SEWARD TOWNSHIP ROAD DISTRICT

FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA:

O'BRIEN RD ADT: ADT 2019 : 675

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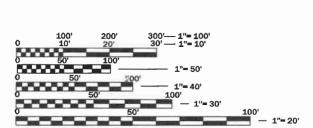
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POSTED SPEED: 55 MPH DESIGN SPEED: 55 MPH

DESIGN DESIGNATION:

LOCAL ROUTE



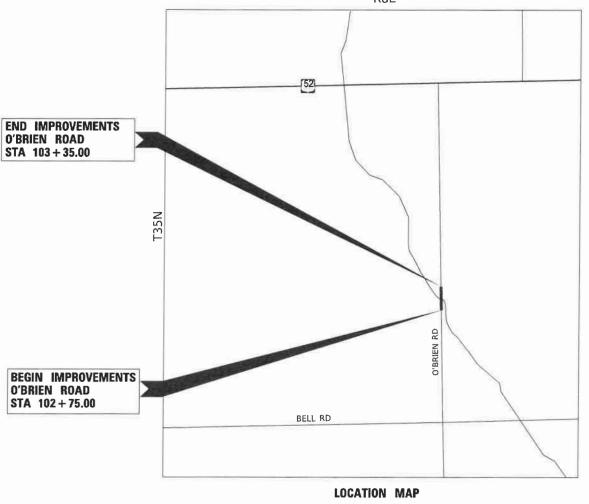
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROPOSED HIGHWAY PLANS

O'BRIEN ROAD CULVERT REPLACEMENT

KENDALL COUNTY SECTION: 21-09124-00-DR



LOCATION MAP (NOT TO SCALE) : 60 FT. = 0.01 MILE

GROSS LENGTH = 60 FT. = 0.01 MILE NET LENGTH = 60 FT. = 0.01 MILE



77/ W/ 3/11/2022

NO. 062-060955 EXPIRES: 11/30/2023 HR GREEN, INC.





2363 SEQUOIA DRIVE, SUITE 101 | AURORA, ILLINOIS 60506 Phone: 630.553,7560 | Toll Free: 800.728.7805 | Fax: 630.553,7646 | HRGreen.com ILLINOIS PROFESSIONAL DESIGN FIRM #184-001322

APPROVED 3-14 20 22

Sutt Charles Township Road district

GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE ILLINOIS DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2022 (HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS); THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED JANUARY 1, 2022; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THESE PLANS; AND THE SPECIAL PROVISIONS IN THE CONTRACT DOCUMENTS.
- 2. THE CONTRACTOR SHALL NOT SCALE FROM THE PLANS FOR CONSTRUCTION PURPOSES. SCALES ARE SHOWN FOR INFORMATION ONLY.
- 3. ALL REFERENCES TO "ENGINEER" SHALL BE INTERPRETED TO MEAN THE RESIDENT ENGINEER.
- 4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN EXISTING FIELD CONDITIONS PRIOR TO BIDDING. THE CONTRACTOR SHALL NOTE ANY CHNAGES FROM THESE ENGINEERING PLANS AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE INTENT OF THE ENGINEERING PLANS SUCH AS, BUT NOT LIMITED TO, DRAINAGE, GEOMETRICS, AND GRADING
- 5. THE CONTRACTOR SHALL MAINTAIN THE SITE IN A CLEAN AND ORDERLY MANNER. DEBRIS AND SURPLUS MATERIALS SHALL BE REMOVED FROM THE SITE ON A REGULAR BASIS AND DISPOSED OF IN ACCORDANCE WITH ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS. RESTORATION SHALL BE INITIATED AS WORK PROGRESSES TO THE EXTENT CONSIDERED PRACTICAL.
- THE CONTRACTOR SHALL RETURN ALL EXISTING AREAS (TO REMAIN) AFFECTED BY THE
 CONSTRUCTION ACTIVITES, PERSONNEL, OR EQUIPMENT TO THE ORIGINAL UNDISTURBED CONDITIONS.
 THE CONTRACTOR SHALL ADDITIONALLY PROTECT AND MAINTAIN ALL COMPLETED WORK IN
 ACCORDANCE WITH ARTICLE 107.03.
- 7. THE CONTRACTOR SHALL PLAN ALL OF THEIR WORK BASED UPON THEIR OWN EXPLORATIONS, SOIL BORINGS, AND OBSERVATIONS TO DETERMINE SOIL CONDITIONS WITHIN THE PROPOSED IMPROVEMENTS. HOWEVER, THE OWNER HAS PERFORMED A GEOTECHNICAL INVESTIGATION AND THE GEOTECHNICAL REPORT WILL BE MADE AVAILABLE UPON REQUEST. TO MAKE ARRANGEMENTS FOR ACCESS TO THIS INFORMATION. CONTACT MIKE WITTKOP OF HR GREEN AT 630.708.5048.

EARTHWORK NOTES

- MEASUREMENT AND PAYMENT OF ALL EARTHWORK PAY ITEMS SHALL ONLY OCCUR ONCE. ANY AND ALL NECESSARY STOCKPILING AND EXTRA HANDLING OF EARTHWORK FOR LATER USE SHALL BE FACTORED INTO THE CONTRACTOR'S BID UNIT COST FOR EARTH EXCAVATION AND REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL. THIS INCLUDES INSTANCES OF SATURATED MATERIALS NEEDING TO BE DRIED PRIOR TO INCORPORATION OR DISPOSAL OFF-SITE.
- 2. UNDERCUTS (REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES AND REPLACEMENT WITH ROCK FILL AND GEOTECHNICAL FABRIC) HAVE BEEN ESTIMATED BASED UPON THE GEOTECHNICAL REPORT. ALL UNDERCUTS SHALL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY A QUALIFIED SOILS INSPECTOR IN ACCORDANCE WITH IDOT MANUAL FOR TEST PROCEDURES OR MATERIALS AND THE IDOT SOILS FIELD TESTING AND INSPECTION MANUAL. FINAL QUANTITY OF UNDERCUTS SHALL BE AS DETERMINED AND MEASURED IN THE FIELD AND CHANGES IN QUANTITIES SHALL NOT BE CONSIDERED A SIGNIFICANT CHANGE UNDER ARTICLE 104.02.
- 3. A 15% SHRINKAGE FACTOR HAS BEEN APPLIED FOR ALL EMBANKMENT TO BE PLACED ON SITE.
- 4. EARTHWORK QUANTITIES AND EARTHWORK BALANCE DOES NOT INCLUDE USE OF TRENCH SPOILS IN EMBANKMENT. REMOVAL AND DISPOSAL OF TRENCH SPOILS IS INCLUDED IN THE UNIT COST BID FOR TRENCH BACKFILL IN ACCORDANCE WITH SECTION 208 OF THE STANDARD SPECIFICATIONS. SUITABLE TRENCH SPOILS MAY BE UTILIZED AS EMBANKMENT IF APPROVED BY THE ENGINEER. USE OF TRENCH SPOILS AS EMBANKMENT SHALL NOT ALTER THE PLAN EARTHWORK QUANTITIES.

UTILITY AND DRAINAGE NOTES

- THE LOCATION OF BURIED AND ABOVE GROUND UTILITIES SHOWN IN THE PLANS IS FOR THE CONTRACTOR'S INFORMATION ONLY AND IS NOT TO BE RELIED UPON FOR CONSTRUCTION PURPOSES. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE OWNER, ENGINEER, CONTRACTOR, OR SUB-CONTRACTOR TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ITS CONSTRUCTION ACTIVITIES WITH THE VARIOUS UTILITY OWNERS. ALL POTENTIAL CONFLICTS SHALL BE INVESTIGATED AND REMEDIAL ACTION TAKEN PRIOR TO INTERRUPTION OF THE CONTRACTOR'S PROGRESS.
- 2. WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF EXISTING UTILITY FACILITIES, SUCH INFORMATION ONLY REPRESENTS THE APPROXIMATE LOCATIONS BASED UPON PROVIDED ATLAS INFORMATION RECEIVED FROM UTILITY OWNERS. THE CONTRACTOR SHALL NOT ASSUME THAT THE LOCATIONS ARE EXACT, AND SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTACT OR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY FACILITIES FROM CONSTRUCTION ACTIVITIES EVEN IN THE EVENT THEY ARE NOT SHOWN IN THE PLANS. THE CONTACT OR SHALL CONTACT "JULIE" (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION) AT 811 OR 1-800-892-0123 FOR FIELD LOCATION OF UTILITIES PRIOR TO ANY EXCAVATIONS. ANY UTILITY DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE NATURE AND STATUS OF ALL UTILITY RELOCATION WORK PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ENSURE THAT CONSTRUCTION ACTIVITIES DO NOT INTERFERE WITH UTILITY FACILITIES AND RELOCATION WORK. THE CONTRACTOR'S SCHEDULE SHALL REFLECT CONSTRUCTION SEQUENCING WHICH COORDINATES WITH ALL UTILITY RELOCATION WORK. THE CONTRACTOR SHALL BE REQUIRED TO ADJUST THE SCHEDULE OF WORK TO COORDINATE WITH THE RELOCATION OF CONFLICTING UTILITY COMPANIES.
- 5. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES THROUGHOUT THE DURATION OF THE CONTRACT. METHODS UTILIZED BY THE CONTRACTOR SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
- 6. ANY FARM DRAIN, FIELD TILE SYSTEM, OR OTHER TILE FACILITY ENCOUNTERED DURING THE PROPOSED WORK SHALL BE LOCATED, STAKED, AND REPORTED TO THE ENGINEER. DRAINAGE LINES WHICH ARE CUT OR DAMAGED BY GRADING, TRENCHING, EXCAVATING, OR OTHER CONSTRUCTION ACTIVITIES SHALL BE REPAIRED SO AS TO MAINTAIN ITS ORIGINAL ALIGNMENT. IF THIS CANNOT BE ACCOMPLISHED, THE TILE SHALL BE REPAIRED AND CONNECTED TO THE PROPOSED STORM SEWER OR DITCH IN SUCH A MANNER AS TO RENDER THE LINES USABLE FOR THE PURPOSES INTENDED. THE WORK SHALL BE DONE IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

COMMONWEALTH EDISON NOTES

- 1. IF THE CONTRACTOR DETERMINES A LINE OUTAGE WILL BE REQUIRED TO SAFELY WORK WITHIN THE VICINITY OF EXISTING OVERHEAD FACILITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADVANCED NOTIFICATION AND COORDINATION WITH COMMONWEALTH EDISON. AT A MINIMUM THE CONTRACTOR WILL BE REQUIRED TO PROVIDE THE NATURE OF THE WORK THAT WILL BE PERFORMED, TYPE OF CONSTRUCTION EQUIPMENT, AND AN EXPLANATION OF ALTERNATIVES (IF ANY) THAT MAY BE AVAILABLE WITH AN EXPLANATION OF WHY THEY WILL NOT BE PRACTICAL.
- 2. ANY AND ALL OPEN TRENCHING WITHIN THREE (3) FEET OF A UTILITY POLE MAY REQUIRE BRACING BY THE UTILITY COMPANY. BRACING MAY REQUIRE UP TO SIX (6) WEEKS NOTICE.

INDEX OF SHEETS

15 - 17

1		COVER SHEET
2		INDEX OF SHEETS / LIST OF HIGHWAY STANDARDS / GENERAL NOTES
3		SUMMARY OF QUANTITIES
4		TYPICAL SECTIONS
5		ALIGNMENT, TIES, AND BENCHMARKS
6		REMOVAL PLANS
7		PLAN AND PROFILES
8		DETOUR PLANS
9 -	11	EROSION CONTROL PLAN AND DETAILS
12 -	13	PRECAST CULVERT DETAILS
14		SOIL BORING LOGS

LIST OF HIGHWAY STANDARDS

CROSS SECTIONS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
701001-02	OFF-RD OPERATIONS 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-ROAD OPERATIONS 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-04	OFF-ROAD MOVING OPERATIONS 2L, 2W, DAY ONLY
701311-03	LANE CLOSURE 2L, 2W MOVING OPERATIONS - DAY ONLY
701901-08	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
720006-04	SIGN PANEL ERECTION DETAILS
720011-01	METAL POSTS FOR SIGNS, MARKERS AND DELINEATORS
729001-01	APPLICATIONS OF TYPES A AND B METAL POSTS (FOR SIGNS & MARKERS)

LIST OF IDOT DISTRICT 3 STANDARDS

780-8 PAVEMENT MARKING

		21101505	20200100		20400800
	TOPSOIL	TOPSOIL	EARTHWORK	EMBANKMENT	BALANCE
LOCATION	STRIPPING	EXCAVATION &	EXCAVATION		WASTE (+) OR
LOCATION		PLACEMENT			SHORTAGE (-)
	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)
O'BRIEN RD	35.0	14.0	165.0	203.0	-46.0
TOTAL	35.0	14.0	165.0	203.0	-46.0

SCALE:

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SEWARD	TOWNSHIP
ROAD	DISTRICT

		_					F.A. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
		G	FNF	RAL NO	TES			21-09124-00-DR		KENDALL	17	2
										CONTRACT	NO.	
SHEET	1	OF	1	SHEETS	STA.	TO STA.		ILLINOIS	FFD. A	ID PROJECT		

CODE			TOTAL
NUMBER	PAY ITEM	UNIT	QUANT I
20200100	EARTH EXCAVATION	CU YD	165
20200100	EARTH EXCAVALLON	CO ID	103
20400800	FURNISHED EXCAVATION	CU YD	46
20700220	POROUS GRANULAR EMBANKMENT	CU YD	330
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	152
21101505	TOPSOIL EXCAVATION AND PLACEMENT	CU YD	14
25000210	SEEDING, CLASS 2A	ACRE	0.1
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	6
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	6
25100630	EROSION CONTROL BLANKET	SQ YD	314
28000400	PERIMETER EROSION BARRIER	FOOT	55
28100107	STONE RIPRAP, CLASS A4	SQ YD	63
28200200	FILTER FABRIC	SQ YD	63
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	154
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	330
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	47
40604060	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON	17
44000100	PAVEMENT REMOVAL	SQ YD	139
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	44

CODE			TOTAL
NUMBER	PAY ITEM	UNIT	QUANTITY
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	26
50201101	COFFERDAM (TYPE 1) (LOCATION - 1)	EACH	1
54001001	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	2
54011206	PRECAST CONCRETE BOX CULVERTS 12' X 6'	FOOT	43
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	75
67100100	MOBILIZATION	L SUM	1
78001130	PAINT PAVEMENT MARKING - LINE 6"	FOOT	120
X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	75
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
Z0013798	CONSTRUCTION LAYOUT	L SUM	1
Z0054400	ROCK FILL	CU YD	26

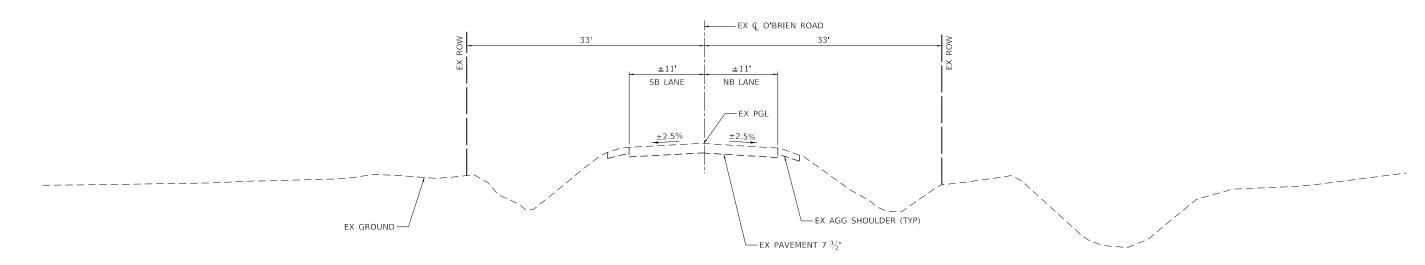
* = SPECIAL PROVISION

 Δ = SPECIALITY ITEM

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SUMMARY OF QUANTITIES										21-0912	4-00-DR		KENDALL	17	3	
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EXISTING TYPICAL SECTION O'BRIEN ROAD

STA 102+75.00 TO STA 103+35.00

SB LANE

2.5% MATCH EX

—EX Ç O'BRIEN ROAD

SHLDR

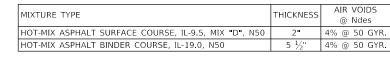
— EX GROUND

SCALE: N.T.S. SHEET 1

NB LANE

2.5% MATCH EX





THE UNIT WEIGHT TO CALCULATE ALL HMA SURFACE MIXTURES IS 112 LB/SY-IN

THE "AC TYPE" FOR POLYMERIZED HMA MIXTURES SHALL BE "SBS/SBR PG 76-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY SPECIAL PRVISIONS.

FOR USE OF RECYCLED MATERIALS SEE SPECIAL PROVISIONS.

4" TOPSOIL EXC & PLAC (TYP) - AGG SHLD 6 (TYP) PAVEMENT REMOVAL -— HMA SC IL-9.5 D N50, 2" HMA BC IL-19.0 N50, 5 ½"— └─ AGG SUBGRADE IMPR 12" PROPOSED TYPICAL SECTION

O'BRIEN ROAD

STA 102+75.00 TO STA 103+35.00

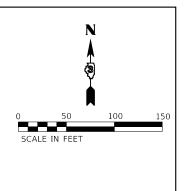
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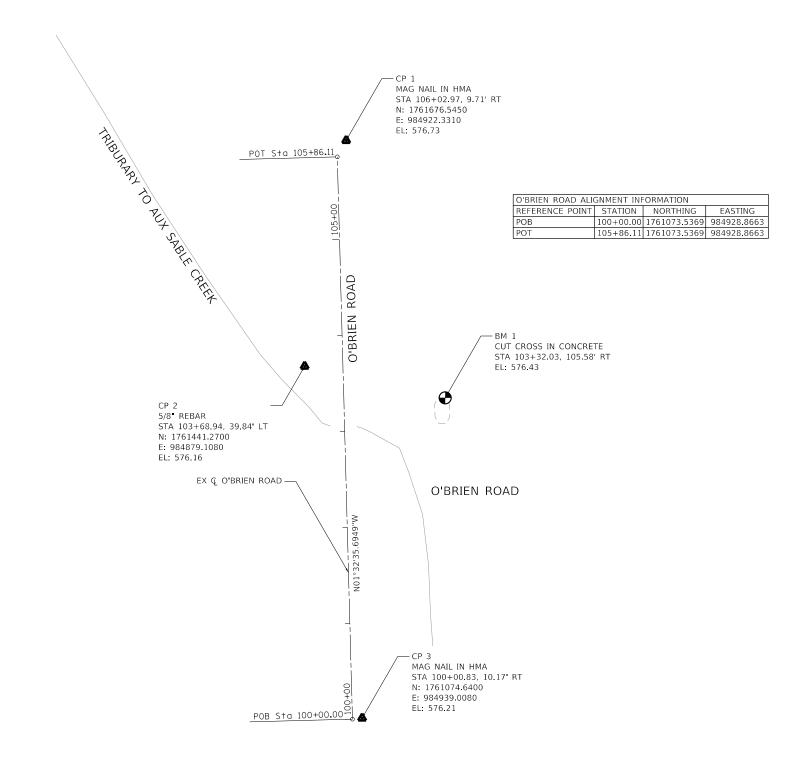
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SEWARD	TOWNSHIP
ROAD	DISTRICT

				F.A. RTE	SEC ⁻	ΓΙΟΝ		COUNTY	TOTAL SHEETS	SHEET NO.
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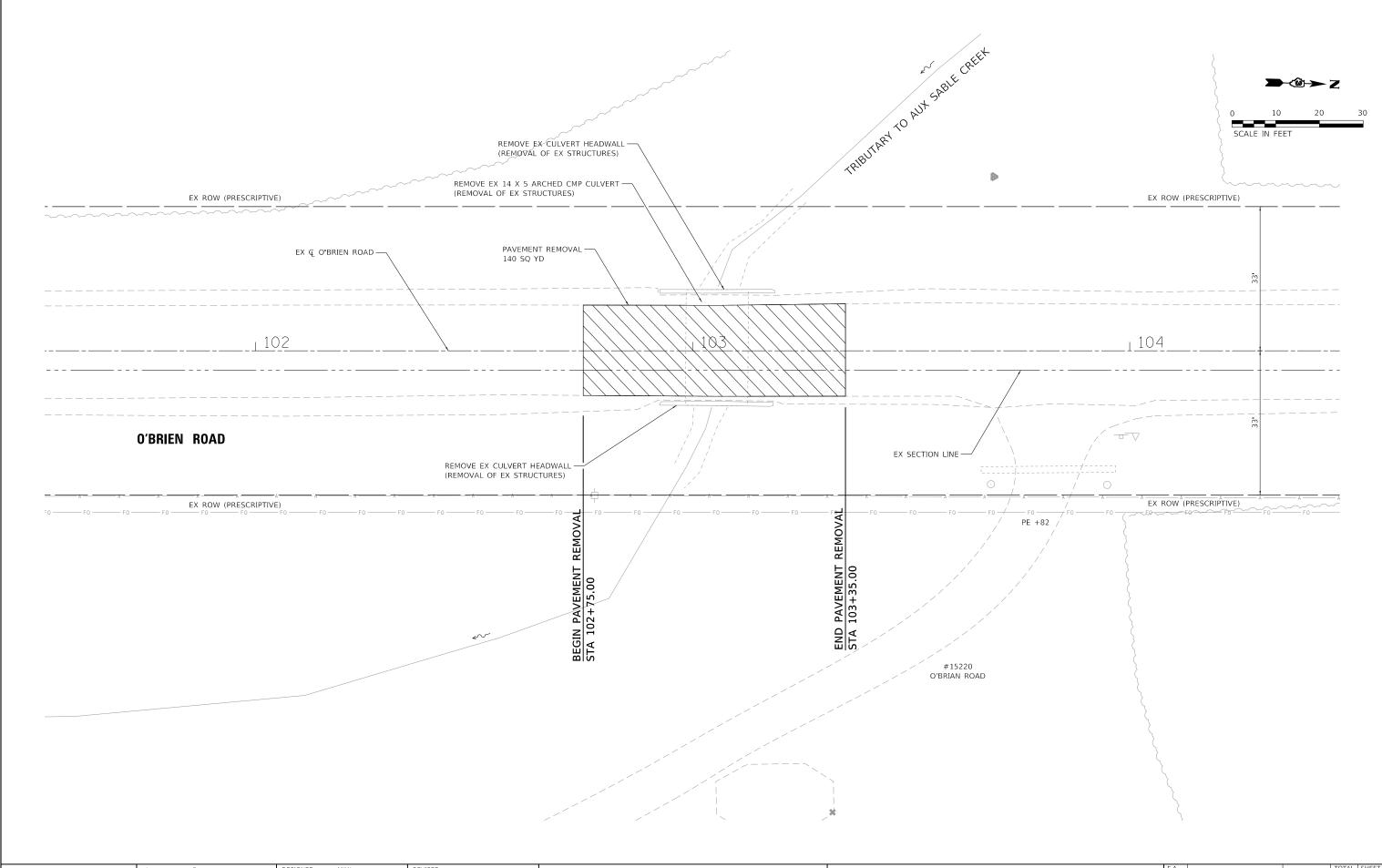
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SEWARD	TOWNSHIP
ROAD	DISTRICT

										RTE	SEC	TION	COUNTY	SHEETS	NO.
	ALIG	MM	ENT,	TIE	S AND	BENCE	IMARKS				21-0912	4-00-DR	KENDALL	17	5
													CONTRACT	NO.	
SCALE: 1" = 50'	SHEET	1	OF	1	SHEETS	STA.		TO	STA.			ILLINOIS FED	. AID PROJECT		

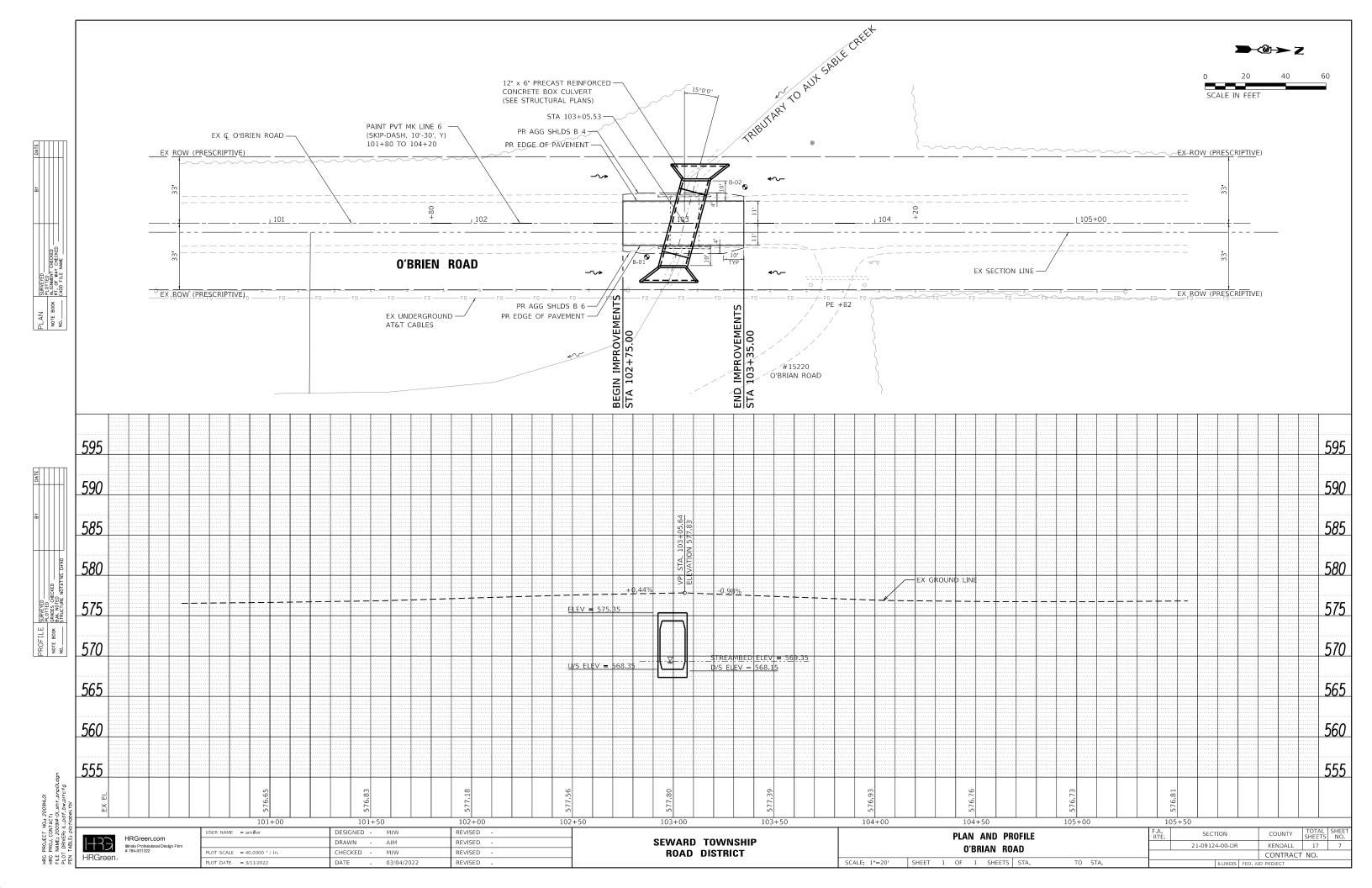


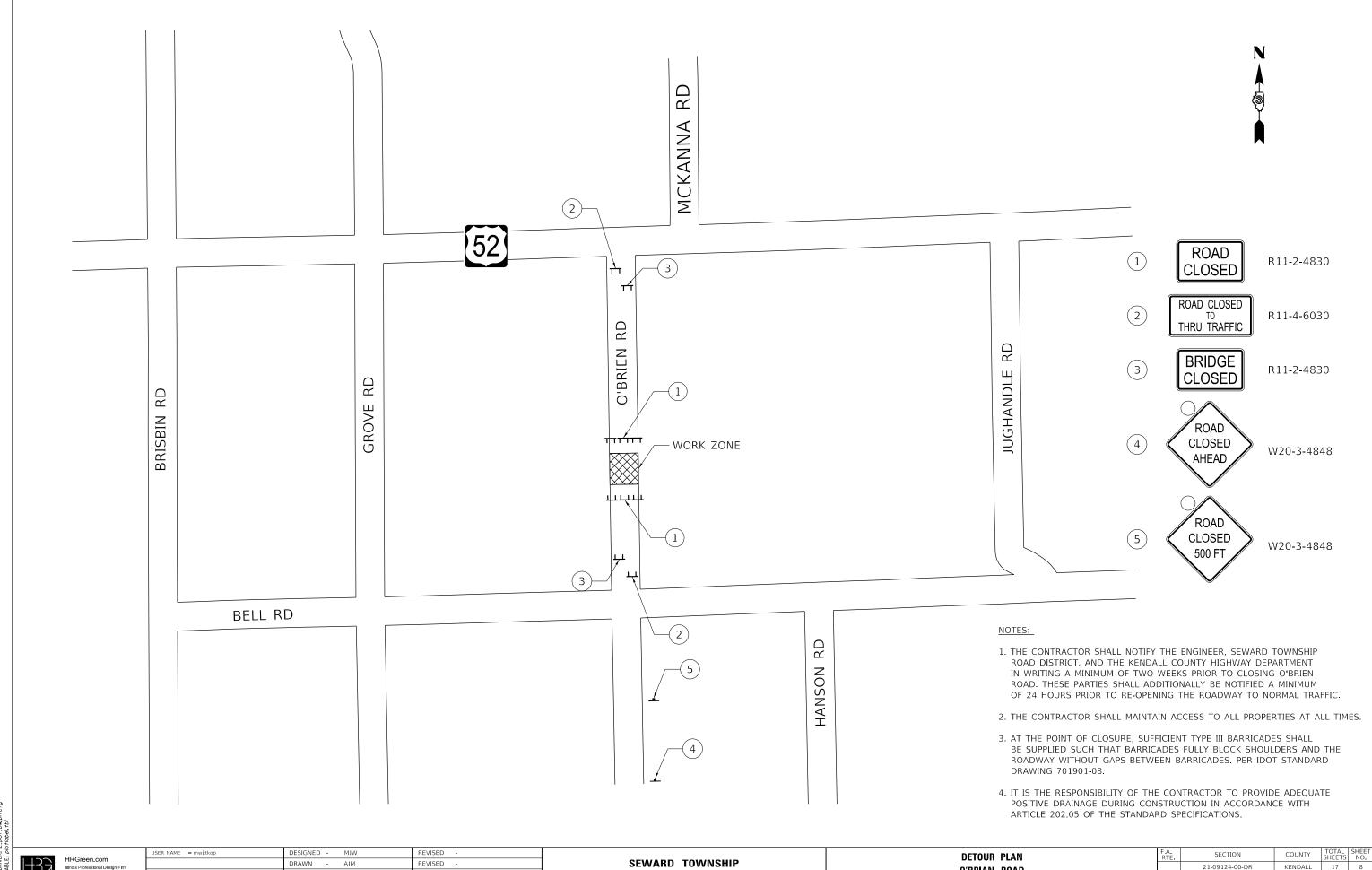
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SEWARD TOWNSHIP ROAD DISTRICT





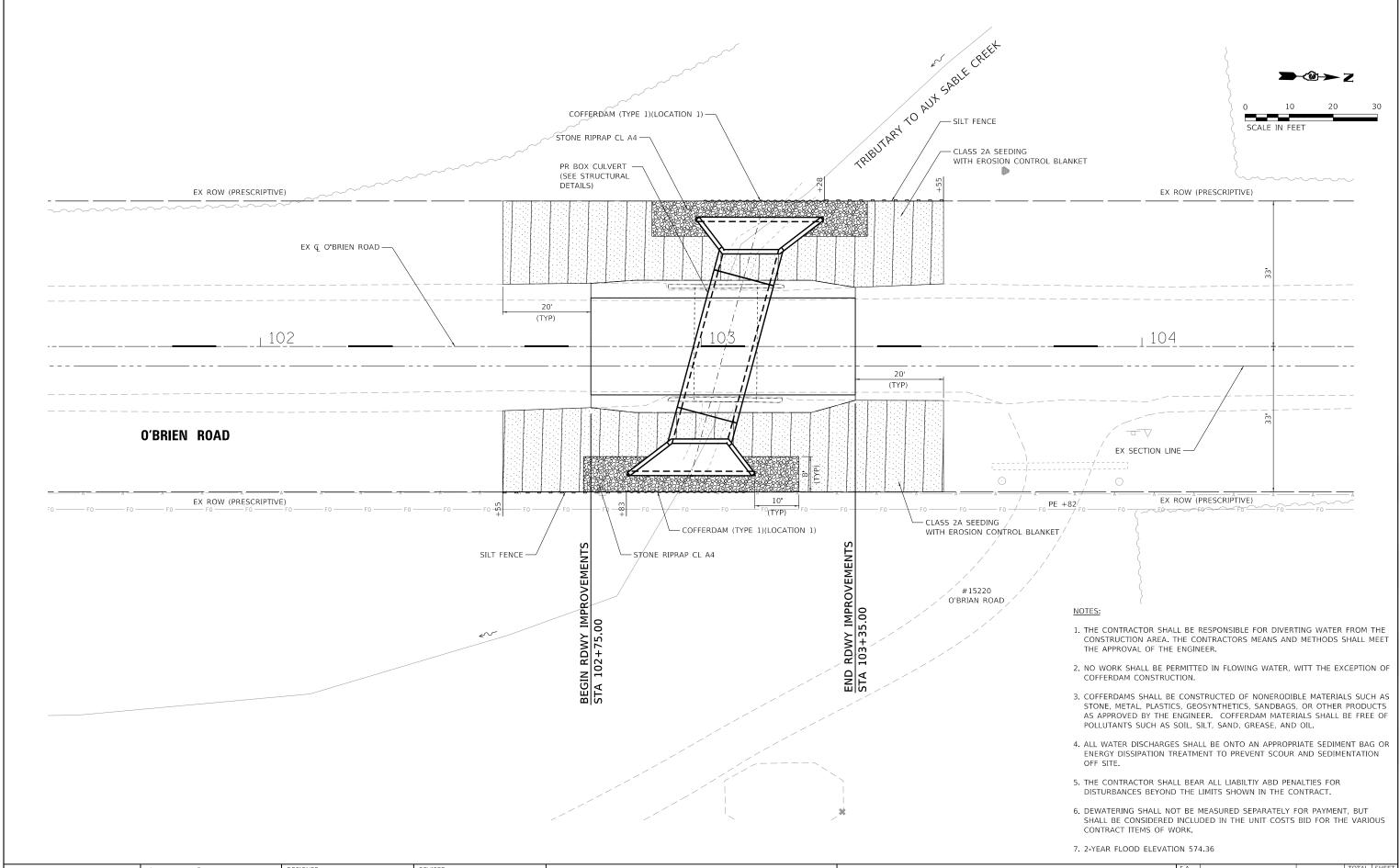
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REVISED

ROAD DISTRICT

O'BRIAN ROAD SCALE: N.T.S. SHEET 1 OF 1 SHEETS STA. TO STA.

KENDALL 17 21-09124-00-DR CONTRACT NO.



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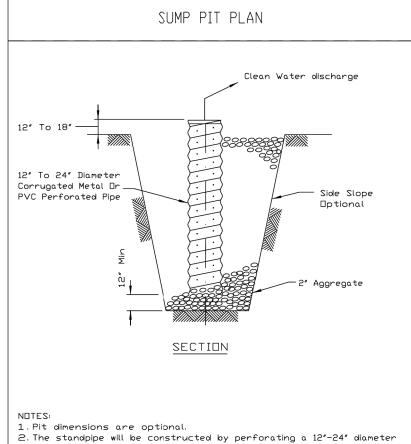
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SEWARD TOWNSHIP ROAD DISTRICT

F.A. RTE. SECTION COUNTY TOTAL SHEETS NO.

21-09124-00-DR KENDALL 17 9

CONTRACT NO.

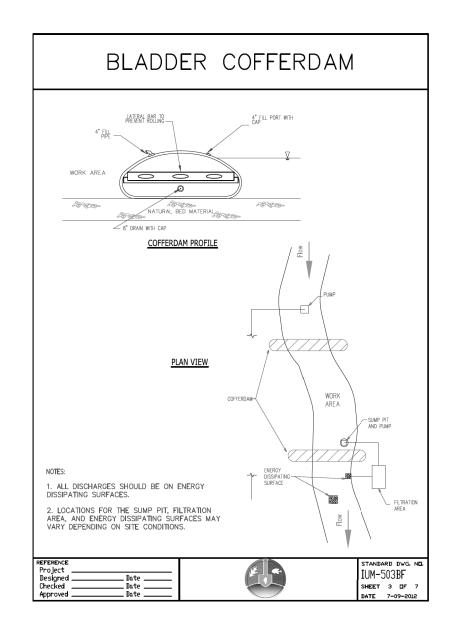


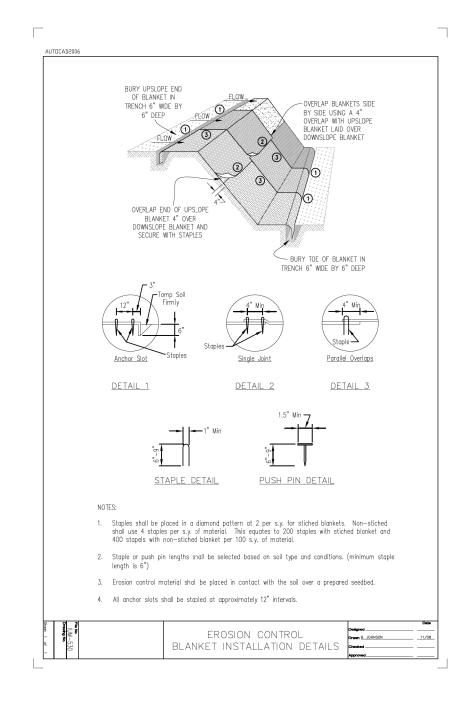
- corrugated metal or PVC pipe.
- 3. A base of 2" aggregate will be placed in the pit to a minimum depth of 12". After installing the standpipe, the pit surrounding the standpipe will then be backfilled with 2' aggregate.
- 4. The standpipe will extend 12" to 18" above the lip of the pit.
- 5. If discharge will be pumped directly to a storm drainage system, the standpipe will be wrapped with filter fabric before installation.
- 6. If desired, 1/4''-1/2'' hardware cloth may be placed around the standpipe prior to attaching the filter fabric. This will increase the rate of water seepage into the pipe.

REFERENCE	
Project	
Designed	Date
Checked	Date
Approved	Date



IL-650 SHEET 1 DF 1 DATE 8-11-94



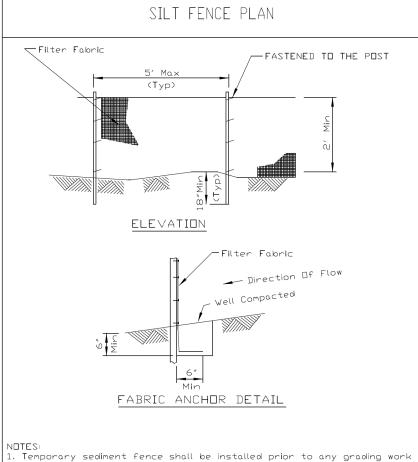


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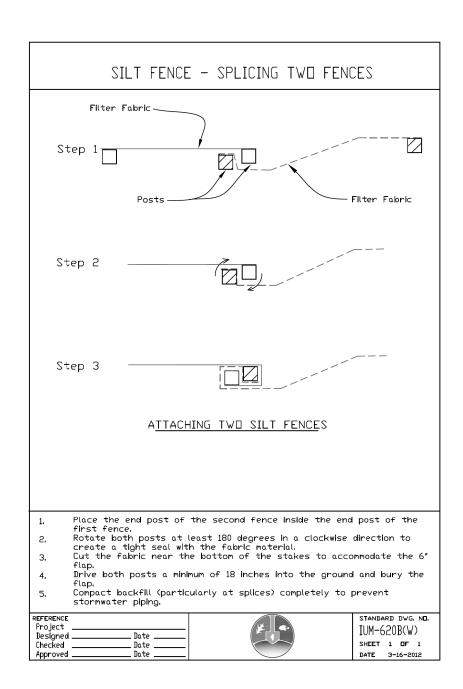
SEWARD TOWNSHIP ROAD DISTRICT

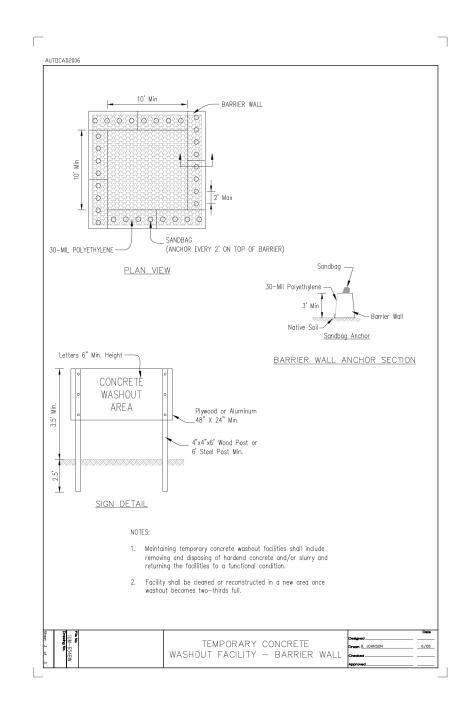
SECTION COUNTY SOIL EROSION AND SEDIMENT CONTROL DETAILS KENDALL 17 10 21-09124-00-DR O'BRIAN ROAD CONTRACT NO. SCALE: N.T.S. SHEET SHEETS STA. TO STA. OF



- Temporary sediment fence shall be installed prior to any grading work in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
- 2. Filter fabric shall meet the requirements of material specification 592 Geotextile Table 1, Class 2.
- 3. Fence posts shall be either standard steel post or wood post 2" X 2" nominal.

REFERENCE	STANDARD DWG. No.
Project	IUM-620A
Designed Date	10M 0C0H
Checked Date	SHEET 1 DF 2
Approved Date	DATE 04-15-2021

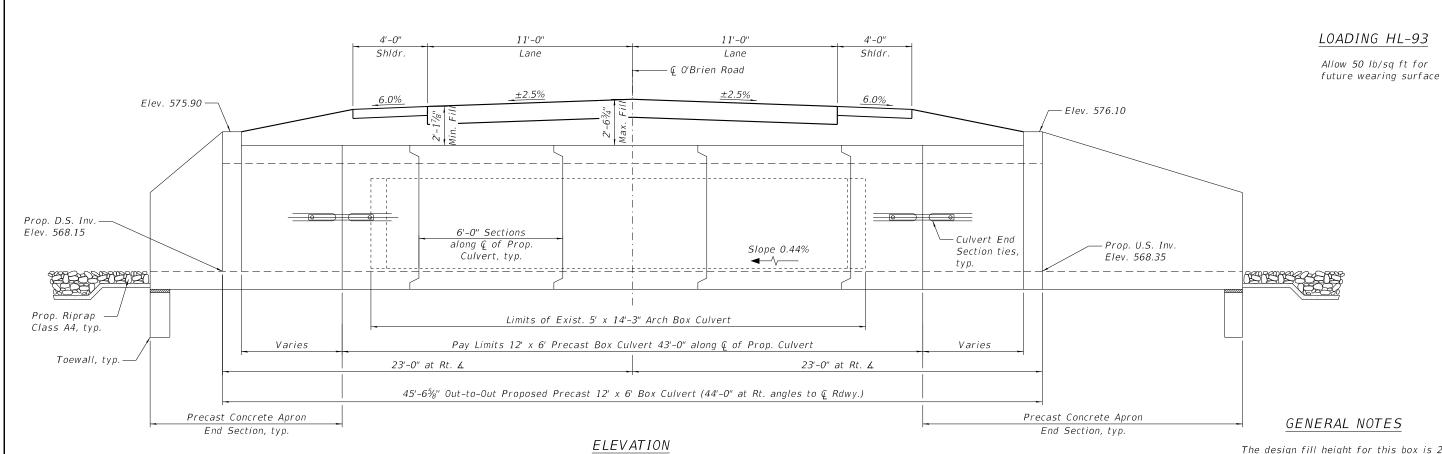








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PLOT DATE = 3/11/2022	DATE - 03/04/2024	REVISED -

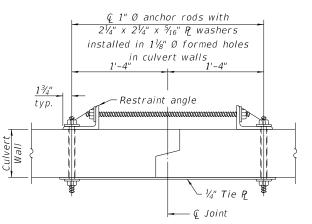


 $Q 1\frac{1}{4}$ Ø hole for 1" Ø

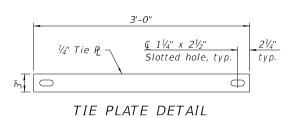
anchor rod with

21/4" x 21/4" x 5/16"

R washer



<u>SECTION F-F</u> (Showing culvert tie details) Not to Scale



Not to Scale

The number of culvert ties shall be sufficient to engage the minimum length of culvert barrel shown within the pay limits for Precast Concrete Box Culverts and will be dependent upon the length of box culvert segments furnished by the Contractor. Culvert ties are not required for box culverts having a rise (R) less than or equal to 3 ft and a span (S) greater than or equal to 10 ft.

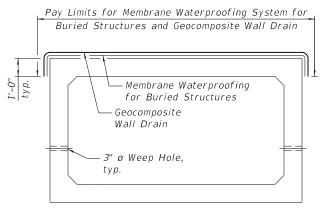
RESTRAINT ANGLE DETAIL

Not to Scale

<u><u>Q</u> 1¹/₄" Ø hole in</u>

bottom leg of angle

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the unit price for Box Culvert End Sections of the culvert number specified.



Note:

Geocomposite Wall Drain shall be according to Section 591 of the Standard Specifications, except that concrete nails shall not be used in areas where it overlaps Membrane Waterproofing System for Buried Structures

PRECAST CONCRETE BOX CULVERT

WATERWAY INFORMATION

200									
Drainage Area = 1.36 sq. mi.					de Elev	′. =	@ Sta.		
Freq.	Q	Openi	Opening Ft		Head – Ft.		Headwater E		
Yr.	C.F.S.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.	
10	113	N/A	60.0	575.40	0.1	0.1	575.40	575.50	
50	167	N/A	60.0	575.90	0.1	0.2	576.00	576.10	
100	191	N/A	60.0	576.10	0.2	0.2	576.30	576.30	
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
500	248	N/A	60.0	576.40	0.3	0.3	576.70	630.40	
	Freq. Yr. 10 50 100	Freq. Q Yr. C.F.S. 10 113 50 167 100 191 N/A	Freq. Yr. Q C.F.S. Opening Properties 10 113 N/A 50 167 N/A 100 191 N/A N/A N/A N/A	Freq. Yr. Q C.F.S. Opening Ft 10 113 N/A 60.0 50 167 N/A 60.0 100 191 N/A 60.0 N/A N/A N/A	Freq. Yr. Q C.F.S. Opening Ft Depting Ft D	Freq. Yr. Q C.F.S. Opening Ft' Exist. Nat. Head Head 10 113 N/A 60.0 575.40 0.1 50 167 N/A 60.0 575.90 0.1 100 191 N/A 60.0 576.10 0.2 N/A N/A N/A N/A N/A N/A	Freq. Yr. Q C.F.S. Opening Ft Depth (C.F.S.) Nat. Prop. H.W.E. Head - Ft. Exist. Prop. H.W.E. 10 113 N/A 60.0 575.40 0.1 0.1 50 167 N/A 60.0 575.90 0.1 0.2 100 191 N/A 60.0 576.10 0.2 0.2 N/A N/A N/A N/A N/A N/A N/A	Freq. Yr. Q C.F.S. Opening Ft' Exist. Nat. Head - Ft. Headway Head - Ft. Exist. Headway 10 113 N/A 60.0 575.40 0.1 0.1 575.40 50 167 N/A 60.0 575.90 0.1 0.2 576.00 100 191 N/A 60.0 576.10 0.2 0.2 576.30 N/A N/A N/A N/A N/A N/A N/A N/A	

The design fill height for this box is 2.60 ft. The precast box culvert sections shall conform to the requirements of ASTM C 1577.

Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.

Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment in the required excavation areas on the sides of the box culvert from the top of the box culvert to the bottom of the box culvert. This area of PGE is included in the Porous Granular Embankment pay item. The 6-inch thick layer of porous granular material required under the precast concrete box culvert, according to Section 540.06 of the standard specifications, shall also apply to the end sections. Cost of this porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.

BILL OF MATERIAL

UNIT	TOTAL
Cu. Yd.	330
Sq. Yd.	152
Each	1
Cu. Yd.	26
Each	2
Foot	43
Sq. Yd.	75
Sq. Yd.	75
Cu. Yd.	26
	Cu. Yd. Sq. Yd. Each Cu. Yd. Each Foot Sq. Yd. Sq. Yd.

HRGreen.com
#Inole Professional De
#184-001322

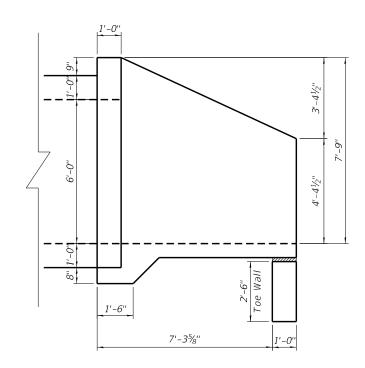
USER NAME = amiller	DESIGNED - SLS	REVISED -
	CHECKED - SLS	REVISED -
PLOT SCALE =	DRAWN - WJH	REVISED -
PLOT DATE = 3/11/2022	CHECKED - AEU	REVISED -

SEWARD TOWNSHIP ROAD DISTRICT

PRECAST CULVERT DETAILS		SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
O'BRIEN ROAD		21-09124-00-DR		KENDALL	17	12
O BRILIN ROAD				CONTRAC	NO.	
SHEET NO. 1 OF 1 SHEETS		ILLINOIS	FED. All	PROJECT		

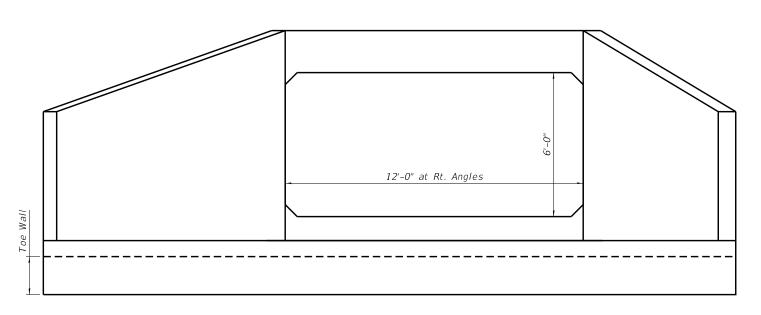
HRC PROJECT No.; 2009/4.0/ HRC PROJ. CONTACT: FILE NAME: 2009/4-0/LST-, culvert-det0/ldgn PLOT DRIVER: IL_DGF buspitefg ERU TARIE: Antipositely

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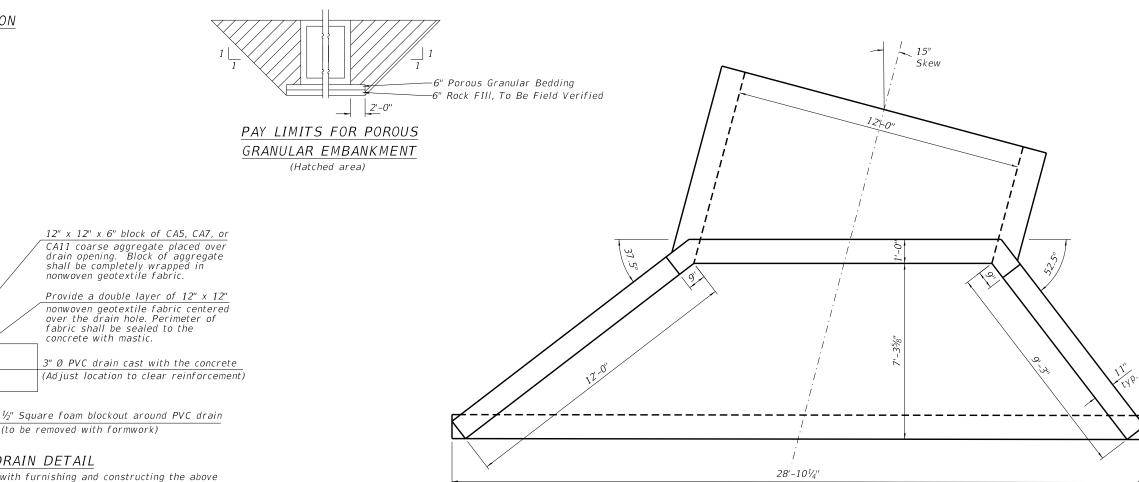


HALF SIDE ELEVATION

Pay Limits for Box Pay Limits for Precast Culvert End Sections Concrete Box Culverts



END ELEVATION



DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

(to be removed with formwork)

PLAN

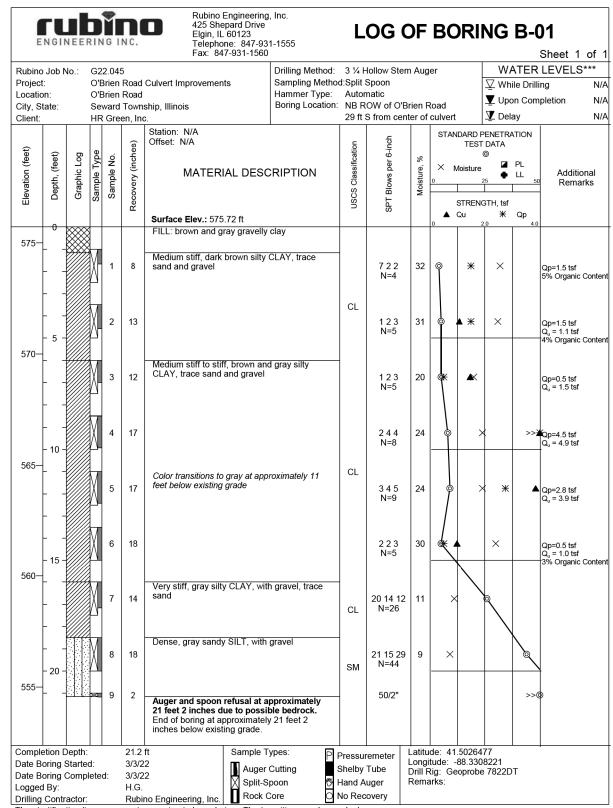
L_pdf_b otlabel.t	
DRIVER: /L_pdf_b TABLE: plo†label,†	E
PEN 1	HF

HRGreen.com RGreen.

USER NAME = amiller	DESIGNED - SLS	REVISED -
	CHECKED - SLS	REVISED -
PLOT SCALE =	DRAWN - WJH	REVISED -
PLOT DATE = 3/11/2022	CHECKED - AEU	REVISED -

APRON	END O'BF				TAILS	
SHE	ET NO	. 2 (OF 2	SHEETS		

	SECTION			COUNTY	TOTAL SHEETS	SHEET NO.
	21-09124-00-DR			KENDALL	17	13
				CONTRACT	NO.	
		ILLINOIS	FFD. Al	ID PROJECT		



The stratification lines represent approximate boundaries. The transition may be gradual. ***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

rubino Rubino Engineering, Inc. 425 Shepard Drive **LOG OF BORING B-02** Elgin, IL 60123 Telephone: 847-931-1555 Fax: 847-931-1560 Sheet 1 of Rubino Job No.: G22.045 Drilling Method: 3 1/4 Hollow Stem Auger WATER LEVELS*** Sampling Method:Split Spoon Project: O'Brien Road Culvert Improvements ∇ While Drilling N/A Hammer Type: Automatic Location: O'Brien Road **▼** Upon Completion N/A Boring Location: SB ROW of O'Brien Road City, State: Seward Township, Illinois ▼ Delay N/A 24 ft N from center of cuvlert Client: HR Green, Inc. STANDARD PENETRATION Offset: N/A TEST DATA Graphic Log Sample Type Sample No. (feet) MATERIAL DESCRIPTION Additional Remarks STRENGTH, tsf ▲ Qu ₩ Qp Surface Elev.: 575.32 ft FILL: brown and gray gravelly clay 575-Q_u = 2.7 tsf 3% Organic Conter Medium stiff, dark brown silty CLAY, trace 13 132 sand and gravel N=5 CL 13 123 Qp=1.8 tsf Q₁₁ = 1.2 tsf N=5 570-Medium stiff to stiff, brown and gray silty CLAY, trace sand and gravel 334 Qp=3.5 tsf Q_u = 3.1 tsf N=7 15 224 × **▲** * 23 Qp=2.8 tsf Q_u = 2.3 tsf N=6 CL 565-Color transitions to gray at approximately 11 feet below existing grade 435 Qp=2.8 tsf Q_u = 2.9 tsf 3% Organic Conter N=8 Medium stiff, gray silty CLAY, trace sand and \times 18 3 1 3 Qp=0.8 tsf CL N=4 $Q_{..} = 0.8 \text{ tsf}$ 3% Organic Conter 560-Very stiff, gray silty CLAY, with gravel, trace 11 9 10 7 12 N=17 CI Dense, gray sandy SILT, with gravel 12 23 25 N=48 SM - 20 555-50/4" Auger and spoon refusal at approximately 21 feet 4 inches due to possible bedrock. End of boring at approximately 21 feet 4 inches below existing grade

Rubino Engineering, Inc.

21.3 ft

3/3/22

3/3/22

H.G.

***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Sample Types:

Auger Cutting

Split-Spoon

Rock Core

USER NAME - amilier	DESIGNED - SLS	REVISED -
	CHECKED - SLS	REVISED -
PLOT SCALE =	DRAWN - WJH	REVISED -
PLOT DATE = 3/11/2022	CHECKED - AEU	REVISED -

Completion Depth:

Drilling Contractor:

Logged By:

Date Boring Started:

Date Boring Completed:

SOIL BORING LOGS O'BRIEN ROAD	F.A. RTE.	SECTION			COUNTY	TOTAL SHEETS	SHEET NO.
		21-09124-00-DR			KENDALL	17	14
		CONTRAC			NO.		
SHEET NO. 1 OF 1 SHEETS			ILLINOIS	FED. A	D PROJECT		

Latitude: 41.5027785

Remarks:

Longitude: -88.3309535

Drill Rig: Geoprobe 7822DT

Pressuremeter

Shelby Tube

Hand Auger

No Recovery

The stratification lines represent approximate boundaries. The transition may be gradual.

