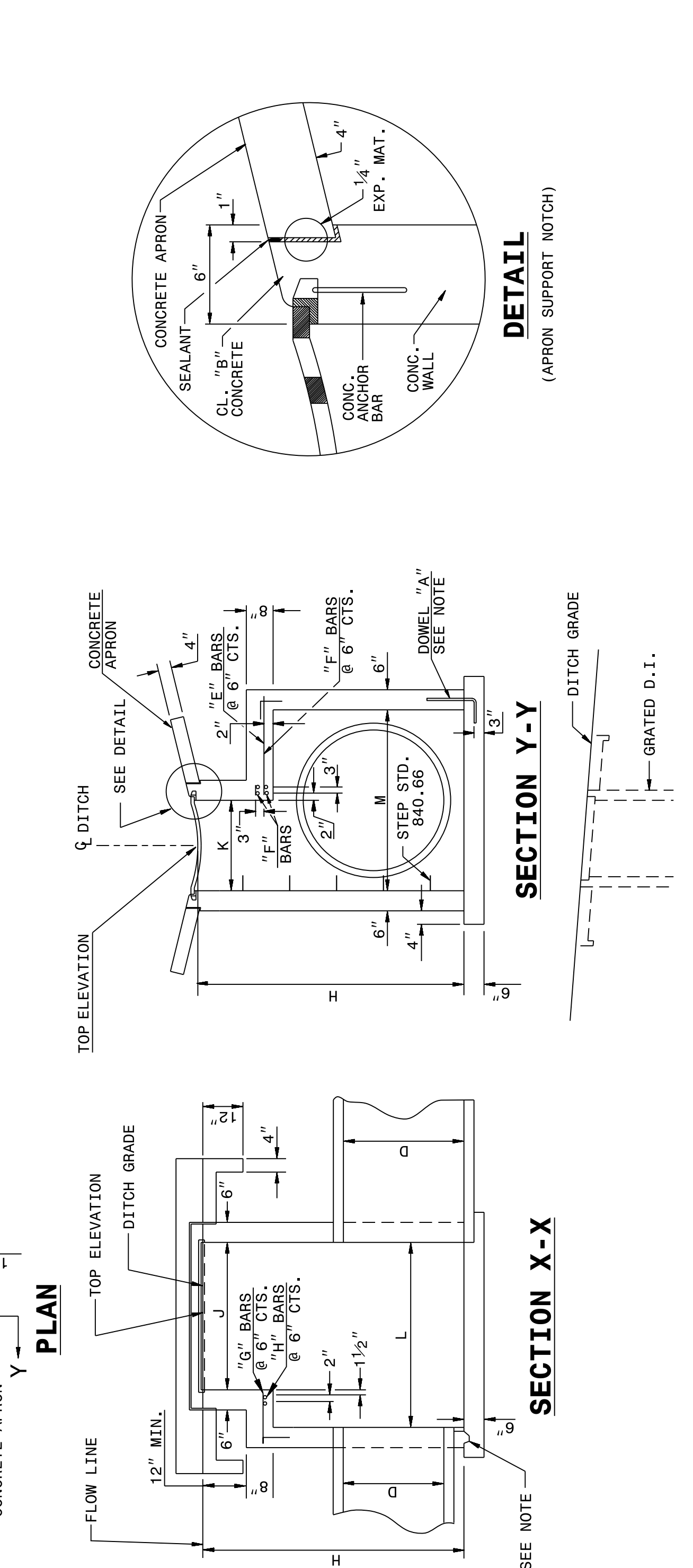
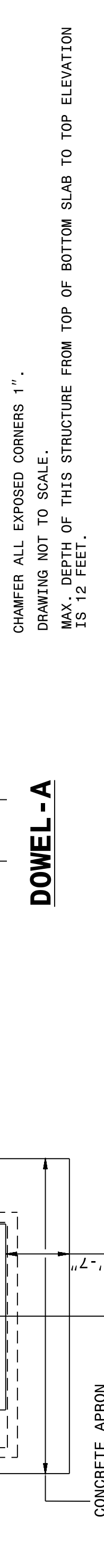
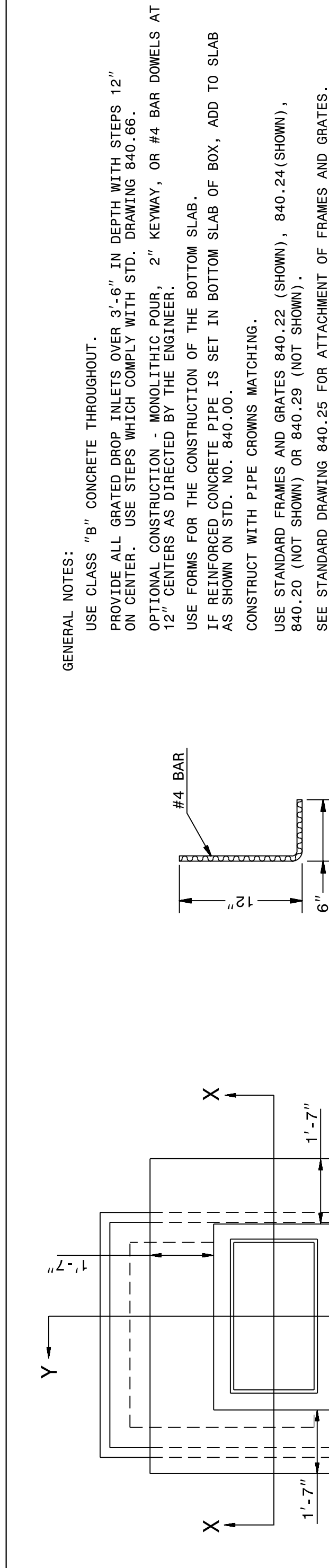
SHEET 2 OF 2 840d17



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

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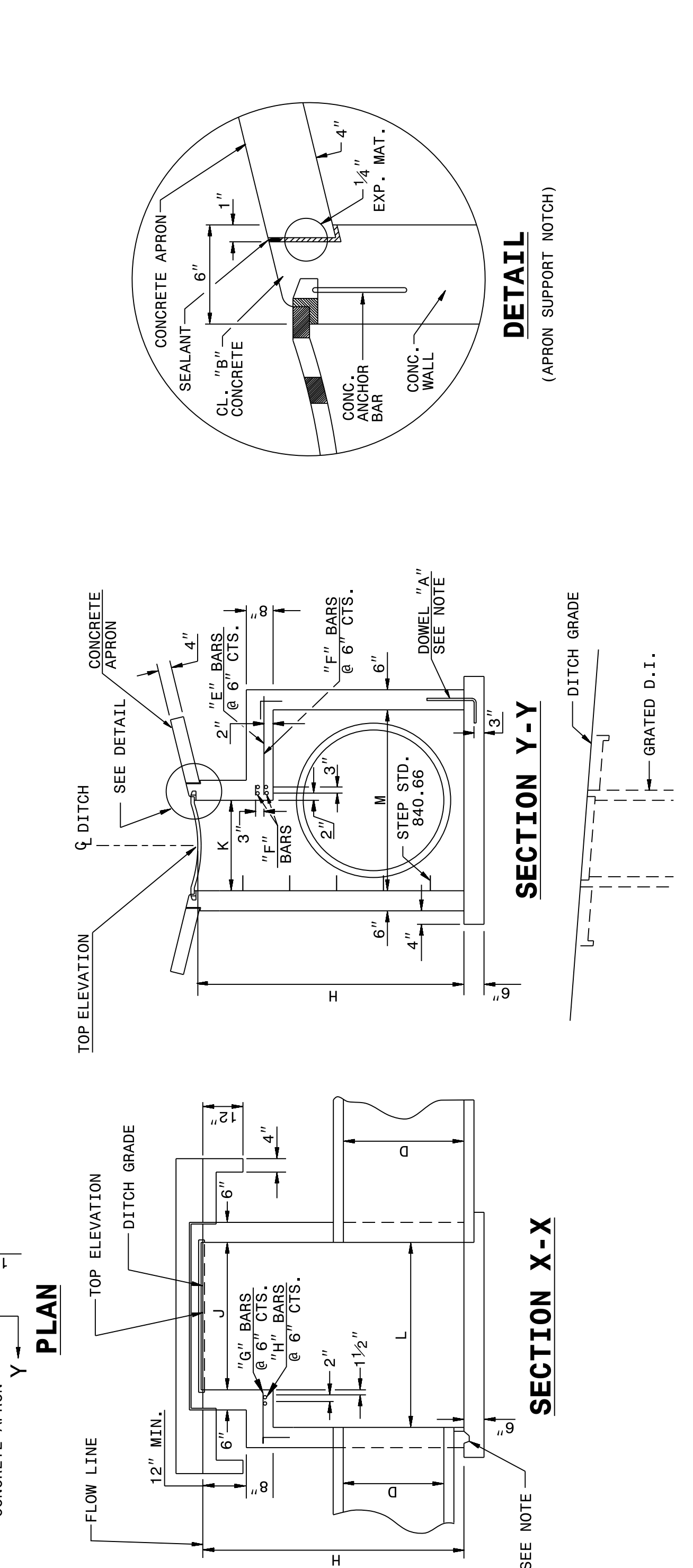
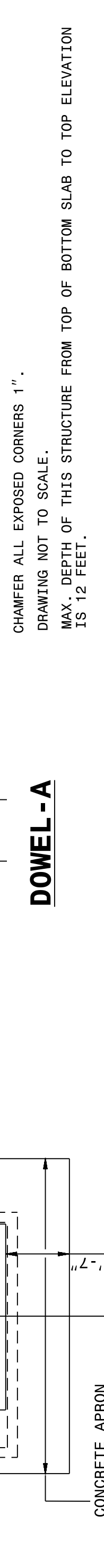
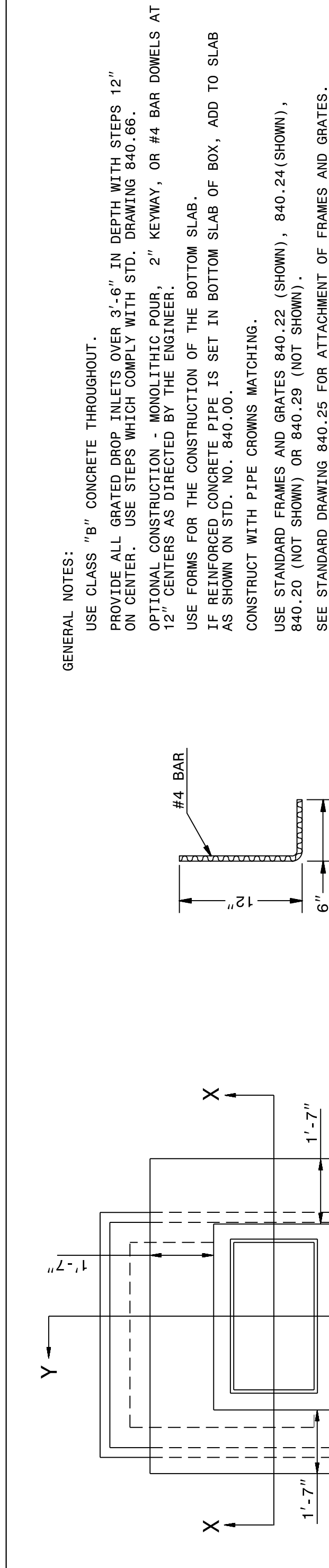
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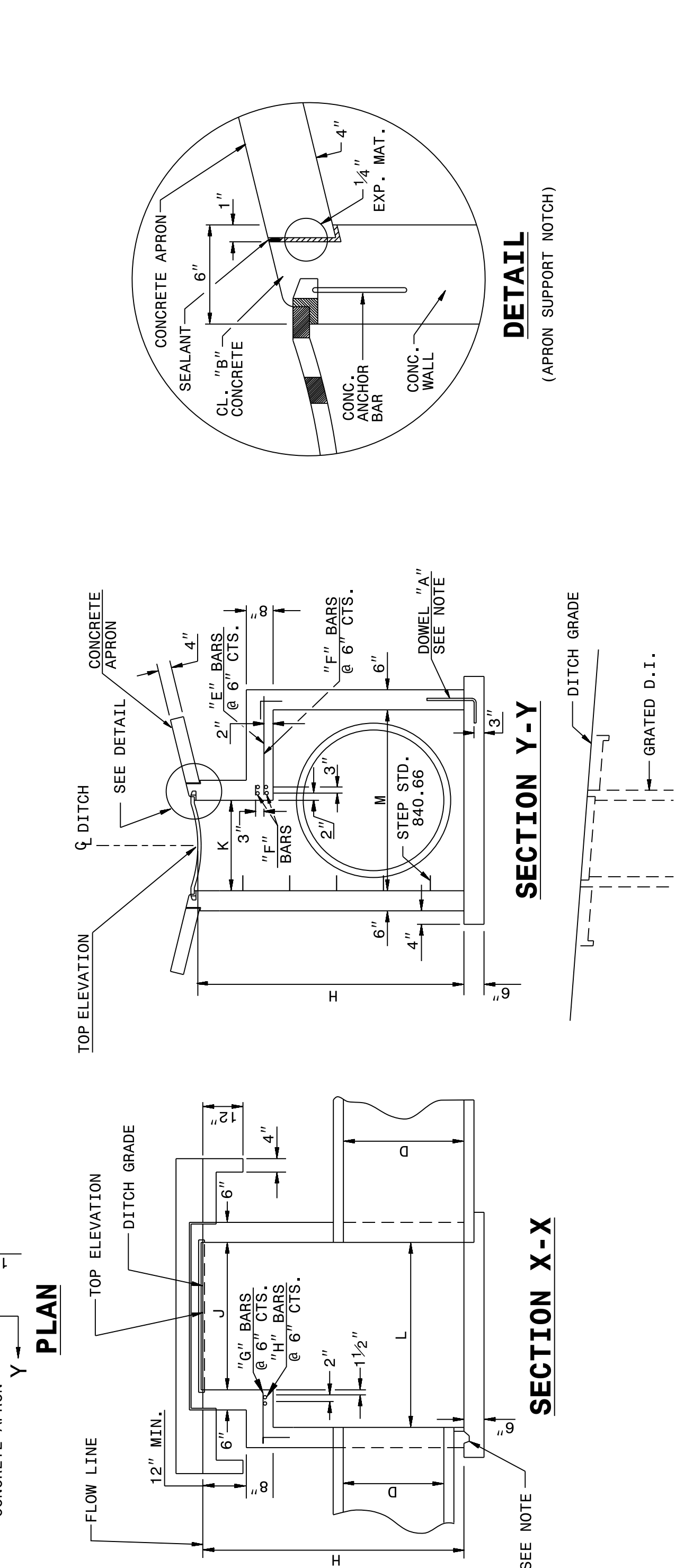
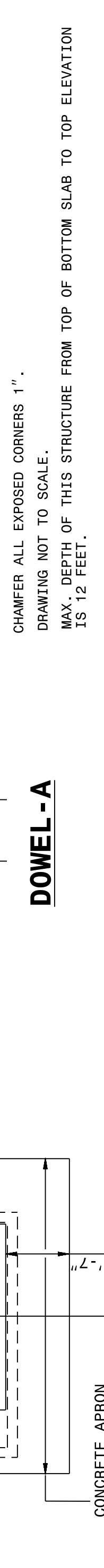
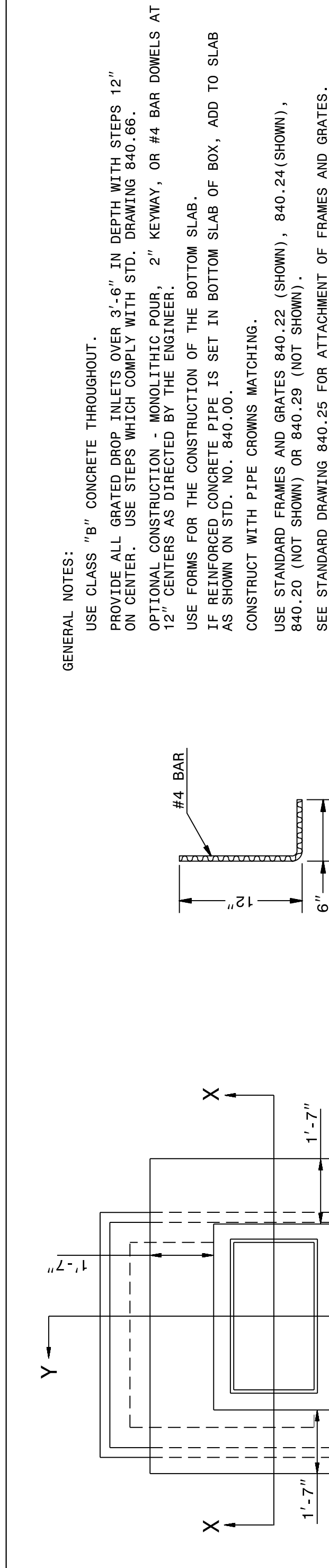
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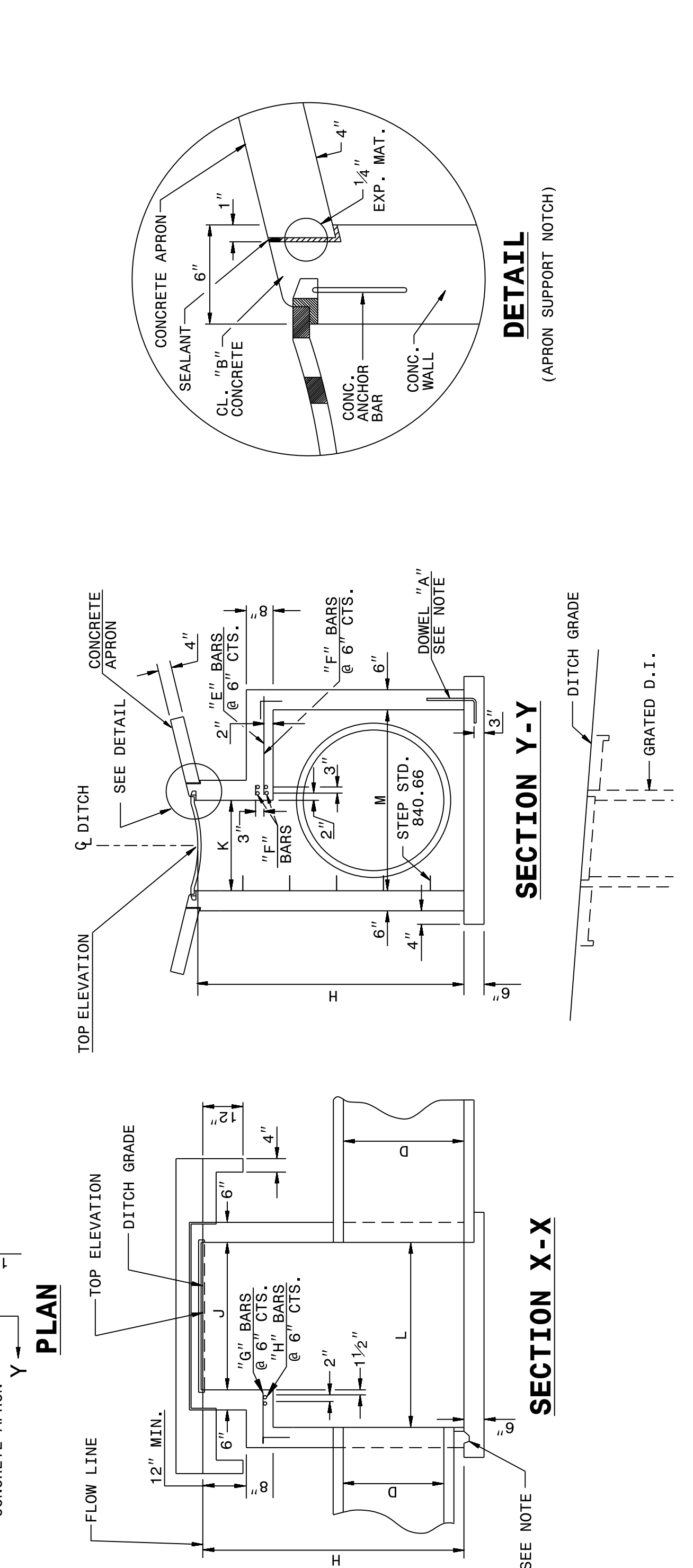
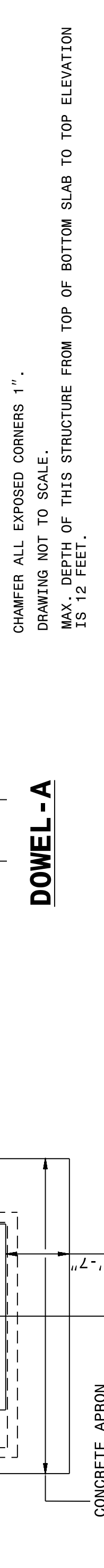
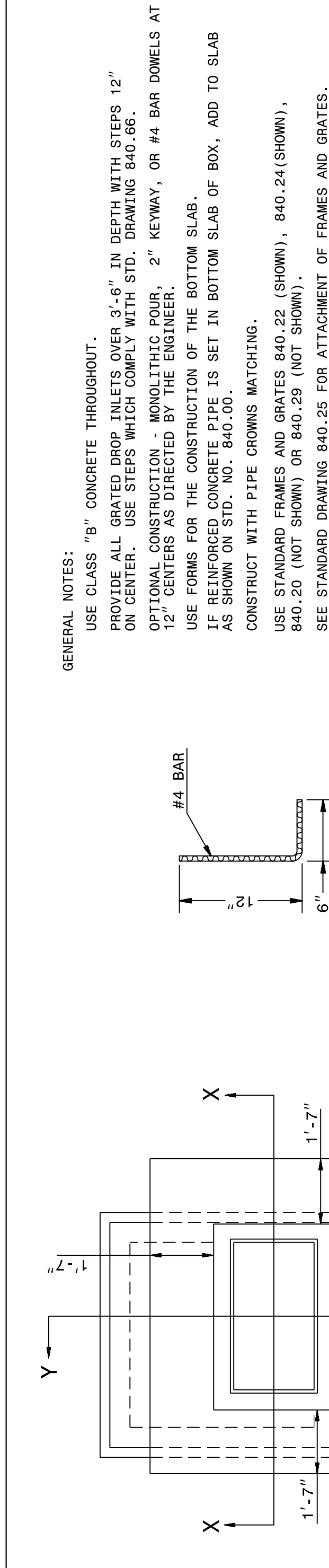
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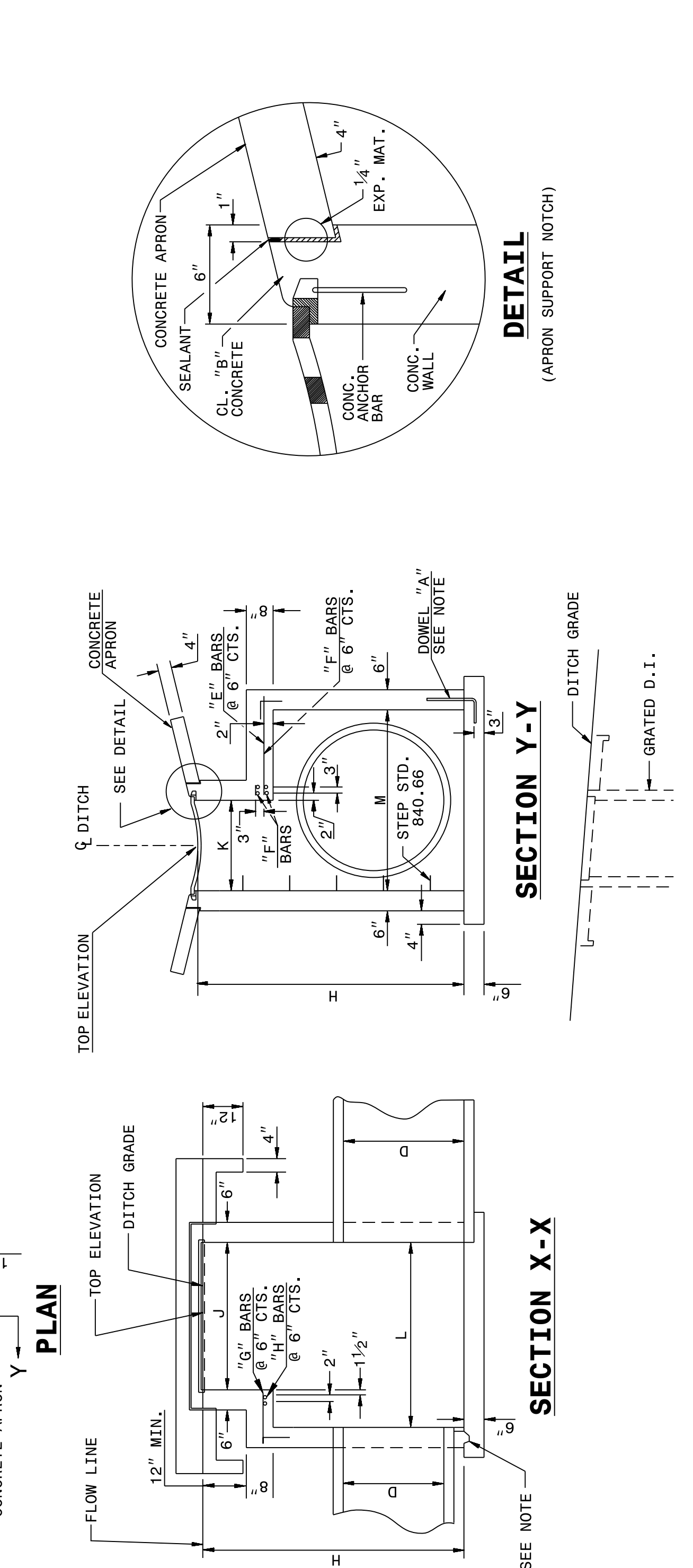
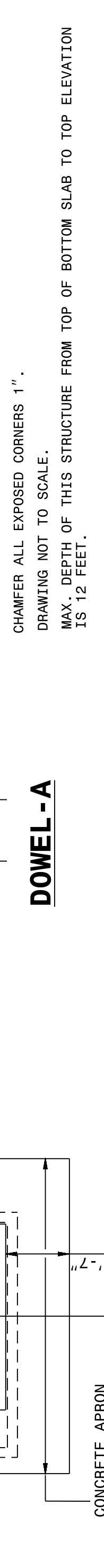
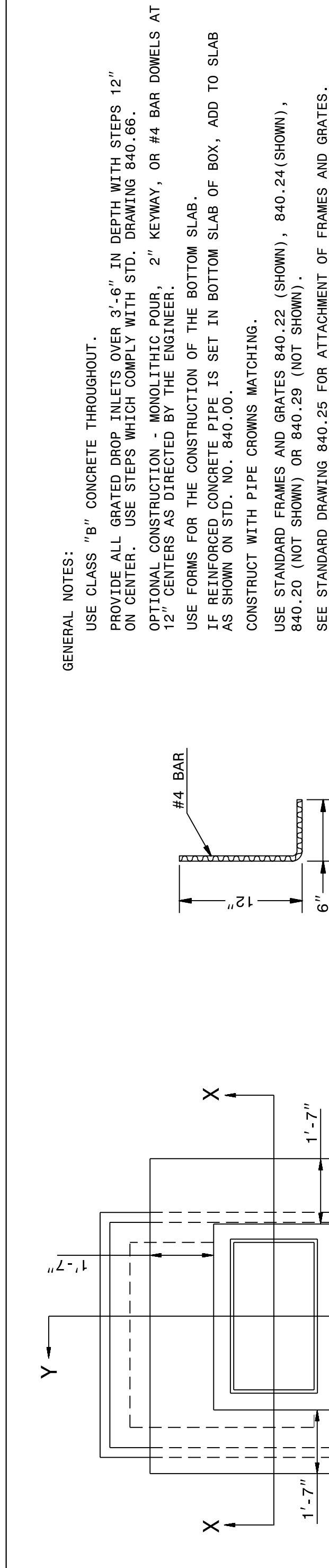
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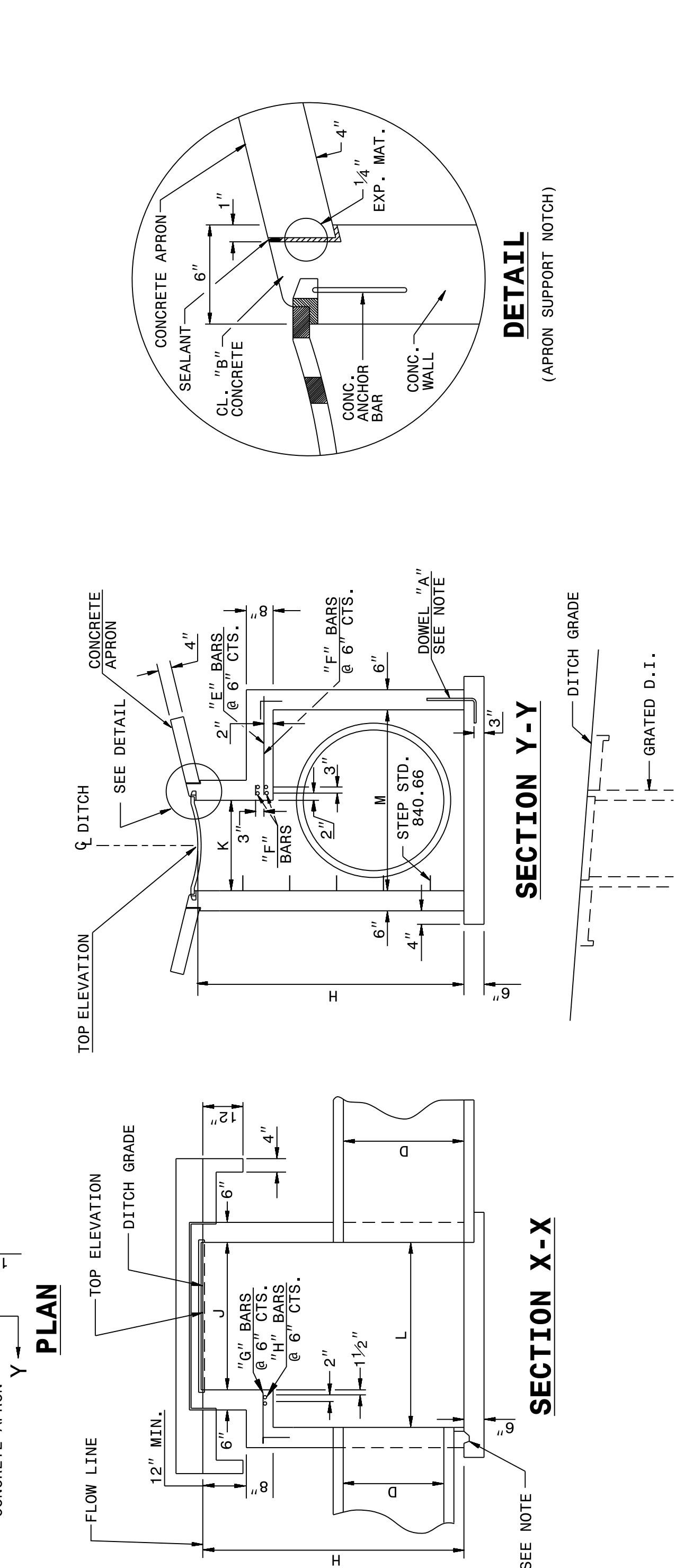
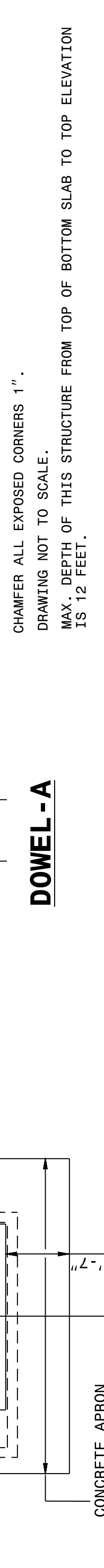
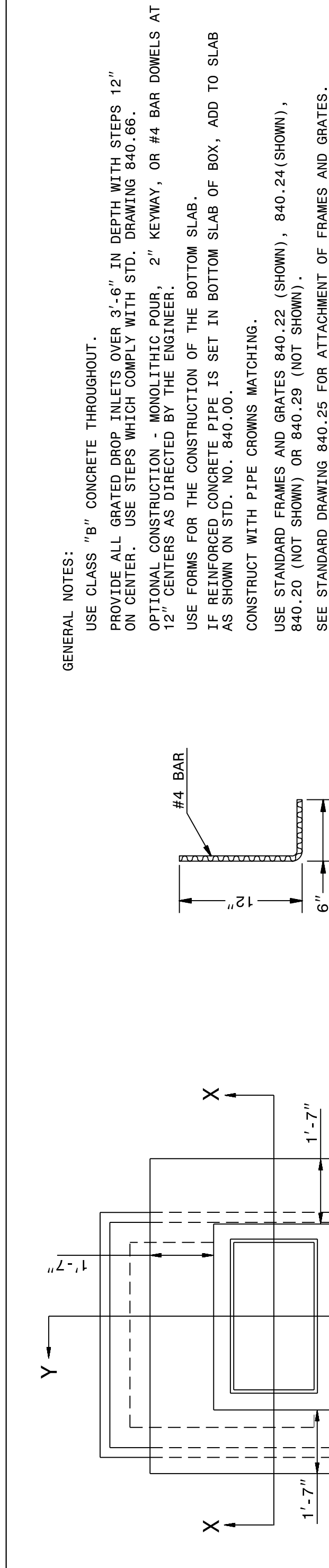
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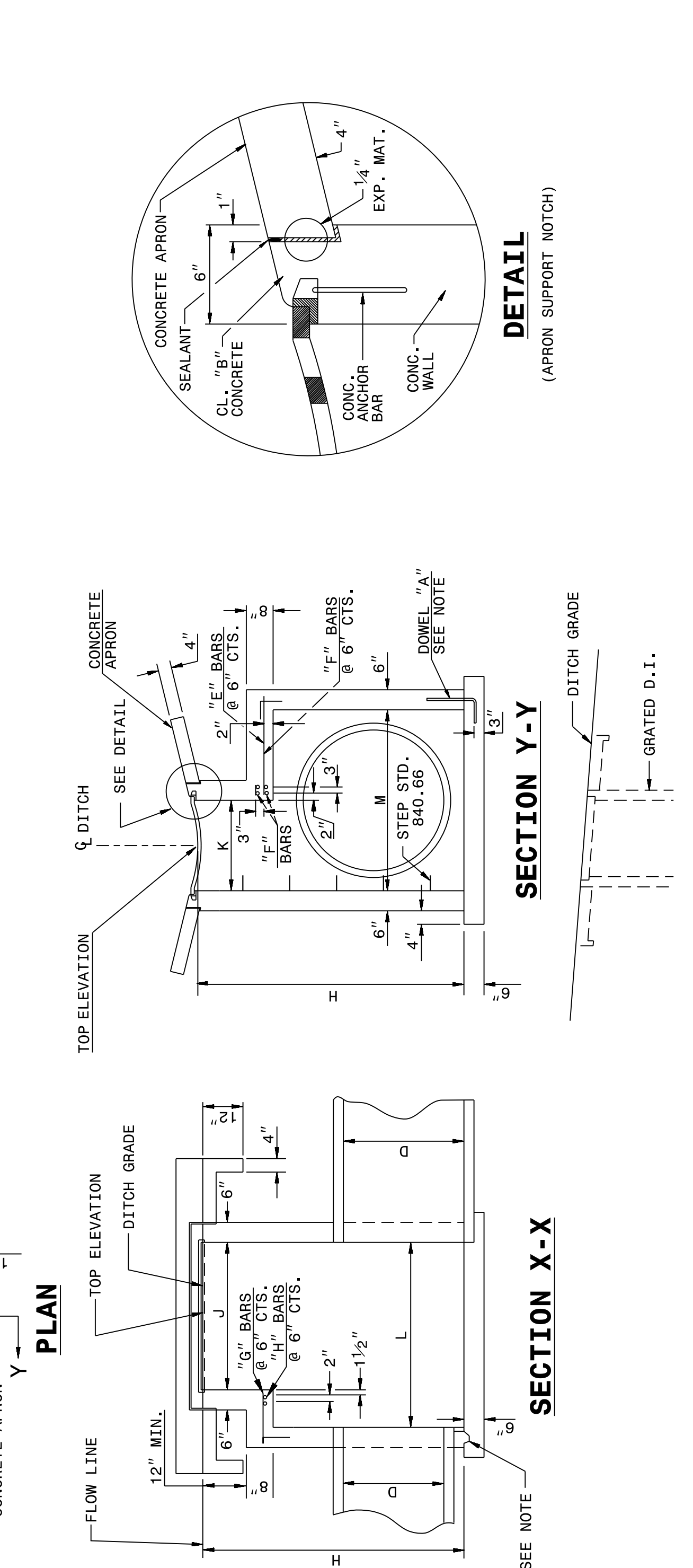
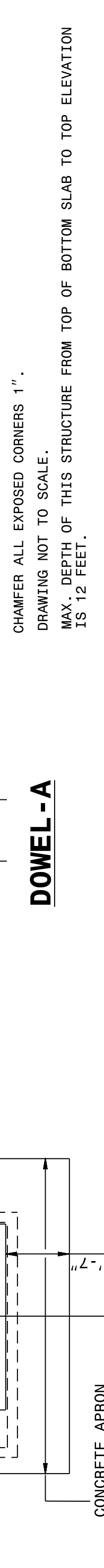
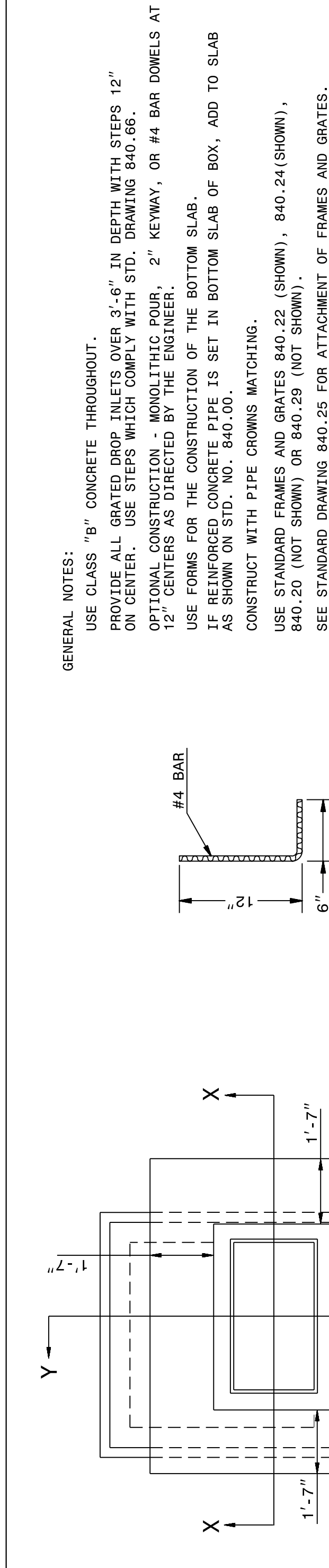
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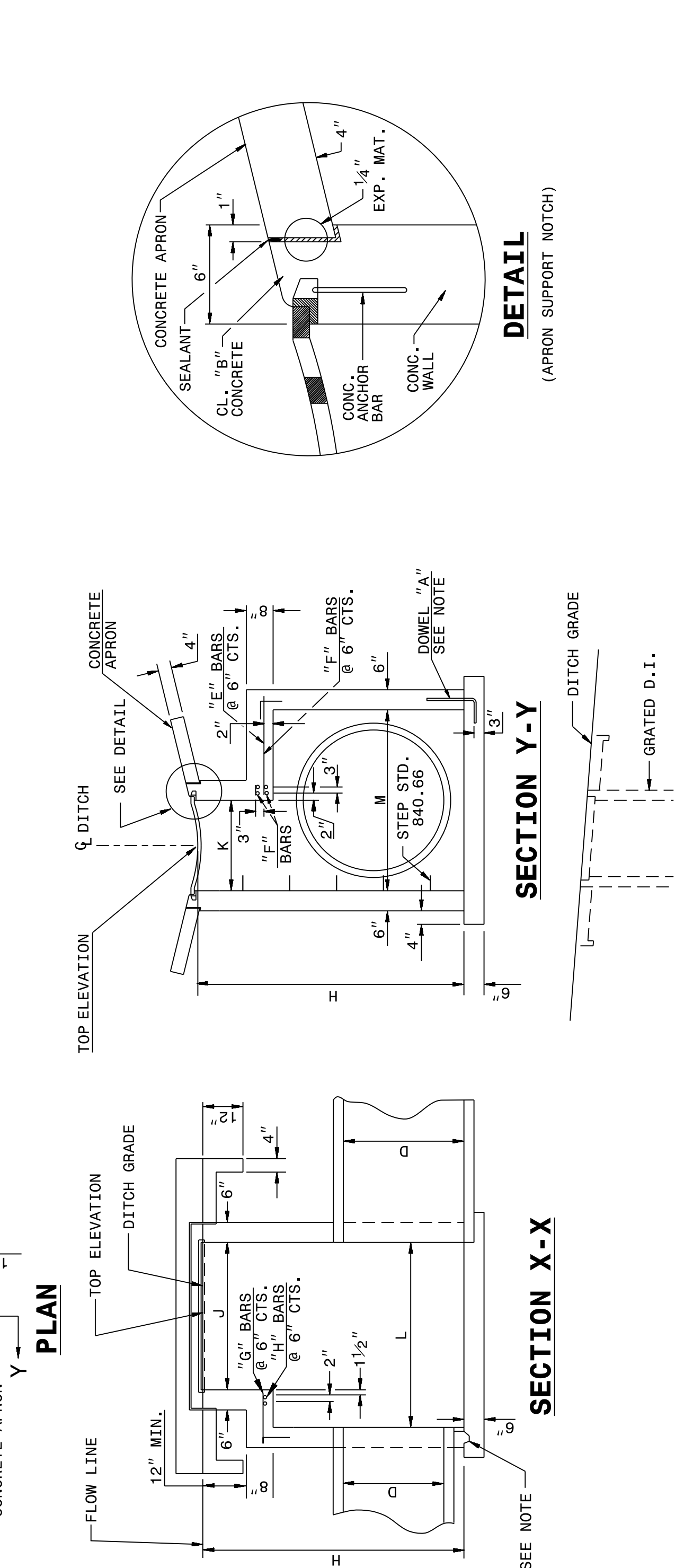
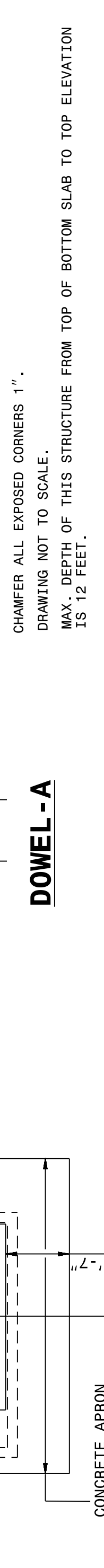
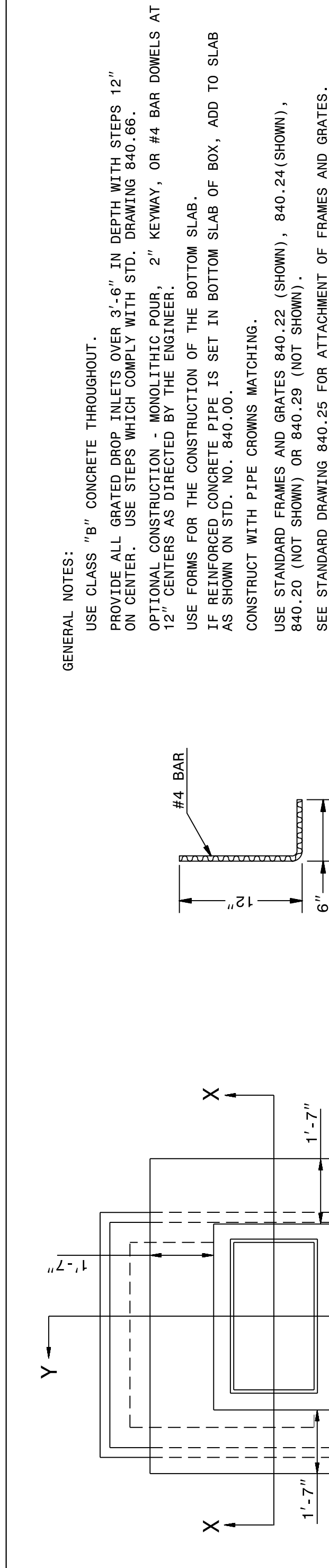
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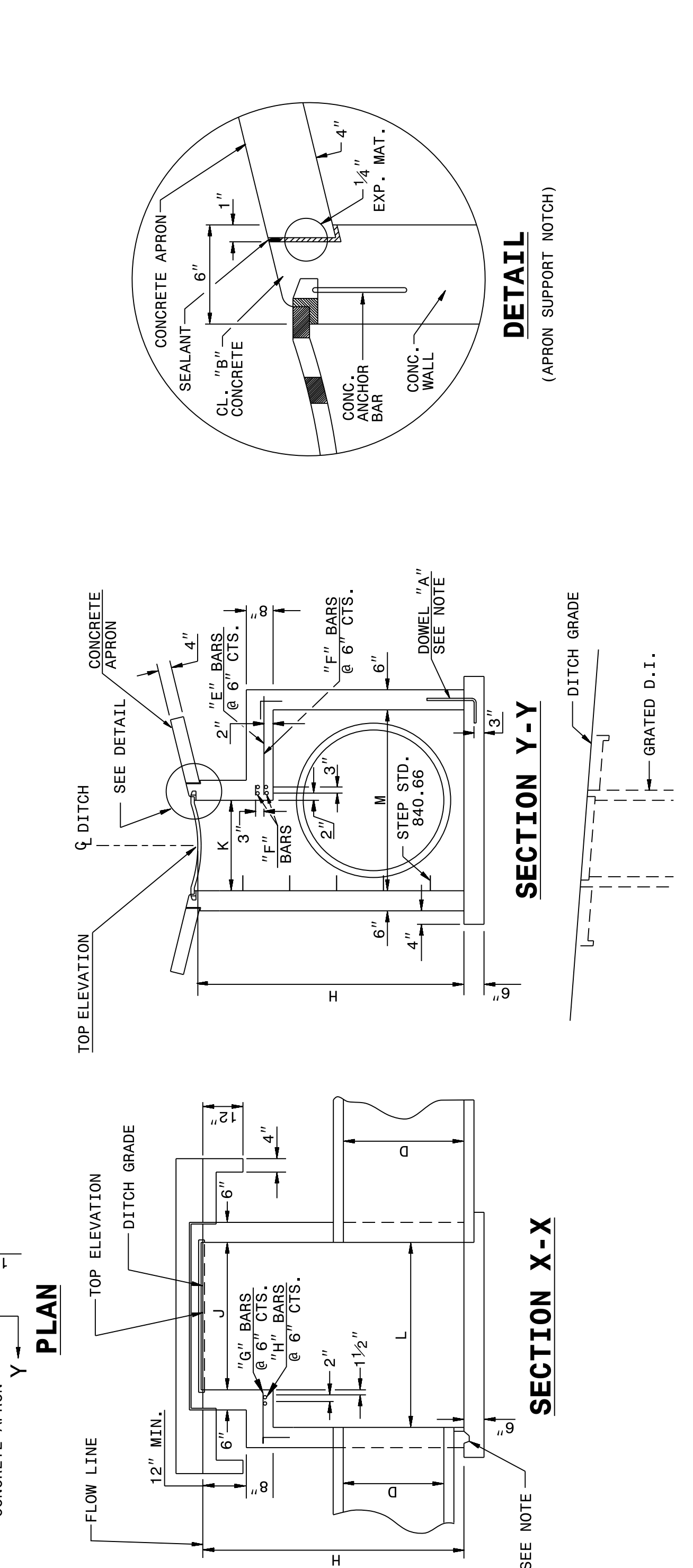
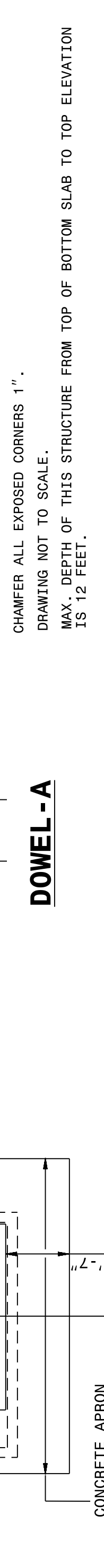
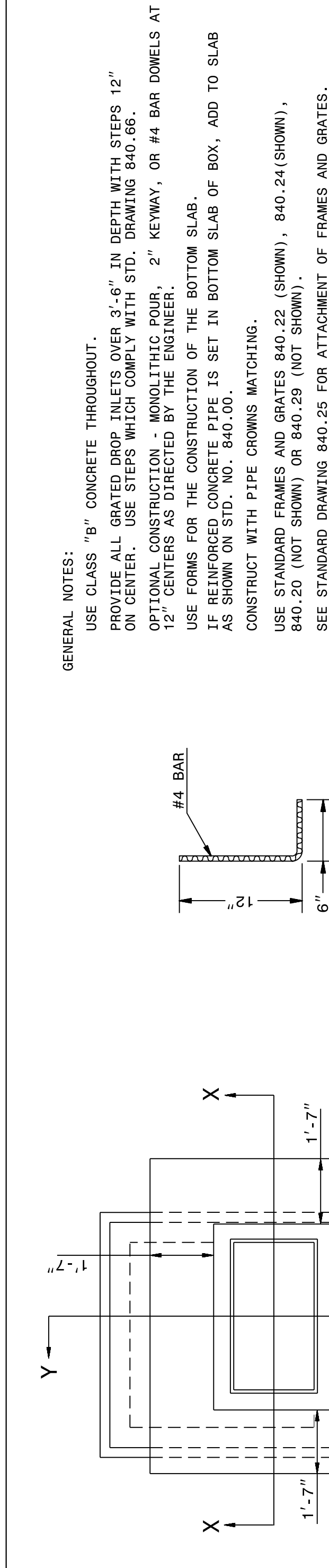
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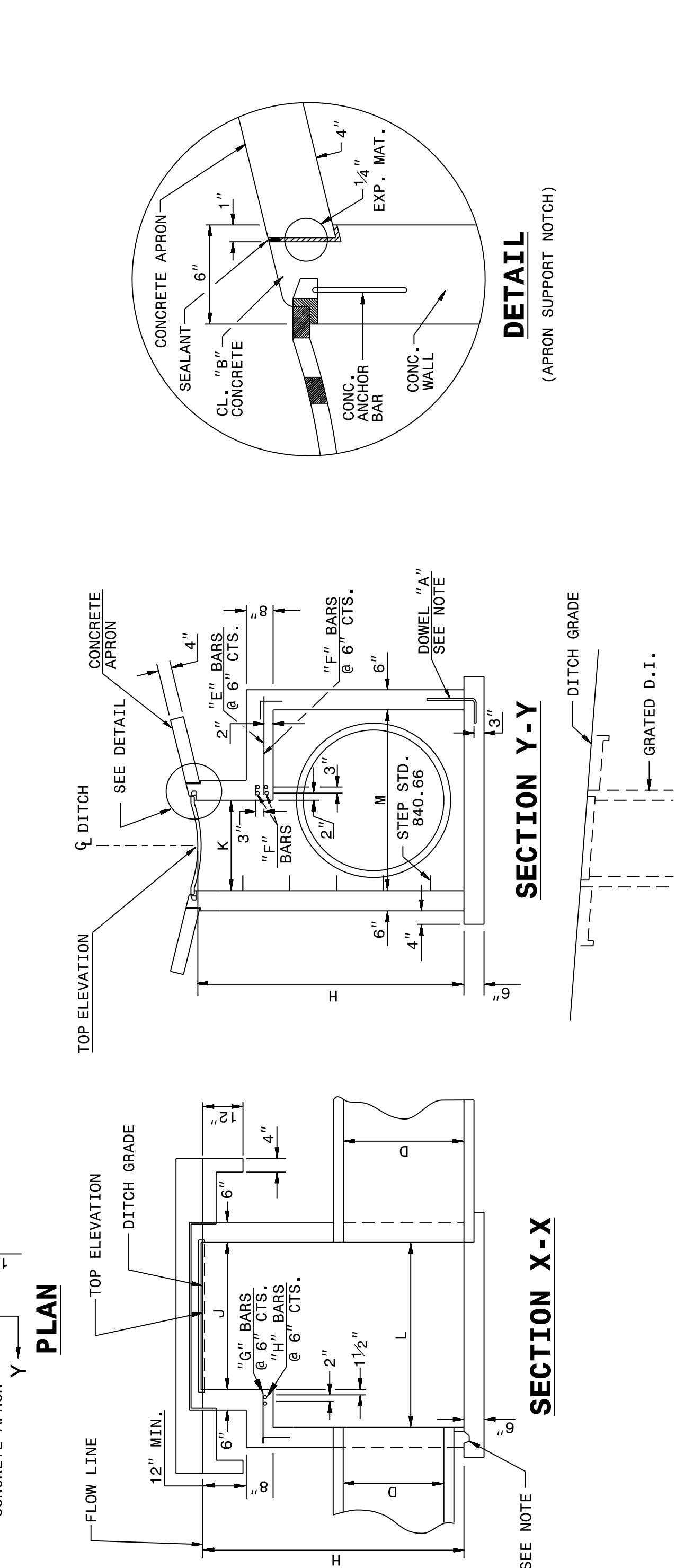
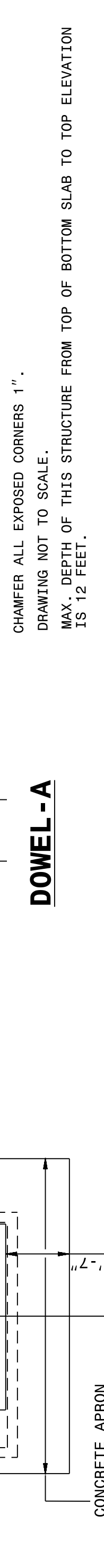
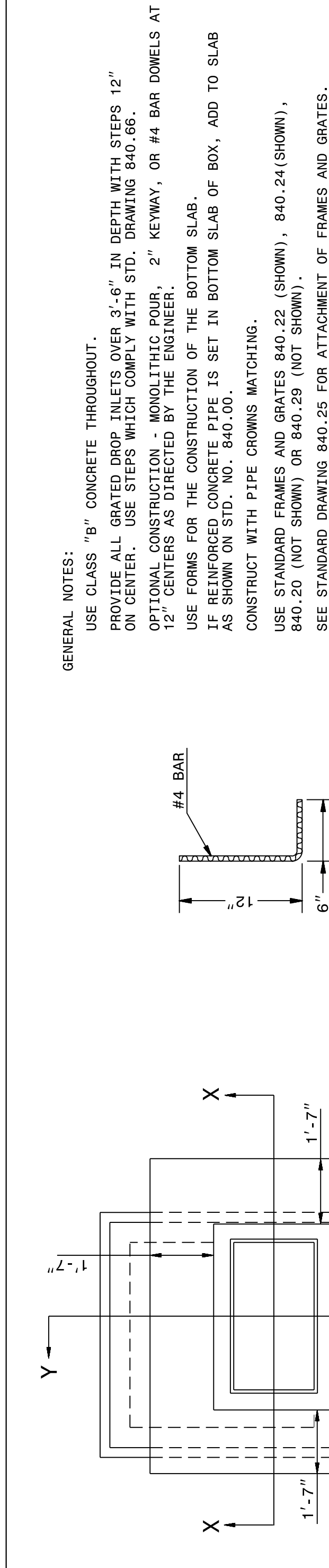
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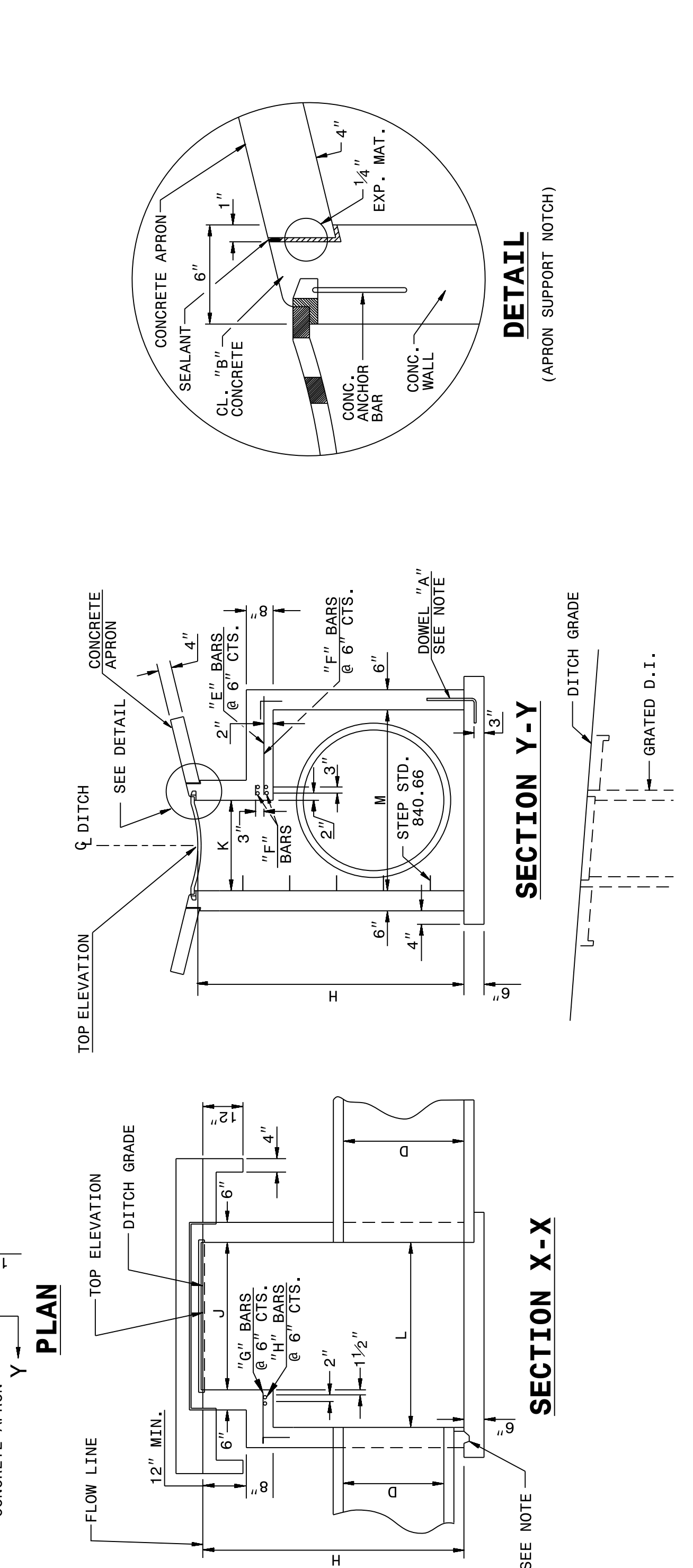
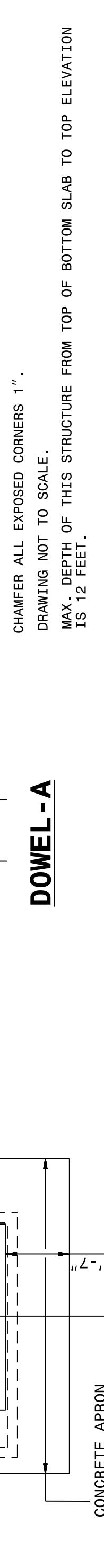
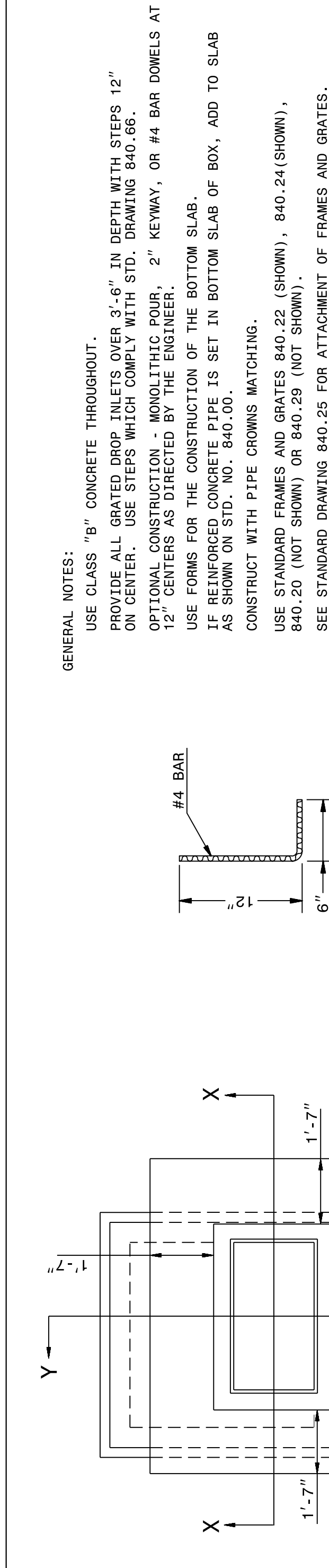
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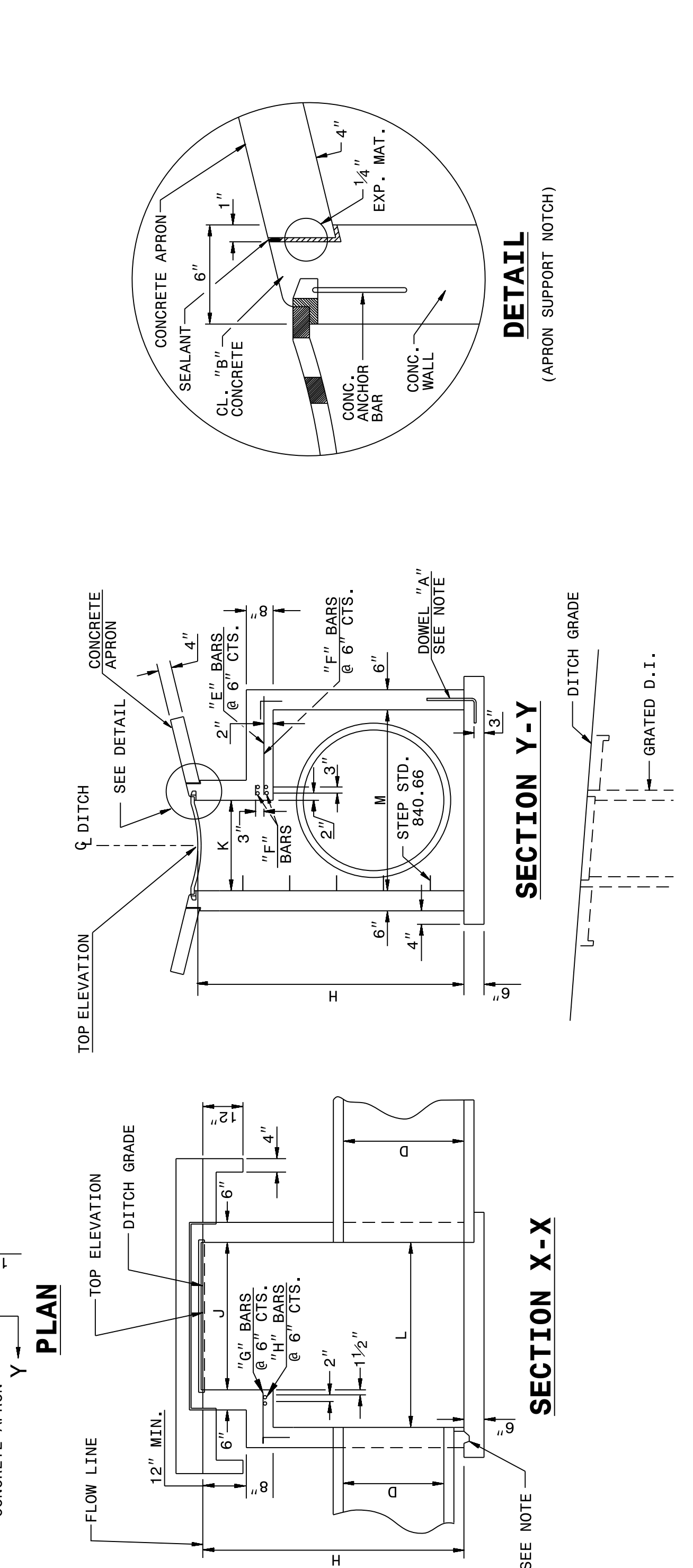
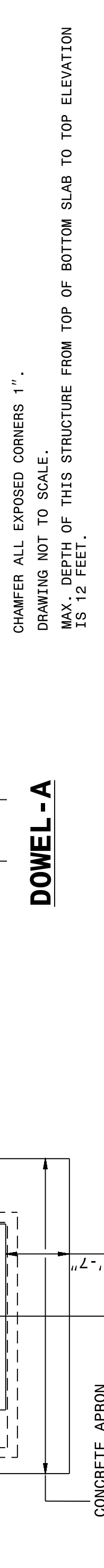
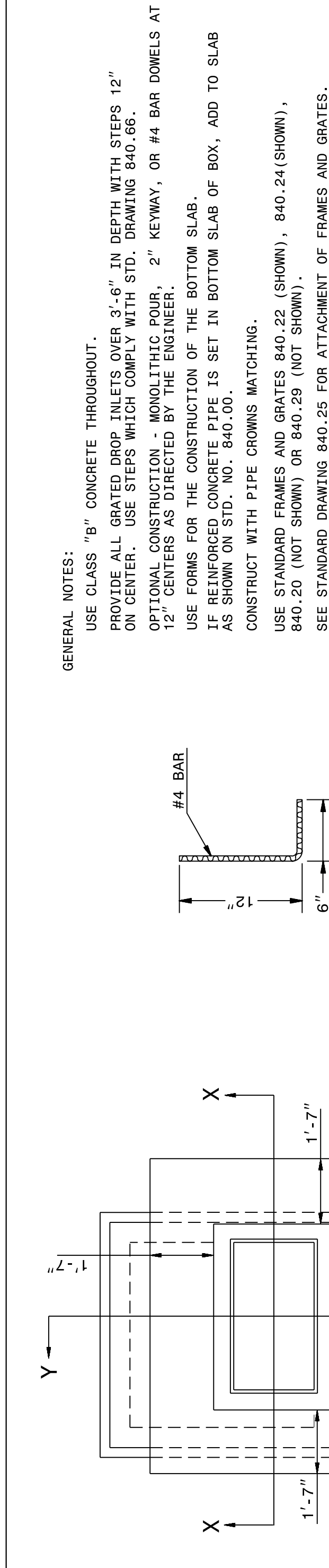
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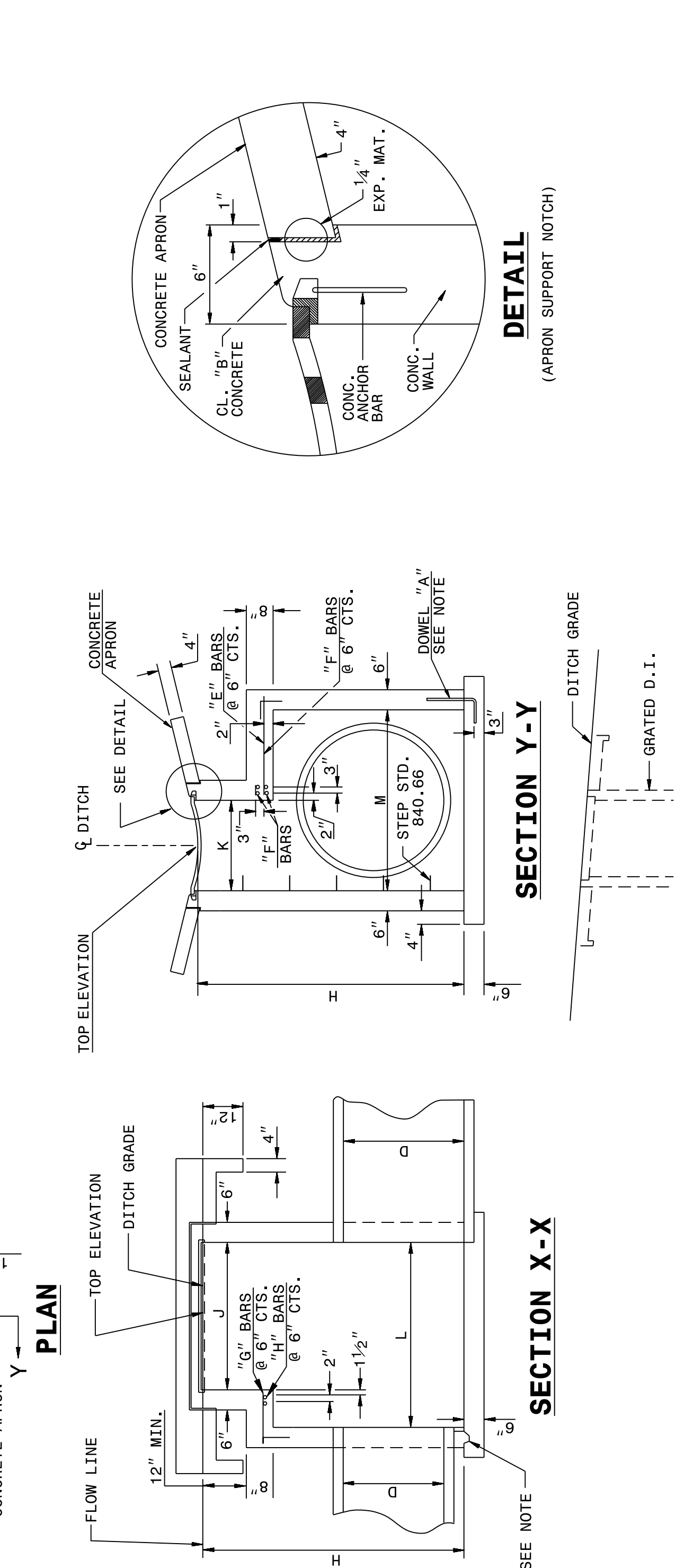
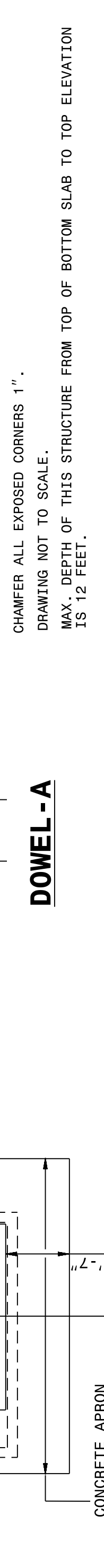
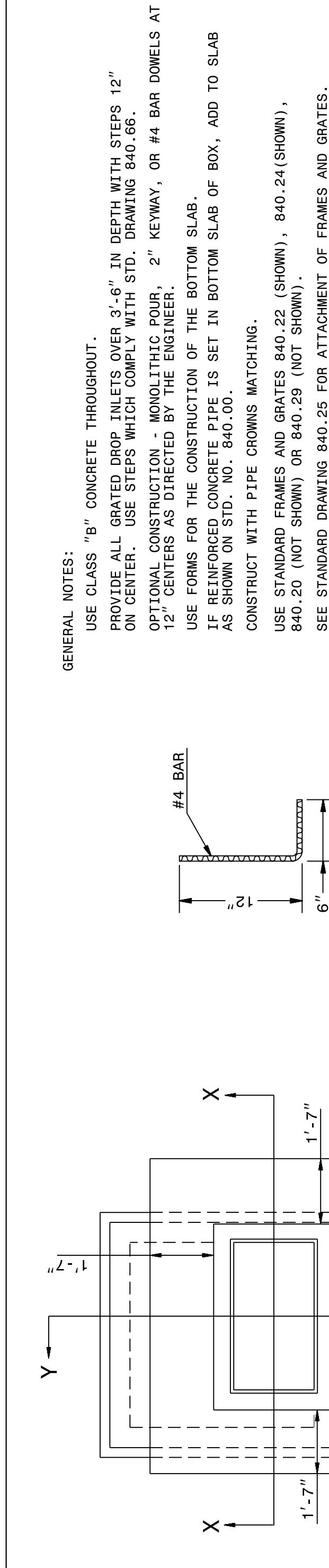
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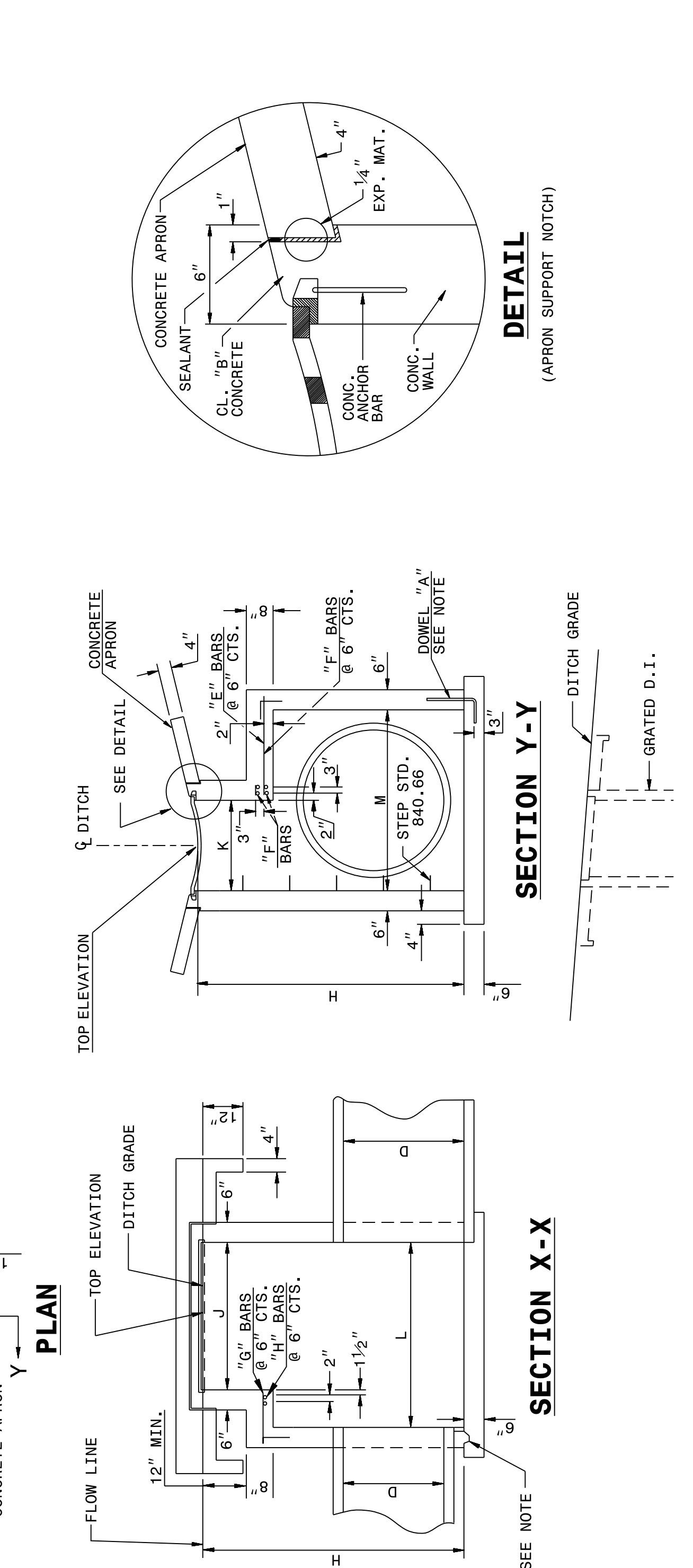
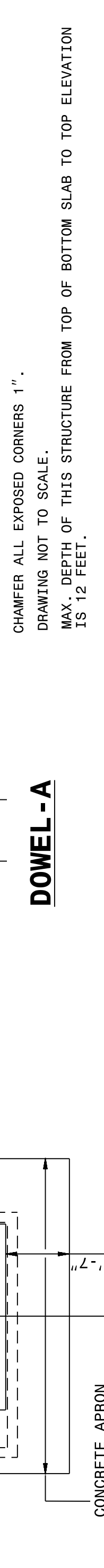
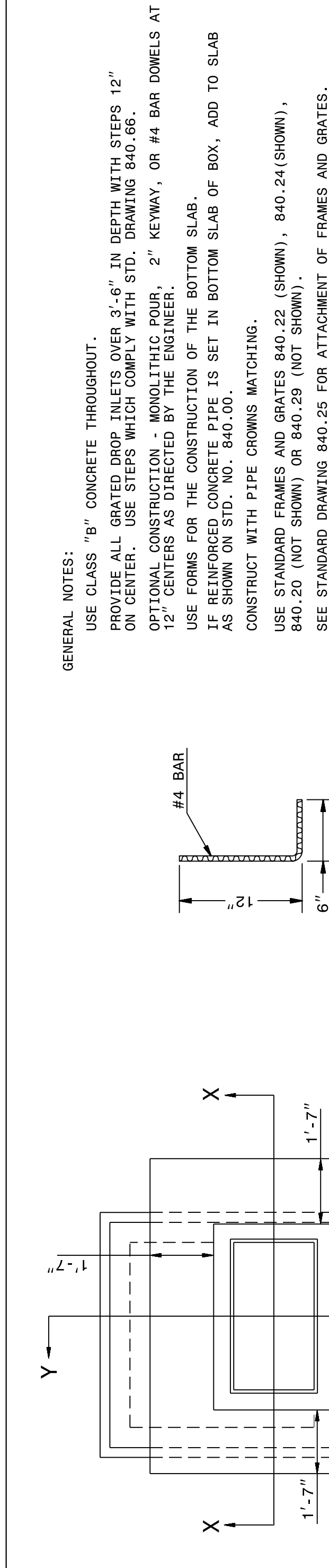
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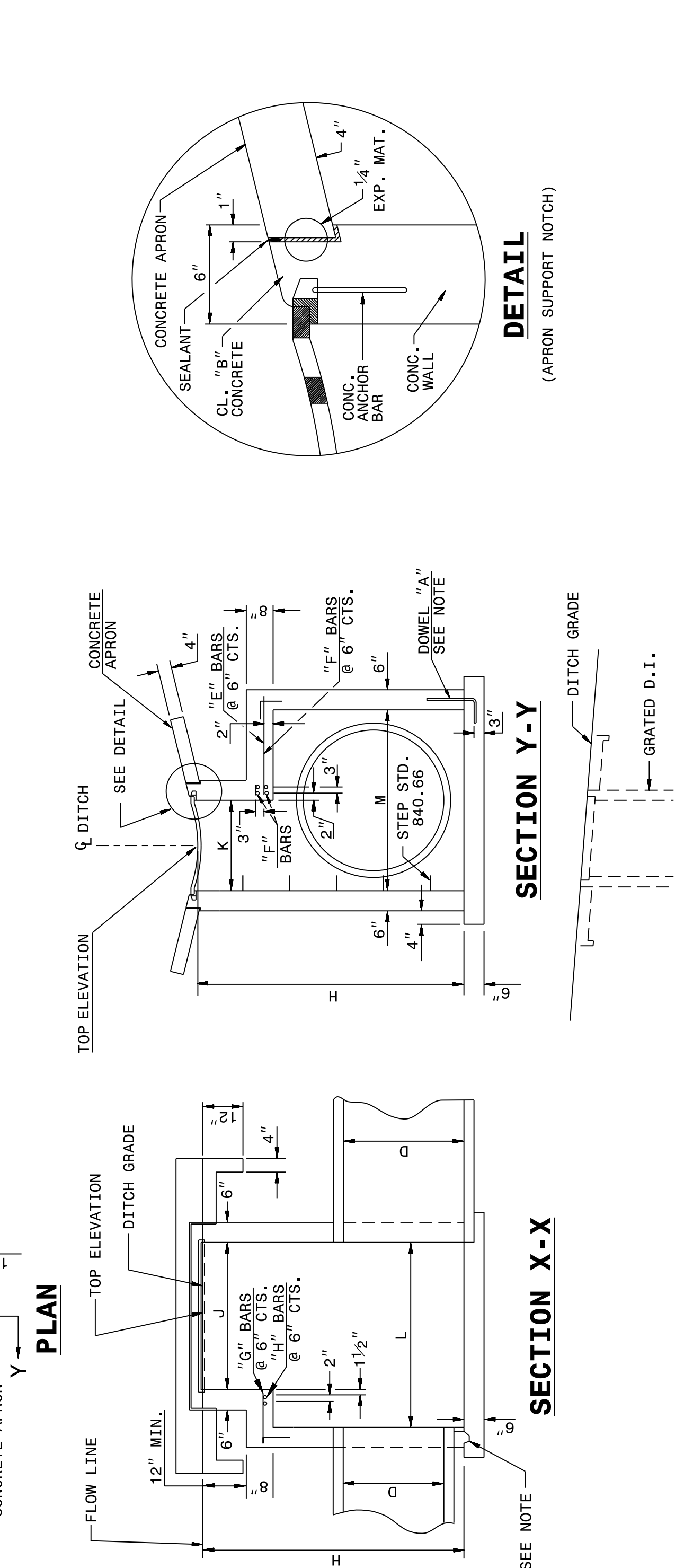
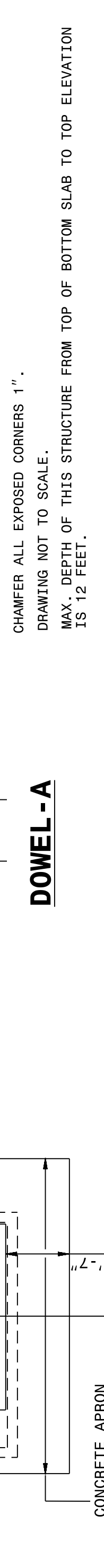
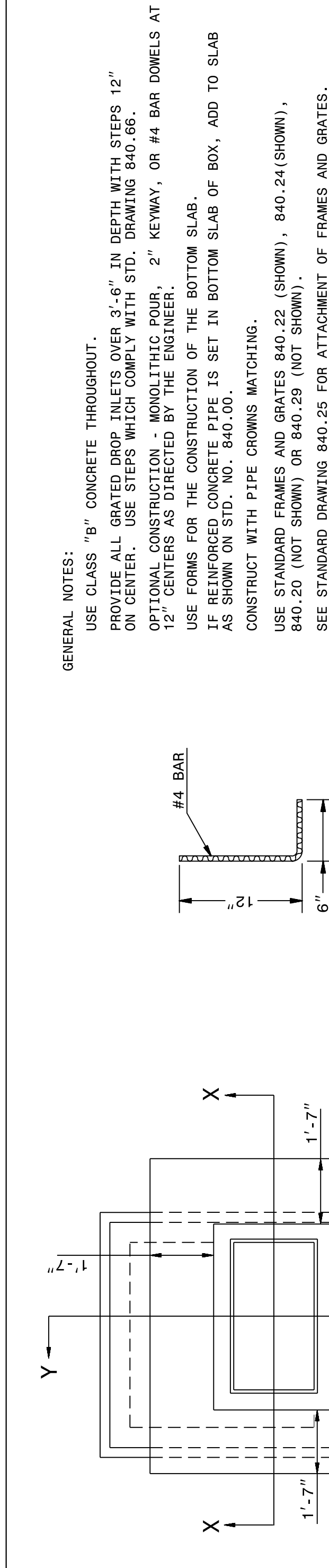
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STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

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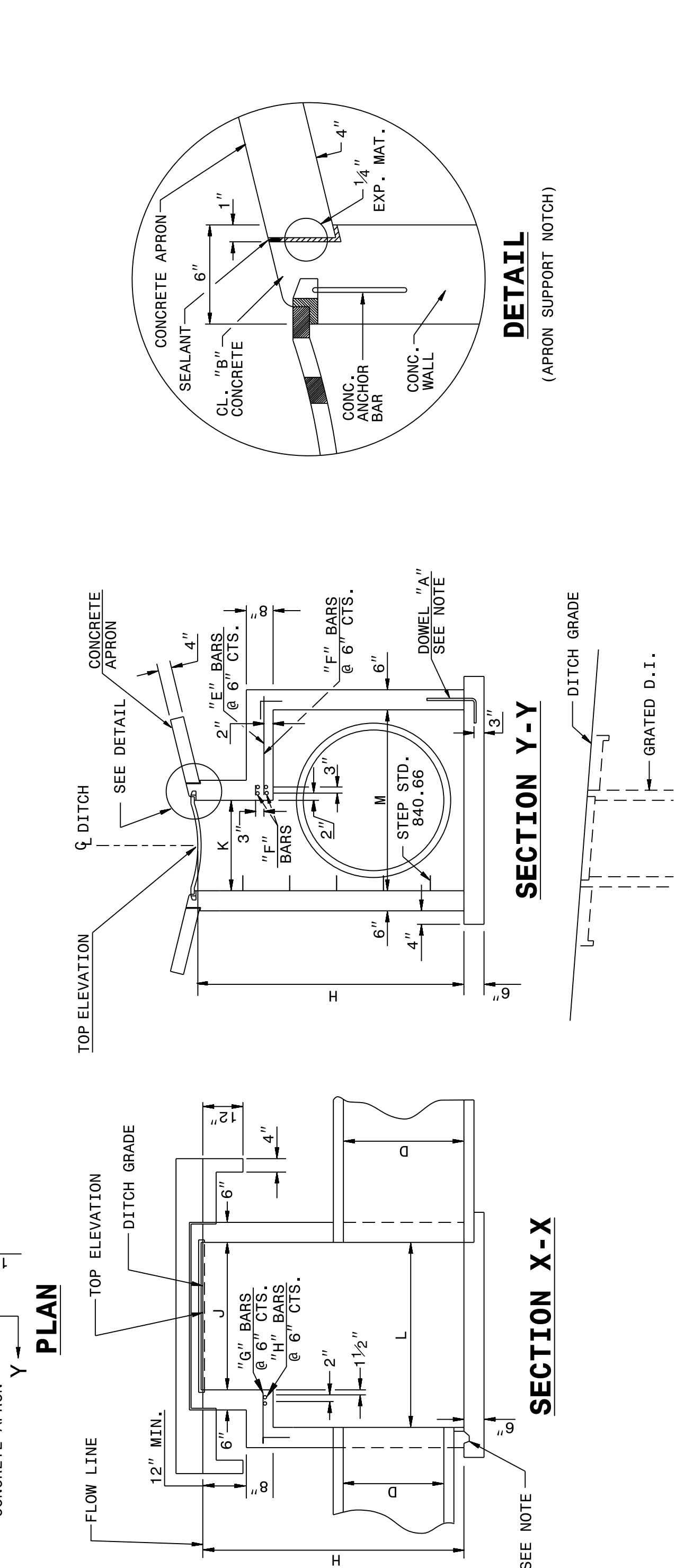
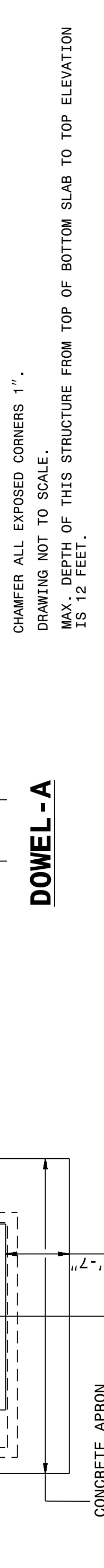
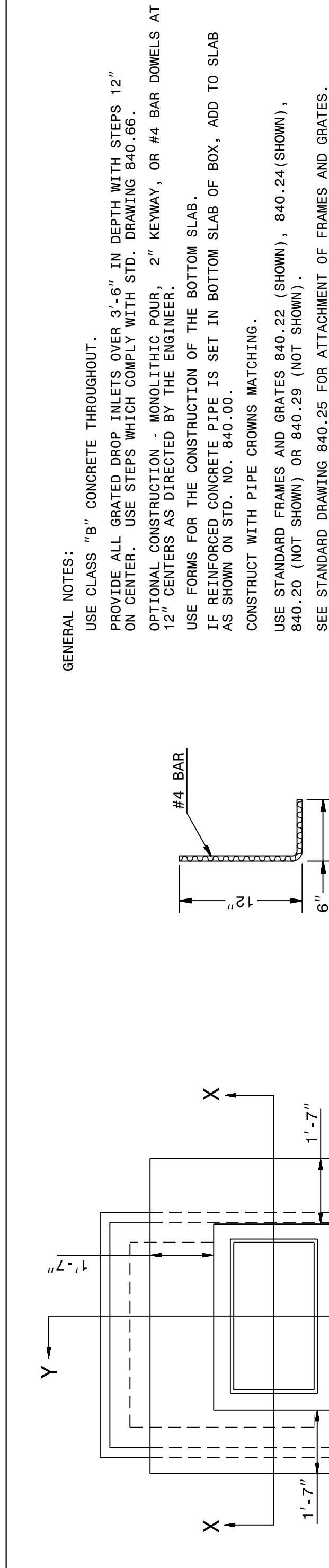
SHEET 2 OF 2 840d17



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

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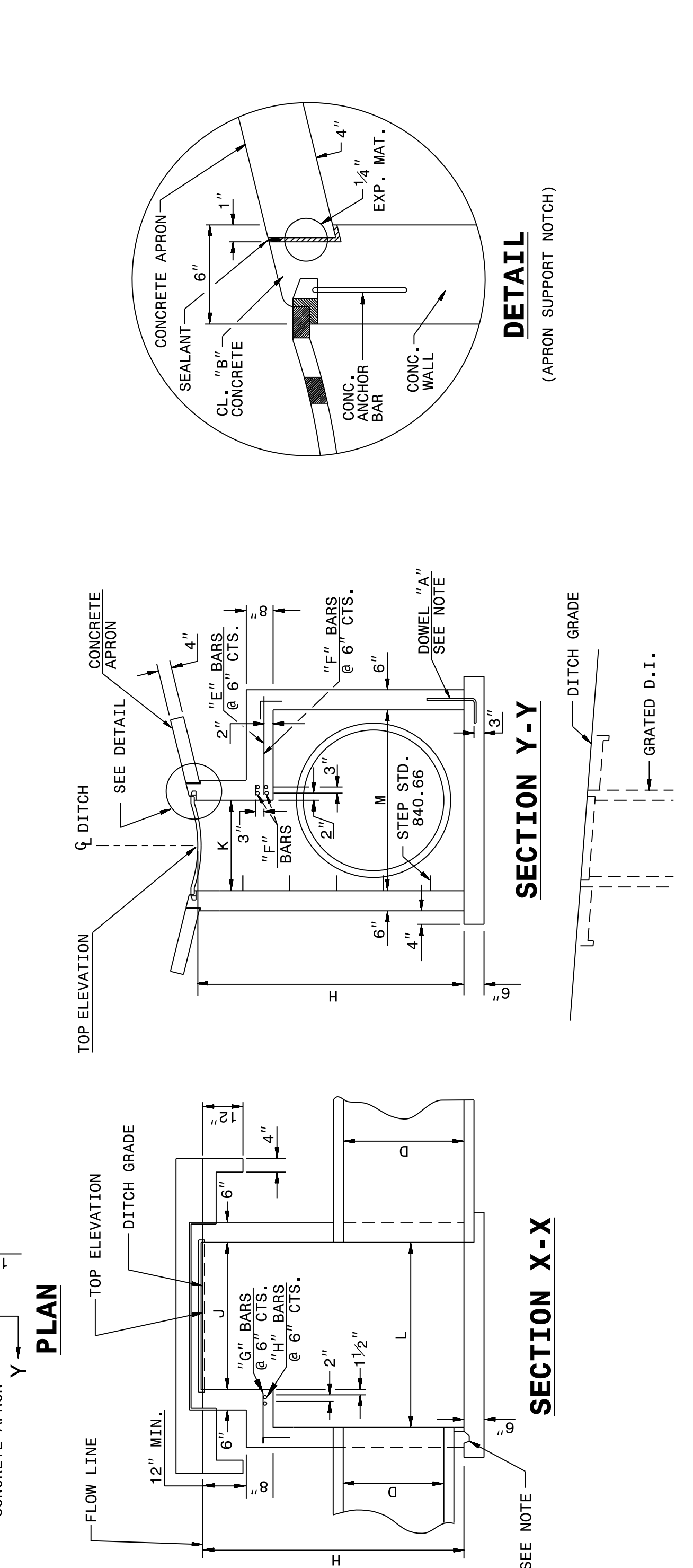
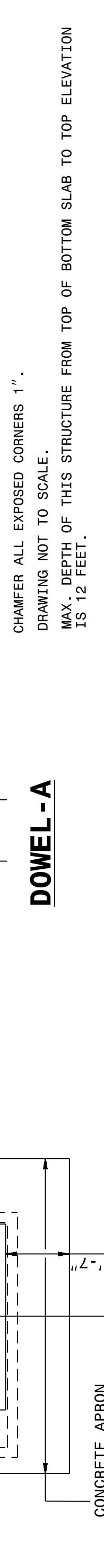
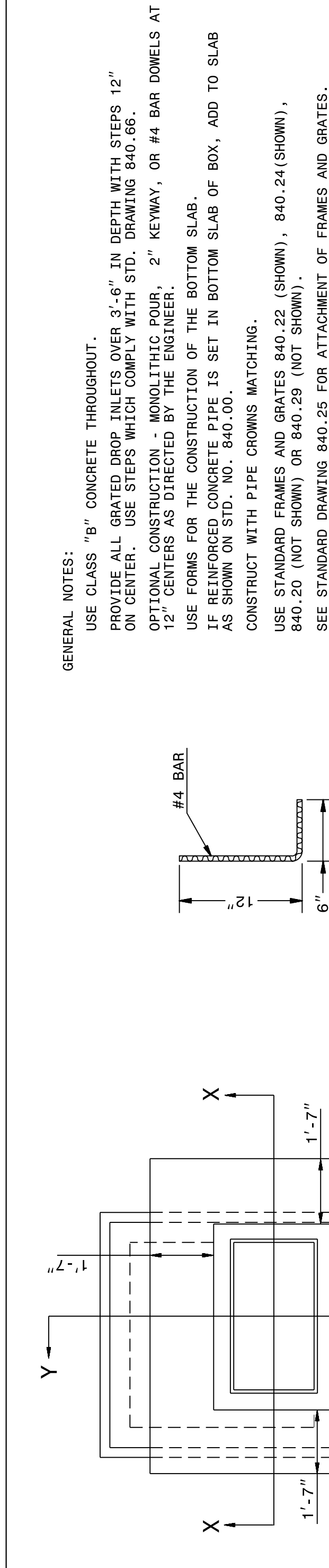
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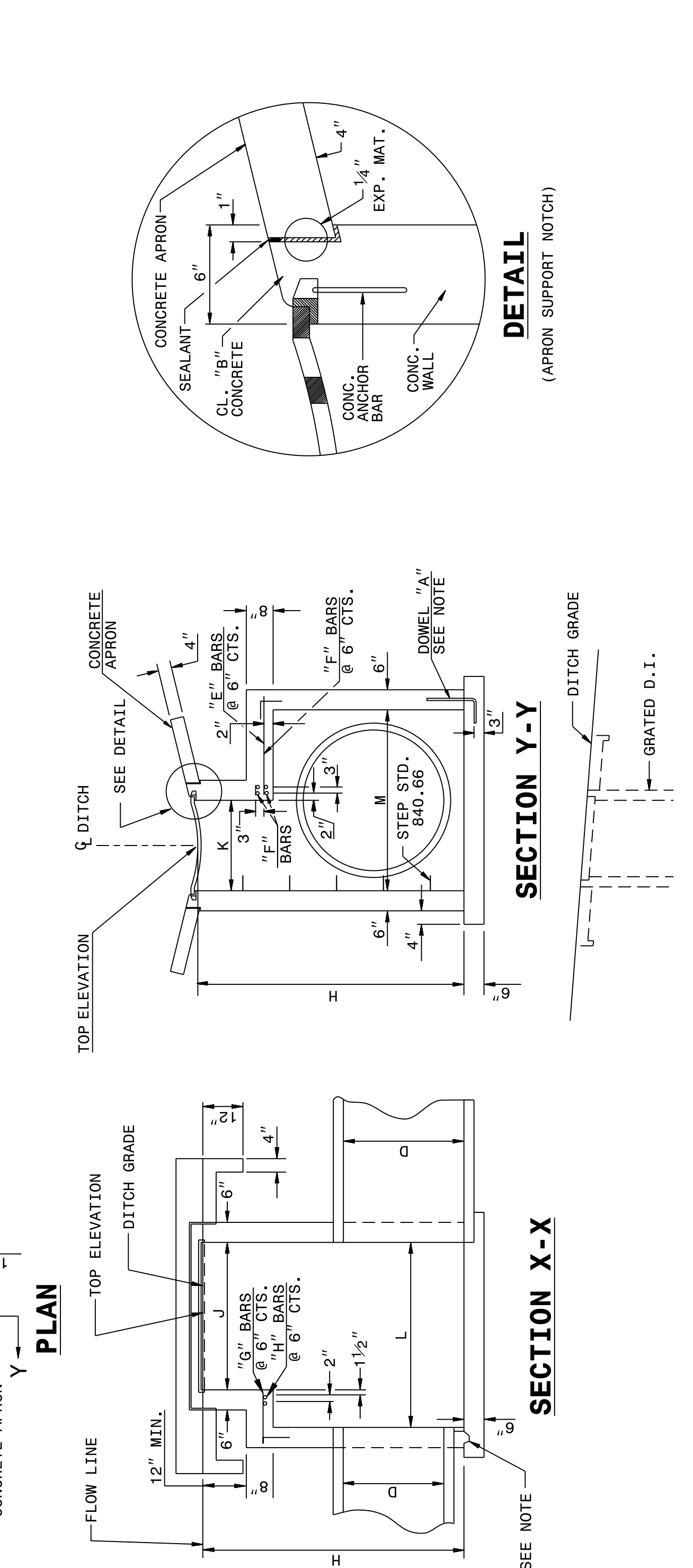
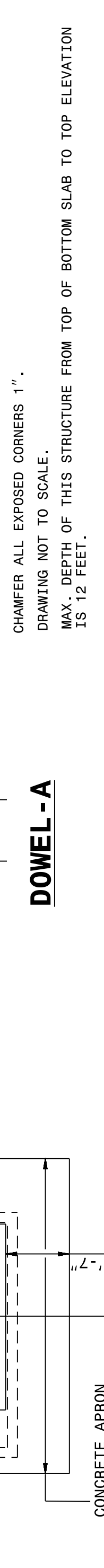
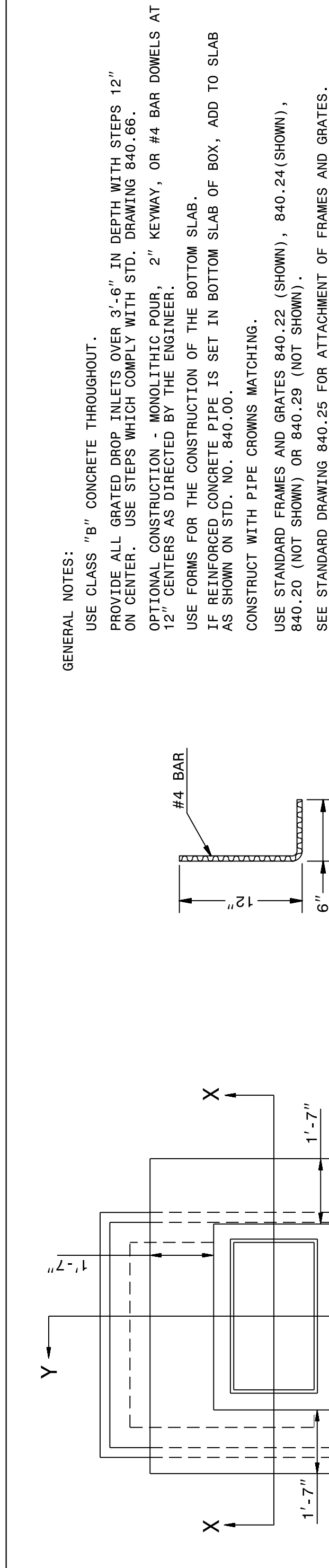
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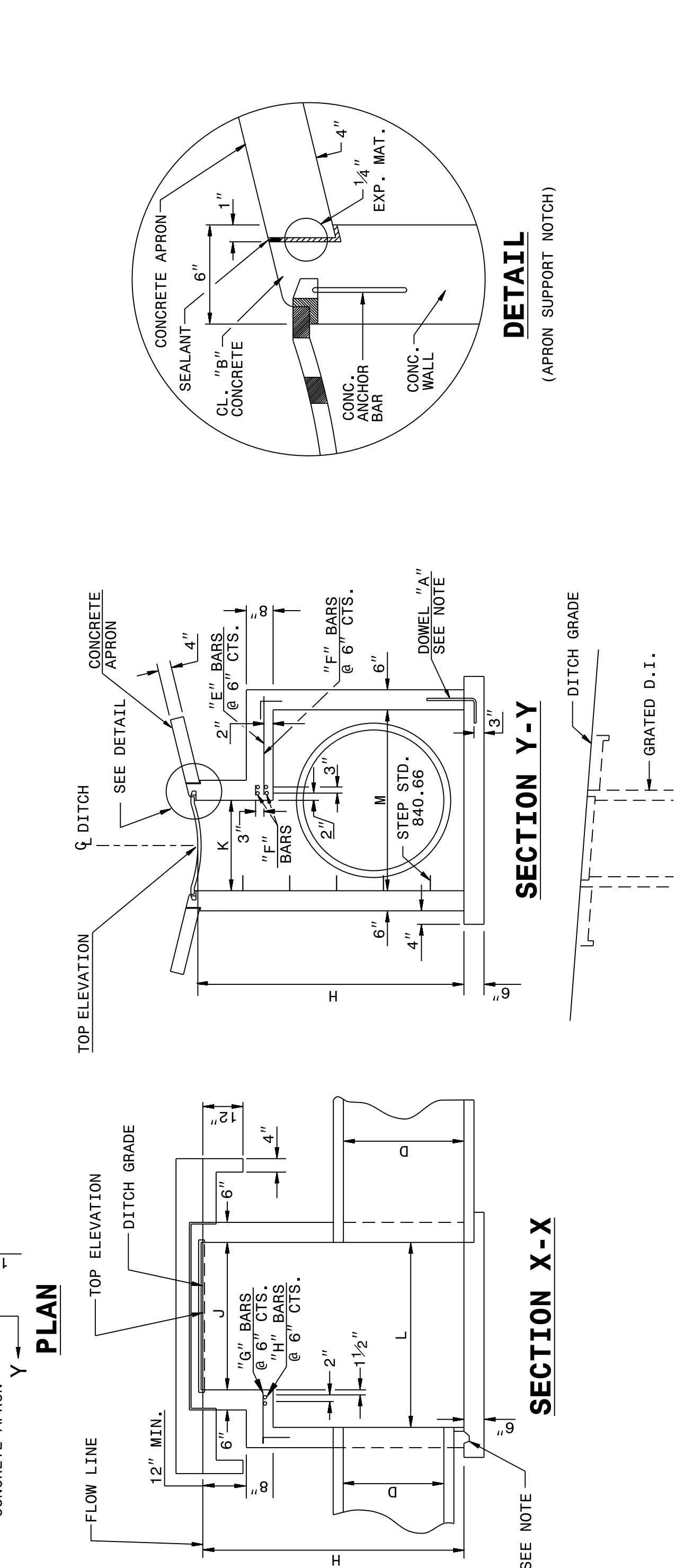
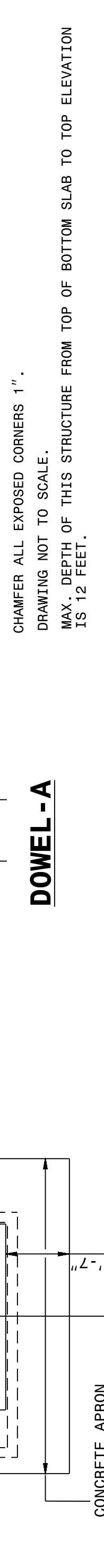
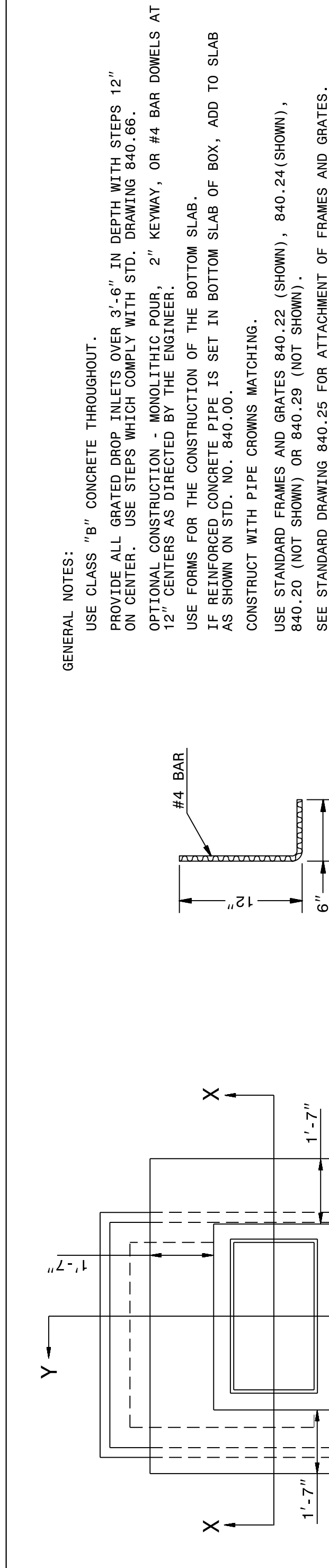
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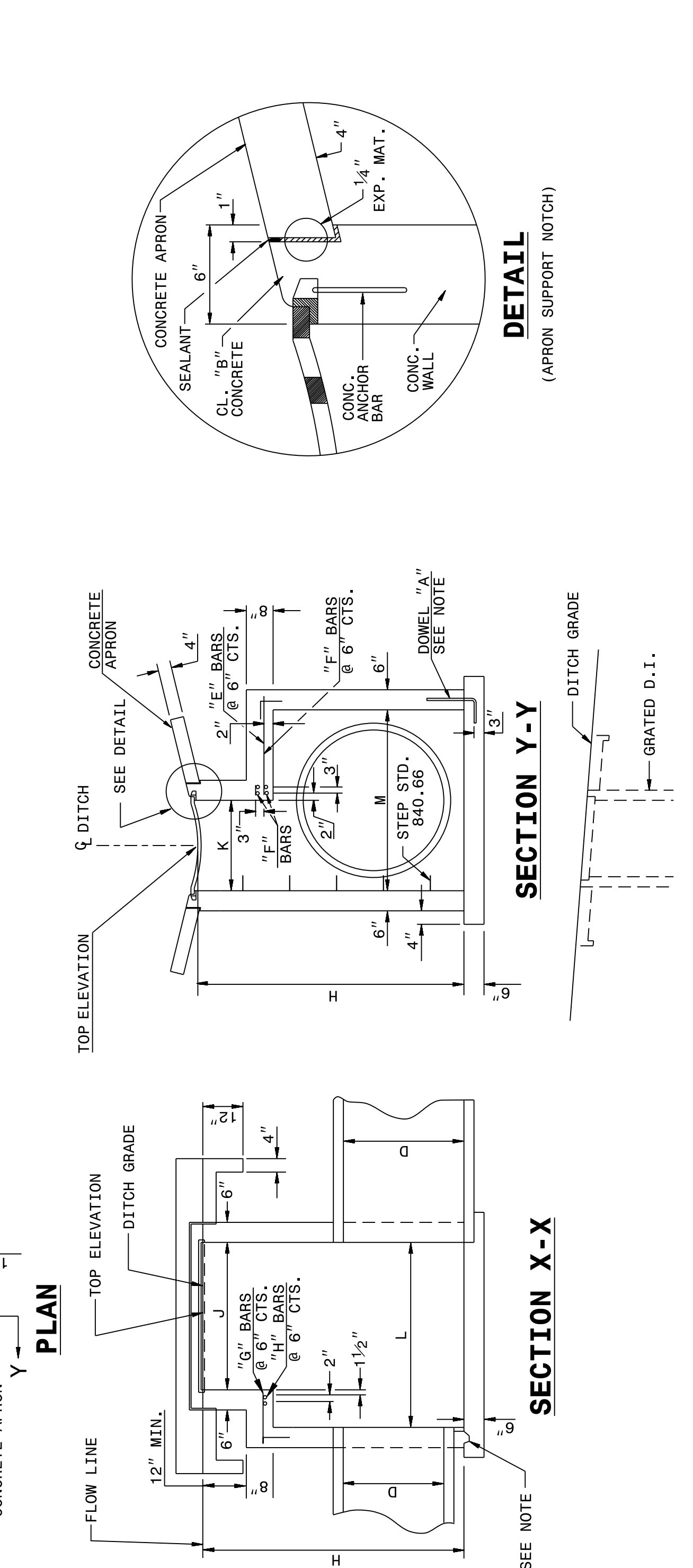
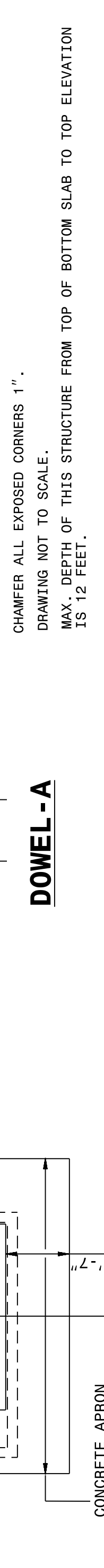
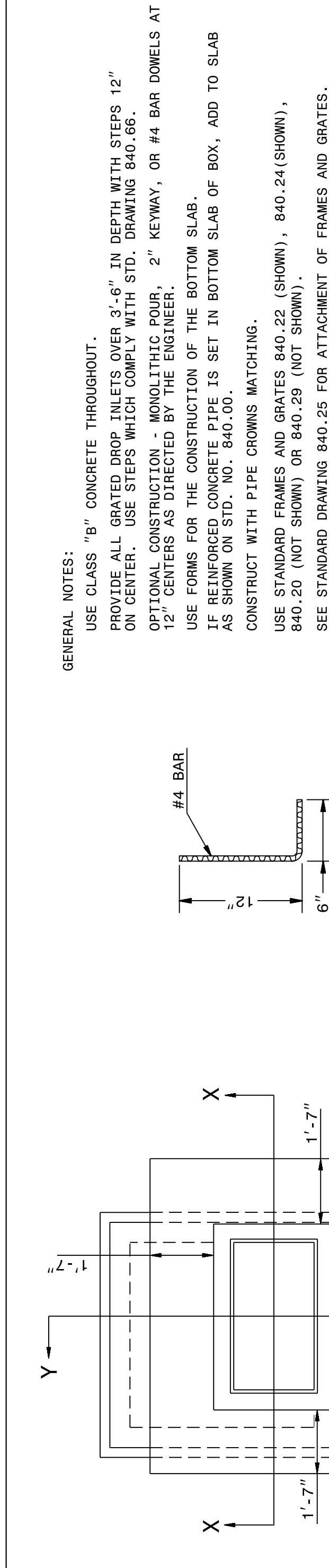
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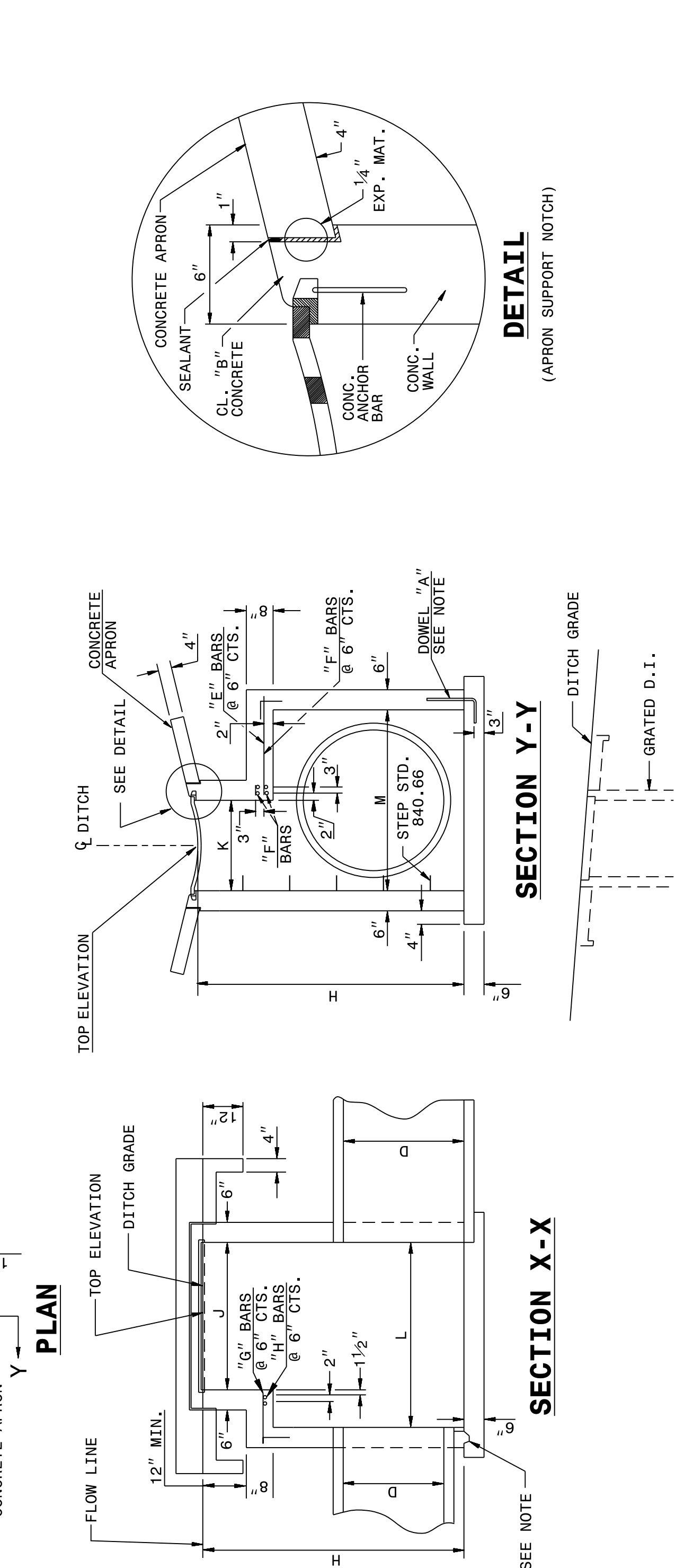
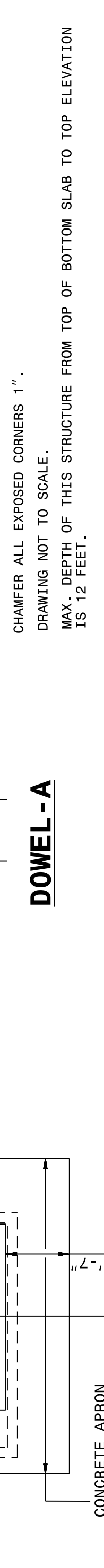
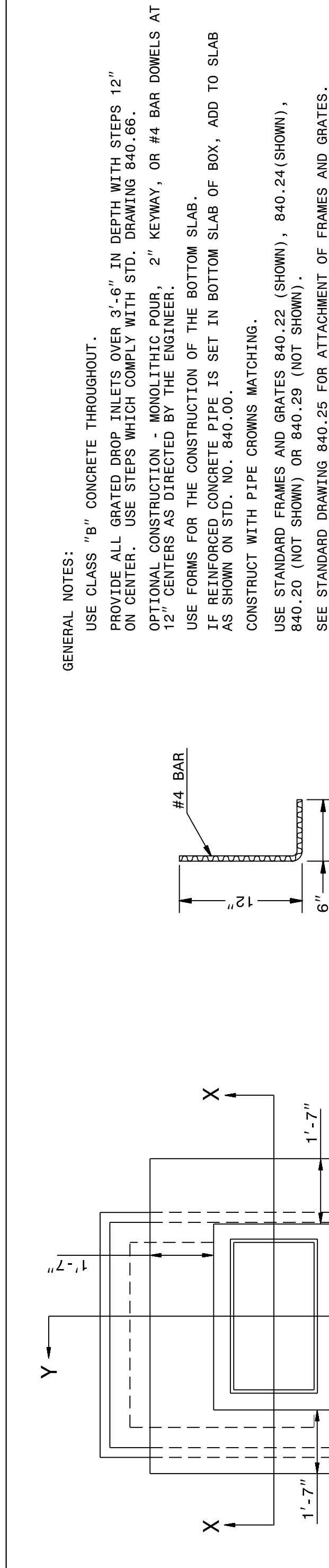
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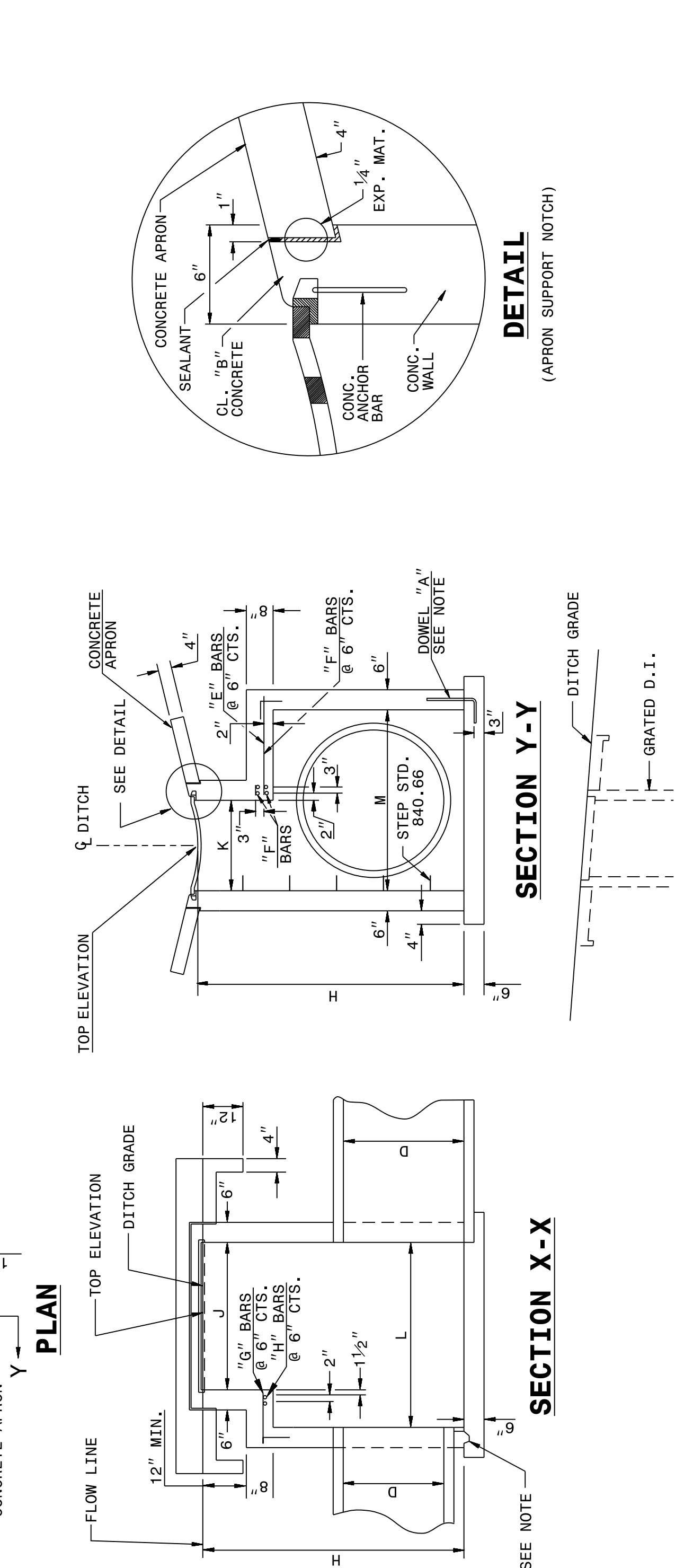
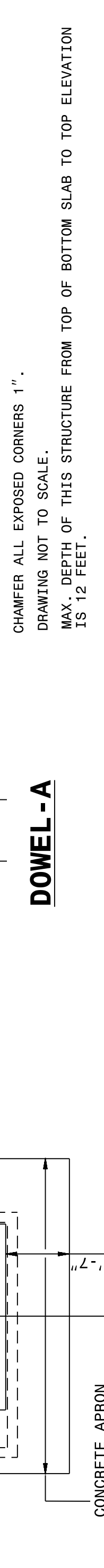
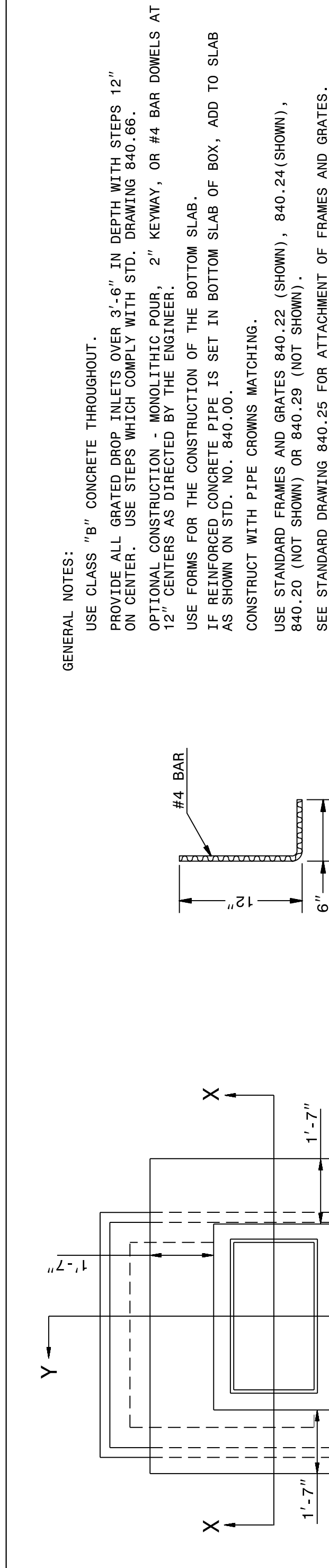
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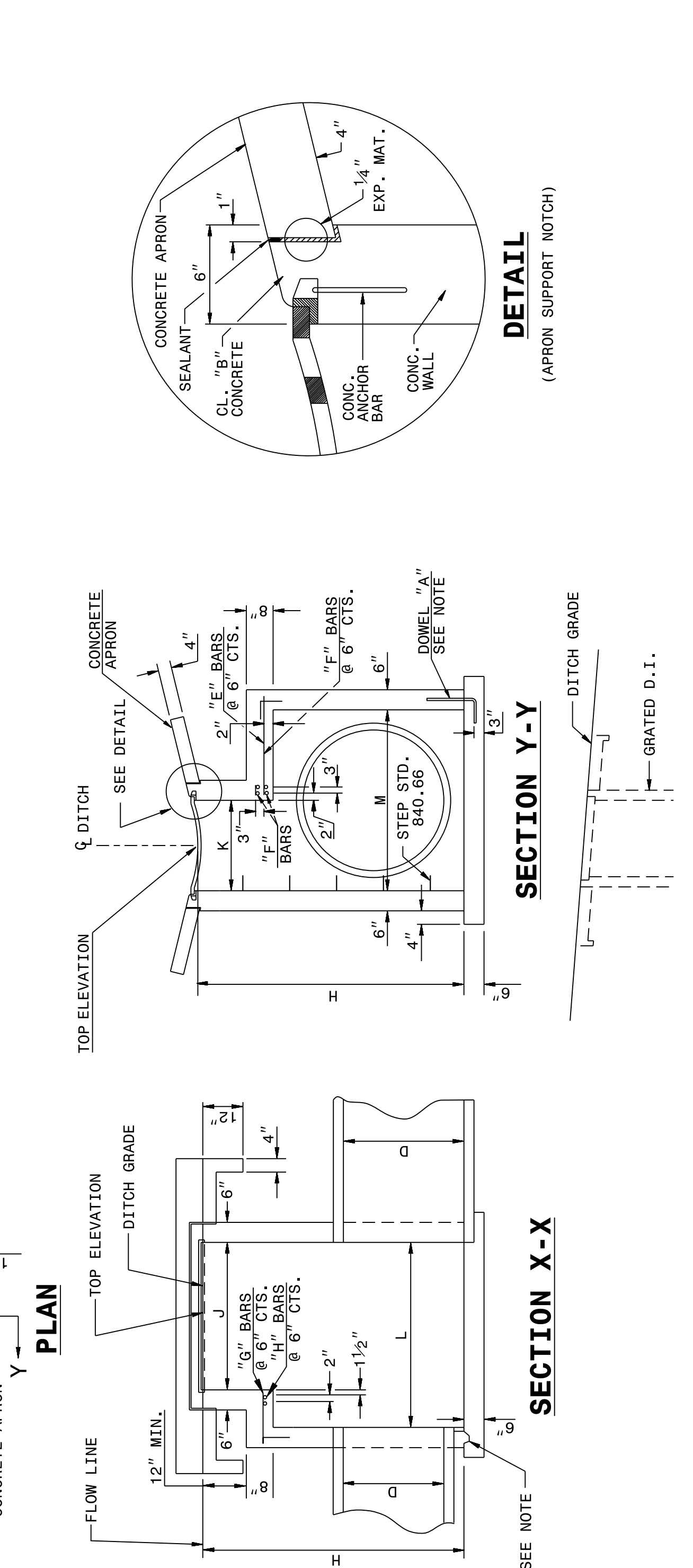
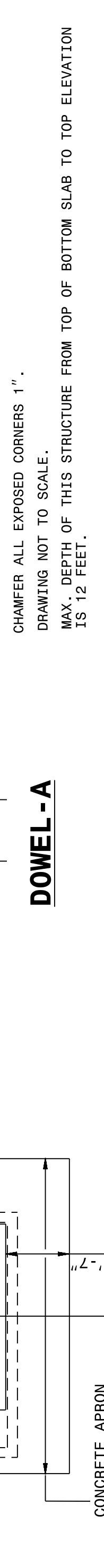
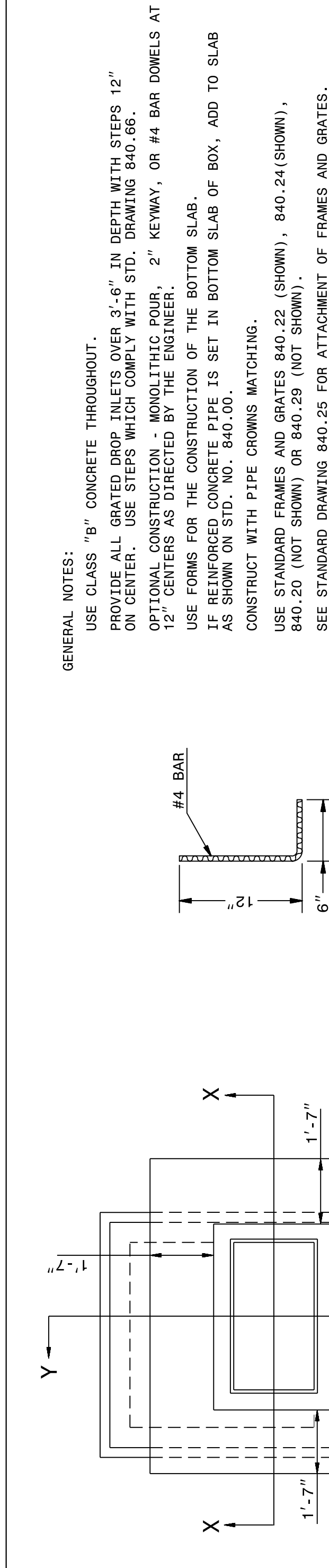
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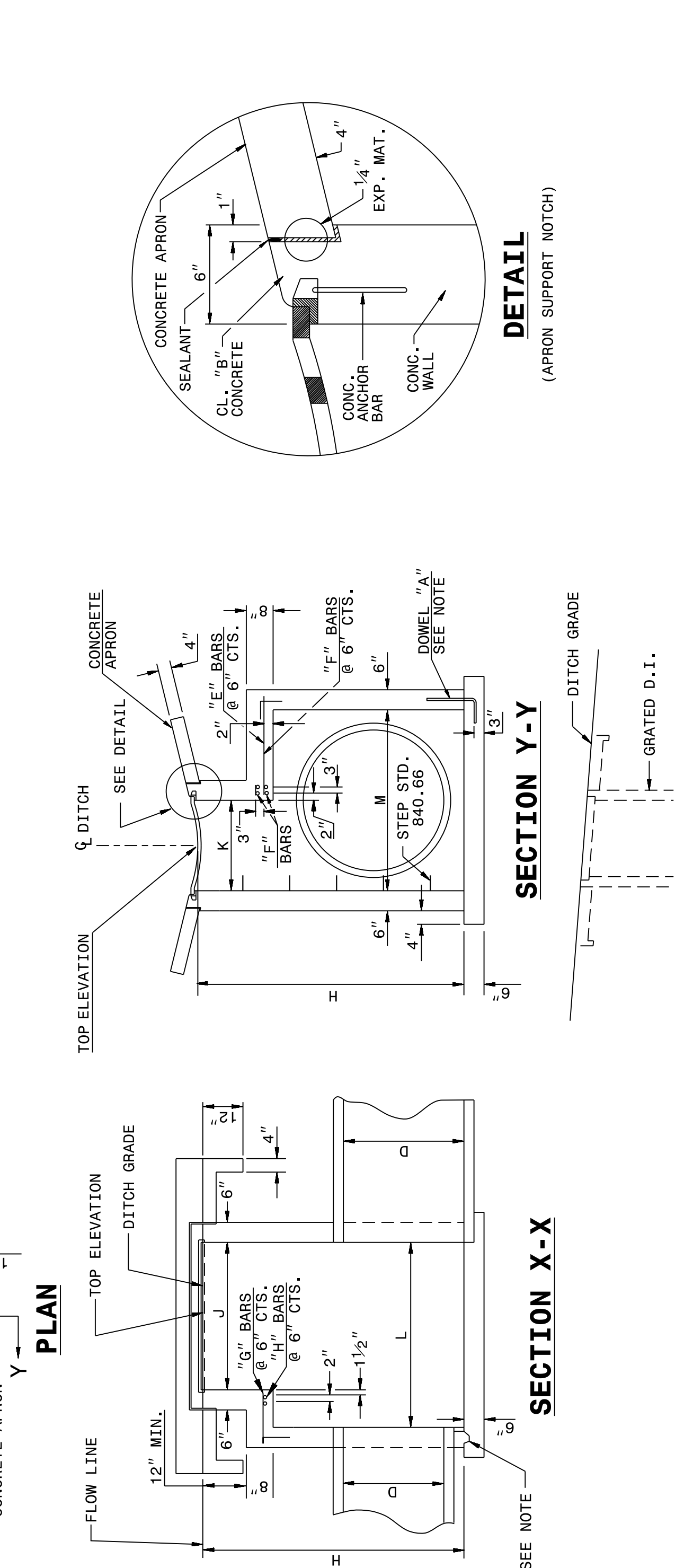
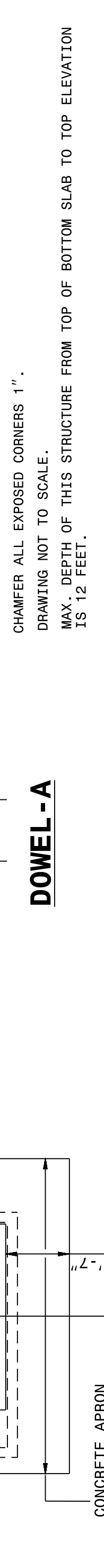
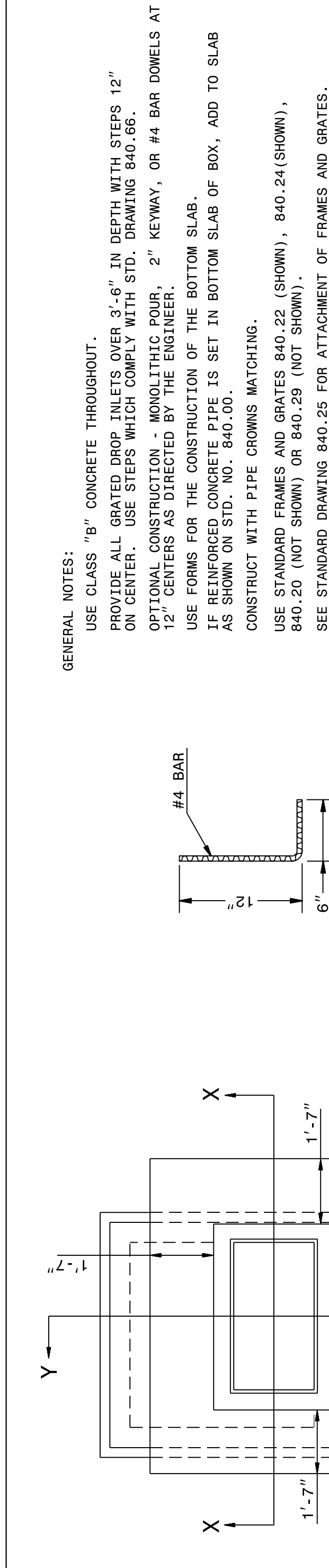
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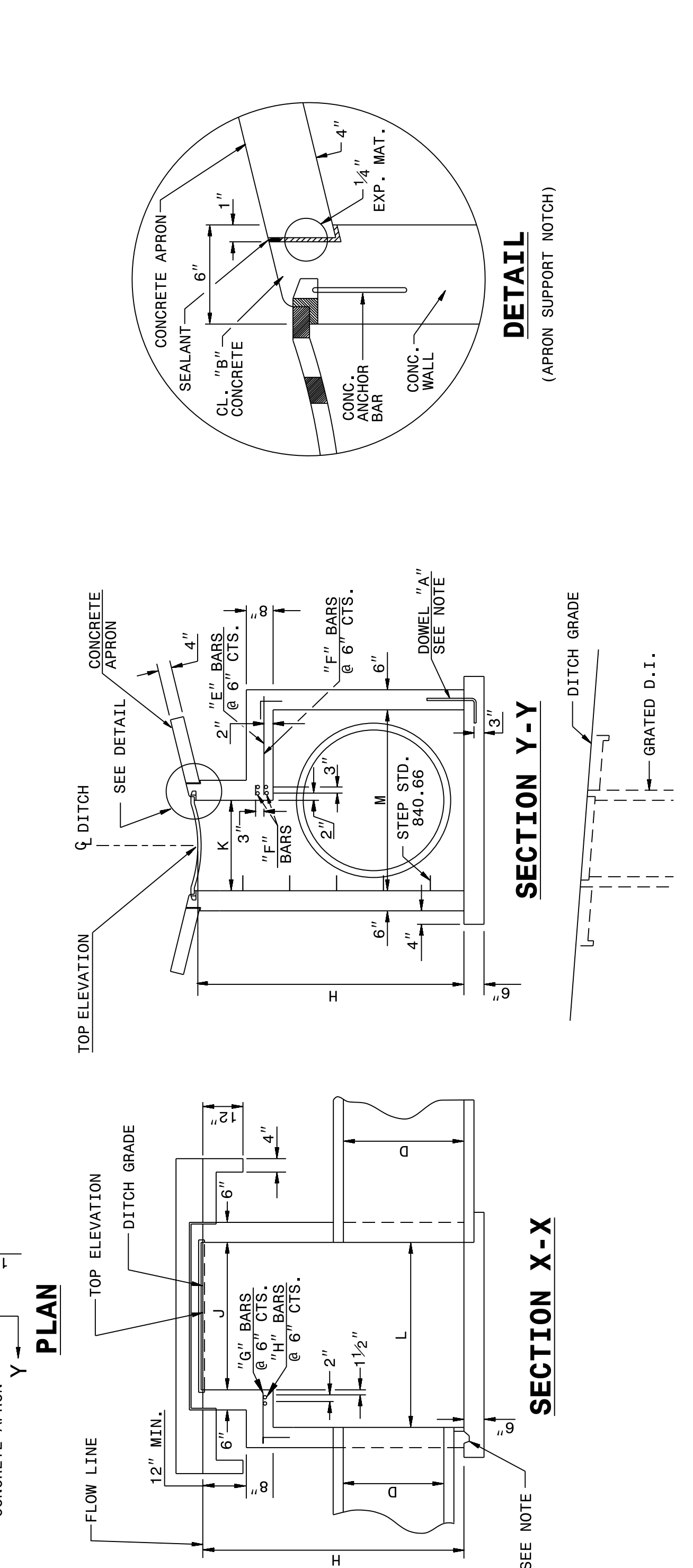
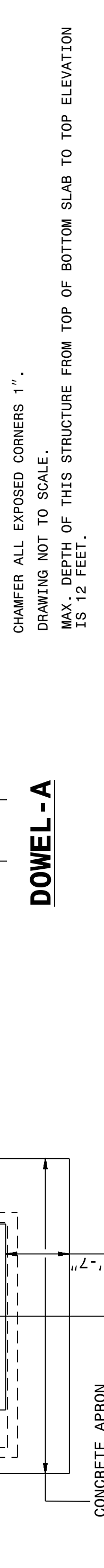
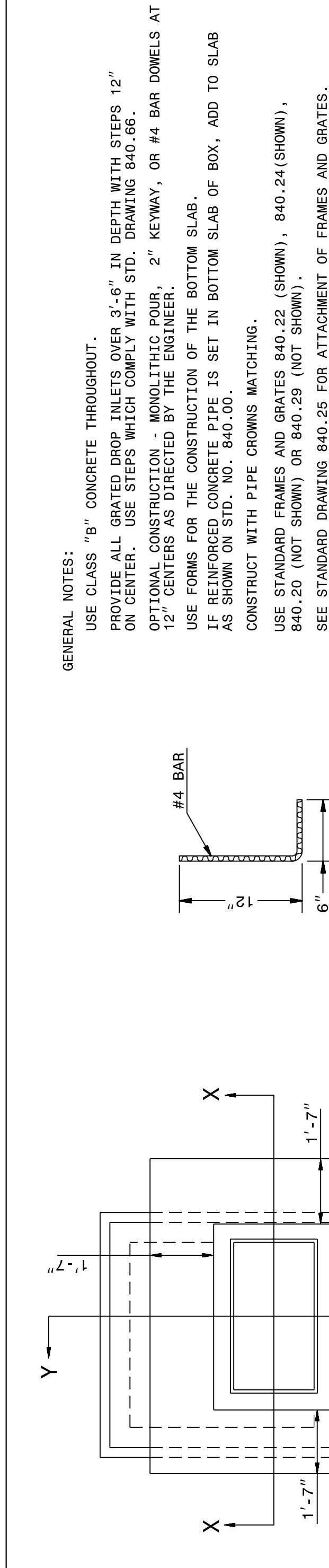
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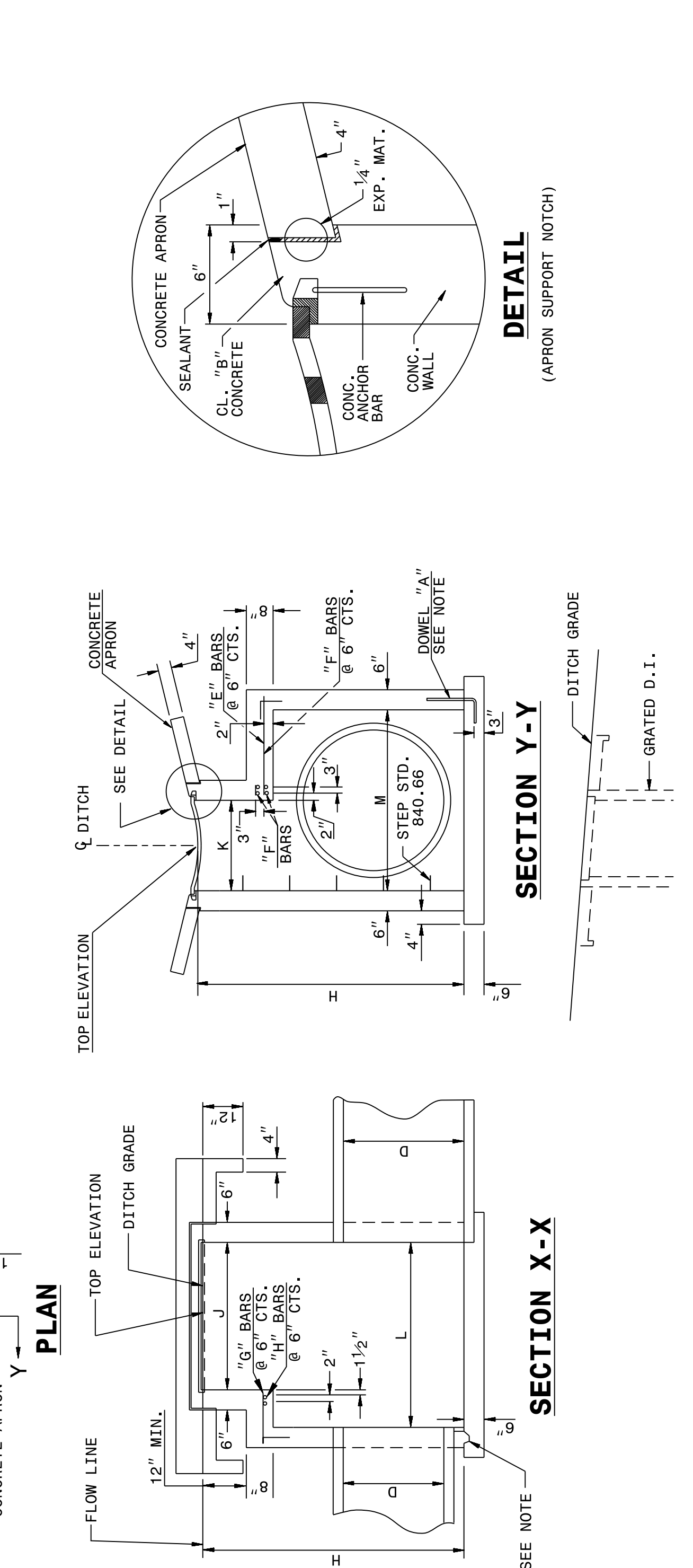
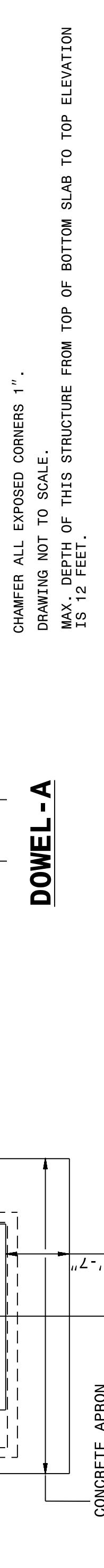
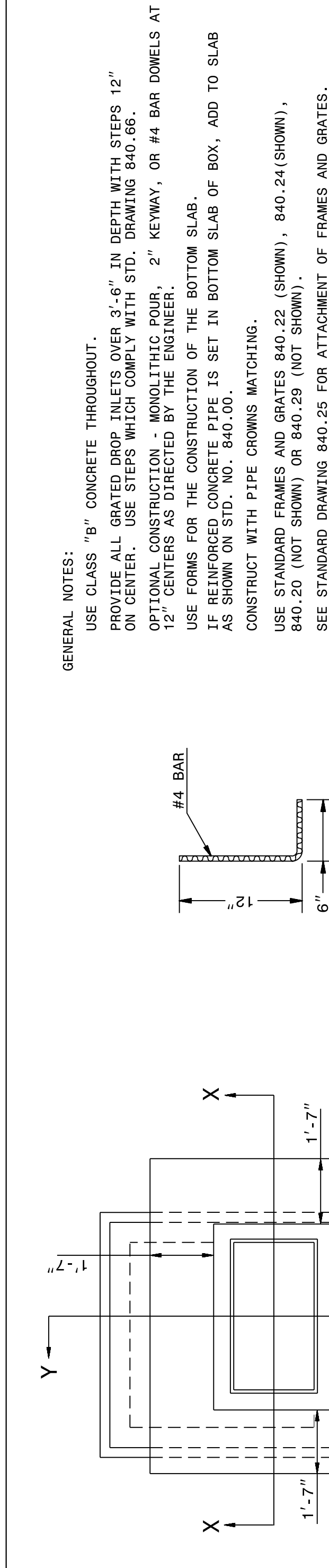
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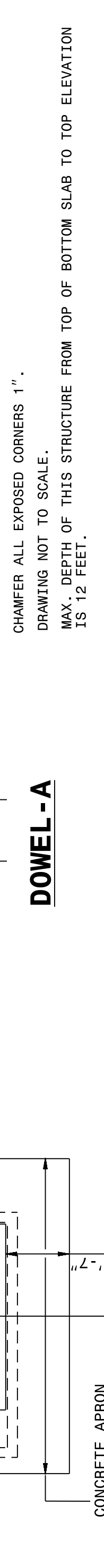
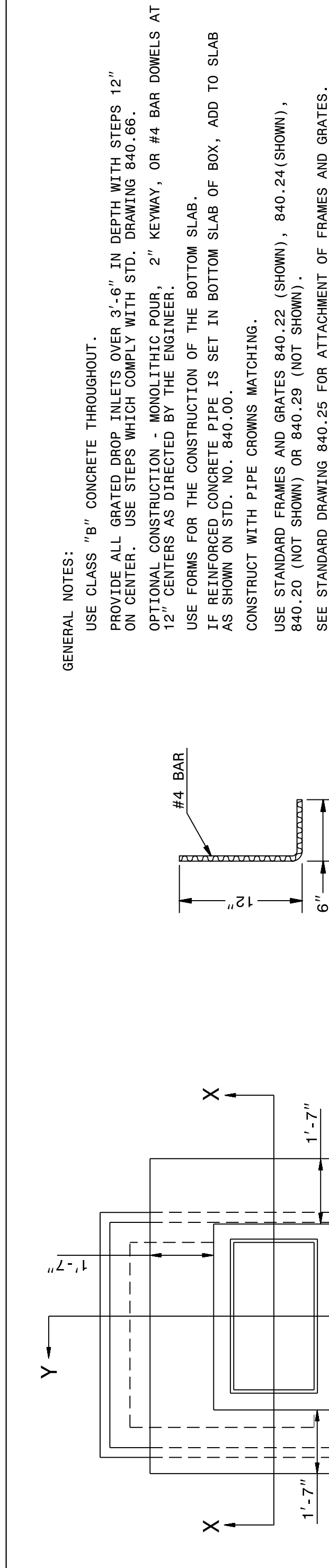
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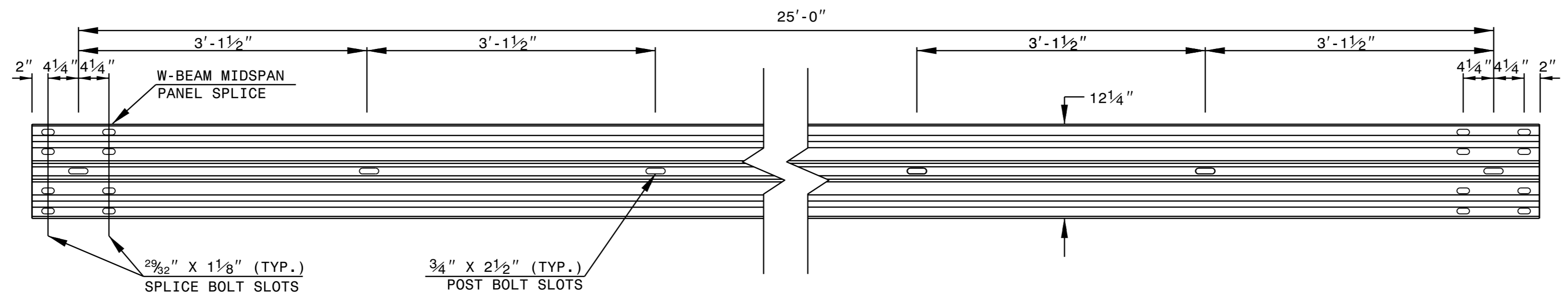
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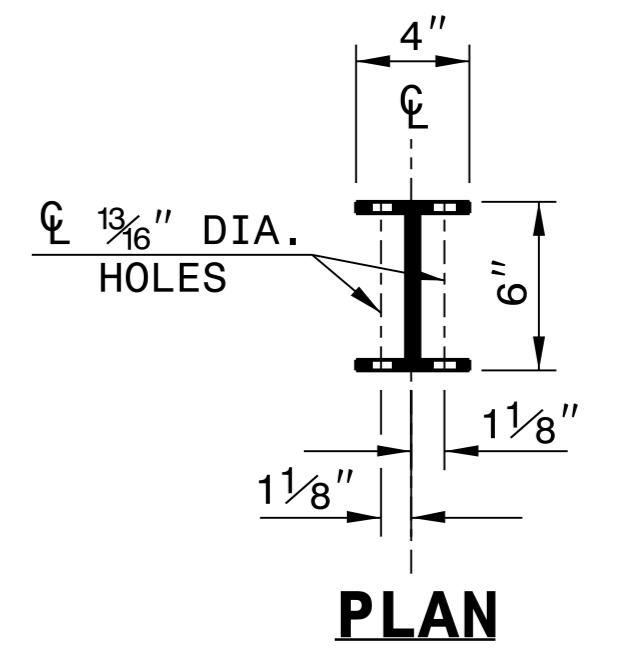
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

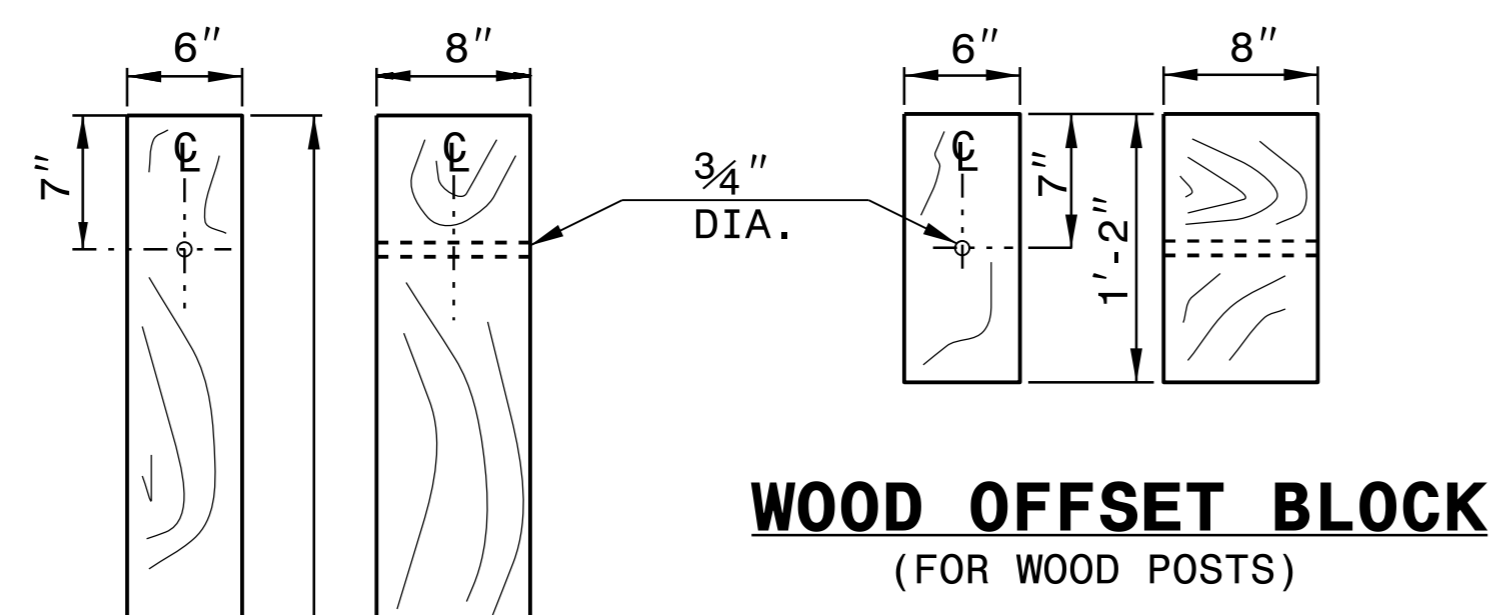
SHEET 6 OF 8
862D02



STANDARD W-BEAM GUARDRAIL



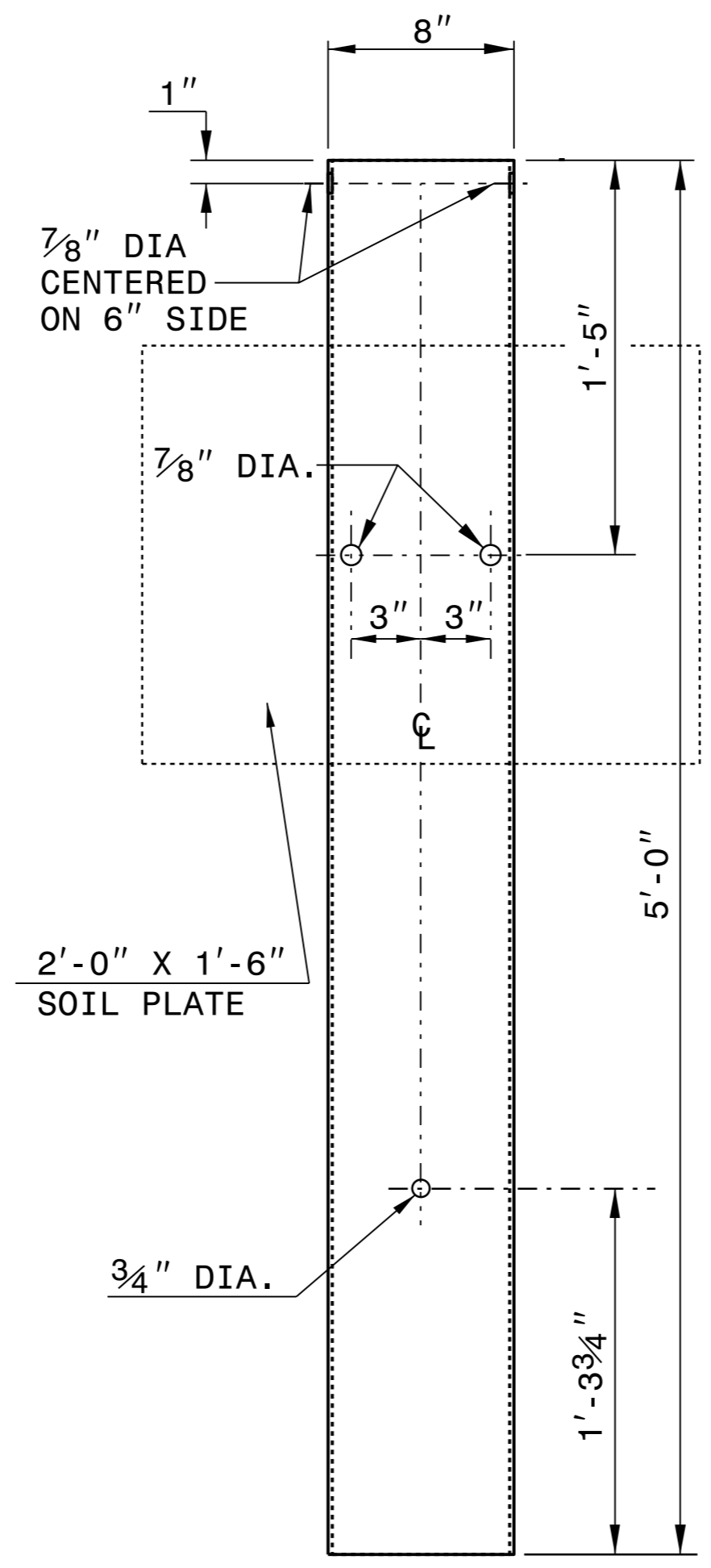
PLAN



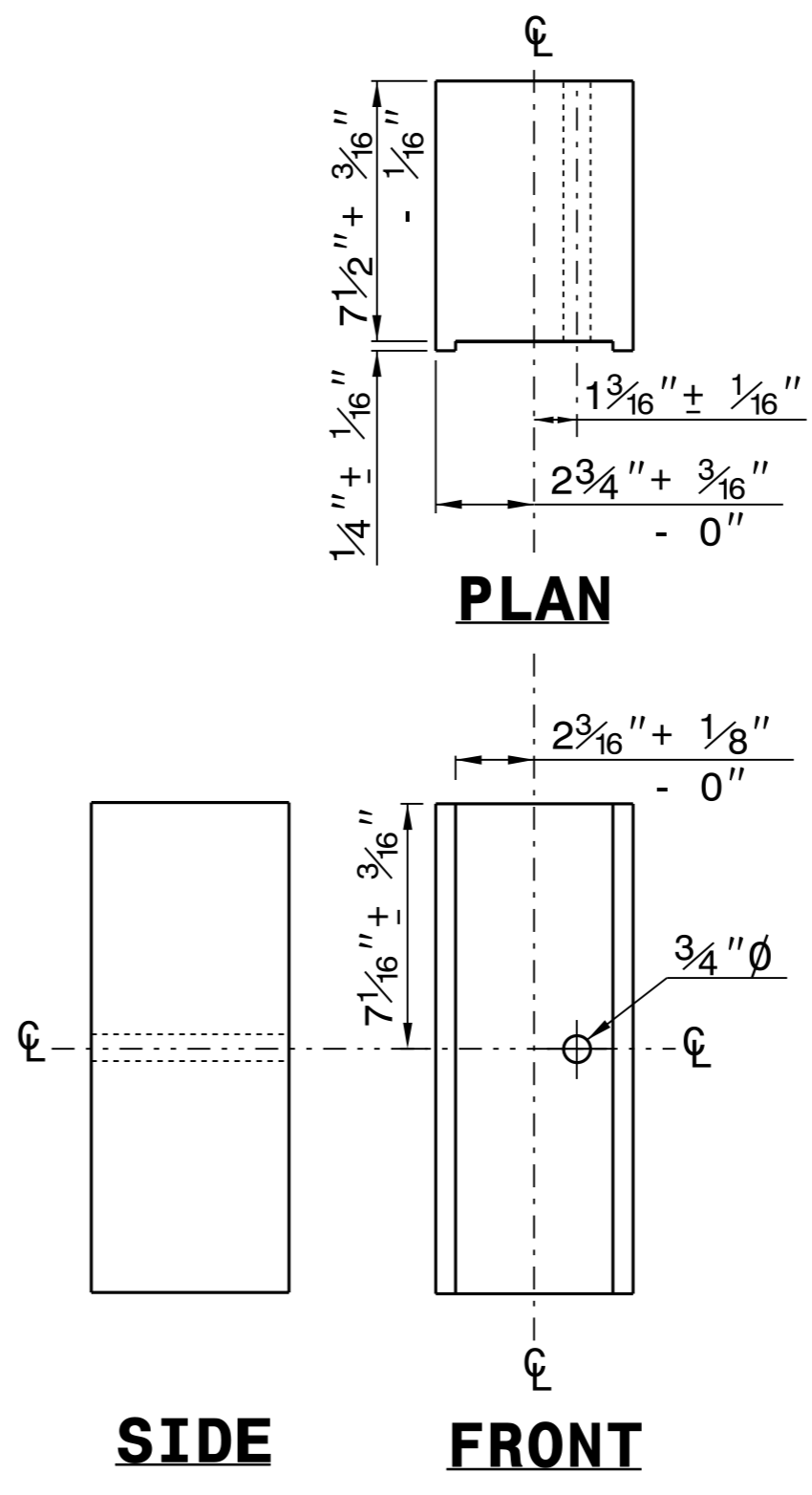
**WOOD OFFSET BLOCK
(FOR WOOD POSTS)**

**STANDARD
LINE POST**

**SHORT WOOD
BREAKAWAY POST**



**STEEL TUBE
TS 6"x8"x0.1875"**

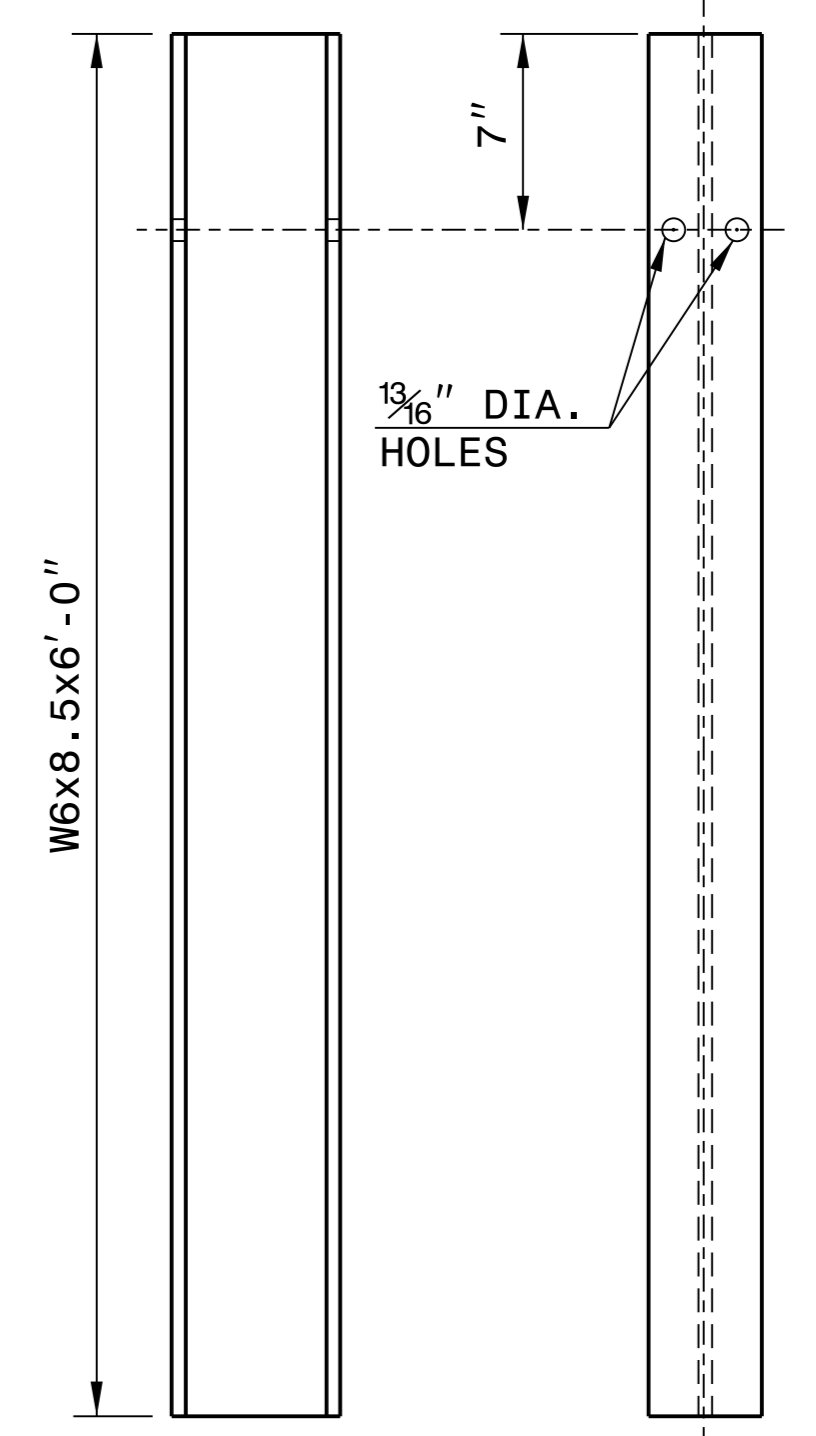


PLAN

SIDE

FRONT

**ROUTED
OFFSET BLOCK**



SIDE

FRONT

"W6" STEEL POST

SYSTEM PARTS

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



6/24/2022

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON	DATE: 3-7-2018
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT EXCAVATION	EMBT + %	BORROW	WASTE
-L- 12+00.00 (RT) TO 26+85.00 (RT)	1167		1742	575	0
-LRPB- 14+56.00 TO 27+87.94	2780		795	0	1985
-LRPC- 16+60.00 TO 29+74.69	432		967	535	0
SUBTOTAL 1	4379		3504	1110	1985
-L- 18+82.35 (LT) TO 45+00.00 (LT)	2851		370	0	2481
-LRPA- 15+95.00 TO 28+38.74	1085		3062	1977	0
-LLPA- 17+28.37 TO 20+47.93	32		0	0	32
SUBTOTAL 2	3968		3432	1977	2513
TOTALS	8347		6936	3087	4498
MATERIAL FOR SHOULDER CONSTRUCTION			3396	3396	
WASTE IN LIEU OF BORROW				-4498	-4498
PROJECT TOTALS	8347		10332	1985	0
EST 5% TO REPLACE BORROW PIT TOPSOIL				100	
GRAND TOTALS	8347			2085	
SAY	8400			2100	

Approximate quantities only. Clearing and grubbing, unclassified excavation, borrow excavation, fine grading, and removal of existing asphalt pavement will be paid for at the lump sum price for "Grading"

REMOVAL OF EXISTING ASPHALT PAVEMENT			
LINE	STATION TO STATION	LOCATION	SQ. YDS.
-L-	12+00 TO 14+46	RT	28
-L-	40+86 TO 44+97	LT	3
-LRPA-	15+95 TO 19+08	RT	32
-LLPA-	17+81 TO 20+48	RT	110
-LRPB-	26+07 TO 27+73	RT	117
TOTAL			290
SAY			300

Note. Earthwork quantities are calculated by Kimley-Horn. Subsurface data was not available.

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING IMPACT ATTENUATOR TYPE TL-3
 NG = NON-GATING IMPACT ATTENUATOR TYPE TL-3

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS				IMPACT ATTENUATOR TYPE TL-3			TERMINAL SECTIONS	REMOVE EXISTING GUARDRAIL	REMOVE AND RESET EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	CAT-1	B-77	GREU TL-2	GREU TL-3	EA	G	NG				
-L-	13+25	22+50	RT	925'			14+50	22+50	2'-12'	15'	50'		1'			1								200'	
-L-	19+62.25	21+12.25	MED(RT)	150'			21+07		6'	9'						1									
-L-	19+00	20+25	MED(LT)				21+07	19+00	6'	9'	50'													125'	
-L-	20+25	22+75	MED(LT)	250'			21+07		6'	9'	50'		1'												TIE TO RESET GUARDRAIL
-L-	30+15	32+65	MED(LT)	250'			30+15		6'	9'	50'		1'												
-L-	30+35	33+35	LT	300'			30+40		5'	8'	50'		1'												
-L-	40+80	45+05	LT	425'			45+05	41+00	12'	15'					1	1								425'	
-L-	42+05	45+55	RT	350'			43+30	45+55	12'	15'	50'		1'											350'	
-L-	42+90	45+40	MED(RT)	250'			45+40		VAR	VAR	227.12'		12.8'											162.5'	
-L-	43+07.50	45+20	MED(LT)	212.5'			45+20		6.5'	9.5'		50'	1'											175'	
-LRPA-	15+95	24+45	RT	850'			15+95	24+45	12'	15'					1									850'	
-LRPA-	21+75	23+00	LT	125'			23+00	23+00	8'	12'	50'		1'												
-LLPA-	17+05	17+80	RT	75'			17+35	17+05	4'	7'					1		1								
-LLPA-	20+48	21+48	RT	100'			20+48		4'	7'	50'		1'				1								
-LRPA-	18+05	21+05	LT	300'			20+05	18+05	12'	15'	50'		1'											300'	
			SUBTOTAL	4562.5'											6	7	1	9						2462.5'	
			LESS ANCHOR DEDUCTIONS																						
			CAT-1 6 @ 6.25'	=																					
			B-77 7 @ 22.875'	=																					
			GREU TL-2 1 @ 25'	=																					
			GREU TL-3 9 @ 50'	=																					
			PROJ. TOTAL	3890'																					
			SAY	3900'											6	7	1	9						2475'	125'
			ADDITIONAL GUARDRAIL POSTS SAY 5 EA																						

SHOULDER BERM GUTTER			
LINE	STATION TO STATION	LOCATION	LF
-L-	15+80.00 TO 22+39.81	RT	661.2
-L-	40+82.60 TO 44+97.09	LT	414.6
-LRPA-	15+95.00 TO 19+08.00	RT	310.0
TOTAL			1385.8
SAY			1390

VARIABLE HEIGHT CONCRETE BARRIER, TYPE T2			
LINE	STATION TO STATION	LOCATION	LF
-LRPA-	23+00.00 TO 23+35.00	LT	35.0
-LRPA- /-LLPA-	24+00.00 TO 20+48.00	LT/RT	230.0
TOTAL			265

PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED			
LINE	STATION TO STATION	LOCATION	LF
-L-	28+52.00 TO 30+15.00	MED(LT)	163.0
TOTAL			163.0
SAY			165

MODIFIED DOUBLE FACED CONCRETE BARRIER, TYPE T2			
LINE	STATION TO STATION	LOCATION	LF
-LRPA-	23+35.00 TO 24+00.00	LT	65.0
TOTAL			65

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2/21/2022

LD2004

COMPUTED BY: SRG DATE: 4-23-2021
CHECKED BY: JDL DATE: 4-23-2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. I-5973
SHEET NO. 3D-1

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

Table with columns: LINE & STATION, OFFSET, STRUCTURE NUMBER, Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC), C. S. PIPE, R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, ENDWALLS, REINFORCED ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, and REMARKS. Includes a SHEET TOTALS row at the bottom.

L22004

COMPUTED BY: SRG DATE: 4-23-2021
CHECKED BY: JDL DATE: 4-23-2021

PROJECT NO. I-5973
SHEET NO. 3D-2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

Table with columns: LINE & STATION, OFFSET, STRUCTURE NUMBER, TOP ELEVATION, INVERT ELEVATION, MINIMUM REQUIRED SLOPE, Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC), C. S. PIPE, R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, ENDWALLS, REINFORCED ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, PIPE REMOVAL, and REMARKS. Includes sub-totals for SHEET TOTALS and PROJECT TOTALS.

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

SUMMARY OF GEOTEXTILE
 FOR PAVEMENT STABILIZATION

LINE	Station	Station	Geotextile for Pavement Stabilization SY	Class IV Subgrade Stabilization TONS
LRPA	21+25	24+00	1528	668
	CONTINGENCY		350	150
	TOTAL SY/TONS:		1878	818*
	SAY		1900	

*Total tons of "Class IV Subgrade Stabilization" is only the estimated quantity for pavement stabilization and may only represent a portion of the subgrade stabilization quantity shown in the Item Sheets of the Proposal.

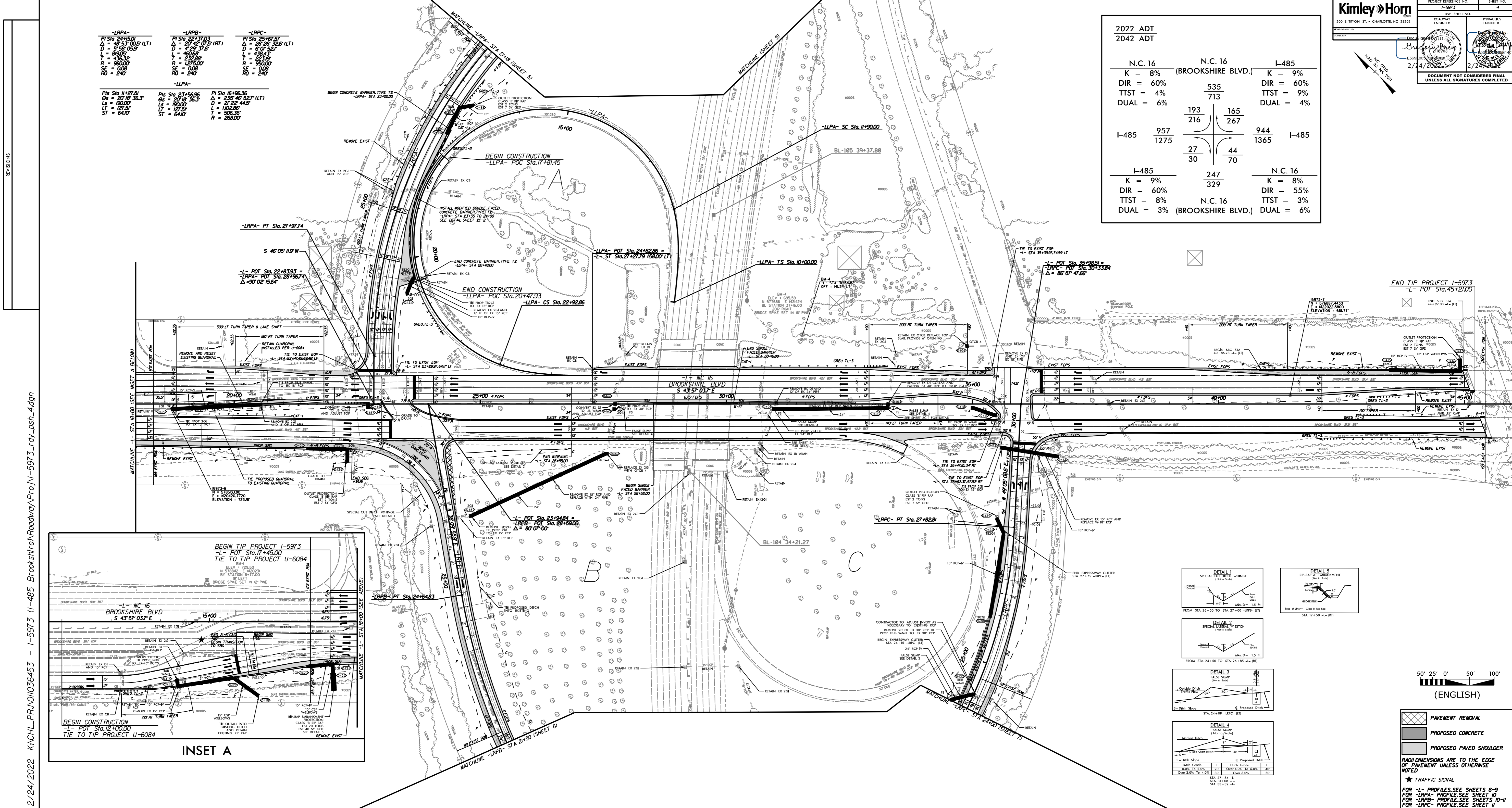
SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
	CONTINGENCY		AST	3				250	
	CONTINGENCY		ASU (1)	12	4883	8913	14653		
	TOTAL CY/TONS/SY:				4883	8913**	14653**	250	0
	SAY				4900	9750	14700	250	

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)

*AST = Aggregate Stabilization

**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Soil Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.



-LRPA- PI Sta 24+15.00 Δ = 49°51'00" (LT) D = 5'58'05.5" L = 89.025' T = 436.32' R = 960.00' SE = 0.02' RO = 240'	-LRPB- PI Sta 22+37.03 Δ = 27°42'03" (RT) D = 4'23'37.6" L = 460.68' T = 232.88' R = 1275.00' SE = 0.02' RO = 240'	-LRPC- PI Sta 25+48.15 Δ = 25°26'32" (LT) D = 6'07'52.7" L = 350.43' T = 223.19' R = 990.00' SE = 0.02' RO = 240'
--	---	--

-LRPA- PI Sta 11+27.51 Δ = 20°18'36.3" L = 190.00' T = 27.51' R = 64.0'	-LRPB- PI Sta 23+56.96 Δ = 23°49'50.7" (LT) D = 37'32" (RT) L = 102.86' T = 506.36' R = 268.00'	-LRPC- PI Sta 15+96.36 Δ = 23°49'50.7" (LT) D = 37'32" (RT) L = 102.86' T = 506.36' R = 268.00'
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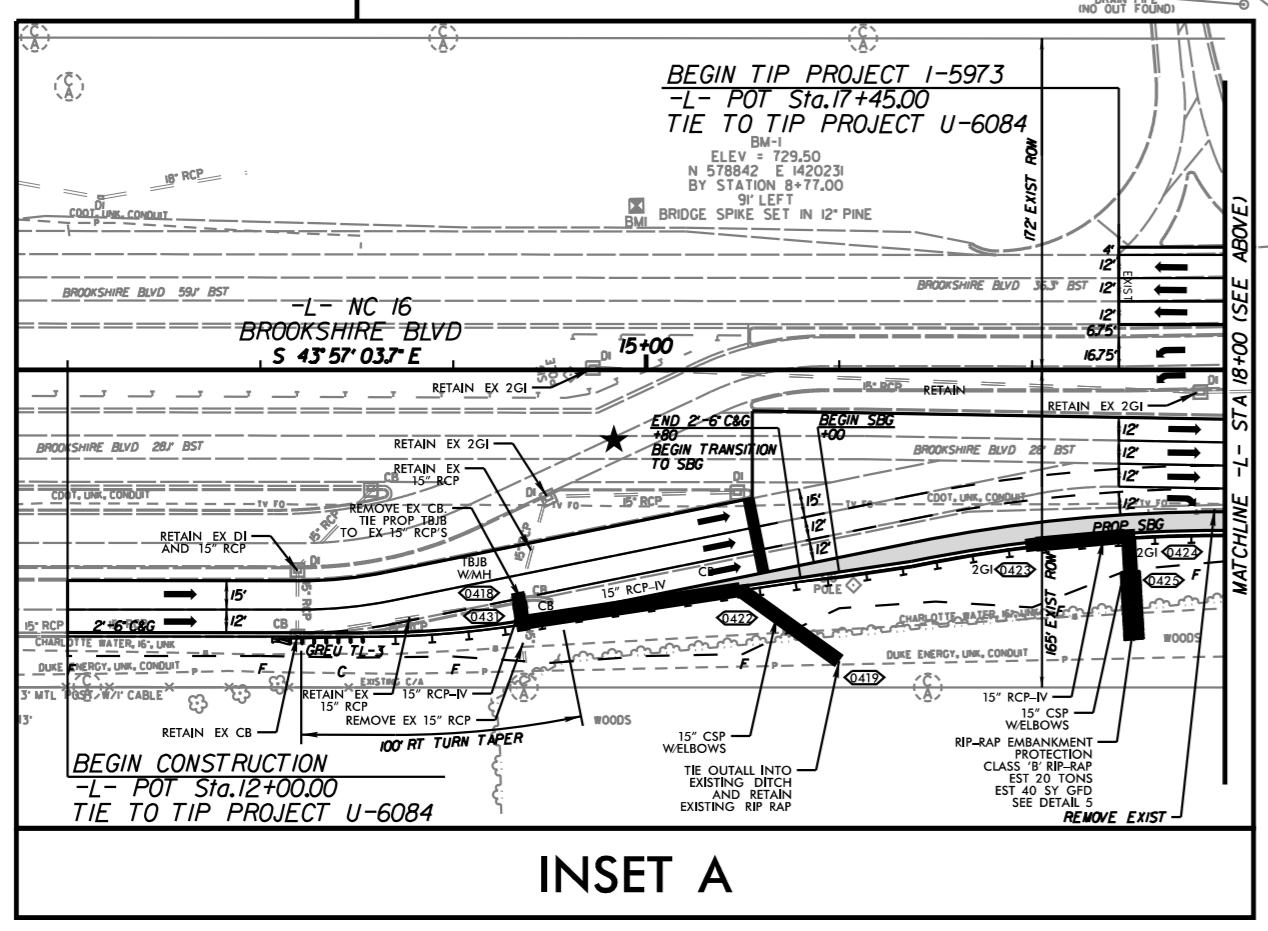
2022 ADT			2042 ADT		
N.C. 16	N.C. 16 (BROOKSHIRE BLVD.)	I-485	N.C. 16	N.C. 16 (BROOKSHIRE BLVD.)	I-485
K = 8%	K = 8%	K = 9%	K = 9%	K = 8%	K = 8%
DIR = 60%	DIR = 60%	DIR = 60%	DIR = 60%	DIR = 55%	DIR = 55%
TTST = 4%	TTST = 4%	TTST = 9%	TTST = 8%	TTST = 3%	TTST = 3%
DUAL = 6%	DUAL = 6%	DUAL = 4%	DUAL = 3%	DUAL = 6%	DUAL = 6%
957	535	944	247	329	1365
1275	713	1365	329	247	1365
27	193	27	27	44	27
30	216	30	30	70	30
165	165	165	165	165	165
267	267	267	267	267	267

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PROJECT REFERENCE NO. I-5973
SHEET NO. 4

DATE: 2/24/2022

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50' 25' 0" 100'
(ENGLISH)

PAVEMENT REMOVAL

PROPOSED CONCRETE

PROPOSED PAVED SHOULDER

RADII DIMENSIONS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED

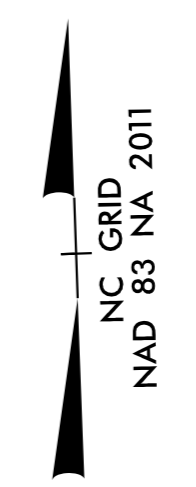
★ TRAFFIC SIGNAL

FOR -L- PROFILES SEE SHEETS B-9
FOR -LRPA- PROFILE SEE SHEET D
FOR -LRPB- PROFILE SEE SHEETS I0-II
FOR -LRPC- PROFILE SEE SHEET H

2/24/2022 K:\CHL_PRA\101036453 - I-5973 (I-485 Brookshire)Roadway\Proj\N-5973_ray_psh_4.dgn

-LRPA-

Pls Sta 11+20.02 θs = 3° 33' 22.6" Ls = 180.00' LT = 120.02' ST = 60.02'	PI Sta 14+47.21 Δ = 20° 53' 00.0" (RT) D = 3° 57' 05.2" L = 528.50' T = 267.21' R = 1,450.00' SE = 0.08 RO = 240'	Pls Sta 17+68.52 θs = 3° 33' 22.6" Ls = 180.00' LT = 120.02' ST = 60.02'
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Kimley»Horn

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RIGHT-OF-WAY REV.
CONST. REV.

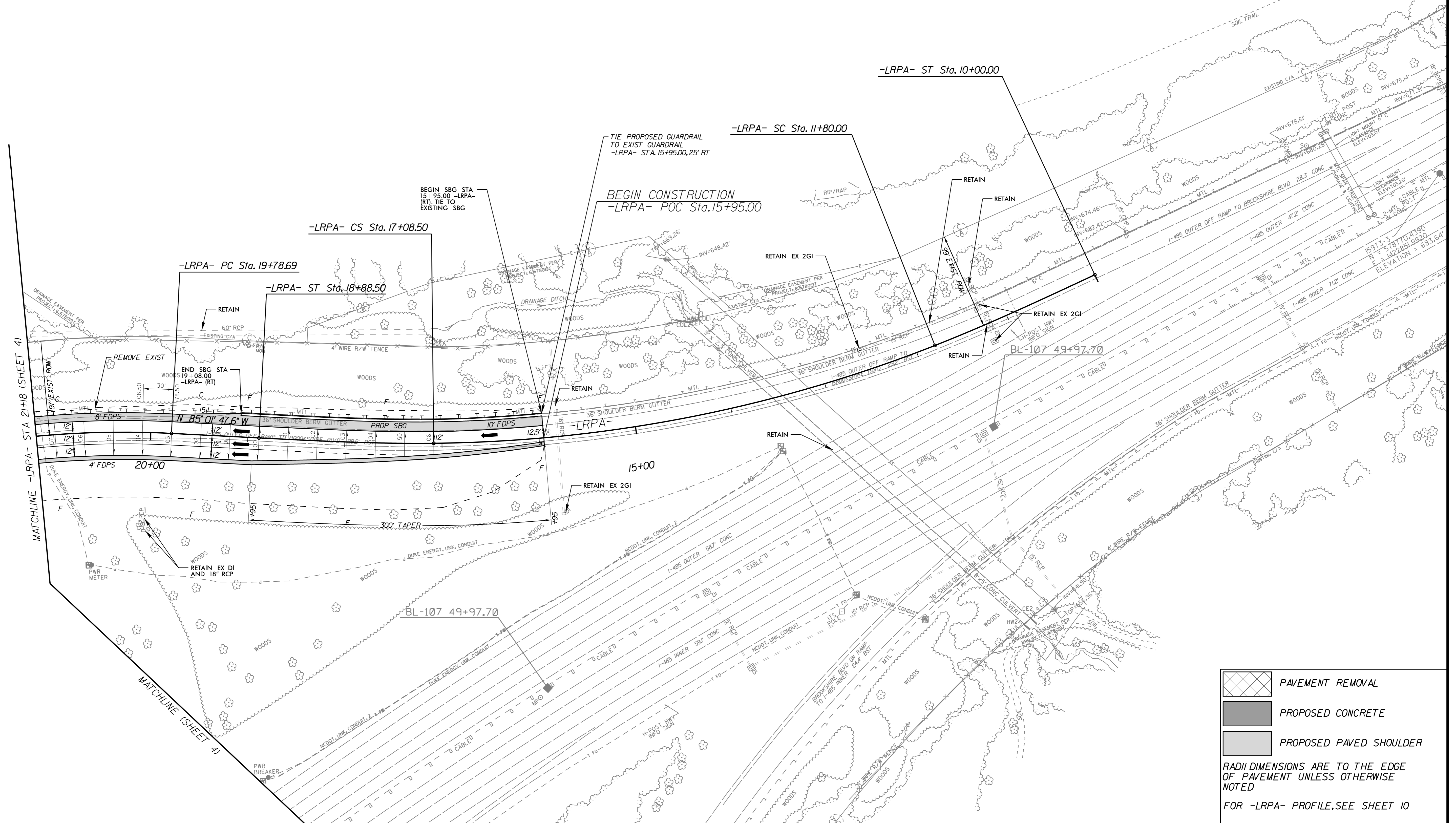
PROJECT REFERENCE NO. 1-5973	SHEET NO. 5
RW SHEET NO.	
ROADWAY ENGINEER	HYDRAULICS ENGINEER

2/24/2022

2/24/2022

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS

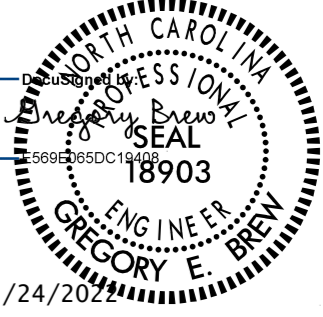
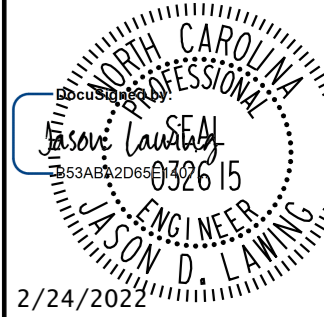


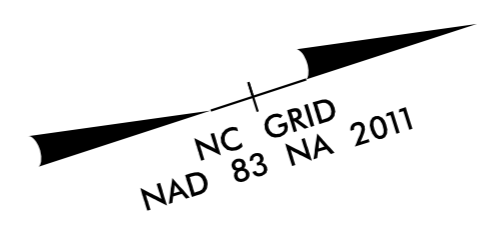
- PAVEMENT REMOVAL
- PROPOSED CONCRETE
- PROPOSED PAVED SHOULDER

RADI DIMENSIONS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED
FOR -LRPA- PROFILE, SEE SHEET 10

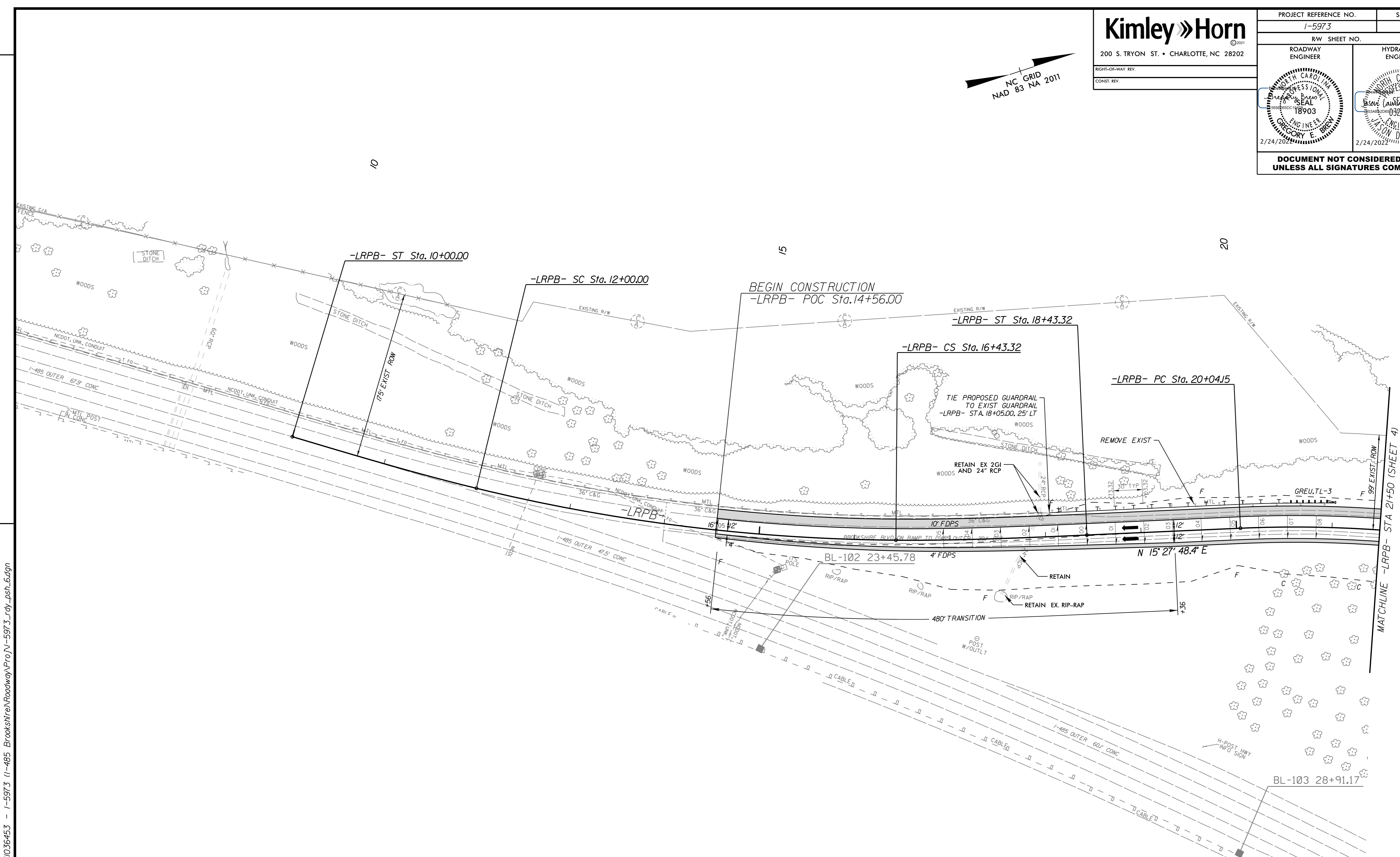
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2/23/2022

PROJECT REFERENCE NO. 1-5973	SHEET NO. 6
R/W SHEET NO.	
ROADWAY ENGINEER	HYDRAULICS ENGINEER
	
2/24/2022	2/24/2022
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-LRPB-

PIs Sta 11+33.35	PI Sta 14+22.65	PIs Sta 17+10.00	PI Sta 22+37.03
$\theta_s = 2^\circ 59' 03.0''$	$\Delta = 13^\circ 13' 45.7''$ (LT)	$\theta_s = 2^\circ 59' 03.0''$	$\Delta = 20^\circ 42' 07.5''$ (RT)
$L_s = 200.00'$	$D = 2^\circ 59' 03.0''$	$L_s = 200.00'$	$D = 4^\circ 29' 37.6''$
$LT = 133.35'$	$L = 443.32'$	$LT = 133.35'$	$L = 460.68'$
$ST = 66.68'$	$T = 222.65'$	$ST = 66.68'$	$T = 232.88'$
	$R = 1,920.00'$		$R = 1,275.00'$
	$SE = 0.05$		$SE = 0.08$
	$RO = 150'$		$RO = 240'$

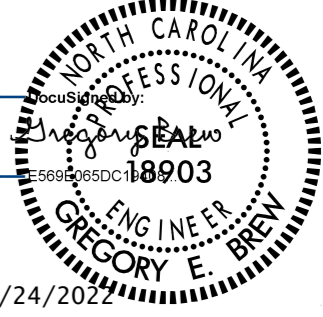

-  PAVEMENT REMOVAL
-  PROPOSED CONCRETE
-  PROPOSED PAVED SHOULDER

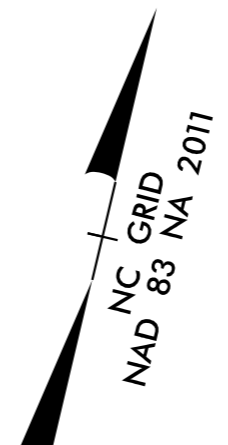
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FOR -LRPB- PROFILE, SEE SHEET 10

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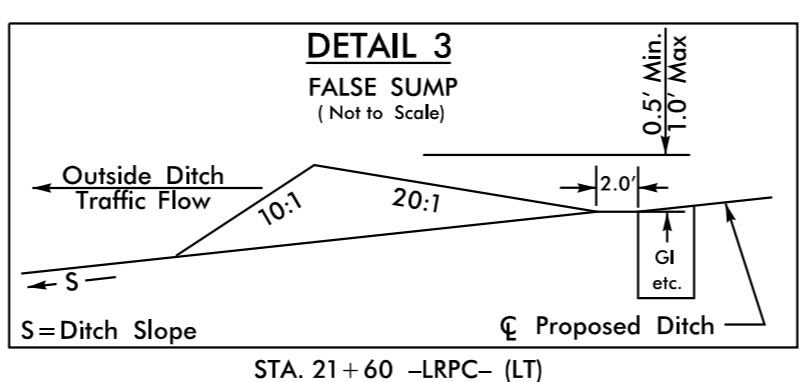
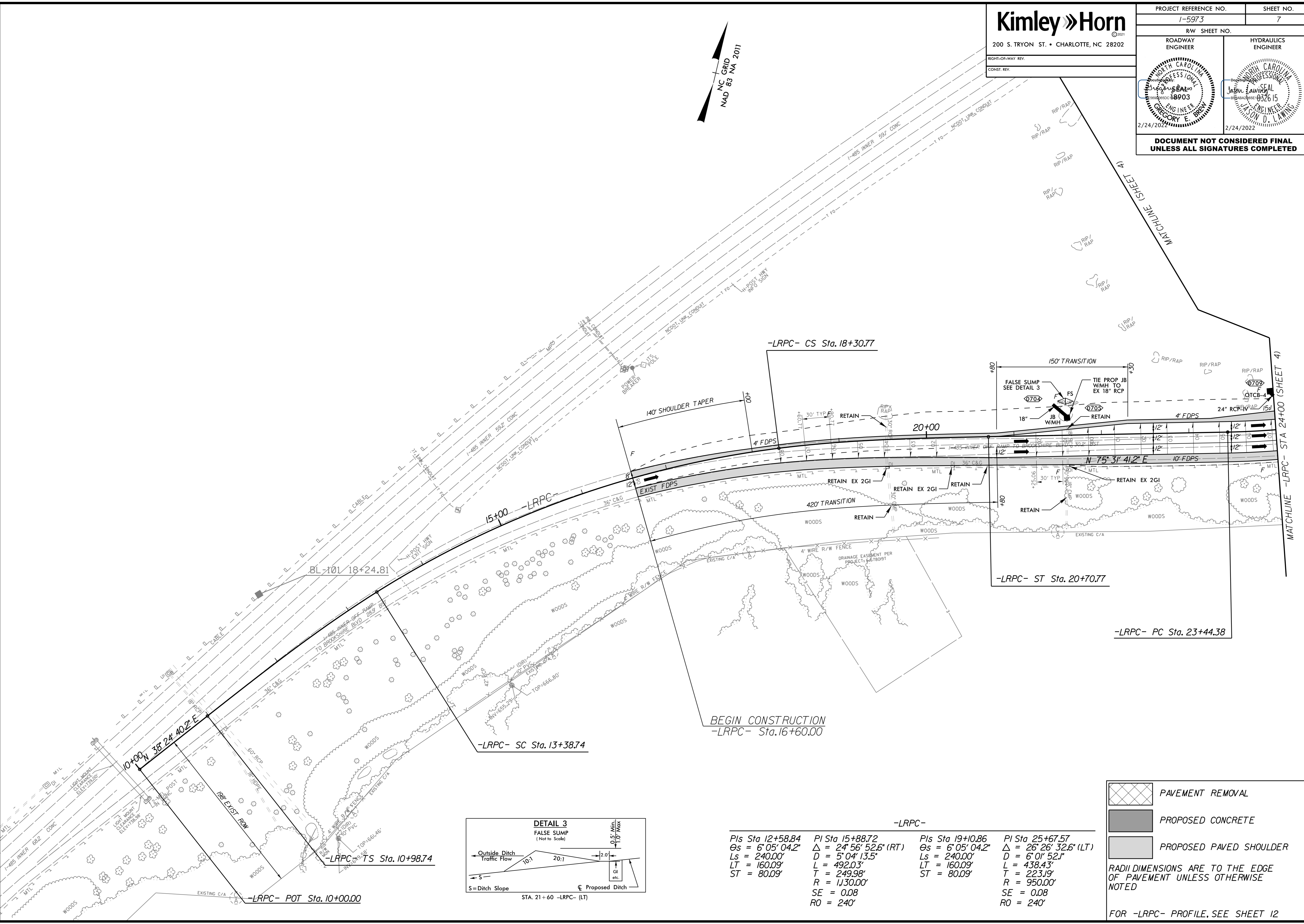
2/24/2022

PROJECT REFERENCE NO. 1-5973	SHEET NO. 7
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY ENGINEER	ENGINEER
	
2/24/2022	2/24/2022
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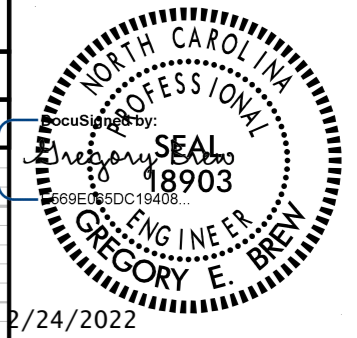
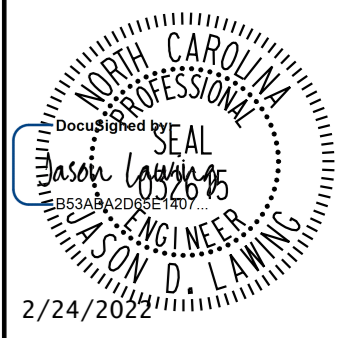
-LRPC-

PI Sta 12+58.84	PI Sta 15+88.72	PI Sta 19+10.86	PI Sta 25+67.57
$\Theta_s = 6' 05' 04.2''$	$\Delta = 24' 56' 52.6''$ (RT)	$\Theta_s = 6' 05' 04.2''$	$\Delta = 26' 26' 32.6''$ (LT)
Ls = 240.00'	D = 5' 04' 13.5"	Ls = 240.00'	D = 6' 01' 52.1"
LT = 160.09'	L = 492.03'	LT = 160.09'	L = 438.43'
ST = 80.09'	T = 249.98'	ST = 80.09'	T = 223.19'
	R = 1,130.00'		R = 950.00'
	SE = 0.08		SE = 0.08
	RO = 240'		RO = 240'

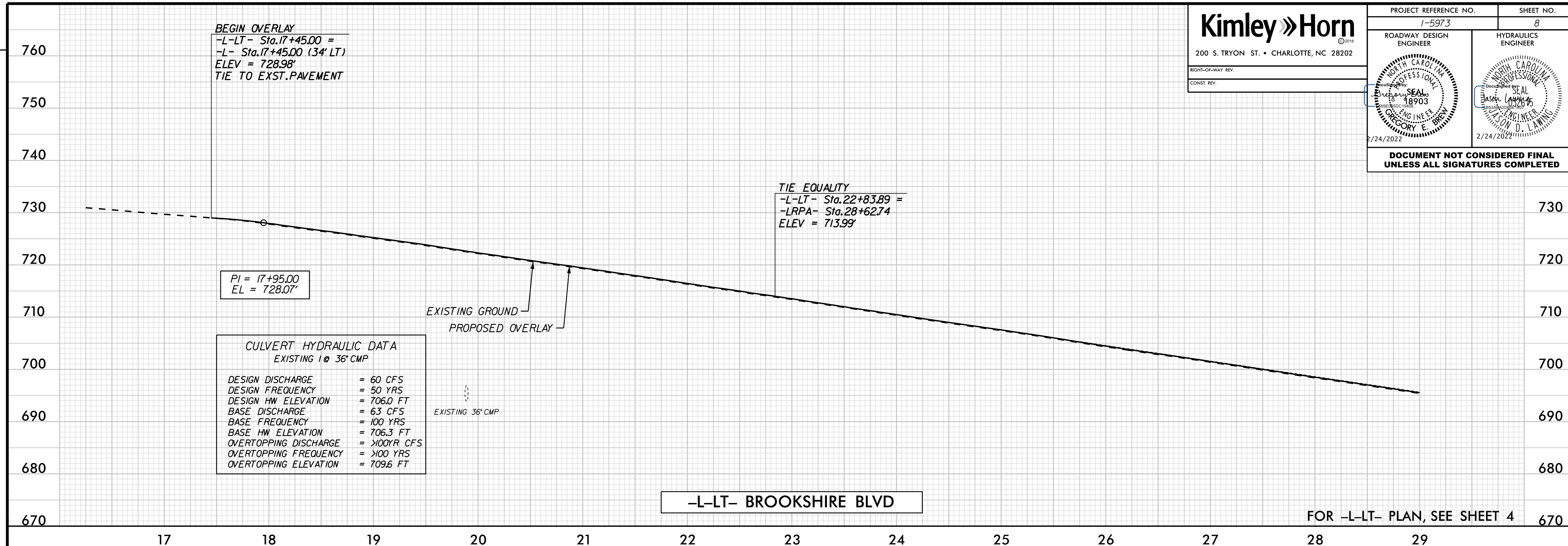
-  PAVEMENT REMOVAL
 -  PROPOSED CONCRETE
 -  PROPOSED PAVED SHOULDER
- RADI DIMENSIONS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED
- FOR -LRPC- PROFILE, SEE SHEET 12



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PROJECT REFERENCE NO. 1-5973	SHEET NO. 8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 GREGORY E. BRIEN 2/24/2022	 JASON D. LANNING 2/24/2022
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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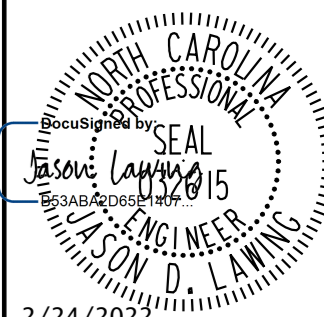


FOR -L-LT- PLAN, SEE SHEET 4

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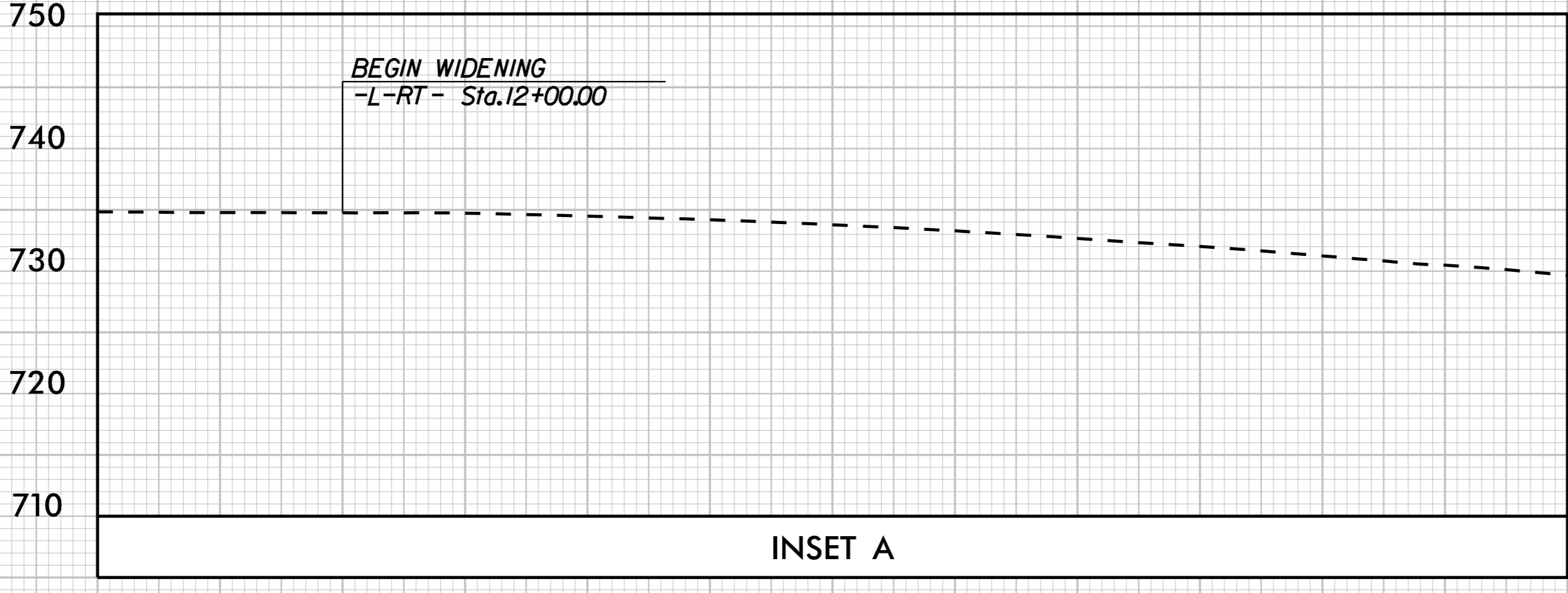
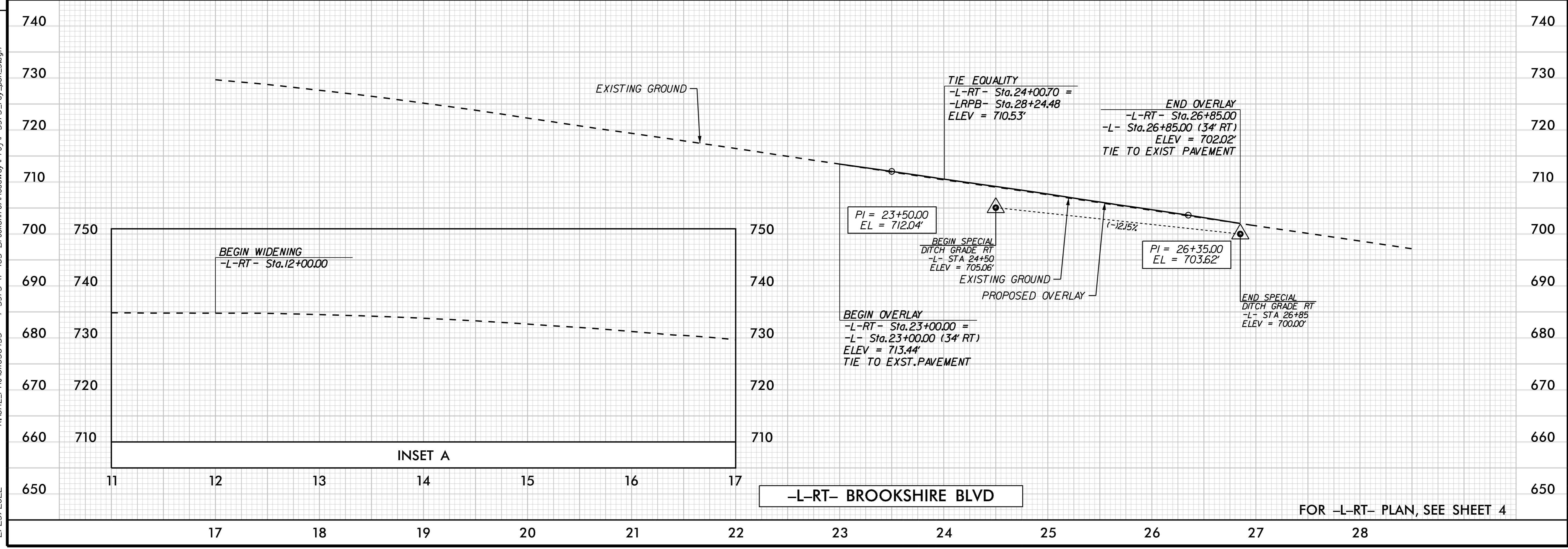
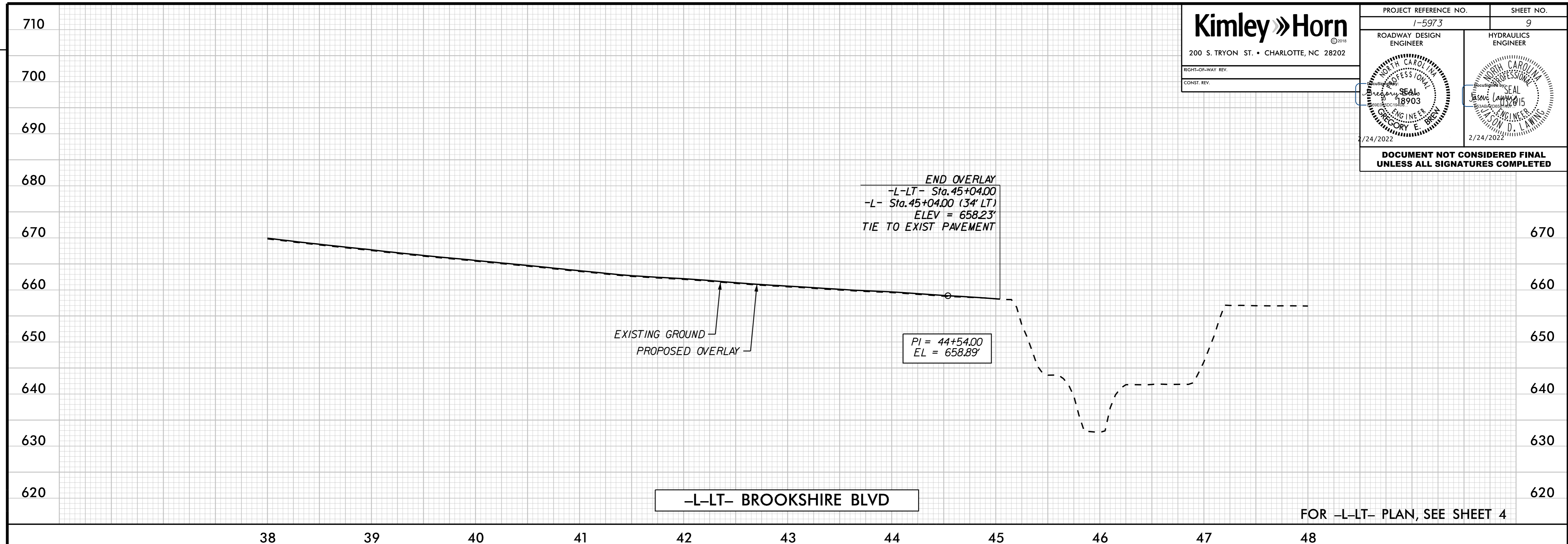


FOR -L-LT- PLAN, SEE SHEET 4

PROJECT REFERENCE NO. 1-5973	SHEET NO. 9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 GREGORY E. BREW 2/24/2022	 JASON D. LANNING 2/24/2022


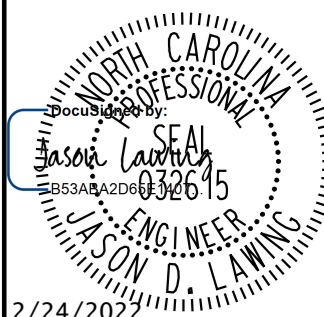
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UNLESS ALL SIGNATURES COMPLETED**

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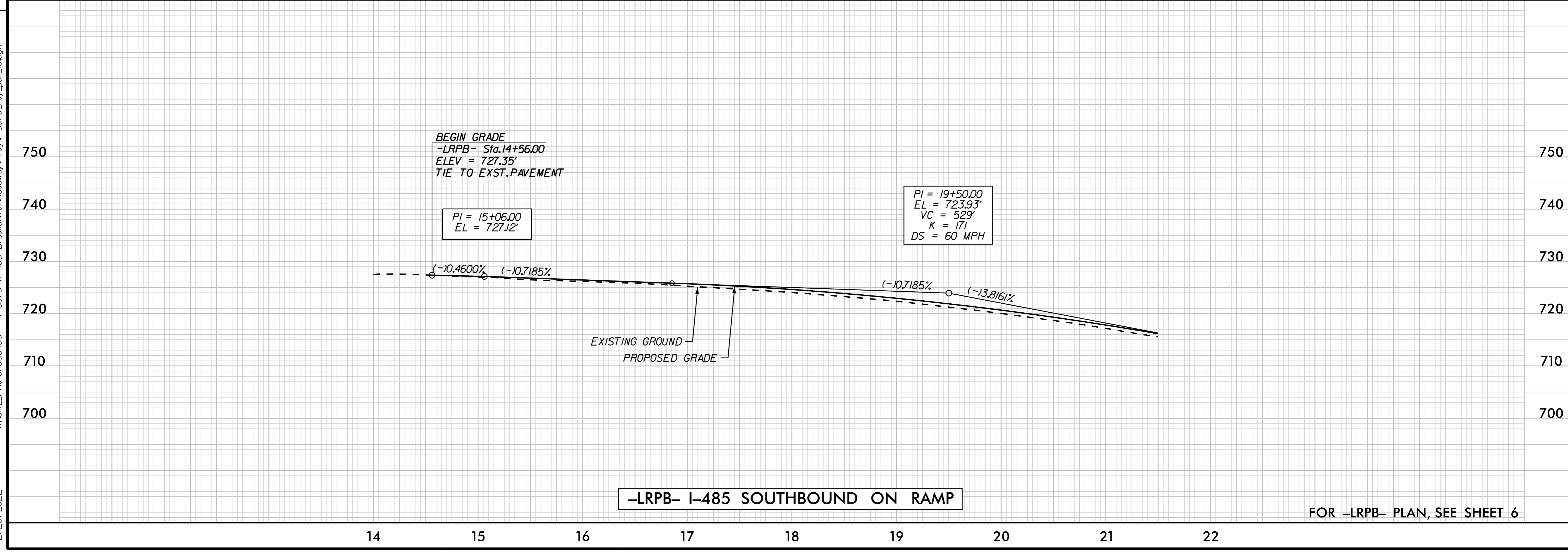
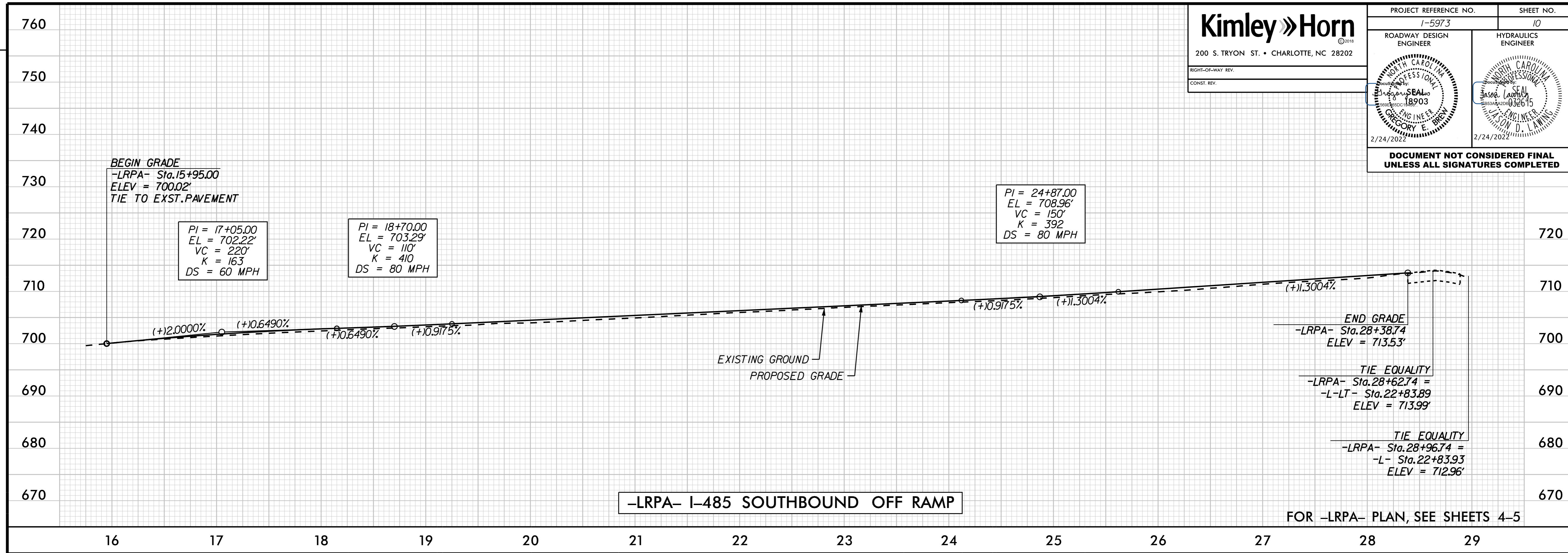
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 RIGHT-OF-WAY REV.
 CONST. REV.


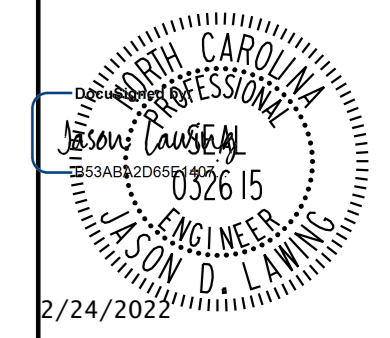
PROJECT REFERENCE NO. I-5973	SHEET NO. 10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	

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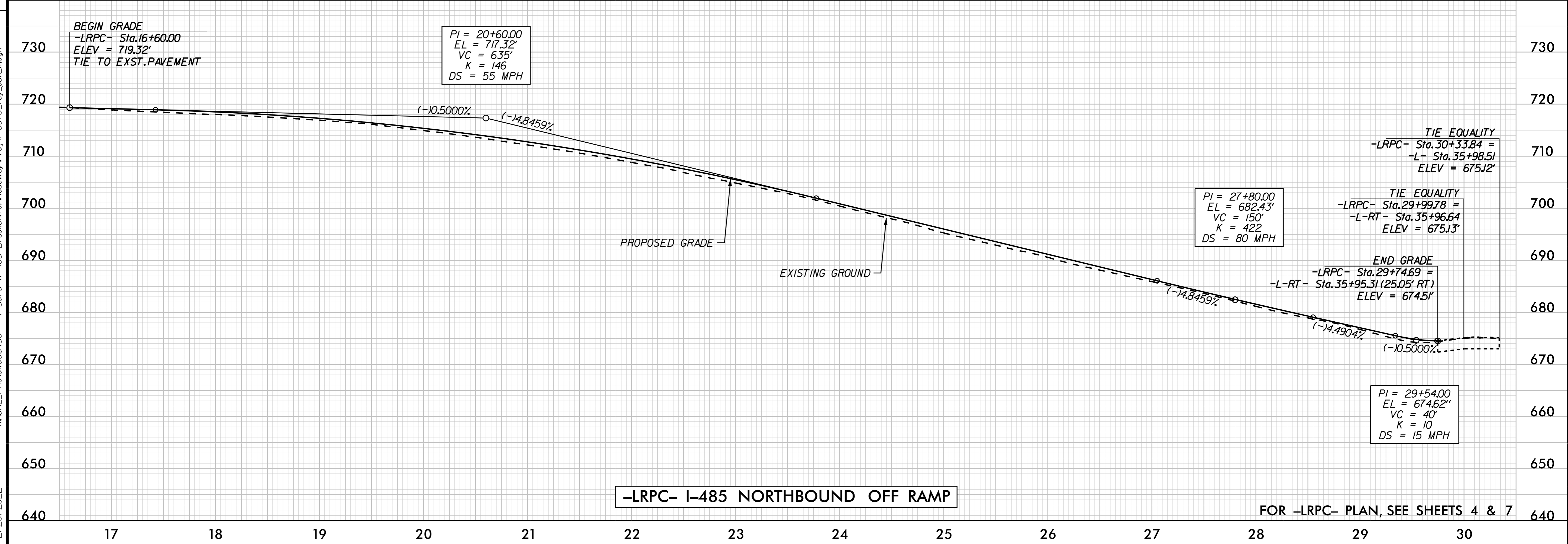
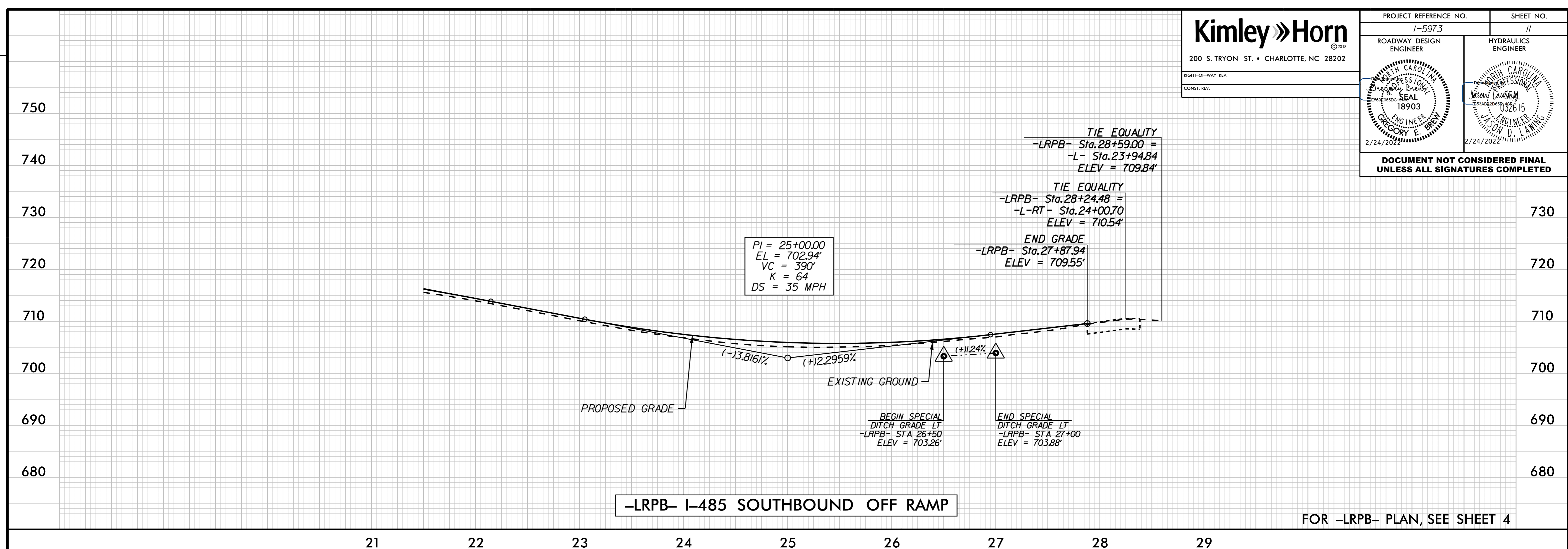


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PROJECT REFERENCE NO. I-5973	SHEET NO. II
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
2/24/2022	2/24/2022

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