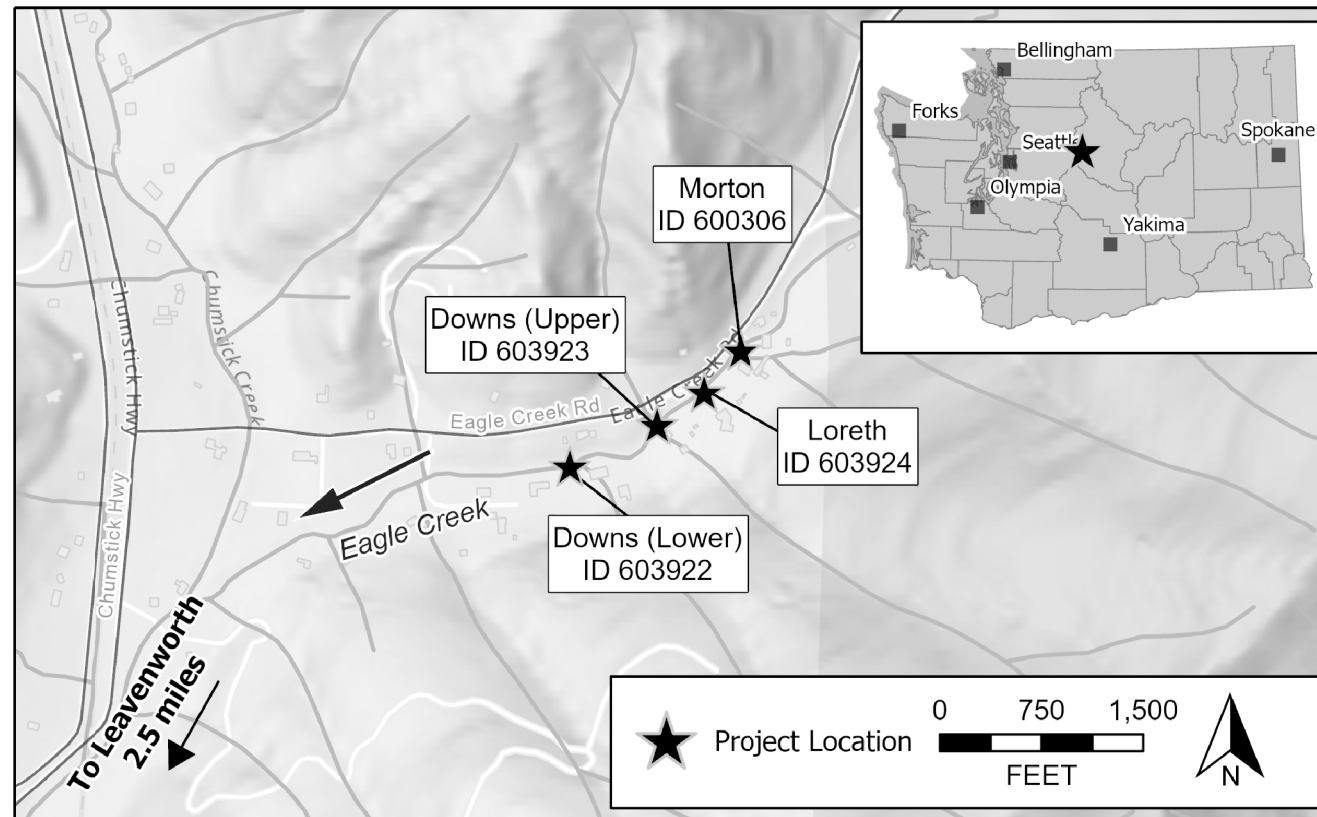


EAGLE CREEK CULVERT REPLACEMENT PROJECT

CHELAN COUNTY DEPARTMENT OF NATURAL RESOURCES



VICINITY MAP

CONTACT INFORMATION

DAVID EVANS AND ASSOCIATES, INC.
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(425) 519-6500

CHELAN COUNTY DEPARTMENT OF NATURAL RESOURCES
411 WASHINGTON ST, SUITE 201
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NOT PART OF THIS PROJECT

NOT PART OF THIS PROJECT

16

16

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: NTS
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



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	DATE	REVISION	BY	CK

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EAGLE CREEK CULVERT REPLACEMENT

COVER SHEET

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
1 OF 32

LEGEND

	EXISTING 5-FOOT CONTOUR		PROPOSED 5-FOOT CONTOUR		PROPOSED PAVEMENT
	EXISTING 1-FOOT CONTOUR		PROPOSED 1-FOOT CONTOUR		PROPOSED GRAVEL DRIVEWAY
	EXISTING ORDINARY HIGH WATER		PROPOSED DITCH		PROPOSED DRIVEWAY SURFACING REMOVAL
	EXISTING BURIED FIBER OPTIC LINE		PROPOSED CLEARING LIMITS		PROPOSED STREAMBED MATERIAL
	EXISTING BURIED POWER LINE		PROPOSED LIMITS OF EXCAVATION		PROPOSED SITE RESTORATION
	INACTIVE BURIED TELEPHONE LINE		PROPOSED LIMITS OF FILL PLACEMENT		PROPOSED BIODEGRADABLE EROSION CONTROL BLANKET AND LIVE CUTTINGS
	EXISTING EAGLE CREEK ROAD CENTERLINE		PROPOSED ORDINARY HIGH WATER		PROPOSED STAGING AREAS
	EXISTING FENCE		PROPOSED 100-YEAR FLOODPLAIN EXTENTS		EXISTING BORE HOLE
	EXISTING DRIVEWAY CENTERLINE		PROPOSED ROADWAY ALIGNMENT		PROPOSED BOULDER CLUSTER
	EXISTING BRUSH LINE		PROPOSED SAWCUT		EXISTING IRRIGATION BOX
	EXISTING STREAM ALIGNMENT		TEMPORARY COFFERDAM		EXISTING TELEPHONE BOX
	EXISTING CULVERT		TEMPORARY FISH BLOCK NETS		EXISTING UTILITY BOX
			TEMPORARY HIGH-VISIBILITY CONSTRUCTION FENCE		TEMPORARY BYPASS PUMP
			TEMPORARY DRAINAGE LINE		TEMPORARY ENERGY DISSIPATOR
					CONSTRUCTION NOTE SEE SHEET 3
					DETAIL NUMBER SHEET NUMBER
					DETAIL NUMBER
					SURVEY CONTROL POINT

By: Maem
Plot Date: 3/21/2023 4:52 PM

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: NTS
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DESIGNED BY: MAEM
DRAWN BY: RHW
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NO.	DATE	REVISION	BY

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EAGLE CREEK CULVERT REPLACEMENT

LEGEND

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
2 OF 32

GENERAL NOTES

1. THESE CONSTRUCTION PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF CHELAN COUNTY NATURAL RESOURCES DEPARTMENT, HEREAFTER REFERRED TO THE "OWNER", AND THEIR DULY APPOINTED DELEGATES, SUCH AS THE CONTRACTOR(S) SELECTED TO PERFORM THE WORK.
2. DAVID EVANS AND ASSOCIATES, INC. HEREAFTER REFERRED TO AS THE "ENGINEER" IS RESPONSIBLE FOR THE PREPARATION OF THESE CONSTRUCTIONS PLANS AND ASSOCIATED SPECIAL PROVISIONS. THE ENGINEER WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED USE OR ALTERATION OF THESE CONSTRUCTION PLANS OR ASSOCIATED SPECIAL PROVISIONS. ANY ALTERATION TO THESE PLANS OR THE ASSOCIATED SPECIAL PROVISIONS SHALL REQUIRE EXPLICIT WRITTEN PERMISSION FROM THE ENGINEER.
3. MINOR MODIFICATIONS ARE EXPECTED TO ACCOMMODATE SITE CONDITIONS. SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.
4. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; AND FURTHER AGREES THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
5. ALL WORK SHALL CONFORM TO THE SPECIAL PROVISIONS PREPARED FOR THIS PROJECT. MATERIAL AND WORKMANSHIP NOT EXPLICITLY MENTIONED IN THE SPECIAL PROVISIONS SHALL BE AS DESCRIBED IN THE MOST CURRENT EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION" PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT). THE CONTRACTOR IS RESPONSIBLE FOR HAVING COPIES OF THESE CONSTRUCTION PLANS, THE SPECIAL PROVISIONS, AND THE CURRENT EDITION OF THE WSDOT STANDARD SPECIFICATIONS ON-SITE DURING CONSTRUCTION.
6. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
7. ANY DISCREPANCIES BETWEEN THESE CONSTRUCTION PLANS, THE WSDOT TECHNICAL SPECIFICATIONS, THE SPECIAL PROVISIONS, AND PERMIT CONDITIONS, ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER AND/OR ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
8. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE CONTRACT DOCUMENTS AND FOR ALL SUBMITTALS REQUIRED FOR REVIEW AND ACCEPTANCE BY THE OWNER AND/OR ENGINEER.

SURVEY NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION
2. THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS, LOCATED AT THE JOB SITE, WHICH SHOW "AS-CONSTRUCTED" CHANGES MADE TO DATE. UPON COMPLETION OF THE PROJECT THE CONTRACTOR SHALL SUPPLY A SET OF PLANS, MARKED UP TO THE SATISFACTION OF THE OWNER, REFLECTING THE AS-CONSTRUCTED MODIFICATIONS.
3. SURVEY DATA FOR THIS PROJECT WAS COLLECTED BY THE BUREAU OF LAND MANAGEMENT, AND WAS PROVIDED TO THE ENGINEER DURING DECEMBER, 2021. SITE CONDITIONS MAY HAVE CHANGED BETWEEN THE TIME OF SURVEY DATA COLLECTION AND THE TIME OF CONSTRUCTION. THE VERTICAL DATUM OF THE SURVEY DATA IS NAVD88 (FEET) AND THE HORIZONTAL DATUM IS WASHINGTON STATE PLANE NORTH (FEET).
4. ELEVATIONS AND OTHER EXISTING FEATURES SHOWN ON THE PLANS ARE BASED UPON THE SURVEY DATA PROVIDED TO THE ENGINEER BY THE OWNER. THE CONTRACTOR SHALL VERIFY SURFACE ELEVATIONS IN THE FIELD, AS NECESSARY, AND NOTIFY THE ENGINEER AND THE OWNER OF ANY DISCREPANCIES WHICH MIGHT AFFECT THE WORK SHOWN ON THE PLANS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL OTHER FEATURES WHICH MAY BE AFFECTED BY THIS PROJECT, INCLUDING BURIED UTILITIES, AND STRUCTURES. THE ENGINEER SHALL NOT BE HELD RESPONSIBLE, OR LIABLE FOR, FOR THE COSTS ASSOCIATED WITH THE WORK REQUIRED TO REPAIR, REPLACE, OR LOCATE FEATURES WHICH WILL BE IMPACTED BY THIS PROJECT.
5. THE TREE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE, AND WERE DETERMINED USING A COMBINATION OF AERIAL IMAGERY, GPS DATA, AND SITE VISIT NOTES.

CONSTRUCTION NOTES

1. ALL WORK SHOWN ON THESE PLANS SHALL BE COMPLETED BETWEEN _____ AND _____.
2. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE ALL WORK AS INDICATED IN THE CONTRACT DOCUMENTS.
3. CONSTRUCTION HOURS SHALL BE WEEKDAYS BETWEEN 7:00 A.M. AND 6:00 P.M. UNLESS PRIOR APPROVAL IS RECEIVED FROM THE OWNER.
4. SOILS AT THE SITE MAY CONTAIN SOFT SILT, CLAY AND HIGH GROUNDWATER AND MAY REQUIRE EQUIPMENT MATS TO SUPPORT CONSTRUCTION EQUIPMENT. CONSOLIDATION OF THE GROUND SURFACE SHOULD BE EXPECTED. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING NEED FOR, DESIGNING, PROCURING, INSTALLING, USING, AND REMOVING ANY EQUIPMENT MATS NEEDED TO ALLOW FOR EQUIPMENT OPERATION SUFFICIENT TO CONSTRUCT THE PROJECT.
5. THE CONTRACTOR SHALL KEEP THE JOB SITE CLEAN AND HAZARD FREE. THE CONTRACTOR SHALL DISPOSE OF ALL DIRT, DEBRIS AND RUBBISH FOR THE DURATION OF THE WORK. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL REMOVE ALL MATERIAL AND EQUIPMENT ASSOCIATED WITH THE PROJECT, AND WHICH ARE NOT INCLUDED IN THE PERMANENT FEATURES PROPOSED FOR THIS PROJECT.
6. UTILITY LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL CONDUCT UTILITY LOCATES TO VERIFY FIELD LOCATIONS.
7. THE CONTRACTOR AND SUBCONTRACTOR(S) ARE RESPONSIBLE FOR DESIGNING, PURCHASING AND TRANSPORTING, AND INSTALLING THE PRECAST CONCRETE BOX CULVERTS, FOOTINGS, WINGWALLS, AND ANY NECESSARY STEM-WALLS REQUIRED FOR THIS PROJECT. SHOP DRAWINGS SHALL BE SENT TO THE ENGINEER FOR APPROVAL PRIOR TO INITIATING THE PREFABRICATION PROCESS. THE PROPOSED STRUCTURES SHALL BE DESIGNED TO PROVIDE, AT A MINIMUM, AN HL-93 (OR HS-20) LOAD CAPACITY AND COMPLIANCE WITH THE CURRENT WSDOT STANDARD SPECIFICATIONS.
8. THE FOOTINGS FOR THE PRECAST CONCRETE BOX CULVERTS SHALL BE DESIGNED BASED UPON INFORMATION PROVIDED IN THE GEOTECHNICAL REPORT. THE STRUCTURE FOUNDATIONS ARE TO BEAR ON 6-INCH LEVELING PADS COMPOSED OF COMPACTED BALLAST ROCK EXTENDING BEYOND THE EDGE OF THE FOOTINGS BY 1 FOOT IN ALL DIRECTIONS.
9. THE CONTRACTOR SHALL ALLOW FOR INSPECTION OF THE SUBGRADE BY A GEOTECHNICAL ENGINEER ON BEHALF OF THE OWNER. SUBGRADE PREPARATION MAY DIFFER FROM WHAT IS SHOWN IN THESE PLANS DEPENDING ON FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.
10. THE BACKFILL AGAINST THE OUTSIDE FACES OF THE CULVERT SHALL BE PLACED IN SEQUENCE AND COMPACTED IN ACCORDANCE WITH STD. SPEC. 2-09.3(1)E. THE MAXIMUM DIFFERENCE BETWEEN THE HEIGHT OF BACKFILL INSIDE AND OUTSIDE OF THE CULVERT AT EACH WALL SHALL BE 2'-0" PRIOR TO INSTALLATION OF THE STRUCTURE TOP SLAB.
11. SEE SPECIAL PROVISIONS SECTION 6-06 FOR DESIGN AND SUBMITTAL REQUIREMENTS FOR THE CONTRACTOR DESIGNED CURB RAILING.
12. THE CONTRACTOR SHALL PROVIDE AN INCREASED THICKNESS OF HMA AT EACH END OF THE CULVERT, PER DETAIL 4 ON SHEET 31.
13. THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS BETWEEN THE PROPOSED AND EXISTING GRADING, WITHIN THE CHANNEL AND ON THE ROADWAY, AT THE LIMITS OF THE CONSTRUCTION.
14. CONSTRUCTION EQUIPMENT AND VEHICLES MAY REMAIN WITHIN THE LIMITS OF THE HIGH-VISIBILITY FENCE DURING WEEKDAYS THROUGHOUT CONSTRUCTION. EQUIPMENT AND VEHICLES SHALL BE MOVED TO APPROVED ALTERNATE LOCATION(S) ON THE PROPERTY NO LATER THAN 6:00 PM ON FRIDAY EVENING AND SHALL REMAIN STAGED AT THE ALTERNATE LOCATION(S) UNTIL WORK COMMENCES THE FOLLOWING MONDAY MORNING. MATERIALS MAY REMAIN WITHIN THE LIMITS OF THE HIGH VISIBILITY FENCE PROVIDED THEY ARE NEATLY ORGANIZED.
15. CONTRACTOR SHALL SUBMIT A TEMPORARY CONSTRUCTION ACCESS AND STAGING PLAN FOR APPROVAL BY THE ENGINEER. THIS PLAN SHALL PROVIDE UNINTERRUPTED ACCESS TO ALL AFFECTED PROPERTIES FOR THE DURATION OF CONSTRUCTION.
16. THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.

EROSION, SEDIMENT CONTROL AND WATER MANAGEMENT NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY EROSION CONTROL MEASURES. THE EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PERFORMANCE OF THE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT.
2. A SEDIMENT AND EROSION CONTROL PLAN WILL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL BY THE CONTRACTING AGENCY BEFORE ANY CONSTRUCTION MAY BEGIN. THE SEDIMENT AND EROSION CONTROL PLAN SHALL IDENTIFY BEST MANAGEMENT PRACTICES TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
3. ACTIVITIES SHALL BE DESIGNED AND CONSTRUCTED TO AVOID AND MINIMIZE ADVERSE IMPACTS TO SURFACE WATERS, WETLANDS, AND GROUNDWATER TO THE MAXIMUM EXTENT PRACTICAL THROUGH THE USE OF PRACTICAL ALTERNATIVES. ALTERNATIVES THAT SHALL BE CONSIDERED INCLUDE THOSE THAT MINIMIZE THE DURATION AND EXTENT OF IN-WATER WORK AS WELL AS THE NUMBER OF EQUIPMENT CROSSINGS OF WETTED CHANNELS.
4. AT NO TIME SHALL SEDIMENT-LADEN WATER BE DISCHARGED OR PUMPED DIRECTLY INTO SURFACE WATERS OR WETLANDS. WATER SHALL BE DISCHARGED IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE PROJECT PERMITS AND SPECIFICATIONS.
5. IF HIGH WATER LEVEL CONDITIONS THAT CAUSE SILTATION OR EROSION ARE ENCOUNTERED DURING CONSTRUCTION, WORK SHALL STOP UNTIL THE WATER LEVEL SUBSIDES.
6. PERMIT CONDITIONS CONTAIN SPECIFIC REQUIREMENTS FOR THE CONTROL OF EROSION AND TURBIDITY FROM PROJECT OPERATIONS. TURBIDITY WILL BE MONITORED ON A FREQUENT BASIS BY THE OWNER. TURBIDITY AMOUNTS IN EXCESS OF THE PERMITTED LEVELS MAY CAUSE WORK TO BE STOPPED UNTIL IMPROVED PRACTICES ARE IN EFFECT. THE CONTRACTOR IS RESPONSIBLE FOR ANY PROJECT DELAYS THAT OCCUR BY NATURE OF THE FAILURE TO ADEQUATELY CONTAIN SEDIMENT ON-SITE.
7. ALL EXTERNAL GREASE AND OIL SHALL BE PRESSURE-WASHED OFF THE EQUIPMENT PRIOR TO TRANSPORT TO THE SITE.
8. THE CONTRACTOR SHALL HAVE AN EMERGENCY SPILL KIT ON-SITE AT ALL TIMES
9. NO TREES OR WETLAND VEGETATION SHALL BE REMOVED UNLESS THEY ARE SHOWN AND NOTED TO BE REMOVED ON THE PLANS OR AS DIRECTLY SPECIFIED BY THE OWNER. ALL TREES AND SHRUBS WITHIN THE GRADING LIMITS SHOWN ON THESE PLANS SHALL BE REMOVED. NO GRADING, DRIVING, OR STORAGE OF EQUIPMENT OR MATERIALS SHALL OCCUR WITHIN THE DRIP LINE OF TREES TO REMAIN UNLESS OTHERWISE APPROVED. IF ANY ROOTS GREATER THAN 1.5 INCHES IN DIAMETER ARE ENCOUNTERED DURING EXCAVATION, WORK IN THE VICINITY SHALL CEASE IMMEDIATELY AND THE OWNER SHALL BE IMMEDIATELY NOTIFIED.
10. TREES AND MATURE WOODY VEGETATION OUTSIDE OF THE GRADING LIMITS SHALL BE PROTECTED FROM DAMAGE TO THE ROOTZONE, THE BRANCHES AND THE BARK, UNLESS APPROVED BY THE OWNER.

PERMIT NOTES

1. EVERY REASONABLE EFFORT SHALL BE MADE TO CONDUCT THE WORK ASSOCIATED WITH THESE CONSTRUCTION PLANS IN A MANNER THAT MINIMIZES THE ADVERSE IMPACT ON WATER QUALITY, FISH AND WILDLIFE, AND THE NATURAL ENVIRONMENT.
2. ALL WORK WILL BE IN COMPLIANCE WITH PERMIT CONDITIONS ISSUED BY PERTINENT REGULATORY AGENCIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE COPIES OF ALL PERMITS ON THE JOB SITE, AND UNDERSTAND AND COMPLY WITH ALL PERMIT CONDITIONS.
3. ALL WORK THAT DISTURBS THE SUBSTRATE, BANK, OR SHORE OF A WATERS OF THE STATE THAT CONTAINS FISH LIFE SHALL BE CONDUCTED ONLY DURING THE APPROVED IN-WATER WORK WINDOWS. THOSE PORTIONS OF THE PROJECT WORK THAT OCCUR OUTSIDE OR ABOVE THE ORDINARY HIGH WATER MARK ARE NOT SUBJECT TO THE WORK PERIODS DESCRIBED ABOVE UNLESS SPECIFIED IN THE RELEVANT PERMITS.
4. ALL ACTIVITIES THAT INVOLVE WORK ADJACENT TO, OR WITHIN THE WETTED CHANNEL SHALL, AT ALL TIMES, REMAIN CONSISTENT WITH ALL APPLICABLE WATER QUALITY STANDARDS; EFFLUENT LIMITATION; AND STANDARDS OF PERFORMANCE, PROHIBITIONS, PRETREATMENT STANDARDS, AND MANAGEMENT PRACTICES ESTABLISHED PURSUANT TO THE CLEAN WATER ACT AND APPLICABLE STATE AND LOCAL LAW.
5. IF, AT ANY TIME, AS A RESULT OF PROJECT ACTIVITIES, FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.
6. IF, DURING CONSTRUCTION, ARCHAEOLOGICAL REMAINS ARE ENCOUNTERED, CONSTRUCTION IN THE VICINITY SHALL BE HALTED, AND THE STATE OFFICE OF HISTORIC PRESERVATION AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.
7. THE ORDINARY HIGH-WATER WAS DETERMINED USING THE 2-YEAR WATER SURFACE EXTENTS FROM THE HYDRAULIC MODEL CREATED FOR THIS PROJECT.

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: NTS
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



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NO.	DATE	REVISION	BY	CK



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Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

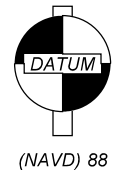
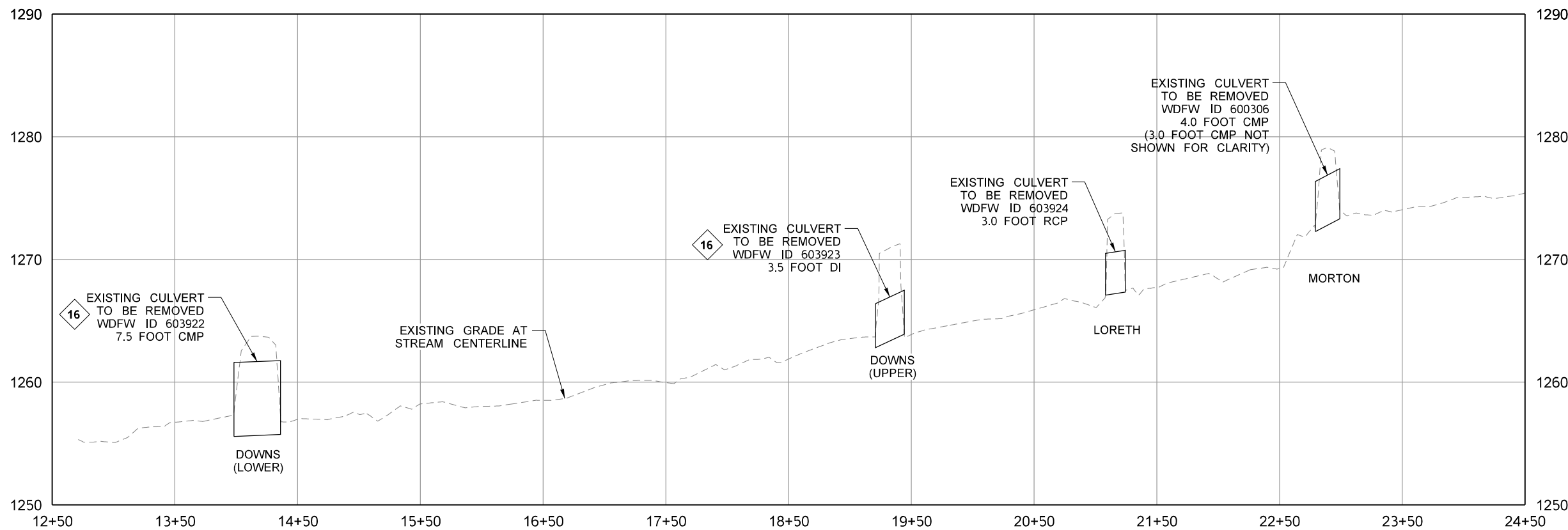
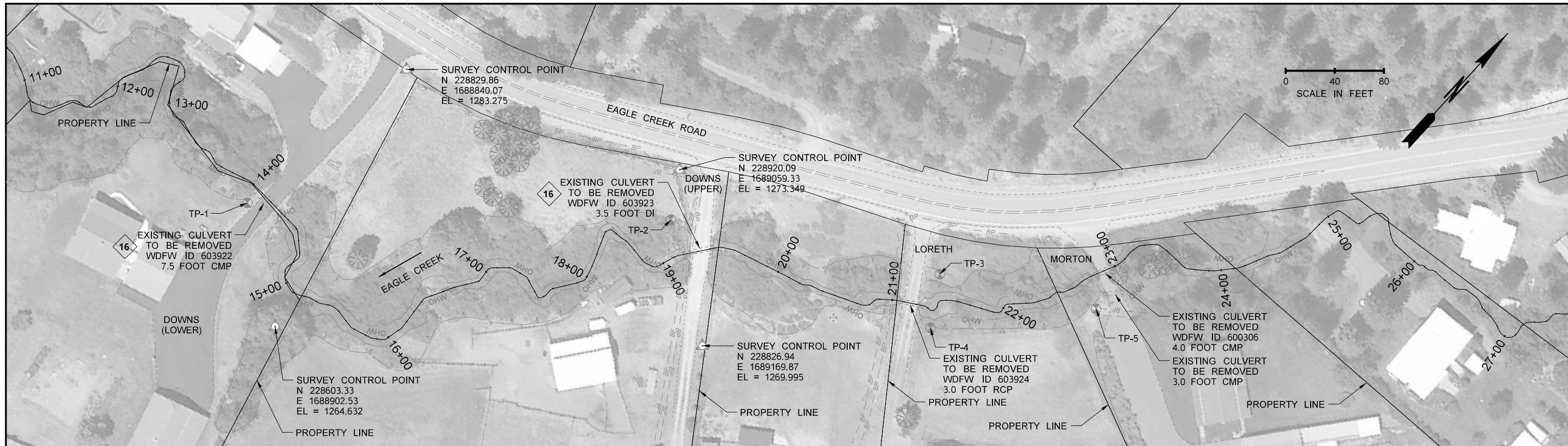
GENERAL NOTES

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.

3 OF 32



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 80:1
 VERT: 10:1

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EAGLE CREEK CULVERT REPLACEMENT

EXISTING CONDITIONS OVERVIEW

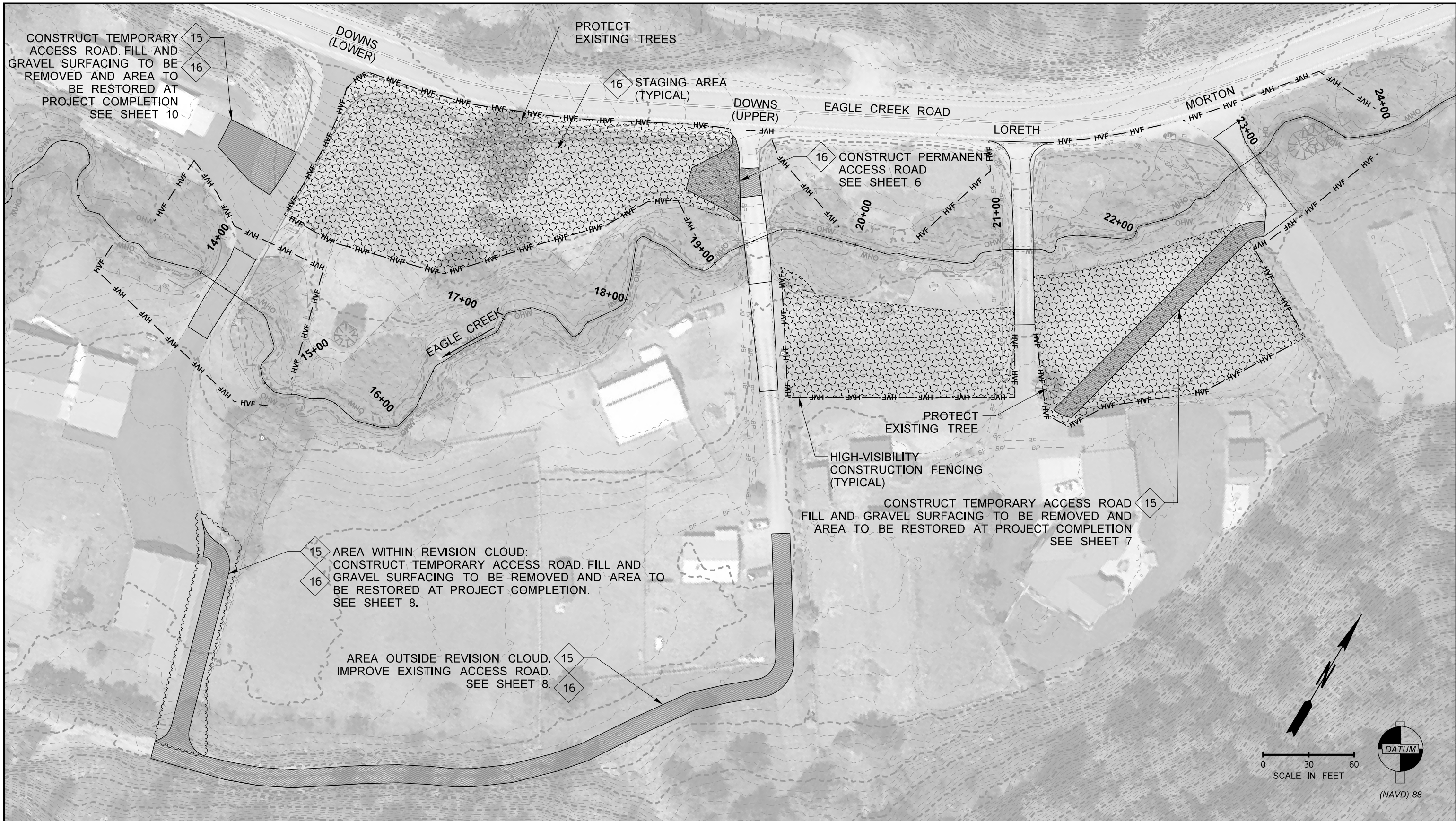
PLAN AND PROFILE

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
4 OF 32

By: Maem
 Plot Date: 3/21/2023 4:52 PM



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 60:1
 VERT: NTS

DESIGNED BY: MAEM
 DRAWN BY: RHW
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EAGLE CREEK CULVERT REPLACEMENT

STAGING AND ACCESS PLAN

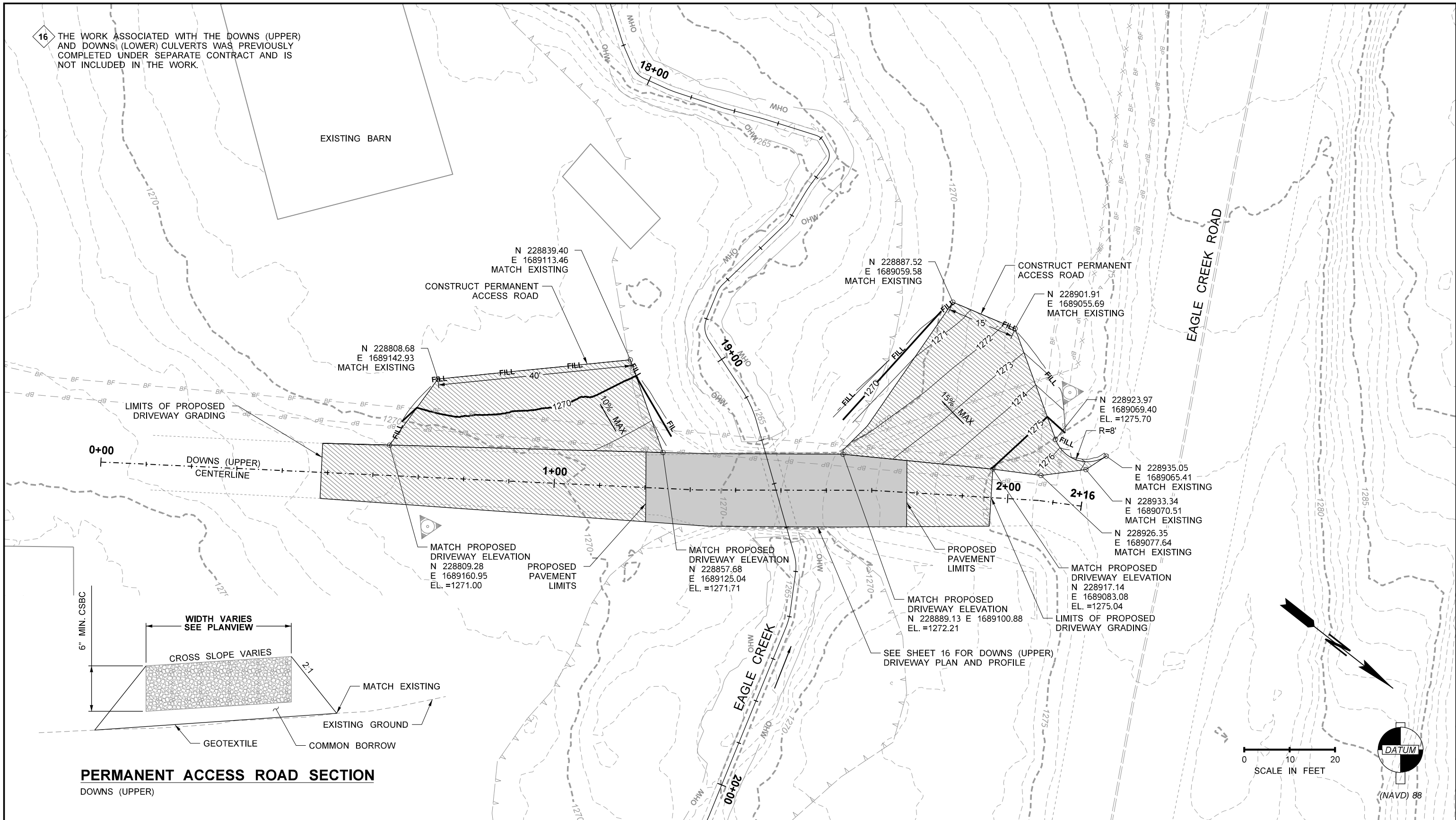
PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
5 OF 32

By: Maem
 Plot Date: 3/21/2023 4:52 PM

16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.



PERMANENT ACCESS ROAD SECTION
DOWNS (UPPER)

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR:
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



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BY	CK

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EAGLE CREEK CULVERT REPLACEMENT

PERMANENT ACCESS ROUTE DETAILS

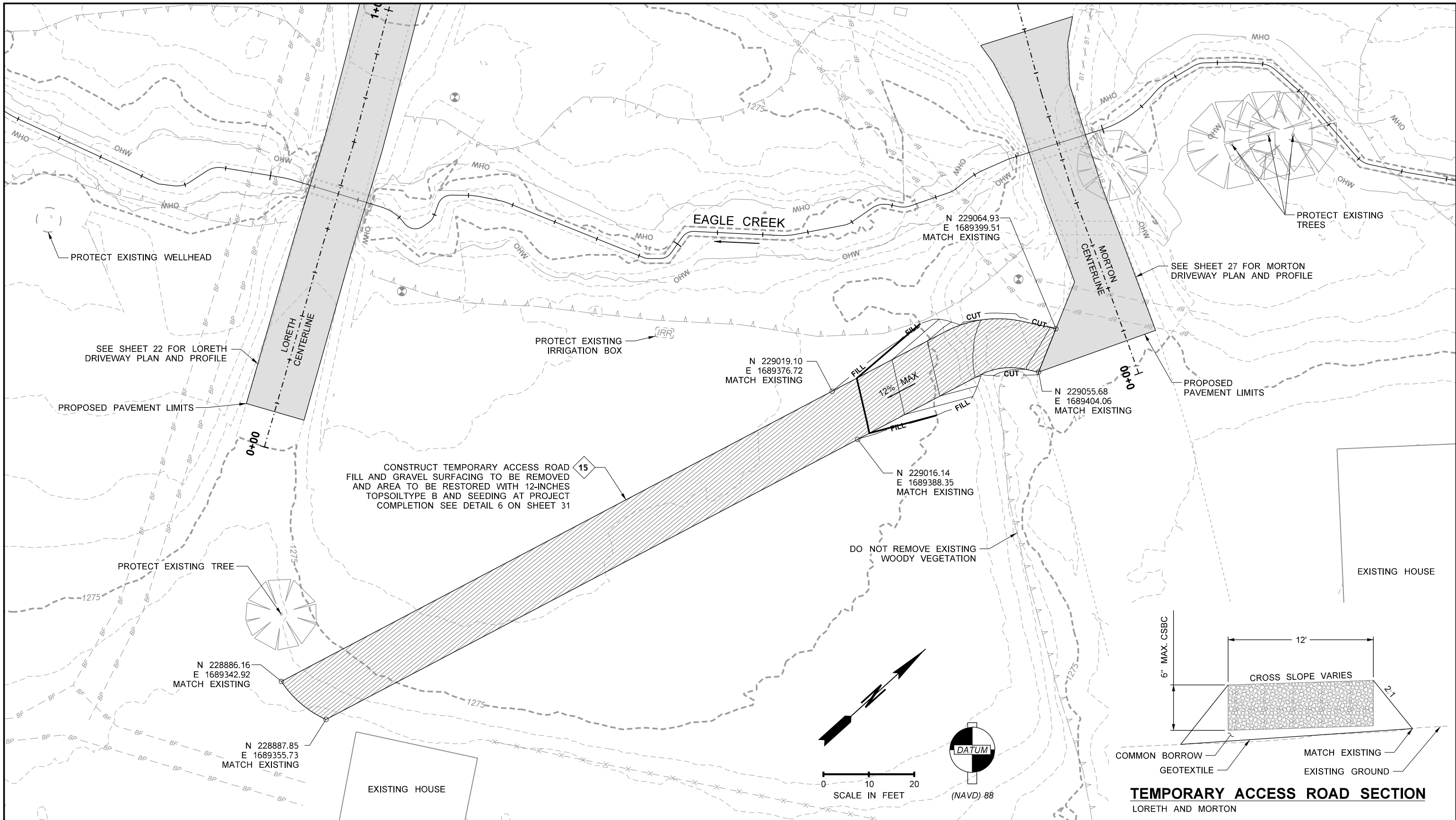
DOWNS (UPPER)

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
6 OF 32

By: Maem
Plot Date: 3/21/2023 4:52 PM



TEMPORARY ACCESS ROAD SECTION
LORETH AND MORTON

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 20:1
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



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EAGLE CREEK CULVERT REPLACEMENT

TEMPORARY ACCESS ROUTE DETAILS

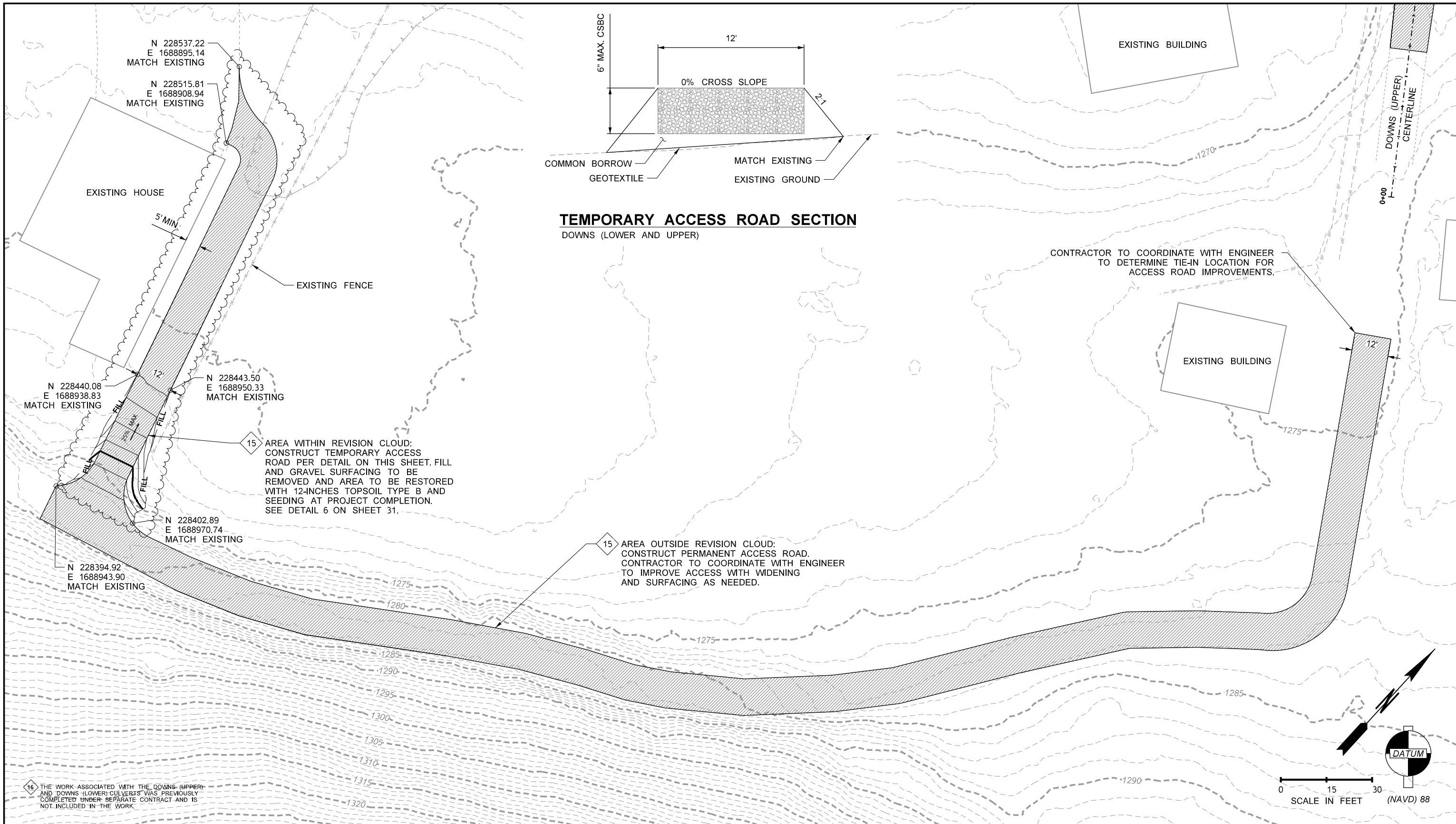
LORETH AND MORTON

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
7 OF 32

By: Maem
Plot Date: 3/21/2023 4:52 PM



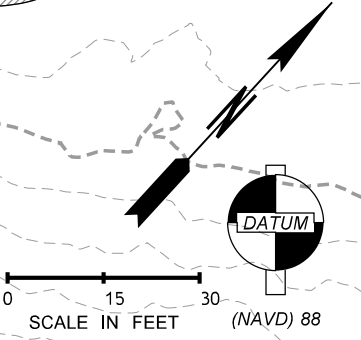
TEMPORARY ACCESS ROAD SECTION
 DOWNS (LOWER AND UPPER)

CONTRACTOR TO COORDINATE WITH ENGINEER TO DETERMINE TIE-IN LOCATION FOR ACCESS ROAD IMPROVEMENTS.

15 AREA WITHIN REVISION CLOUD: CONSTRUCT TEMPORARY ACCESS ROAD PER DETAIL ON THIS SHEET. FILL AND GRAVEL SURFACING TO BE REMOVED AND AREA TO BE RESTORED WITH 12-INCHES TOPSOIL TYPE B AND SEEDING AT PROJECT COMPLETION. SEE DETAIL 6 ON SHEET 31.

15 AREA OUTSIDE REVISION CLOUD: CONSTRUCT PERMANENT ACCESS ROAD. CONTRACTOR TO COORDINATE WITH ENGINEER TO IMPROVE ACCESS WITH WIDENING AND SURFACING AS NEEDED.

16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.



SEC: 34
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EAGLE CREEK CULVERT REPLACEMENT

TEMPORARY ACCESS ROUTE DETAILS
 DOWNS (LOWER) TO DOWNS (UPPER)

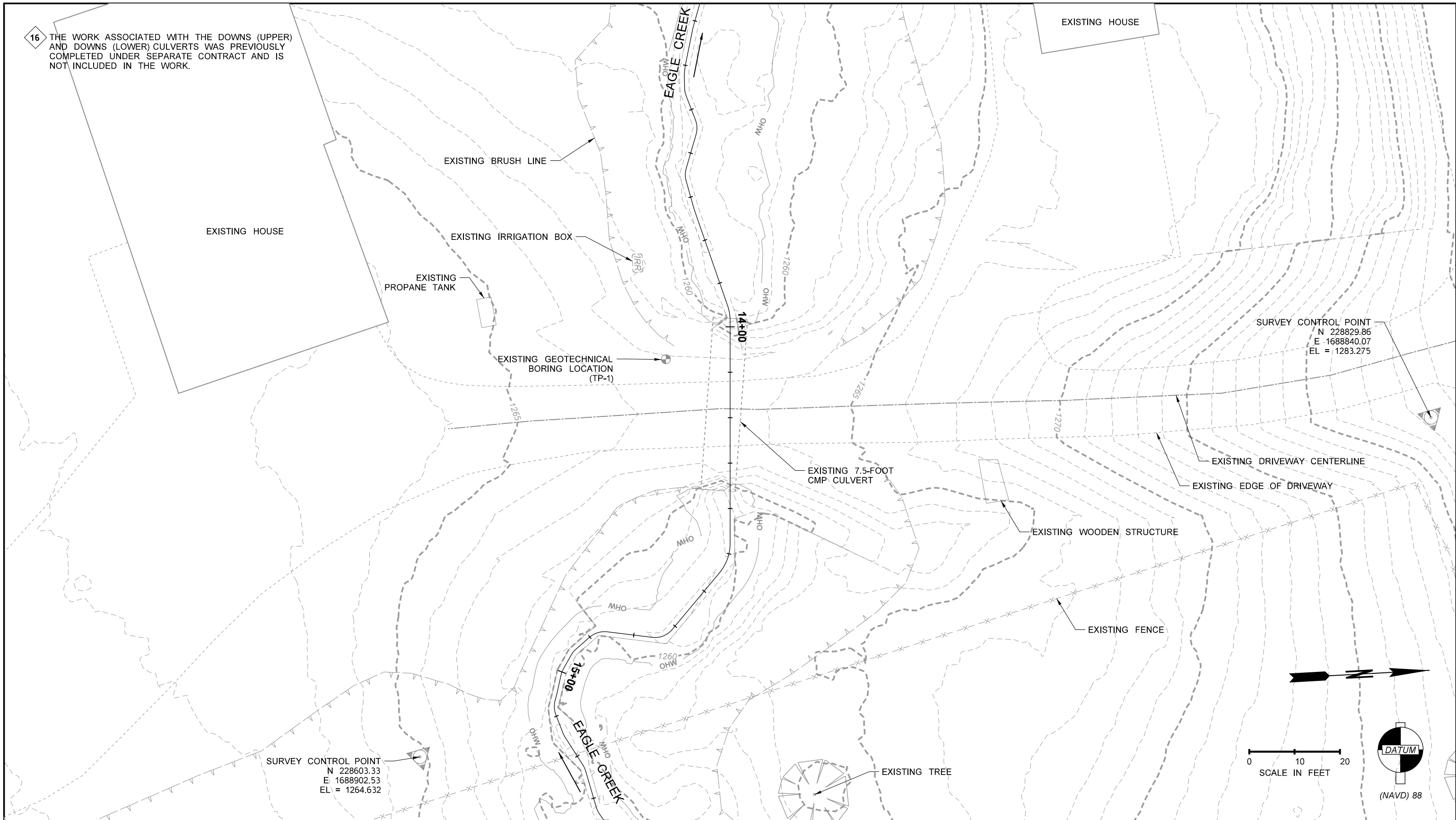
PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
8 OF 32

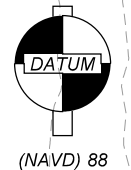
By: Maem
 Plot Date: 3/21/2023 4:52 PM

16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.



SURVEY CONTROL POINT
 N 228603.33
 E 1688902.53
 EL = 1264.632

0 10 20
 SCALE IN FEET



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 20:1
 VERT: NTS

DESIGNED BY: MAEM
 DRAWN BY: RHW
 CHECKED BY: BJME



REVIEWED BY:			DATE:	
NO.	DATE	REVISION	BY	CK

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 14432 SE EASTGATE WAY, STE 400
 BELLEVUE, WA 98007
 Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

**EXISTING CONDITIONS
 DOWNS (LOWER)**

PROJECT NO.
CHEC-0021

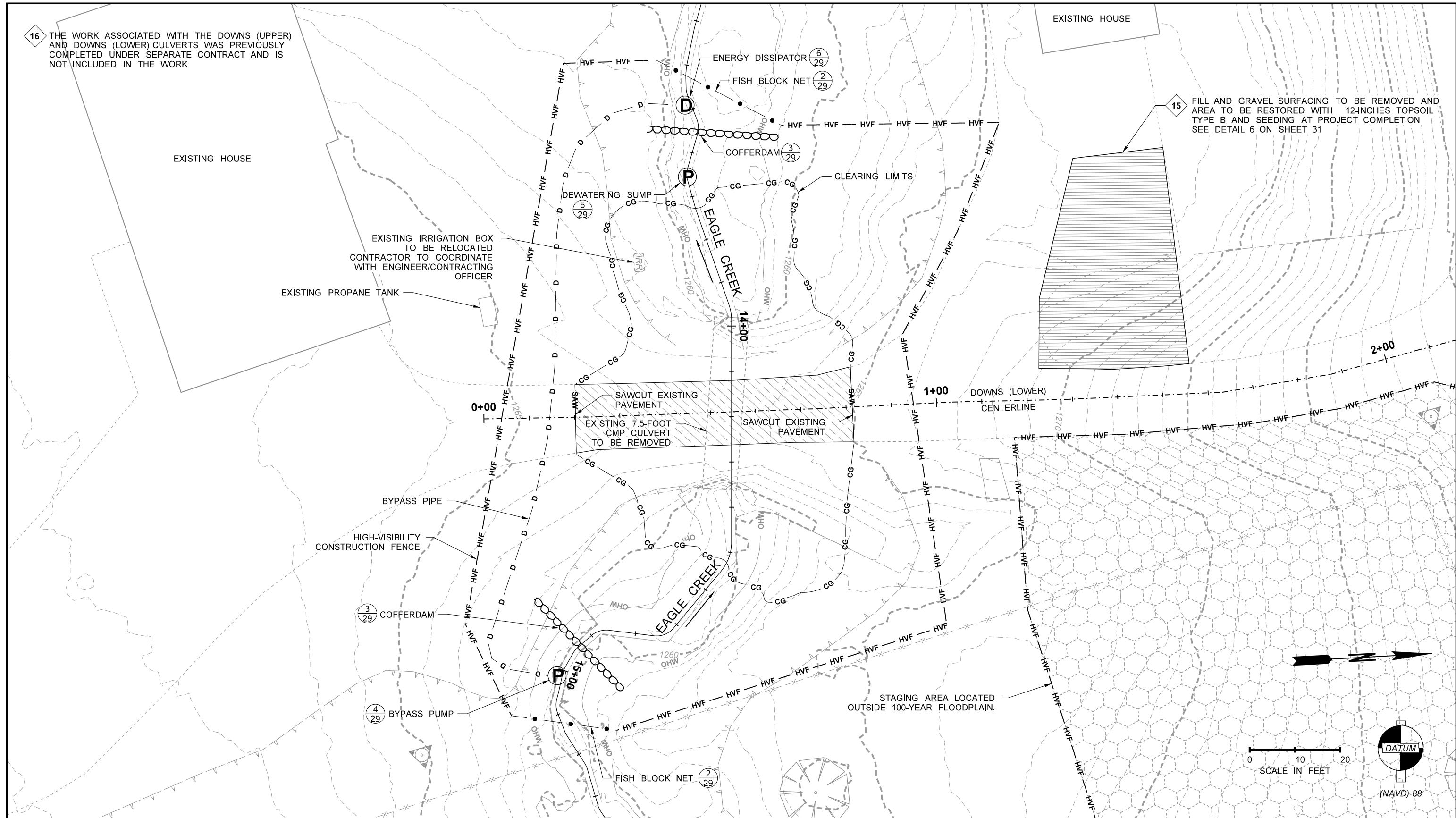
FILE NO.

SHEET NO.
9 OF 32

By: Maem
 Plot Date: 3/21/2023 4:52 PM

16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.

15 FILL AND GRAVEL SURFACING TO BE REMOVED AND AREA TO BE RESTORED WITH 12-INCHES TOPSOIL TYPE B AND SEEDING AT PROJECT COMPLETION SEE DETAIL 6 ON SHEET 31



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 20:1
 VERT: NTS

DESIGNED BY: MAEM
 DRAWN BY: RHW
 CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	BY

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EAGLE CREEK CULVERT REPLACEMENT

SITE PREPARATION PLAN

DOWNS (LOWER)

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
10 OF 32

By: Maem
 Plot Date: 3/21/2023 4:52 PM

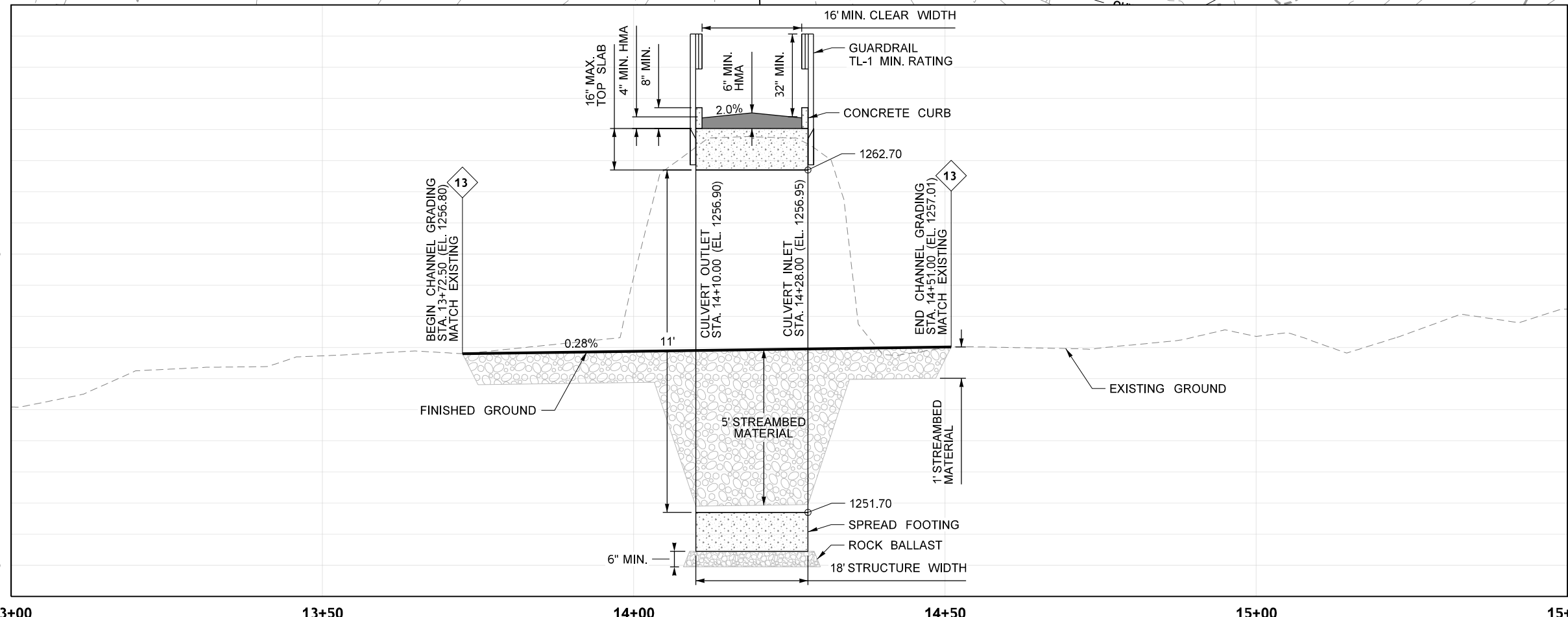
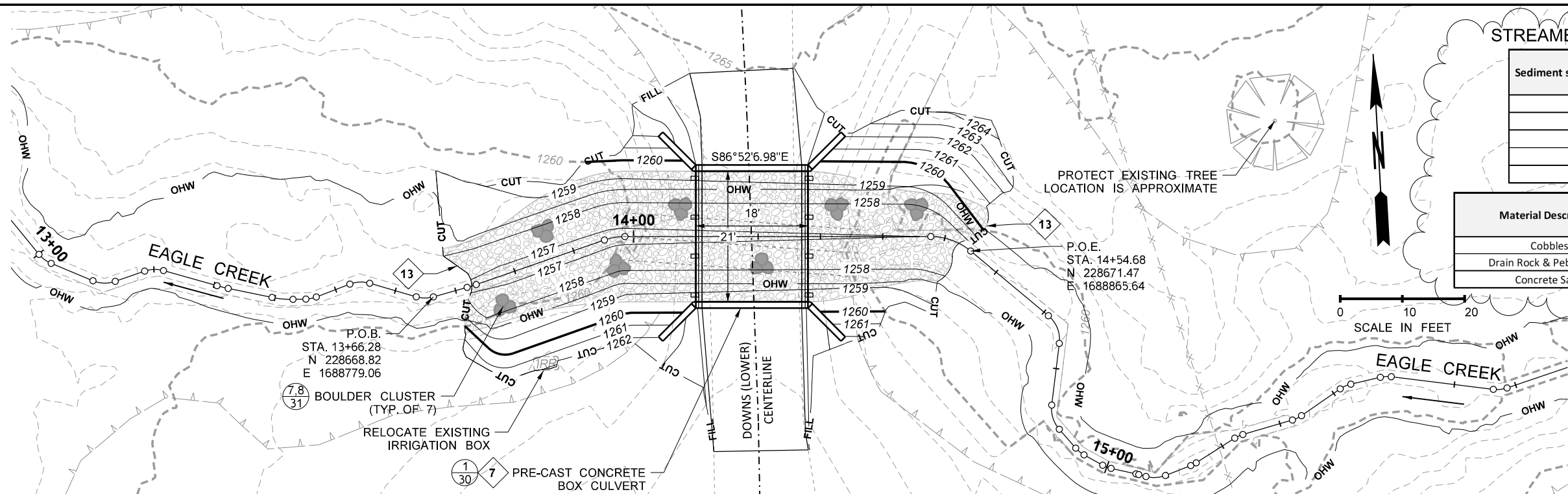
STREAM ALIGNMENT DATA

Tangent #1	
P.T.	13+66.28
Direction	N 77°27'53.4" E
Length	5.64
Curve #1	
P.C.	13+71.92
P.I.	13+72.68
P.T.	13+73.44
Radius	10.00
Delta	3°30'19.8" LT.
Length	1.53
Tangent	0.77
Tangent #2	
P.T.	13+73.44
Direction	N 73°57'33.6" E
Length	21.80
Curve #2	
P.C.	13+95.25
P.I.	13+96.94
P.T.	13+98.59
Radius	11.00
Delta	19°10'19.4" RT.
Length	3.35
Tangent	1.69
Tangent #3	
P.T.	13+98.59
Direction	S 86°52'07.0" E
Length	49.14
Curve #3	
P.C.	14+47.73
P.I.	14+51.35
P.T.	14+54.68
Radius	12.00
Delta	39°49'01.2" RT.
Length	6.95
Tangent	3.62
Tangent #4	
P.T.	14+54.68
Direction	S 47°03'05.8" E
Length	16.24

STREAMBED MATERIAL

Sediment size	Proposed Diameter (in)
D ₁₅	0.2
D ₅₀	2.3
D ₈₄	4.8
D ₉₅	7.2
D ₁₀₀	8.0

Material Description	Percentage of Mix
Cobbles	50%
Drain Rock & Pebbles Mix	30%
Concrete Sand	20%



16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 20:1
VERT: 4:1

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	BY

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Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

CHANNEL PLAN AND PROFILE

DOWNS (LOWER)

PROJECT NO. **CHEC-0021**

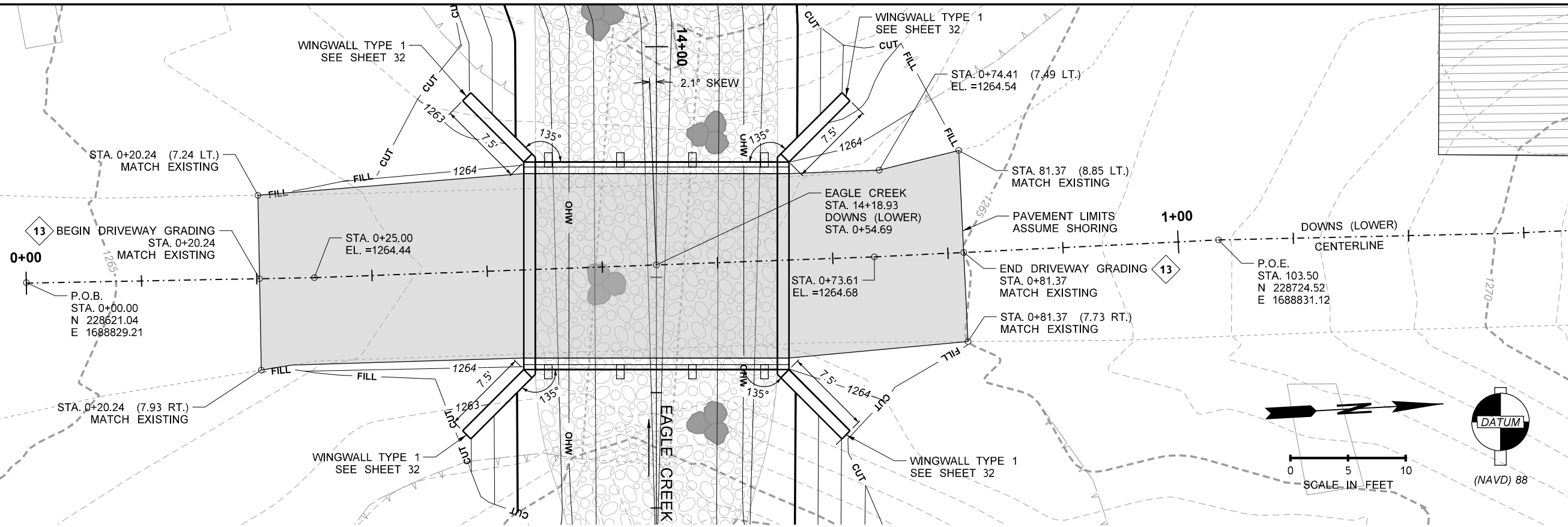
FILE NO. _____

SHEET NO. **11 OF 32**

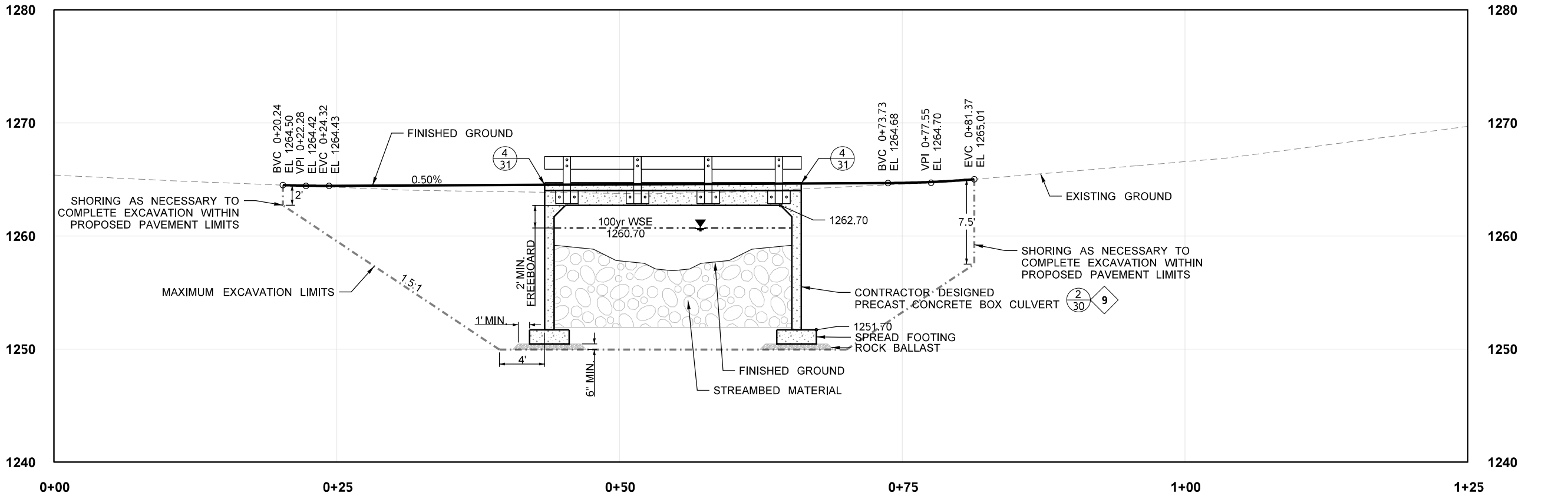
By: Maem
Plot Date: 3/21/2023 4:52 PM

DRIVEWAY ALIGNMENT DATA

Tangent #1	
P.O.B.	0+00.00
Direction	N 2°02'49.3" E
Length	25.00
Tangent #2	
P.I.	0+25.00
Direction	N 1°00'21.3" E
Length	48.61
Tangent #3	
P.I.	0+73.61
Direction	N 0°19'01.8" E
Length	29.89
Tangent #4	
P.I.	1+03.50
Direction	N 1°50'00.7" E
Length	25.04



16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.



SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 10:1
VERT: 10:1

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	BY

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Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

DRIVEWAY PLAN AND PROFILE

DOWNS (LOWER)

PROJECT NO. **CHEC-0021**

FILE NO. _____

SHEET NO. **12 OF 32**

By: Maem
Plot Date: 3/21/2023 4:52 PM

16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.

EXISTING HOUSE

EXISTING HOUSE

FLOODPLAIN SEED MIX

SPECIES	COMMON NAME	LBS PLS/ACRE
AGROSTIS SCABRA	HAIR BENTGRASS	0.5
DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	1
ERIGERON SPECIOSUS	ASPEN FLEABANE	75
FESTUCA RUBRA VAR. RUBRA	RED FESCUE	2
JUNCUS TENUIS	SLENDER RUSH	0.5
TRITICUM AESTIVUM X SECALE CEREALE	STERILE TRITICALE	20

GENERAL NOTES

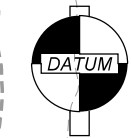
1. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF GRADING SHALL BE RESTORED TO ORIGINAL GROUND SLOPES AND ELEVATIONS.
2. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF THE STREAMBED MATERIAL SHALL BE SEEDED WITH THE SEED MIX SHOWN ON THIS SHEET. ALL SEEDED AREAS SHALL BE AMENDED WITH A 2-INCH THICKNESS OF FINE COMPOST PRIOR TO SEEDING. SEE DETAIL 5 ON SHEET 31. ALL SEEDED AREAS SHALL BE TREATED WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING CERTIFIED SEED AND WEED-FREE STRAW, PER THE SPECIFICATIONS.

FLOODPLAIN SEED MIX AND STRAW MULCH

LIVE CUTTINGS AND BIODEGRADABLE EROSION CONTROL BLANKET PER WSDOT STD. PLAN I-60.10



0 10 20
SCALE IN FEET



(NAVD) 88

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 20:1
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	BY

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EAGLE CREEK CULVERT REPLACEMENT

**SITE RESTORATION PLAN
DOWNS (LOWER)**

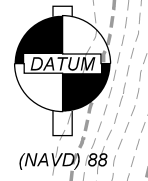
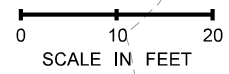
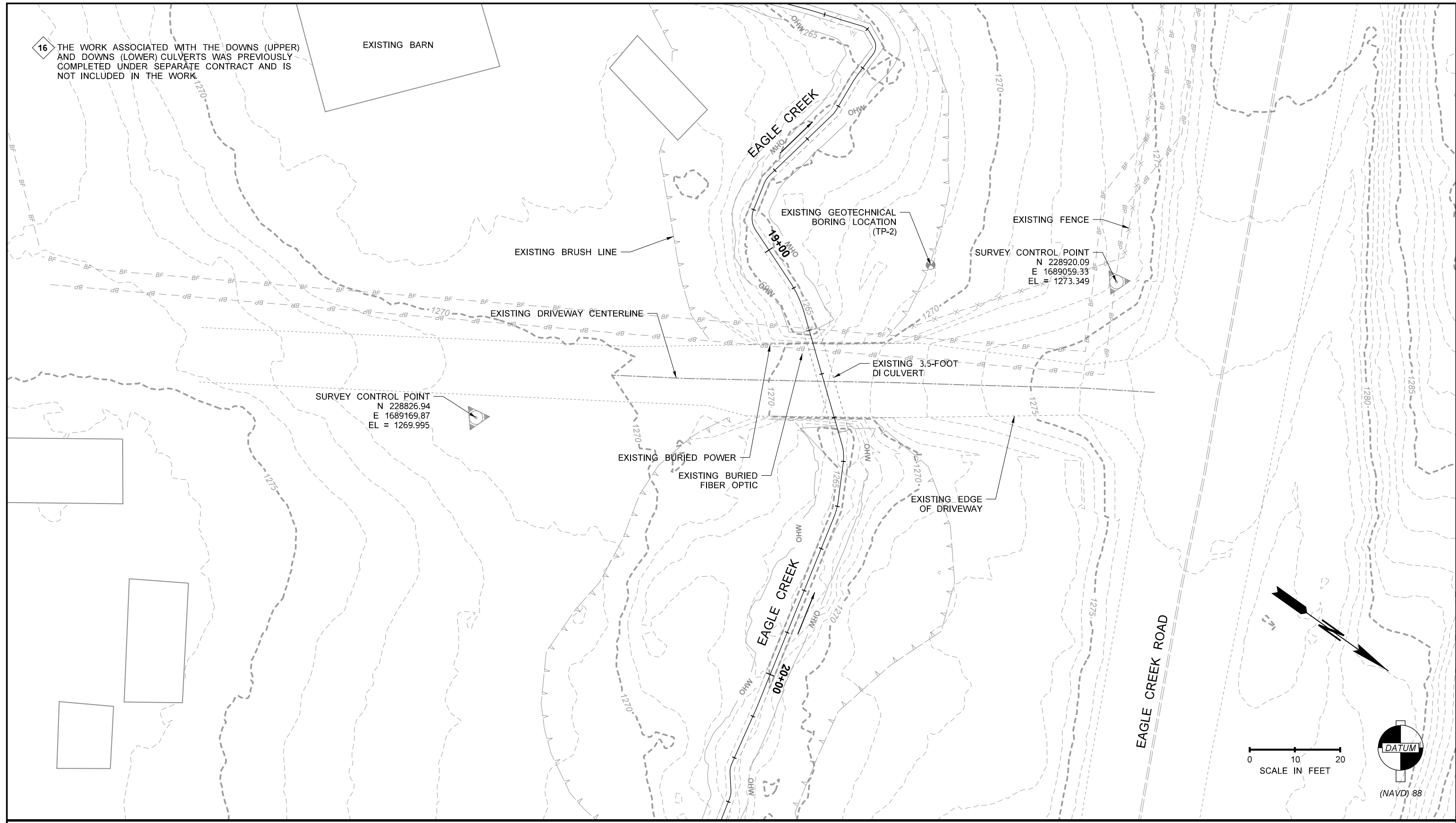
PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
13 OF 32

By: Maem
Plot Date: 3/21/2023 4:52 PM

16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: NTS
 VERT: NTS

DESIGNED BY: MAEM
 DRAWN BY: RHW
 CHECKED BY: BJME



REVIEWED BY:			DATE:	
NO.	DATE	REVISION	BY	CK

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 Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

**EXISTING CONDITIONS
 DOWNS (UPPER)**

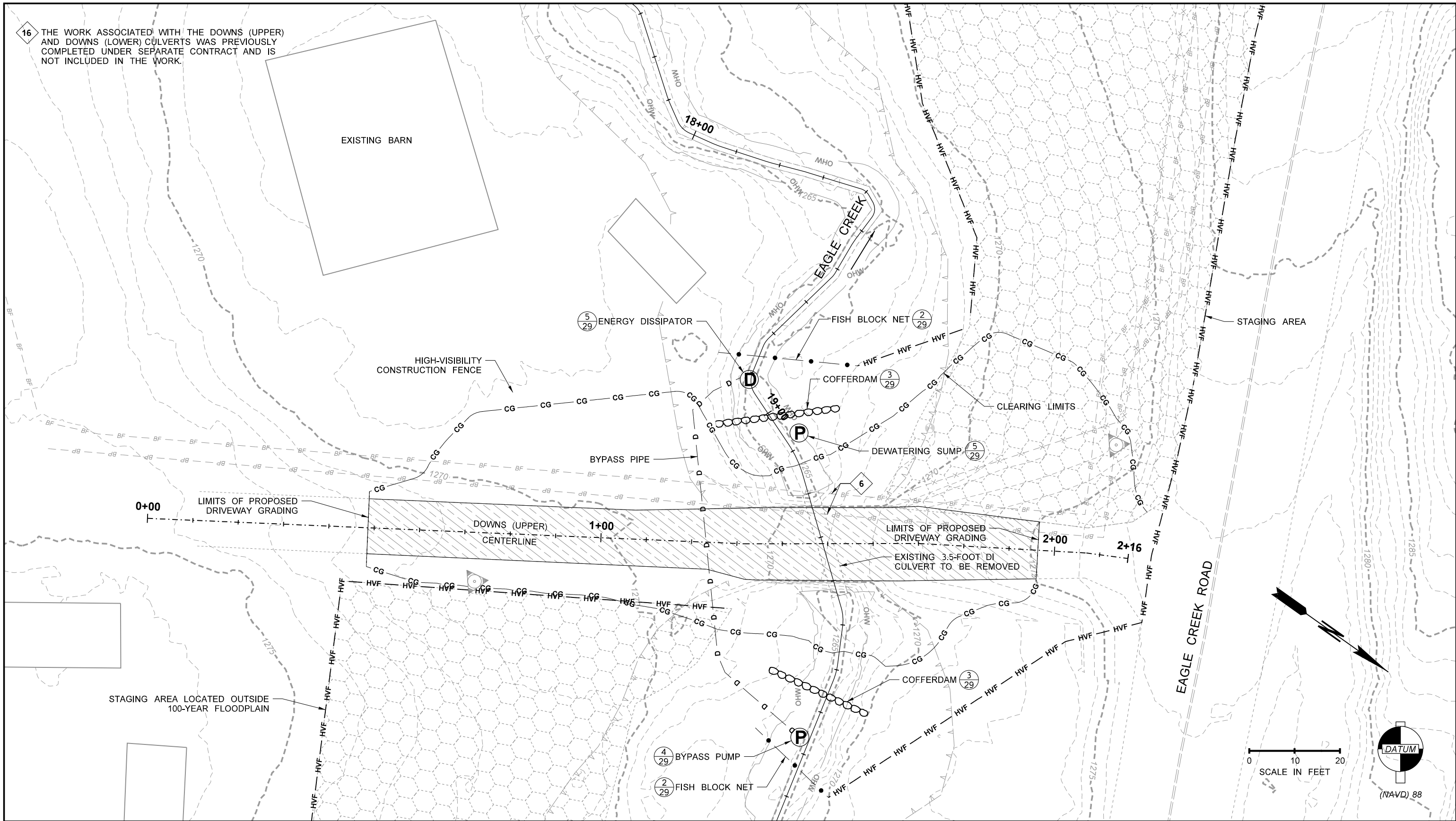
PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
14 OF 32

By: Maem
 Plot Date: 3/21/2023 4:52 PM

16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 20:1
 VERT: NTS

DESIGNED BY: MAEM
 DRAWN BY: RHW
 CHECKED BY: BJME



NO.	REVIEWED BY:		DATE:	
	DATE	REVISION	BY	CK

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EAGLE CREEK CULVERT REPLACEMENT

**SITE PREPARATION PLAN
 DOWNS (UPPER)**

PROJECT NO.
CHEC-0021

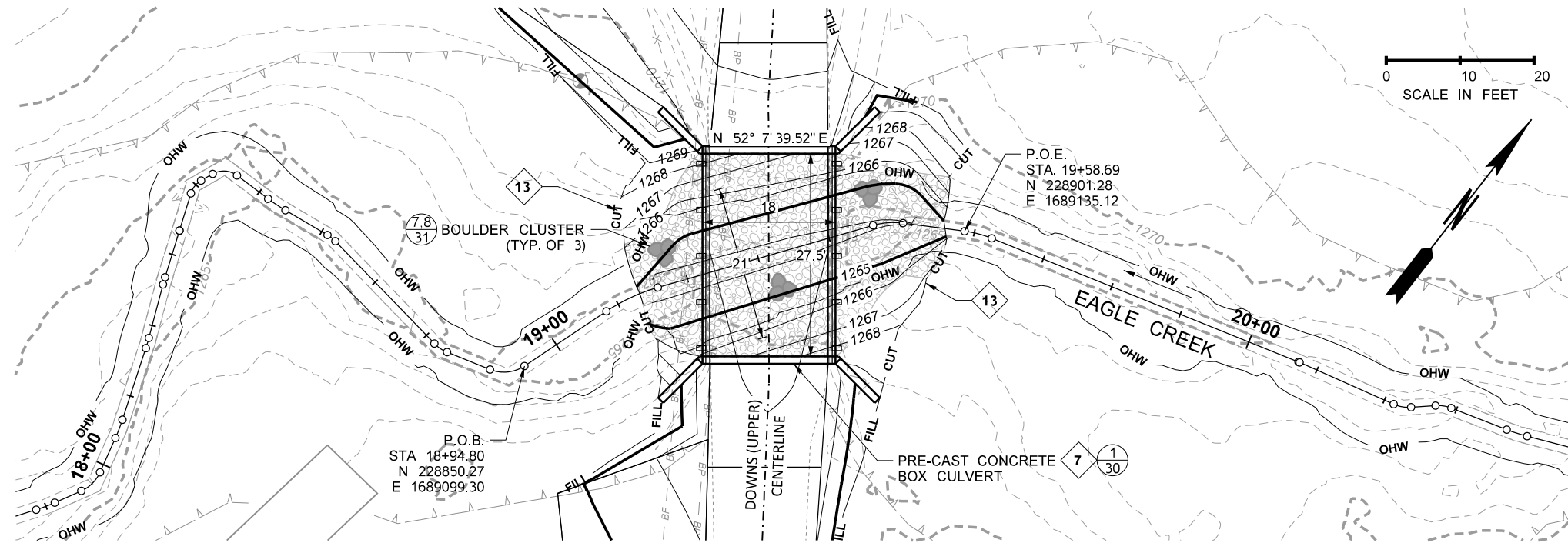
FILE NO.

SHEET NO.
15 OF 32

By: Maem
 Plot Date: 3/21/2023 4:52 PM

STREAM ALIGNMENT DATA

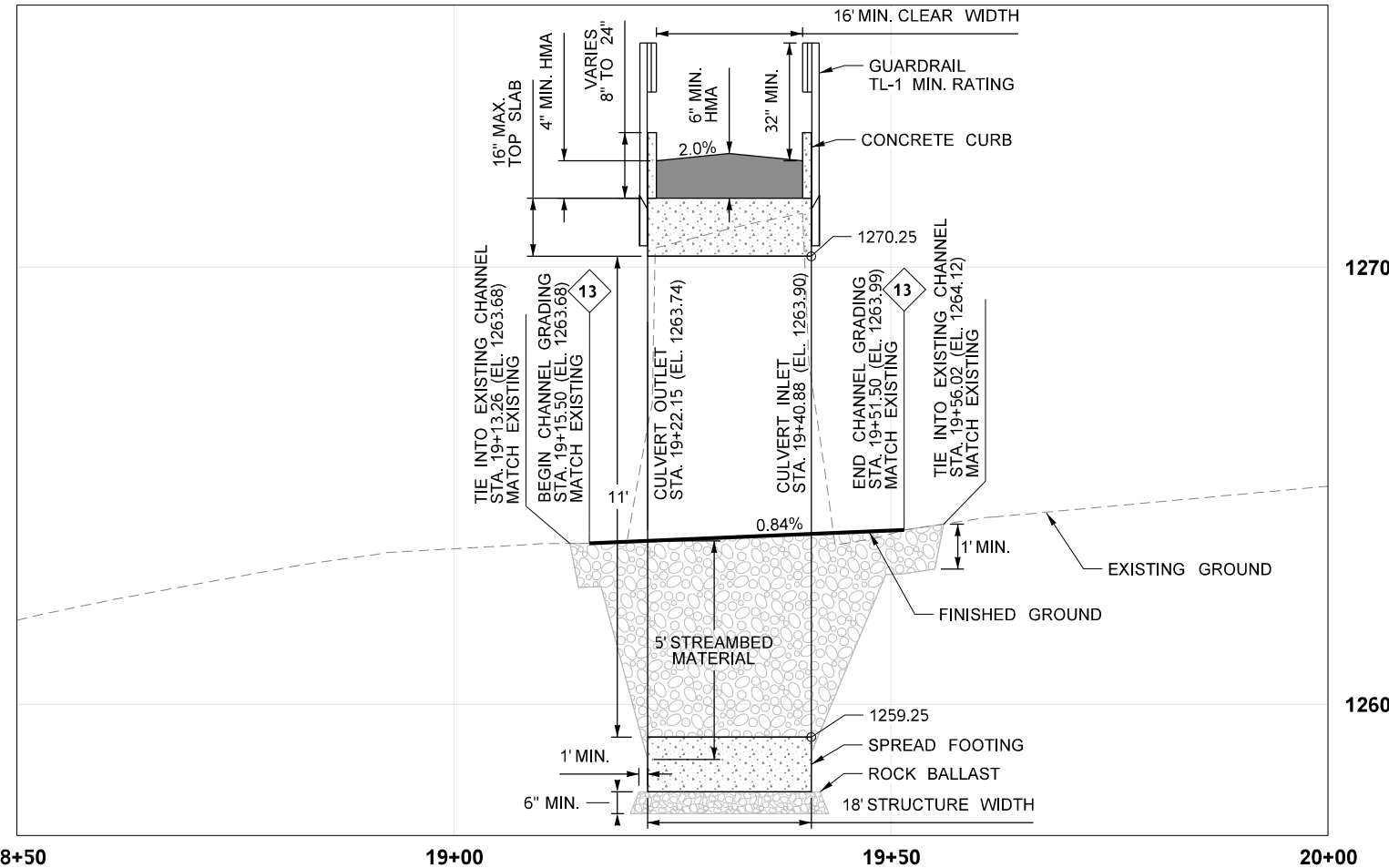
Tangent #1	
P.T.	18+94.80
Direction	N 18°22'05.4" E
Length	13.34
Curve #1	
P.C.	19+08.14
P.I.	19+12.03
P.T.	19+15.85
Radius	10.00
Delta	17°40'04.8" RT.
Length	7.71
Tangent	3.89
Tangent #2	
P.T.	19+15.85
Direction	N 36°02'10.2" E
Length	30.32
Curve #2	
P.C.	19+46.17
P.I.	19+48.25
P.T.	19+50.28
Radius	11.00
Delta	23°32'49.2" RT.
Length	4.11
Tangent	2.08
Tangent #3	
P.T.	19+50.28
Direction	N 59°34'59.3" E
Length	8.41
Curve #3	
P.C.	19+58.69
P.I.	19+60.60
P.T.	19+62.49
Radius	12.00
Delta	14°31'12.9" RT.
Length	3.80
Tangent	1.91



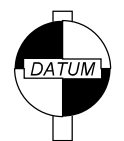
STREAMBED MATERIAL

Sediment size	Proposed Diameter (in)
D ₁₆	0.2
D ₅₀	2.3
D ₈₄	4.8
D ₉₅	7.2
D ₁₀₀	8.0

Material Description	Percentage of Mix
Cobbles	50%
Drain Rock & Pebbles Mix	30%
Concrete Sand	20%



16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.



(NAVD) 88

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 20:1
VERT: 4:1

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:	DATE:	BY:	CK:
NO.	DATE	REVISION	

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BELLEVUE, WA 98007
Phone: 425.519.6500



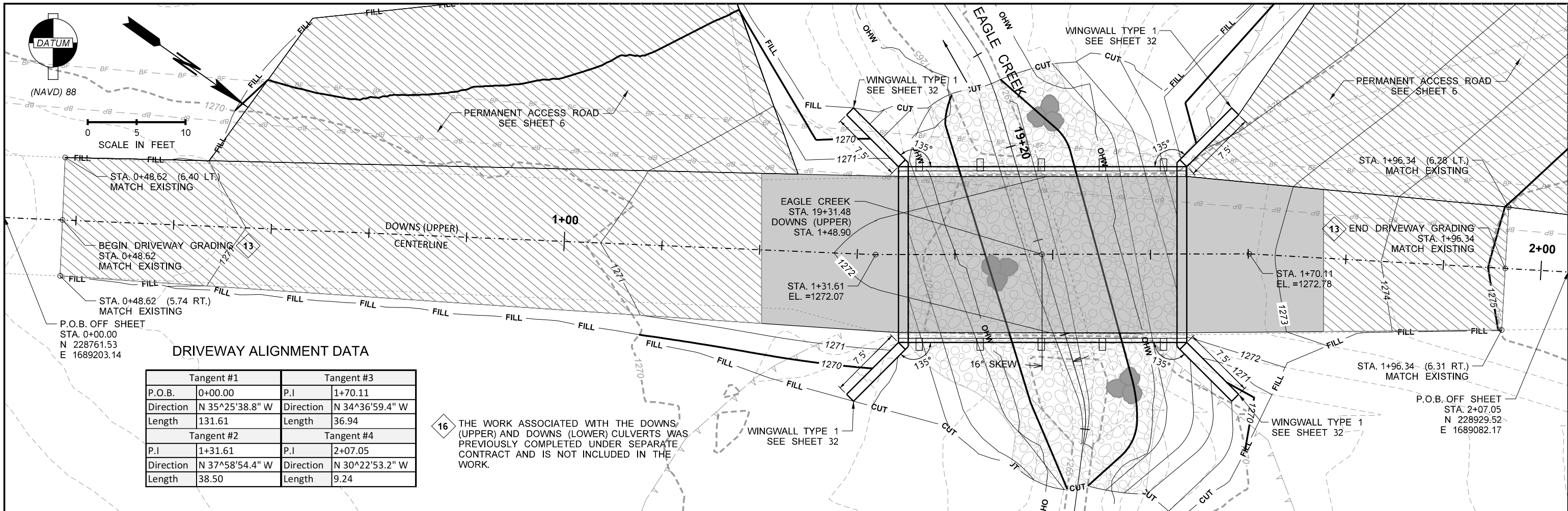
EAGLE CREEK CULVERT REPLACEMENT

**CHANNEL PLAN AND PROFILE
DOWNS (UPPER)**

PROJECT NO.
CHEC-0021

FILE NO.

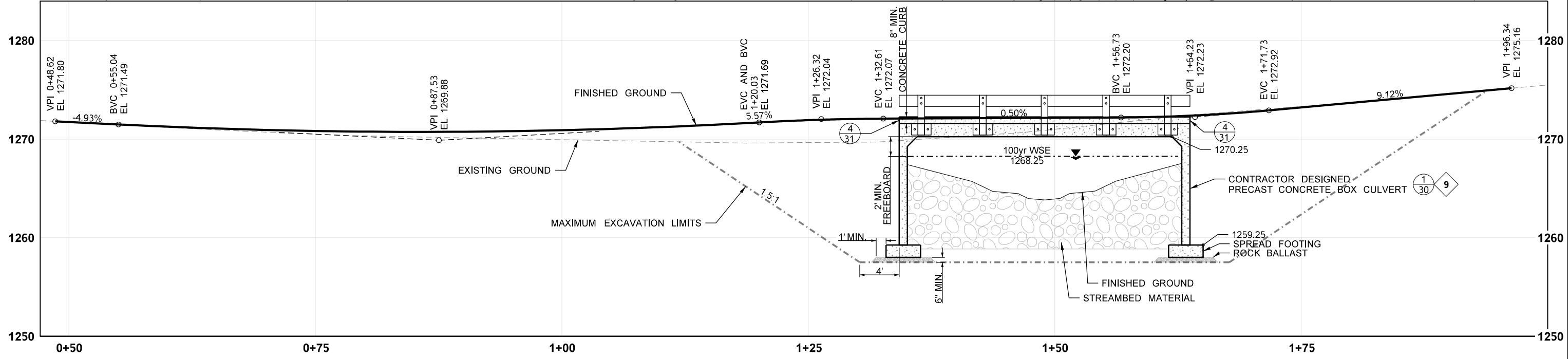
SHEET NO.
16 OF 32



DRIVEWAY ALIGNMENT DATA

Tangent #1		Tangent #3	
P.O.B.	0+00.00	P.I.	1+70.11
Direction	N 35°25'38.8" W	Direction	N 34°36'59.4" W
Length	131.61	Length	36.94
Tangent #2		Tangent #4	
P.I.	1+31.61	P.I.	2+07.05
Direction	N 37°58'54.4" W	Direction	N 30°22'53.2" W
Length	38.50	Length	9.24

16 THE WORK ASSOCIATED WITH THE DOWNNS (UPPER) AND DOWNNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.



SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 10:1
VERT: 10:1

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	BY

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Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

DRIVEWAY PLAN AND PROFILE

DOWNNS (UPPER)

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
17 OF 32

By: Maem
Plot Date: 3/21/2023 4:52 PM

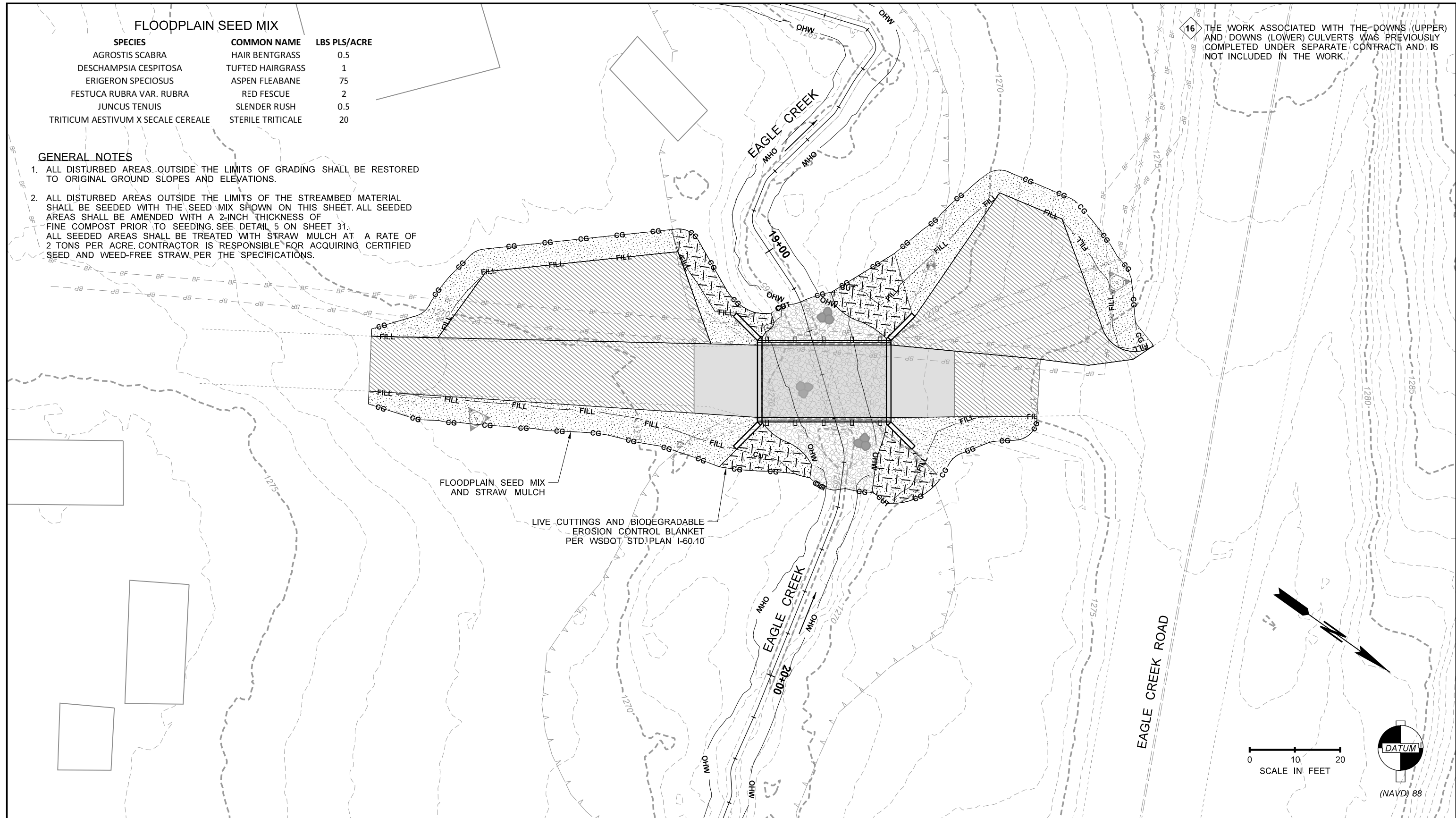
FLOODPLAIN SEED MIX

SPECIES	COMMON NAME	LBS PLS/ACRE
AGROSTIS SCABRA	HAIR BENTGRASS	0.5
DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	1
ERIGERON SPECIOSUS	ASPEN FLEABANE	75
FESTUCA RUBRA VAR. RUBRA	RED FESCUE	2
JUNCUS TENUIS	SLENDER RUSH	0.5
TRITICUM AESTIVUM X SECALE CEREALE	STERILE TRITICALE	20

GENERAL NOTES

1. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF GRADING SHALL BE RESTORED TO ORIGINAL GROUND SLOPES AND ELEVATIONS.
2. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF THE STREAMBED MATERIAL SHALL BE SEEDED WITH THE SEED MIX SHOWN ON THIS SHEET. ALL SEEDED AREAS SHALL BE AMENDED WITH A 2-INCH THICKNESS OF FINE COMPOST PRIOR TO SEEDING. SEE DETAIL 5 ON SHEET 31. ALL SEEDED AREAS SHALL BE TREATED WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING CERTIFIED SEED AND WEED-FREE STRAW PER THE SPECIFICATIONS.

16 THE WORK ASSOCIATED WITH THE DOWNS (UPPER) AND DOWNS (LOWER) CULVERTS WAS PREVIOUSLY COMPLETED UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THE WORK.



FLOODPLAIN SEED MIX AND STRAW MULCH

LIVE CUTTINGS AND BIODEGRADABLE EROSION CONTROL BLANKET PER WSDOT STD. PLAN I-60.10

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 20:1
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:			DATE:	
NO.	DATE	REVISION	BY	CK

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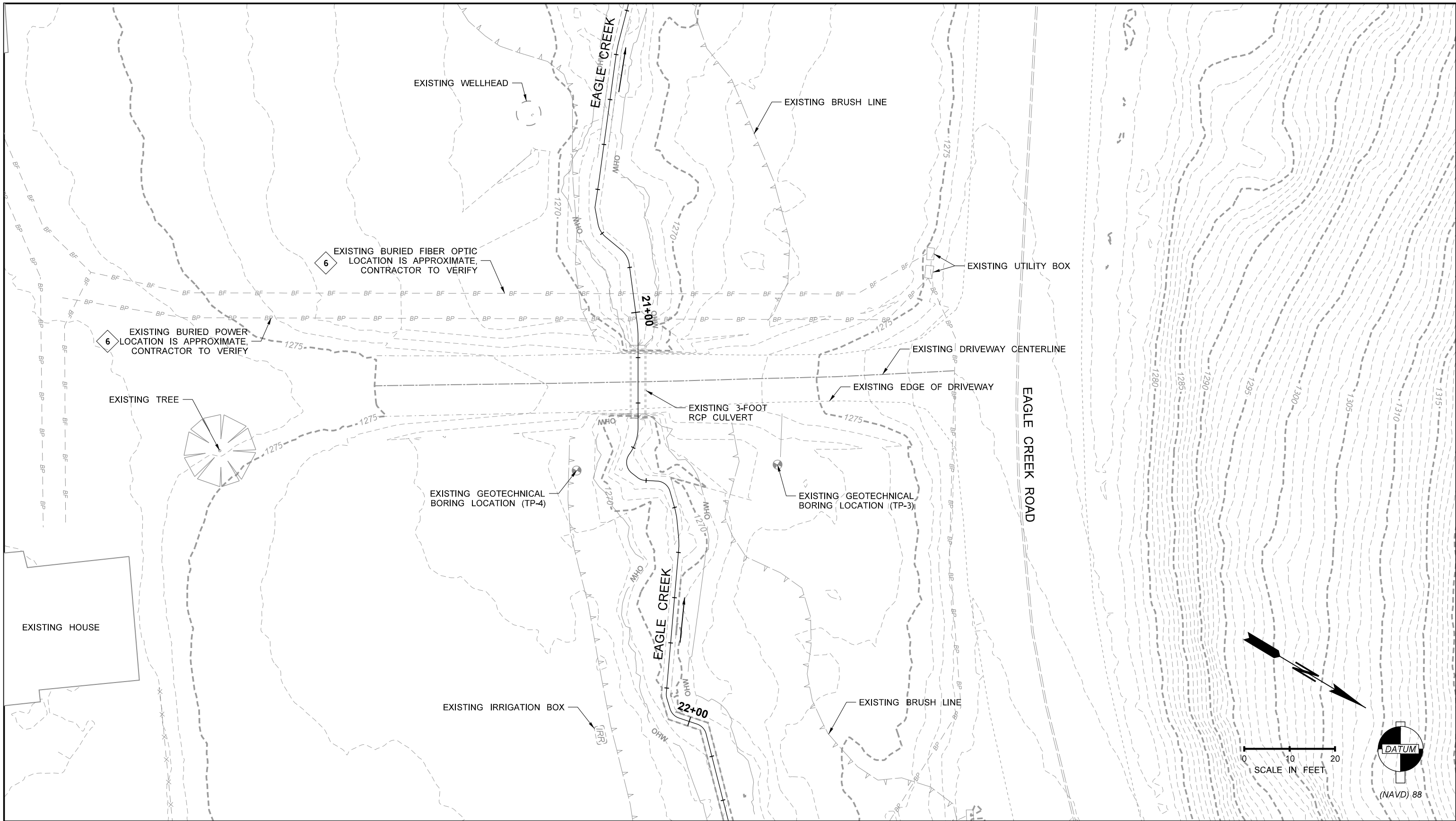
EAGLE CREEK CULVERT REPLACEMENT

**SITE RESTORATION PLAN
DOWNS (UPPER)**

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
18 OF 32



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 20:1
 VERT: NTS

DESIGNED BY: MAEM
 DRAWN BY: RHW
 CHECKED BY: BJME



REVIEWED BY:			DATE:	
NO.	DATE	REVISION	BY	CK

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EAGLE CREEK CULVERT REPLACEMENT

EXISTING CONDITIONS

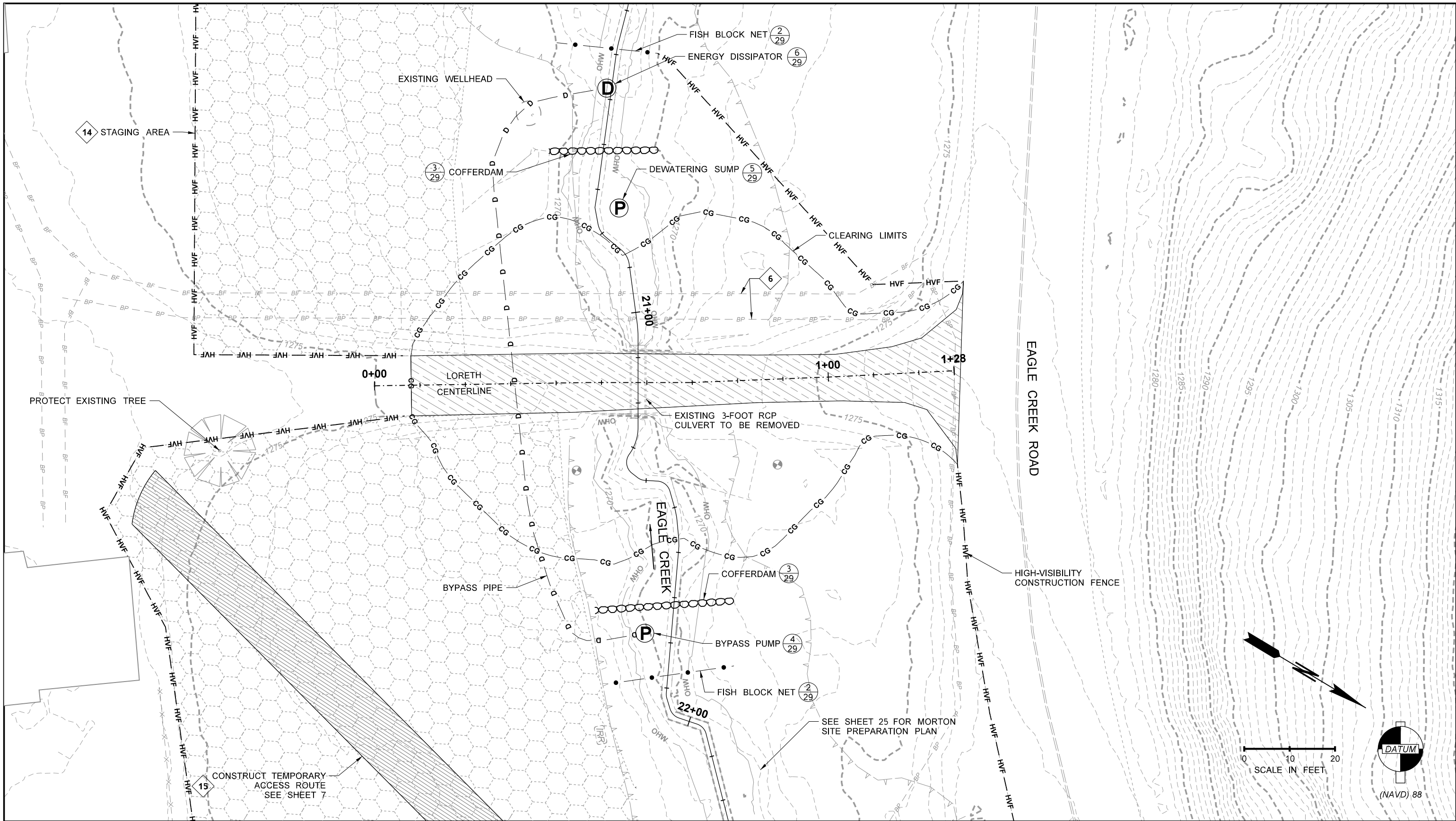
LORETH

PROJECT NO.
CHEC-0021

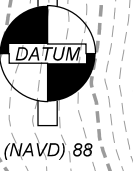
FILE NO.

SHEET NO.
19 OF 32

By: Maem
 Plot Date: 3/21/2023 4:52 PM



0 10 20
SCALE IN FEET



SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 20:1
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



NO.	REVIEWED BY:		DATE:	
	DATE	REVISION	BY	CK

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AND ASSOCIATES INC.**
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EAGLE CREEK CULVERT REPLACEMENT

SITE PREPARATION PLAN

LORETH

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
20 OF 32

By: Maem
Plot Date: 3/21/2023 4:52 PM

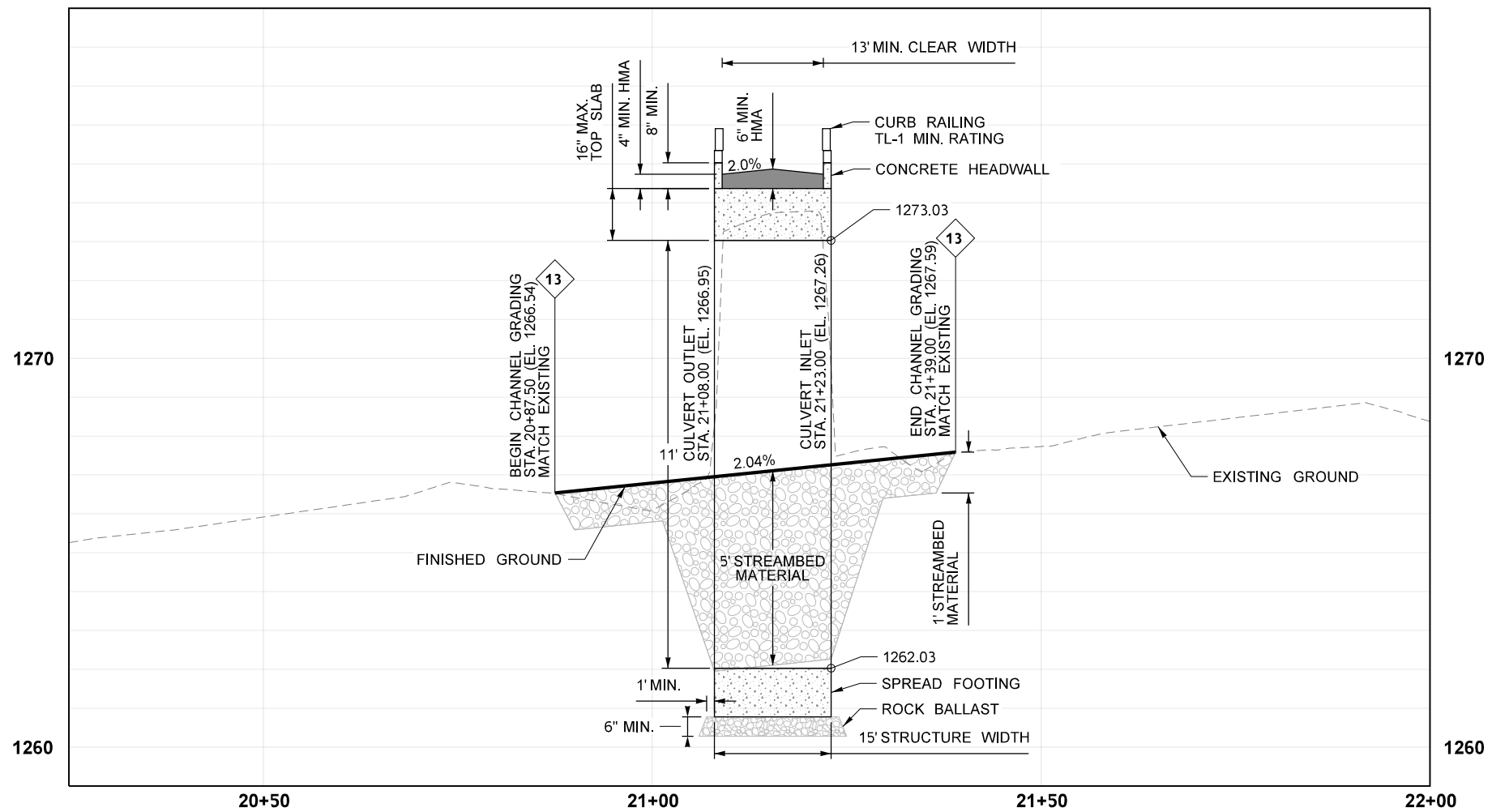
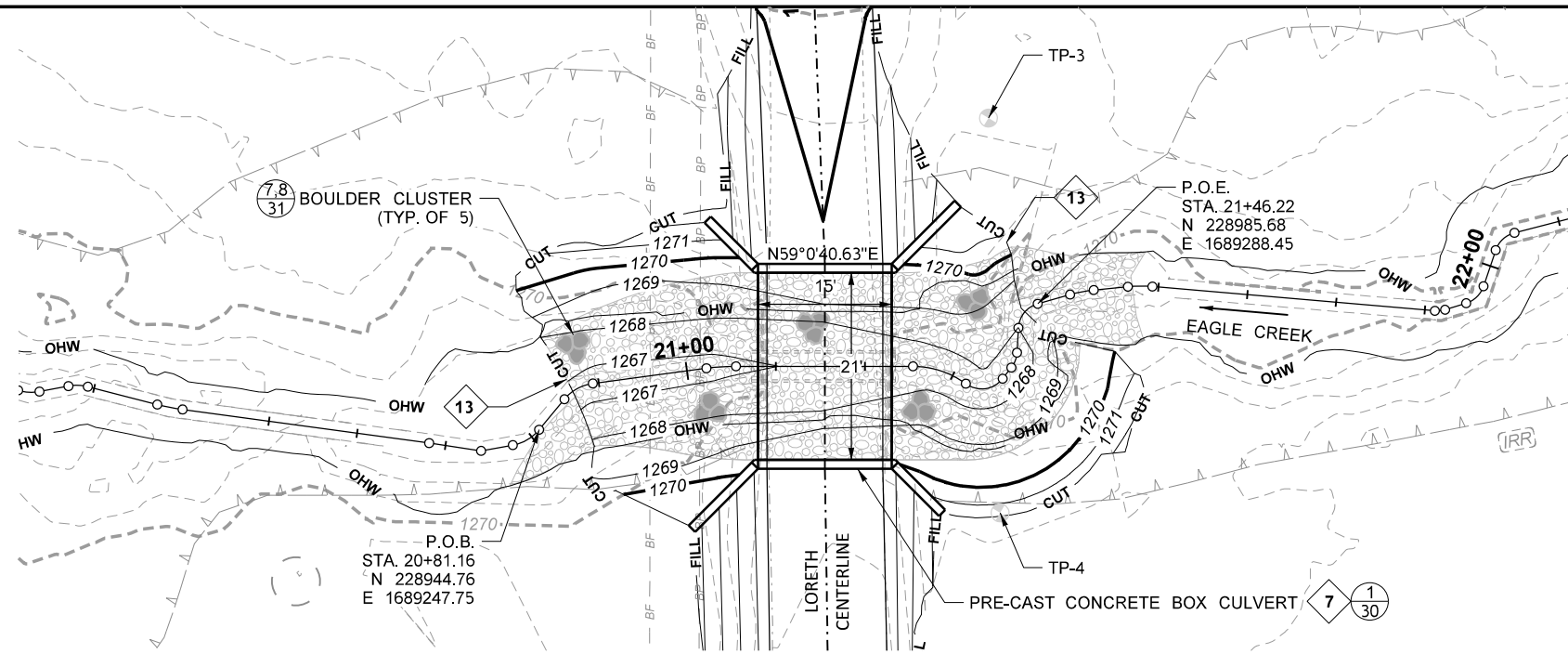
STREAM ALIGNMENT DATA

Tangent #1		Curve #4	
P.T.	20+81.16	P.C.	21+31.73
Direction	N 8°41'24.0" E	P.I.	21+34.64
Length	4.45	P.T.	21+36.36
Curve #1		Radius	
P.C.	20+85.61	Delta	88°16'22.0" LT.
P.I.	20+87.56	Length	4.62
P.T.	20+89.33	Tangent	2.91
Radius	10.00	Tangent #4	
Delta	42°42'33.5"	P.T.	21+36.36
Length	3.73	Direction	N 7°04'50.1" E
Tangent	1.96	Length	1.58
Tangent #2		Curve #5	
P.T.	20+89.33	P.C.	21+37.93
Direction	N 51°23'57.4" E	P.I.	21+38.87
Length	12.87	P.T.	21+39.75
Curve #2	Radius	12.00	
P.C.	21+02.20	Delta	34°41'25.9" LT.
P.I.	21+03.86	Length	1.82
P.T.	21+05.52	Tangent	0.94
Radius	11.00	Tangent #5	
Delta	7°36'43.2" RT.	P.T.	21+39.75
Length	3.32	Direction	N 27°36'35.8" W
Tangent	1.66	Length	2.77
Tangent #3		Curve #6	
P.T.	21+05.52	P.C.	21+42.52
Direction	N 59°00'40.6" E	P.I.	21+44.65
Length	19.87	P.T.	21+46.22
Curve #3	Radius	12.00	
P.C.	21+25.39	Delta	70°38'35.2" RT.
P.I.	21+28.67	Length	3.70
P.T.	21+31.73	Tangent	2.13
Radius	12.00	Tangent #6	
Delta	36°20'31.4" RT.	P.T.	21+46.22
Length	6.34	Direction	N 43°01'59.3" E
Tangent	3.28	Length	3.77

STREAMBED MATERIAL

Sediment size	Proposed Diameter (in)
D ₁₅	0.3
D ₅₀	2.0
D ₈₄	5.4
D ₉₅	7.2
D ₁₀₀	8.0

WSDOT Streambed Material	WSDOT Std. Spec.	Percentage of Mix
Streambed Sediment	9-03.11(1)	40%
8-inch Streambed Cobbles	9-03.11(2)	60%



SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 20:1
VERT: 4:1

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	BY

DAVID EVANS AND ASSOCIATES INC.
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BELLEVUE, WA 98007
Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

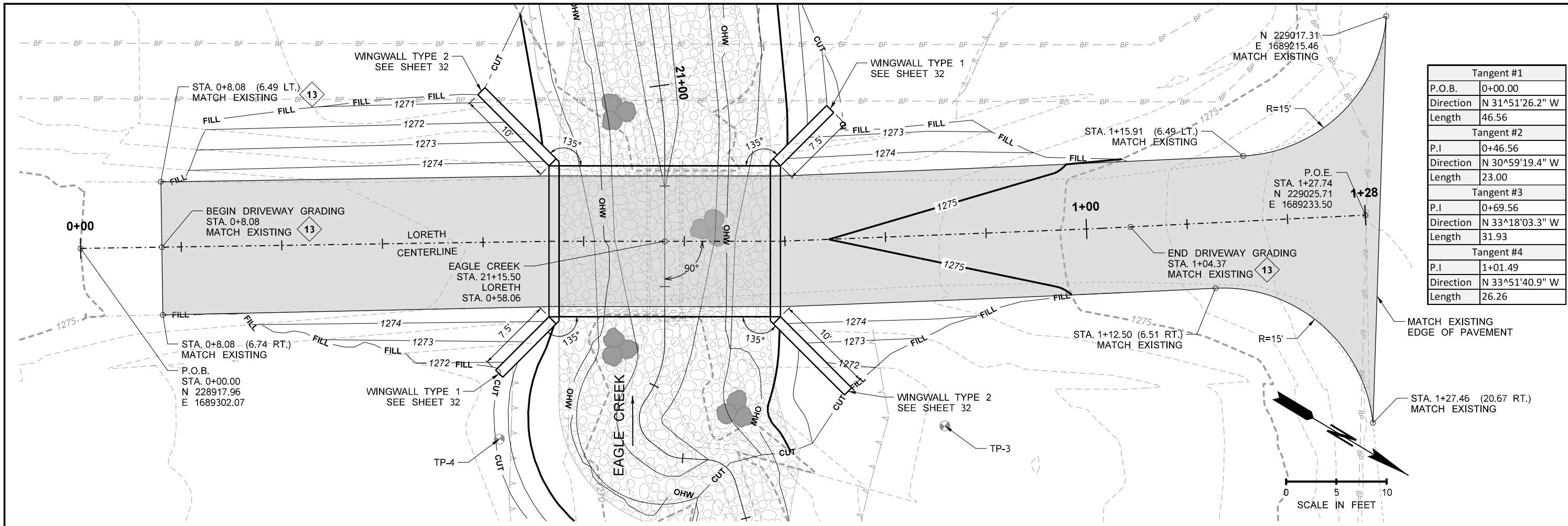
CHANNEL PLAN AND PROFILE

LORETH

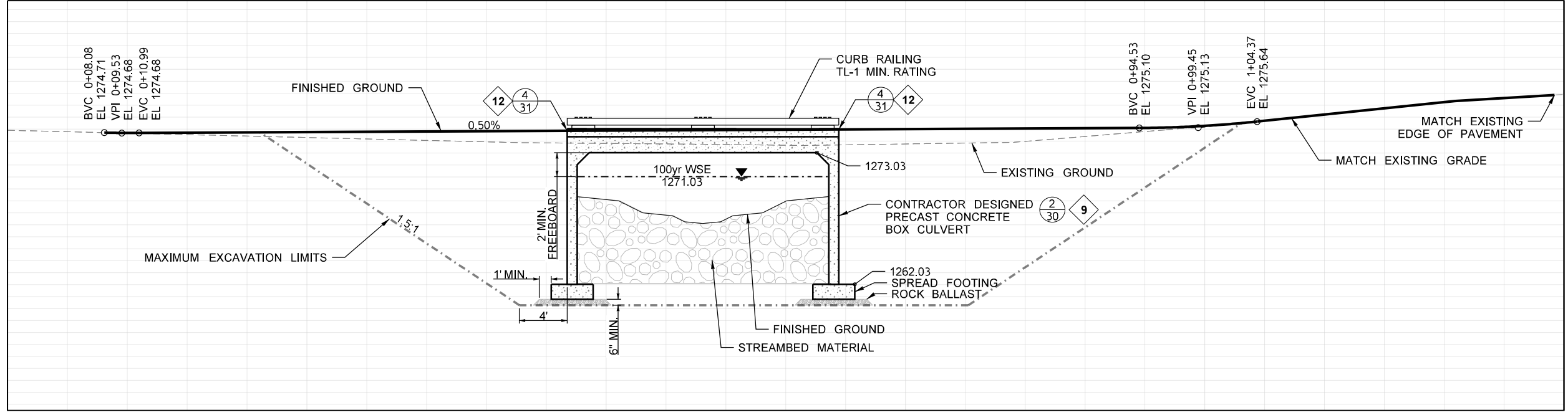
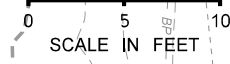
PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
21 OF 32



Tangent #1	
P.O.B.	0+00.00
Direction	N 31°51'26.2" W
Length	46.56
Tangent #2	
P.I.	0+46.56
Direction	N 30°59'19.4" W
Length	23.00
Tangent #3	
P.I.	0+69.56
Direction	N 33°18'03.3" W
Length	31.93
Tangent #4	
P.I.	1+01.49
Direction	N 33°51'40.9" W
Length	26.26



(NAVD) 88

SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 10:1
 VERT: 10:1

DESIGNED BY: MAEM
 DRAWN BY: RHW
 CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	BY

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EAGLE CREEK CULVERT REPLACEMENT

DRIVEWAY PLAN AND PROFILE

LORETH

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
22 OF 32

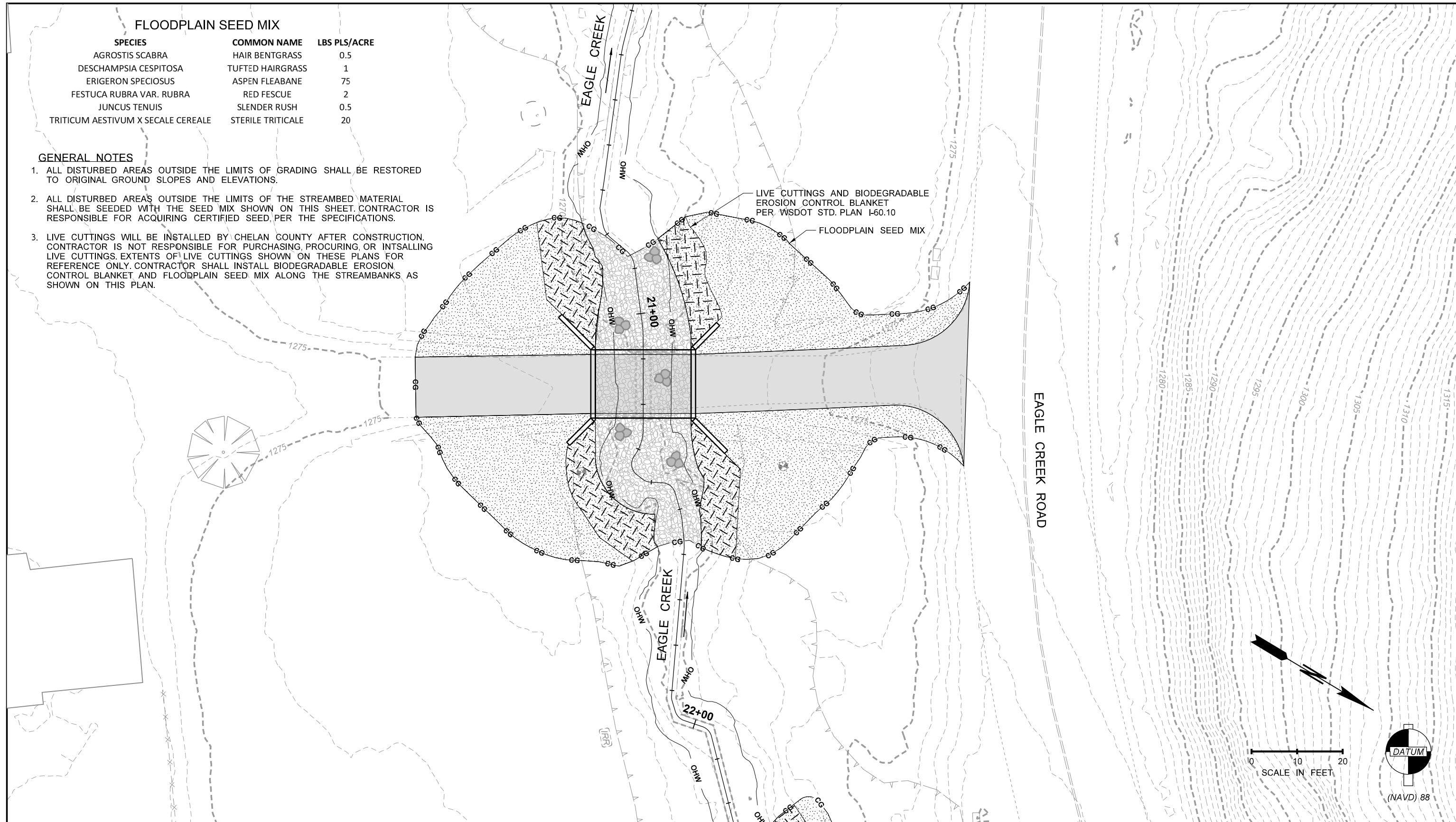
By: Maem
 Plot Date: 3/21/2023 4:52 PM

FLOODPLAIN SEED MIX

SPECIES	COMMON NAME	LBS PLS/ACRE
AGROSTIS SCABRA	HAIR BENTGRASS	0.5
DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	1
ERIGERON SPECIOSUS	ASPEN FLEABANE	75
FESTUCA RUBRA VAR. RUBRA	RED FESCUE	2
JUNCUS TENUIS	SLENDER RUSH	0.5
TRITICUM AESTIVUM X SECALE CEREALE	STERILE TRITICALE	20

GENERAL NOTES

1. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF GRADING SHALL BE RESTORED TO ORIGINAL GROUND SLOPES AND ELEVATIONS.
2. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF THE STREAMBED MATERIAL SHALL BE SEEDED WITH THE SEED MIX SHOWN ON THIS SHEET. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING CERTIFIED SEED PER THE SPECIFICATIONS.
3. LIVE CUTTINGS WILL BE INSTALLED BY CHELAN COUNTY AFTER CONSTRUCTION. CONTRACTOR IS NOT RESPONSIBLE FOR PURCHASING, PROCURING, OR INTSALLING LIVE CUTTINGS. EXTENTS OF LIVE CUTTINGS SHOWN ON THESE PLANS FOR REFERENCE ONLY. CONTRACTOR SHALL INSTALL BIODEGRADABLE EROSION CONTROL BLANKET AND FLOODPLAIN SEED MIX ALONG THE STREAMBANKS AS SHOWN ON THIS PLAN.



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 20:1
 VERT: NTS

DESIGNED BY: MAEM
 DRAWN BY: RHW
 CHECKED BY: BJME



REVIEWED BY:			DATE:	
NO.	DATE	REVISION	BY	CK

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 BELLEVUE, WA 98007
 Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

SITE RESTORATION PLAN

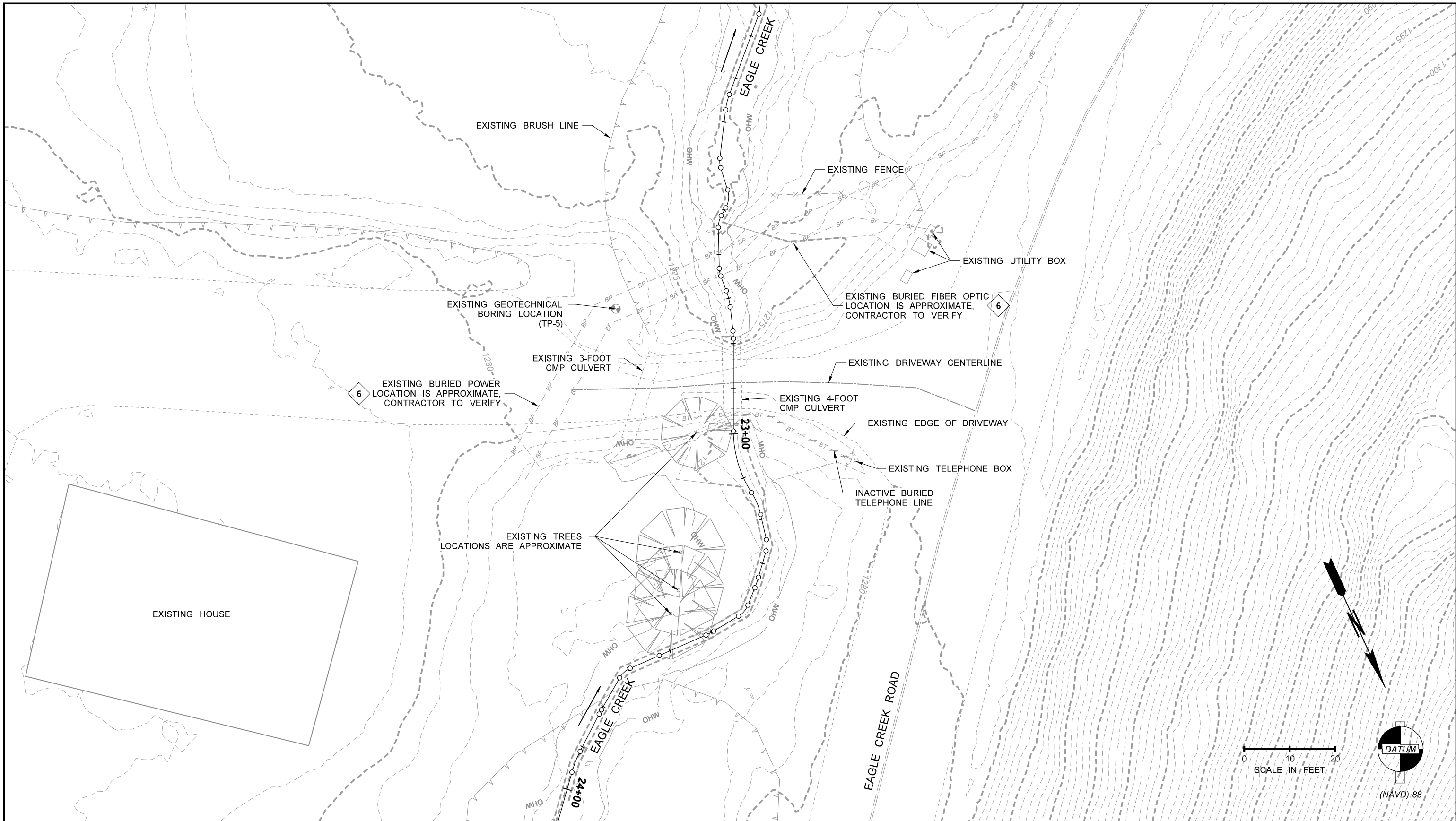
LORETH

PROJECT NO. _____

FILE NO. _____

SHEET NO. **23 OF 32**

By: Maem
 Plot Date: 3/21/2023 4:52 PM



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 20:1
 VERT: NTS

DESIGNED BY: MAEM
 DRAWN BY: RHW
 CHECKED BY: BJME



NO.	REVIEWED BY:		DATE:	
	DATE	REVISION	BY	CK

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EAGLE CREEK CULVERT REPLACEMENT

EXISTING CONDITIONS

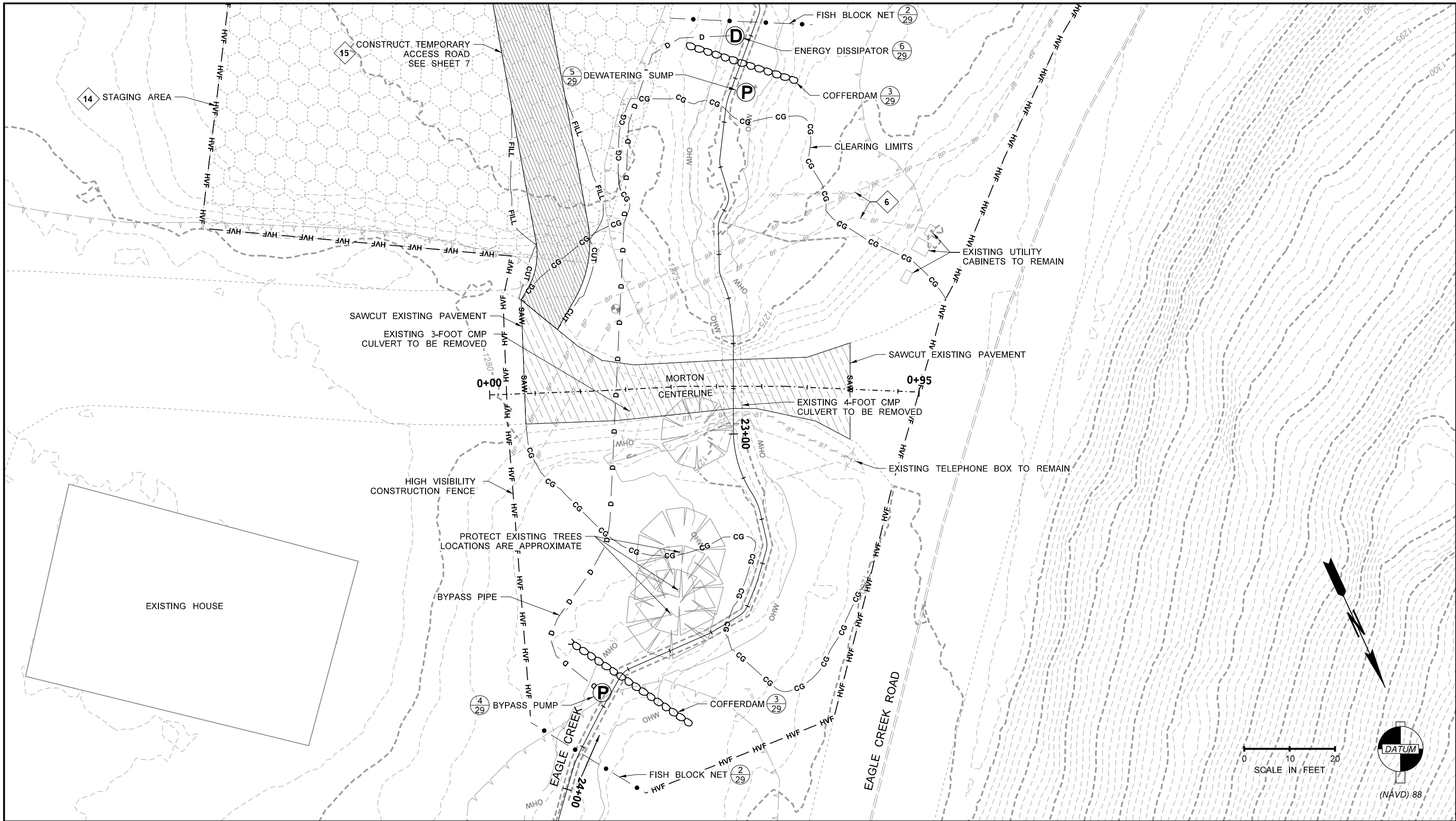
MORTON

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
24 OF 32

By: Maem
 Plot Date: 3/21/2023 4:52 PM



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 20:1
 VERT: NTS

DESIGNED BY: MAEM
 DRAWN BY: RHW
 CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	

DATE:	
BY	CK

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 Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

SITE PREPARATION PLAN

MORTON

PROJECT NO.
CHEC-0021

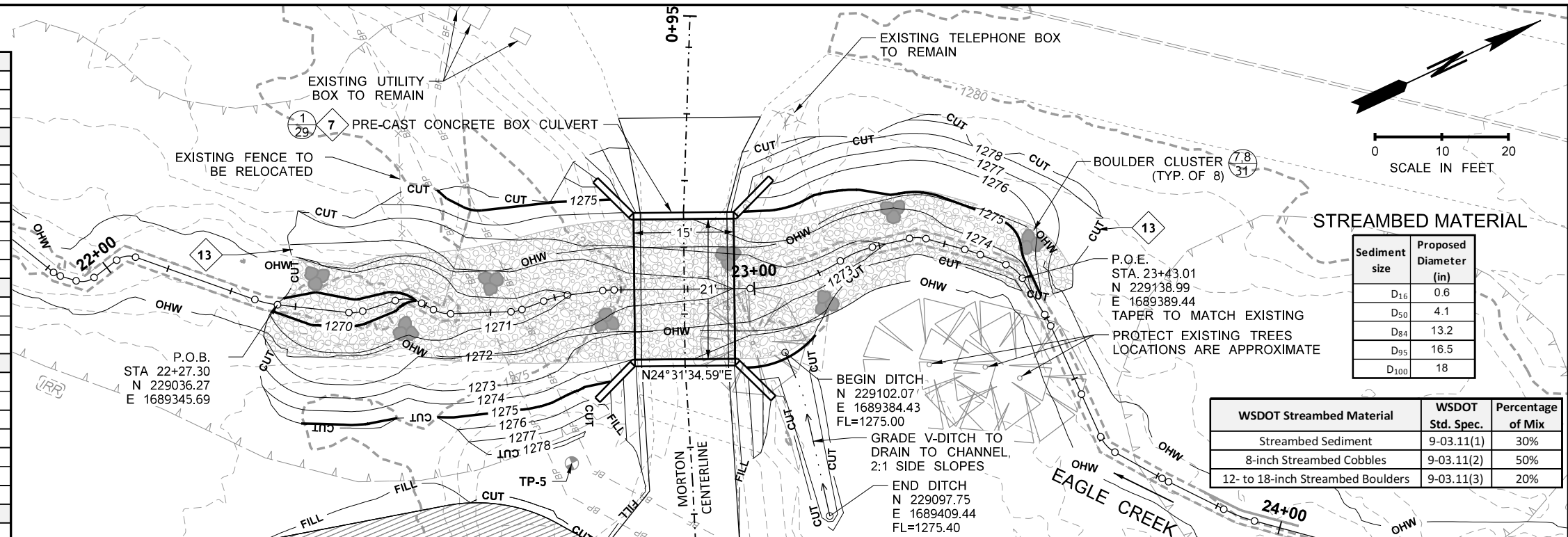
FILE NO.

SHEET NO.
25 OF 32

By: Maem
 Plot Date: 3/21/2023 4:52 PM

STREAM ALIGNMENT DATA

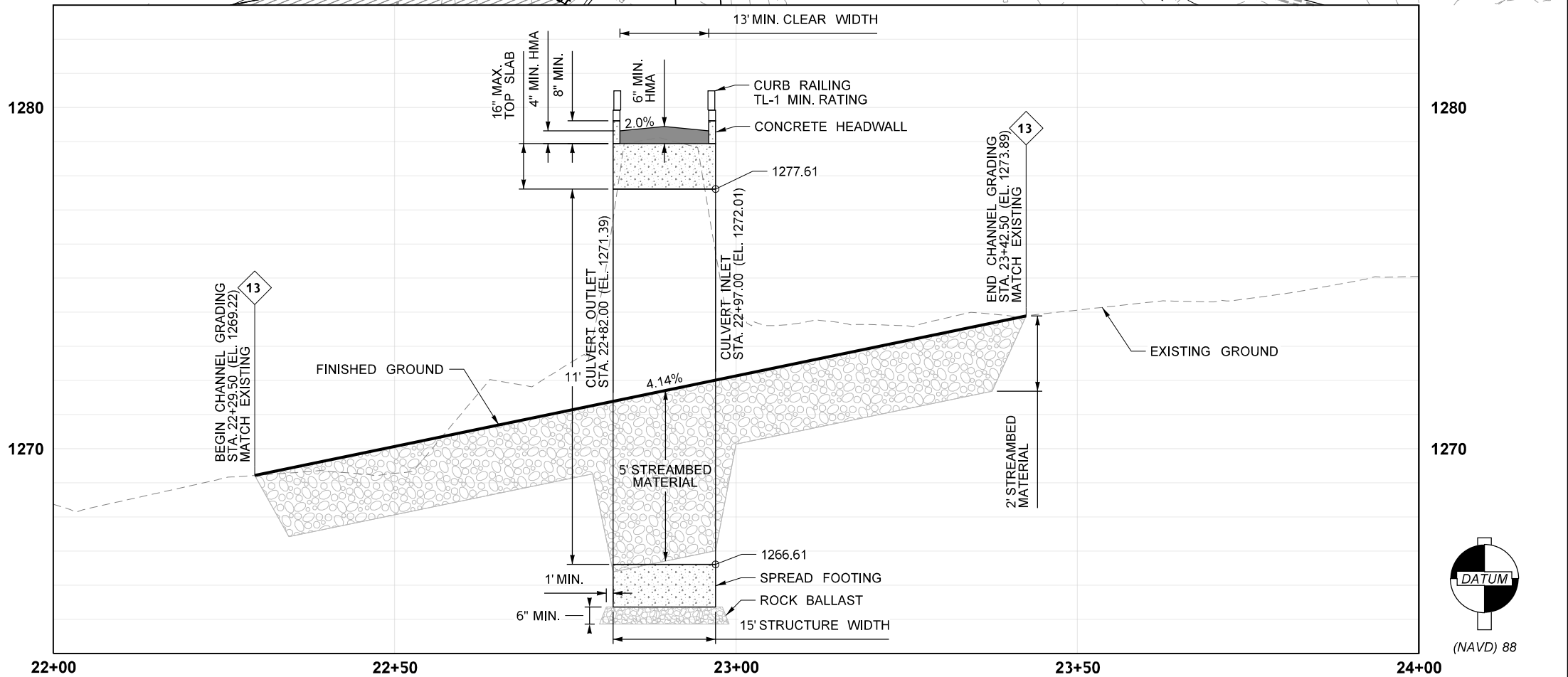
Tangent #1		Curve #5		Tangent #8	
P.T.	22+27.30	P.C.	22+68.27	P.T.	23+18.94
Direction	N 31°21'09.7" E	P.I.	22+70.11	Direction	N 11°48'56.7" E
Length	10.75	P.T.	22+71.94	Length	5.69
Curve #1		Curve #6		Curve #9	
P.C.	22+38.04	Radius	14.00	P.C.	23+24.64
P.I.	22+39.11	Delta	13°59'56.0" RT.	P.I.	23+25.92
P.T.	22+40.15	Length	3.67	P.T.	23+27.15
Radius	10.00	Tangent	1.84	Radius	16.00
Delta	24°07'41.1" LT.	Tangent #6		Delta	28°50'22.0" RT.
Length	2.11	P.T.	22+71.94	Length	2.52
Tangent	1.07	Direction	N 17°55'50.5" E	Tangent	1.29
Length		Length	5.33	Length	
Tangent #2		Curve #7		Tangent #10	
P.T.	22+40.15	P.C.	22+77.27	P.T.	23+27.15
Direction	N 7°13'28.6" E	P.I.	22+78.13	Direction	N 40°39'18.7" E
Length	5.12	P.T.	22+78.99	Length	6.02
Curve #2		Curve #8		Curve #11	
P.C.	22+45.27	Radius	15.00	P.C.	23+33.17
P.I.	22+47.43	Delta	6°35'44.1" RT.	P.I.	23+34.40
P.T.	22+49.35	Length	1.73	P.T.	23+35.62
Radius	11.00	Tangent	0.86	Radius	17.00
Delta	46°41'17.0" RT.	Tangent #7		Delta	5°36'38.4" RT.
Length	4.07	P.T.	22+78.99	Length	2.45
Tangent	2.16	Direction	N 24°31'34.6" E	Tangent	1.23
Length		Length	20.38	Length	
Tangent #3		Curve #9		Tangent #11	
P.T.	22+49.35	P.C.	22+99.37	P.T.	23+35.62
Direction	N 53°54'45.6" E	P.I.	23+06.73	Direction	N 46°15'57.1" E
Length	2.02	P.T.	23+13.68	Length	4.13
Curve #3		Curve #10		Curve #12	
P.C.	22+51.36	Radius	16.00	P.C.	23+39.75
P.I.	22+52.74	Delta	32°48'09.0" LT.	P.I.	23+41.44
P.T.	22+54.05	Length	14.31	P.T.	23+43.01
Radius	12.00	Tangent	7.36	Radius	18.00
Delta	30°42'41.1" LT.	Curve #8		Delta	37°17'09.7" RT.
Length	2.68	P.C.	23+13.68	Length	3.25
Tangent	1.37	P.I.	23+16.34	Length	3.25
Length		P.T.	23+18.94	Tangent	1.69
Tangent #4		Curve #11		Tangent #12	
P.T.	22+54.05	Radius	15.00	P.T.	23+43.01
Direction	N 23°12'04.5" E	Delta	20°05'31.2" RT.	Direction	N 83°33'06.8" E
Length	9.05	Length	5.26	Length	6.39
Length		Tangent	2.66	Length	
Curve #4		Curve #12		Curve #13	
P.C.	22+63.10	Radius	13.00	P.C.	23+49.75
P.I.	22+63.94	Delta	19°16'10.1" LT.	P.I.	23+51.44
P.T.	22+64.78	Length	1.68	P.T.	23+53.01
Radius	13.00	Tangent	0.85	Radius	19.00
Delta	19°16'10.1" LT.	Tangent #5		Delta	37°17'09.7" RT.
Length	1.68	P.T.	22+64.78	Length	3.25
Tangent	0.85	Direction	N 3°55'54.5" E	Length	
Length		Length	3.49	Length	



STREAMBED MATERIAL

Sediment size	Proposed Diameter (in)
D ₁₆	0.6
D ₅₀	4.1
D ₈₄	13.2
D ₉₅	16.5
D ₁₀₀	18

WSDOT Streambed Material	WSDOT Std. Spec.	Percentage of Mix
Streambed Sediment	9-03.11(1)	30%
8-inch Streambed Cobbles	9-03.11(2)	50%
12- to 18-inch Streambed Boulders	9-03.11(3)	20%



SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 20:1
VERT: 4:1

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	

DATE:	
BY	CK

DAVID EVANS AND ASSOCIATES INC.
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BELLEVUE, WA 98007
Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

CHANNEL PLAN AND PROFILE

MORTON

PROJECT NO. **CHEC-0021**

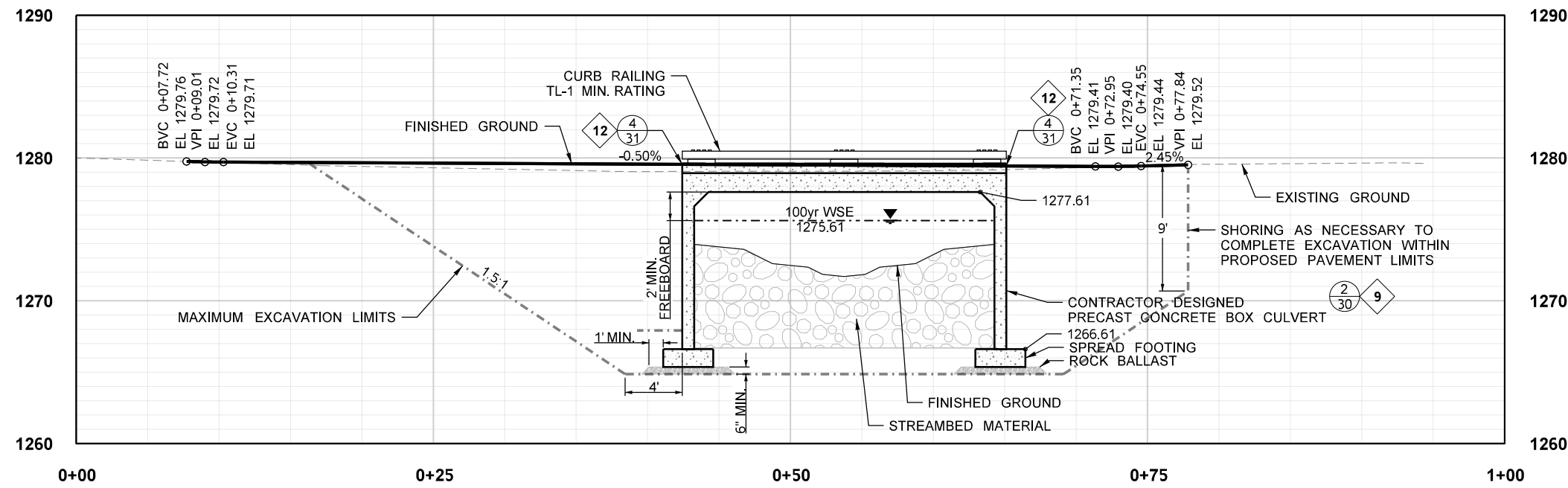
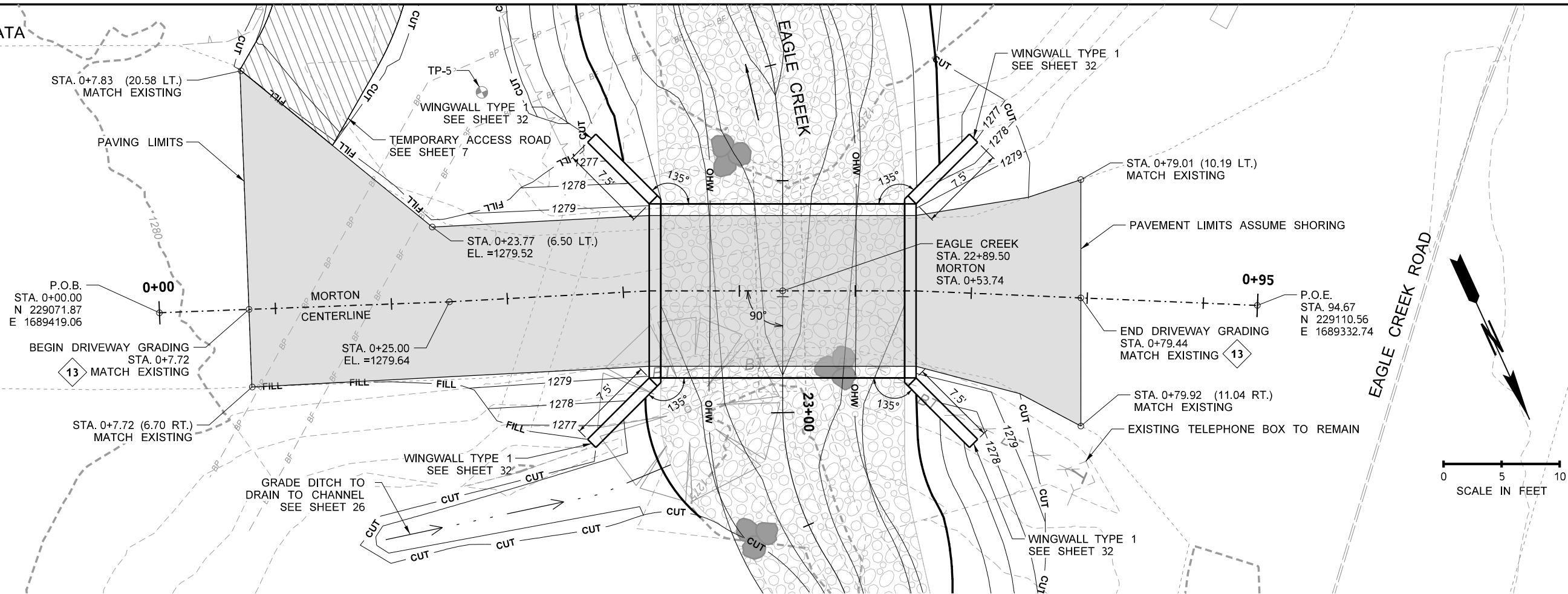
FILE NO.

SHEET NO. **26 OF 32**

By: Maem
Plot Date: 3/21/2023 4:52 PM

DRIVEWAY ALIGNMENT DATA

Tangent #1	
P.O.B.	0+00.00
Direction	N 67°38'37.4" W
Length	25.00
Tangent #2	
P.I.	0+25.00
Direction	N 68°36'28.6" W
Length	17.24
Tangent #3	
P.I.	0+42.24
Direction	N 65°28'25.4" W
Length	23.00
Tangent #4	
P.I.	0+65.24
Direction	N 63°01'34.9" W
Length	29.43



SEC: 34
 TWP: 25N
 RGE: 18E

DATUM: NAVD 88
 HOR: 10:1
 VERT: 10:1

DESIGNED BY: MAEM
 DRAWN BY: RHW
 CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	

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 BELLEVUE, WA 98007
 Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

DRIVEWAY PLAN AND PROFILE

MORTON

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
27 OF 32

By: Maem
 Plot Date: 3/21/2023 4:52 PM

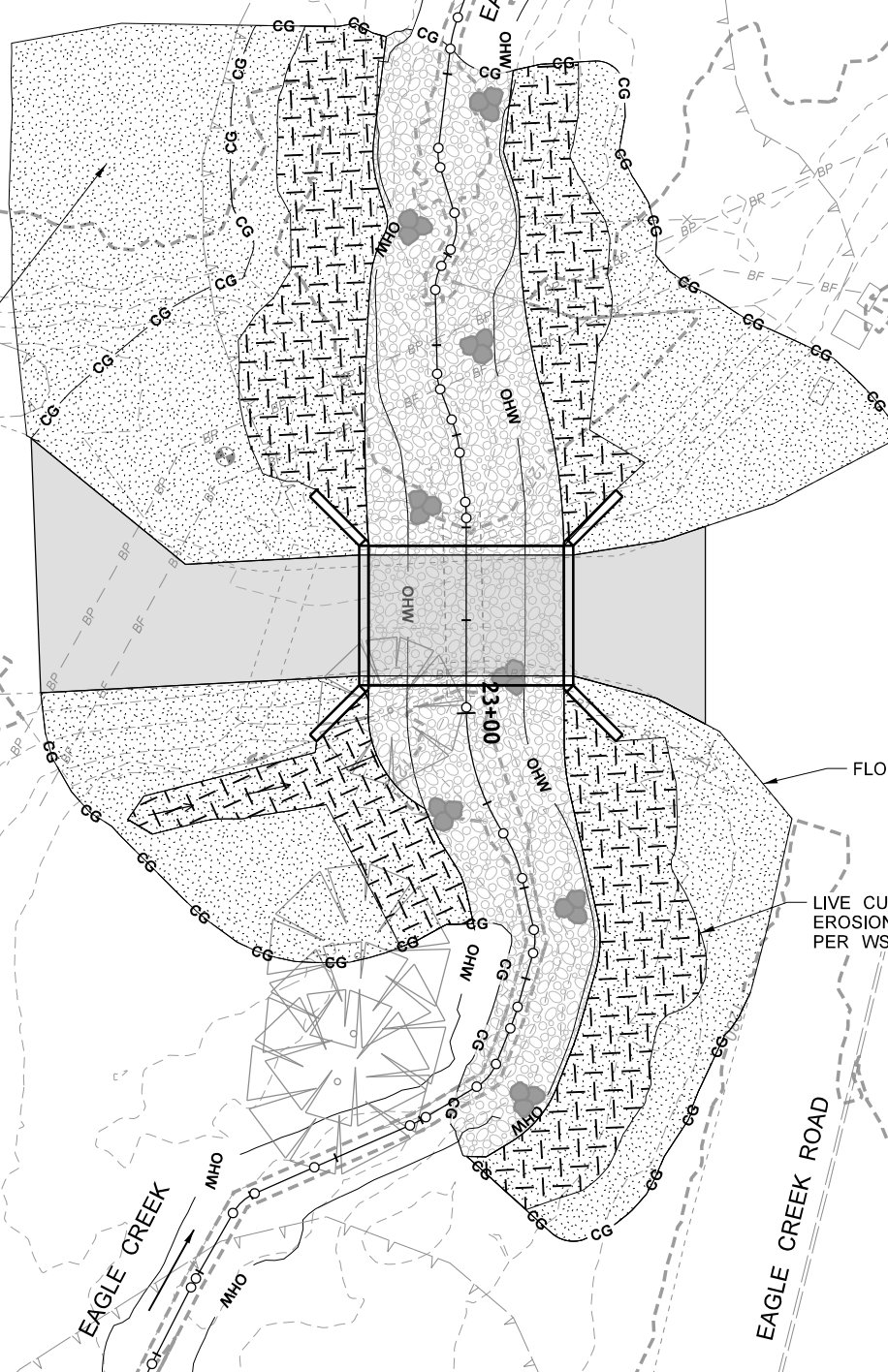
FLOODPLAIN SEED MIX

SPECIES	COMMON NAME	LBS PLS/ACRE
AGROSTIS SCABRA	HAIR BENTGRASS	0.5
DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	1
ERIGERON SPECIOSUS	ASPEN FLEABANE	75
FESTUCA RUBRA VAR. RUBRA	RED FESCUE	2
JUNCUS TENUIS	SLENDER RUSH	0.5
TRITICUM AESTIVUM X SECALE CEREALE	STERILE TRITICALE	20

GENERAL NOTES

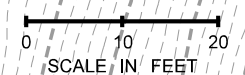
1. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF GRADING SHALL BE RESTORED TO ORIGINAL GROUND SLOPES AND ELEVATIONS.
2. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF THE STREAMBED MATERIAL SHALL BE SEEDED WITH THE SEED MIX SHOWN ON THIS SHEET. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING CERTIFIED SEED, PER THE SPECIFICATIONS.
3. LIVE CUTTINGS WILL BE INSTALLED BY CHELAN COUNTY AFTER CONSTRUCTION. CONTRACTOR IS NOT RESPONSIBLE FOR PURCHASING, PROCURING, OR INSTALLING LIVE CUTTINGS. EXTENTS OF LIVE CUTTINGS SHOWN ON THESE PLANS FOR REFERENCE ONLY. CONTRACTOR SHALL INSTALL BIODEGRADABLE EROSION CONTROL BLANKET AND FLOODPLAIN SEED MIX ALONG THE STREAMBANKS AS SHOWN ON THIS PLAN.

REMOVE TEMPORARY ACCESS ROAD FILL AND GRAVEL SURFACING TO BE REMOVED AND AREA TO BE RESTORED WITH 12-INCHES TOPSOIL TYPE B AND SEEDING AT PROJECT COMPLETION SEE DETAIL 6 ON SHEET 31



FLOODPLAIN SEED MIX

LIVE CUTTINGS AND BIODEGRADABLE EROSION CONTROL BLANKET PER WSDOT STD. PLAN I-60.10



SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: 20:1
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



NO.	REVIEWED BY:		DATE:		BY	CK
	DATE	REVISION	DATE	REVISION		

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BELLEVUE, WA 98007
Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

SITE RESTORATION PLAN

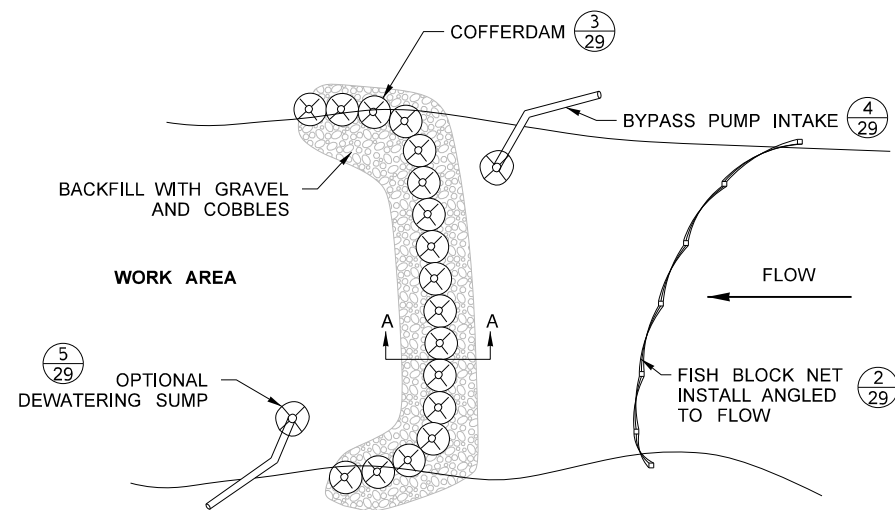
MORTON

PROJECT NO.
CHEC-0021

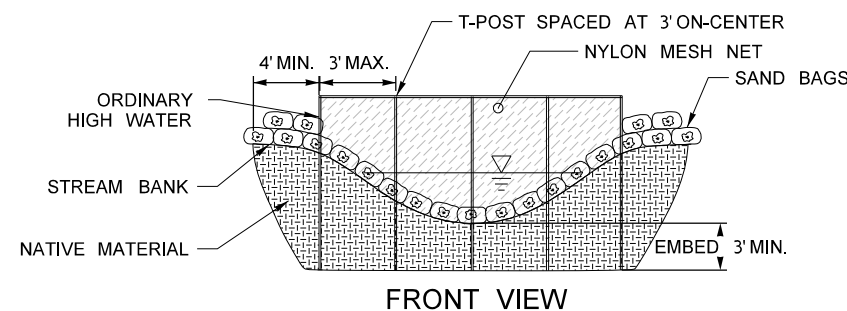
FILE NO.

SHEET NO.
28 OF 32

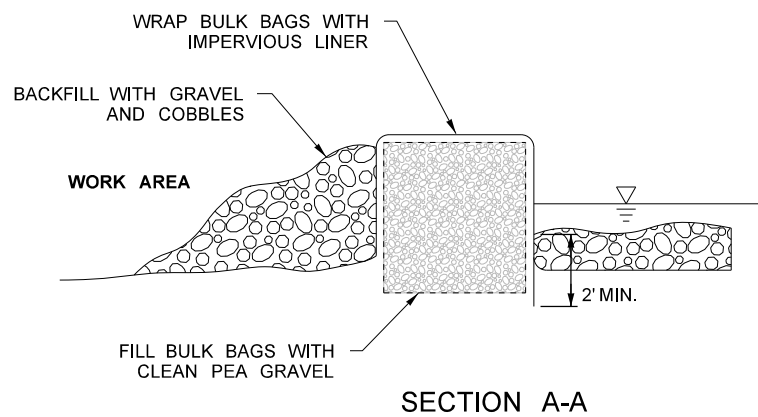
By: Maem
Plot Date: 3/21/2023 4:52 PM



1/29 WORK AREA ISOLATION DETAIL



2/29 FISH BLOCK NET



3/29 COFFERDAM

DEWATERING SEQUENCE

1. CONTRACTING AGENCY TO INSTALL TWO FISH BLOCK NETS; UPSTREAM AND DOWNSTREAM OF THE PROJECT WORK AREA.
2. FISH REMOVAL SHALL BE PERFORMED BY CONTRACTING AGENCY.
3. INSTALL TWO COFFERDAMS WITHIN THE FISH-ISOLATED AREA; UPSTREAM AND DOWNSTREAM OF THE PROJECT WORK AREA
4. INSTALL UPSTREAM BYPASS PUMP AND DOWNSTREAM OUTLET (TEMPORARY STREAM DIVERSION)
5. ACTIVATE TEMPORARY STREAM DIVERSION
6. INSTALL OPTIONAL DEWATERING SUMPS AS NECESSARY TO ALLOW FOR COMPLETION AND INSPECTION OF THE WORK

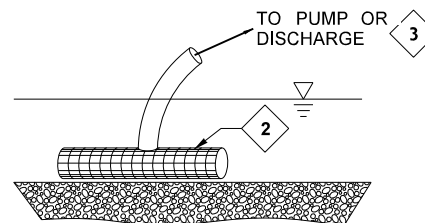
FISH BLOCK NET NOTES

(TO BE INSTALLED BY CONTRACTING AGENCY)

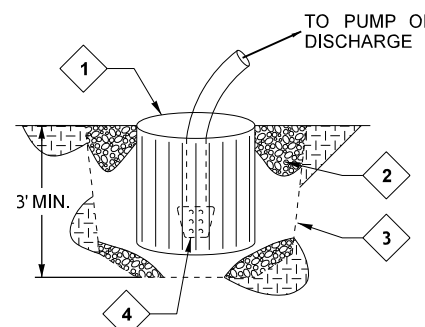
1. INSTALL T-POSTS ON 3' CENTERS.
2. SECURE 1/8" MAX. NYLON FISH BLOCK NET TO UPSTREAM SIDE OF T-POSTS.
3. ANCHOR NYLON FISH NET TO STREAM BOTTOM WITH SAND BAGS.
4. EXTEND SAND BAGS 4' MINIMUM PAST THE ORDINARY HIGH WATER MARK.
5. ADD BRACING TIMBER AS NEEDED TO SUPPORT THE NET.
6. REMOVE DEBRIS FROM THE UPSTREAM SIDE OF NET AS NECESSARY TO PREVENT CLOGGING.
7. OPTIONALLY, SECURE 4" MESH 6' UPSTREAM FOR DEBRIS CATCHMENT (NOT DEPICTED).

COFFERDAM NOTES:

1. FILL BULK BAGS WITH CLEAN PEA GRAVEL.
2. WRAP BULK BAGS WITH IMPERVIOUS PLASTIC LINER TO PREVENT SEEPAGE.
3. BACKFILL THE DOWNSTREAM SIDE OF THE COFFERDAM WITH NATIVE ALLUVIAL MATERIAL.
4. USE BULK BAGS FOR ADDITIONAL SUPPORT AS REQUIRED.
5. ALL NON-NATIVE FILL AND CODDERDAM MATERIAL SHALL BE FULLY REMOVED FROM THE STREAMBED AND PROJECT SITE AT COMPLETION OF THE PROJECT.
6. KEY-IN IMPERVIOUS LINER 2 FEET MINIMUM BELOW THALWEG



4/29 BYPASS PUMP



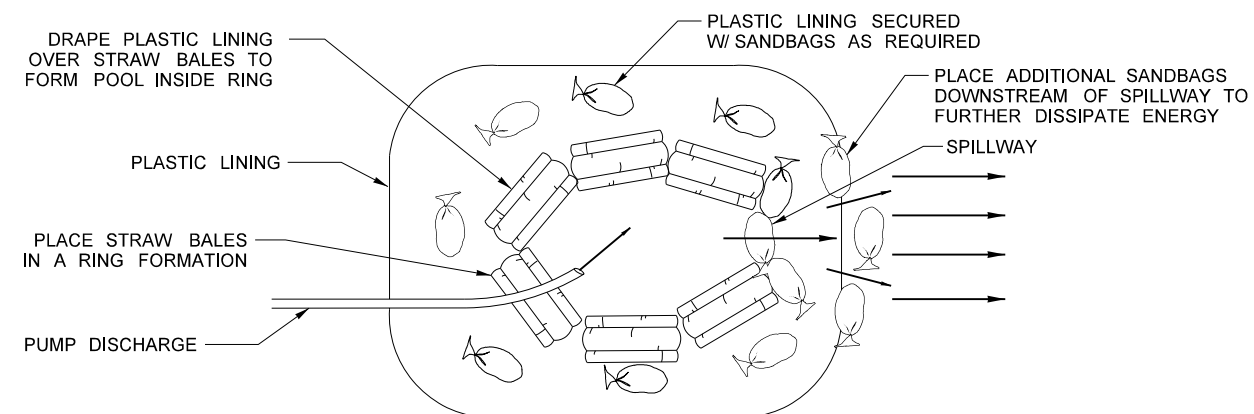
5/29 DEWATERING SUMP

NOTES:

1. STREAM BYPASS INTAKE SHALL REST ON EXISTING STREAMBED.
2. PUMP INTAKE SHALL BE FITTED WITH FISH SCREEN MEETING APPLICABLE RCW SECTIONS (RCW 77.57.010 AND 77.57.070), AS WELL AS NMFS CRITERIA. SEE SECTION 7-06.3(5) FOR MORE INFORMATION.
3. PUMP CAPACITY SHALL BE SIZED TO CONVEY THE ENTIRETY OF STREAMFLOW WITHOUT DEWATERING THE CHANNEL OUTSIDE THE ISOLATED WORK AREA. VARIABLE PUMPING MAY BE REQUIRED. SEE PROJECT PERMITS AND SECTION 7-06.3(2)B FOR MORE INFORMATION.

NOTES:

1. CORRUGATED PLASTIC OR METAL PIPE 36" MIN DIAMETER PERFORATED PIPE, ONE PER EACH PUMP.
2. STREAMBED SEDIMENT.
3. LIMIT OF EXCAVATION. INSTALL PIPE AND BACKFILL WITH STREAMED SEDIMENT.
4. PUMP INTAKE SHALL BE FITTED WITH FISH SCREEN MEETING RCW 77.57.010 AND RCW 77.57.070. SEE SECTION 7-06.3(5) FOR MORE INFORMATION.
5. THE INTENT OF DEWATERING PUMPS IS TO REMOVE GROUNDWATER OR SURFACE WATER WHICH SEEPS INTO THE ISOLATED WORK AREA. DEWATERING PUMPS ARE OPTIONAL; IF USED, DEWATERING PUMPS SHALL BE OPERATED IN SUCH A WAY THAT NO PORTION OF THE STREAMBED OUTSIDE THE ISOLATED WORK AREA BECOMES DEWATERED.



6/29 ENERGY DISSIPATOR

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: NTS
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:		DATE:	
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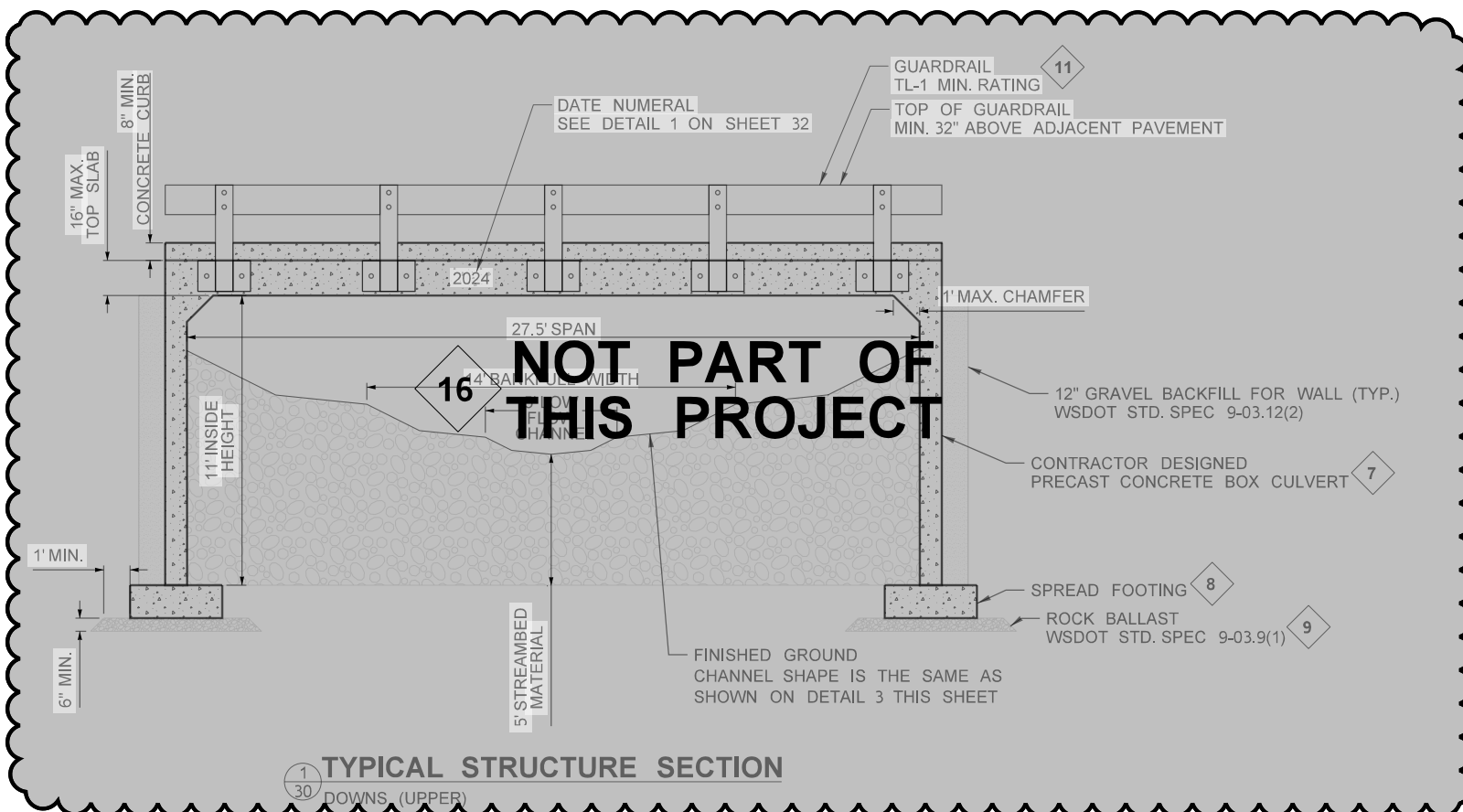
EAGLE CREEK CULVERT REPLACEMENT

SITE ISOLATION DETAILS

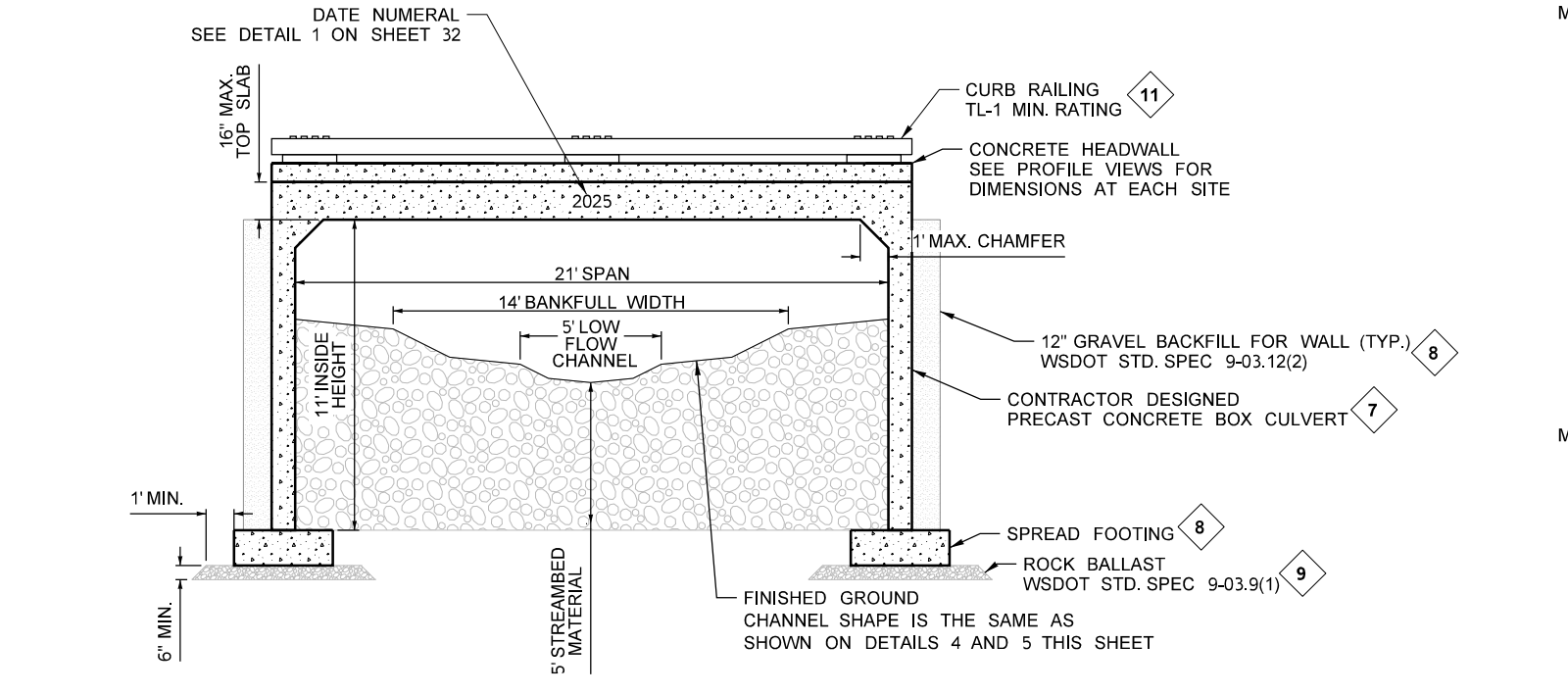
PROJECT NO.
CHEC-0021

FILE NO.

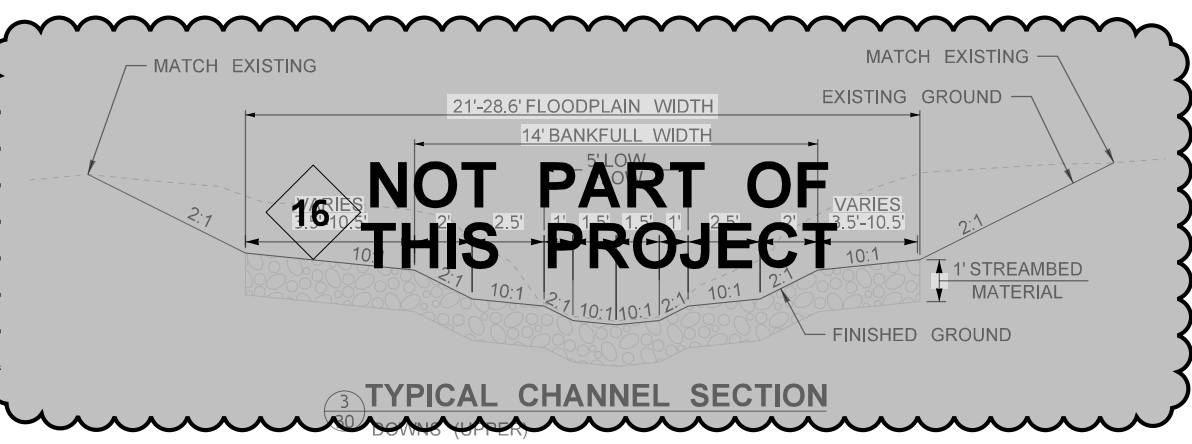
SHEET NO.
29 OF 32



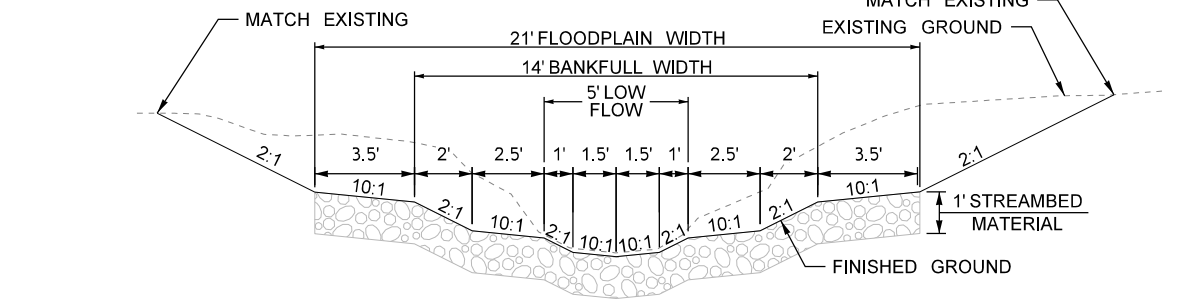
1 TYPICAL STRUCTURE SECTION
30 DOWNS (UPPER)



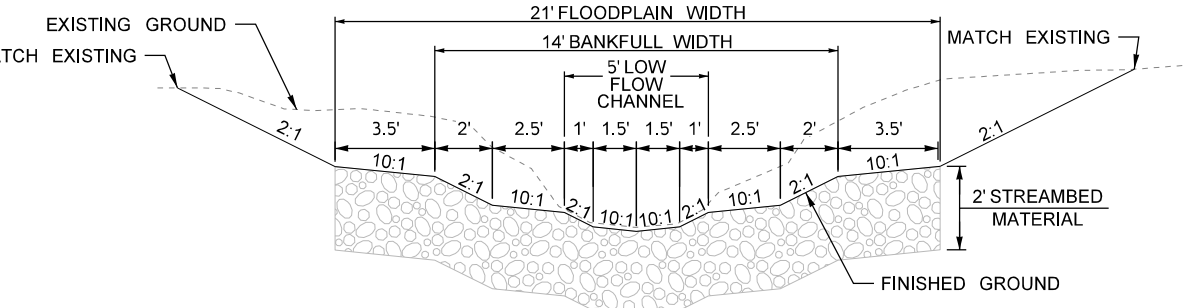
2 TYPICAL STRUCTURE SECTION
30 DOWNS (LOWER), LORETH AND MORTON



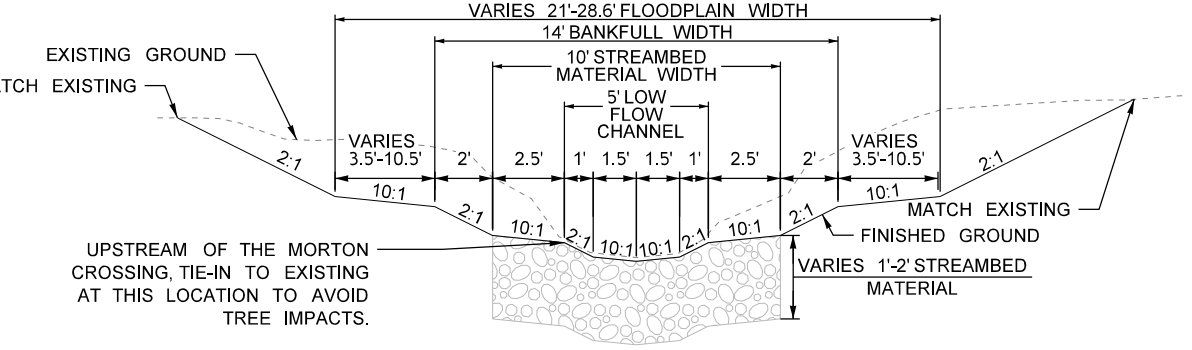
3 TYPICAL CHANNEL SECTION
30 DOWNS (UPPER)



4 TYPICAL CHANNEL SECTION
30 DOWNS (LOWER), LORETH



5 TYPICAL CHANNEL SECTION
30 MORTON



6 MATCH EXISTING CHANNEL SECTION
30 DOWNS (LOWER), DOWNS (UPPER), LORETH, AND MORTON

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: NTS
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	BY

DAVID EVANS AND ASSOCIATES INC.
14432 SE EASTGATE WAY, STE 400
BELLEVUE, WA 98007
Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

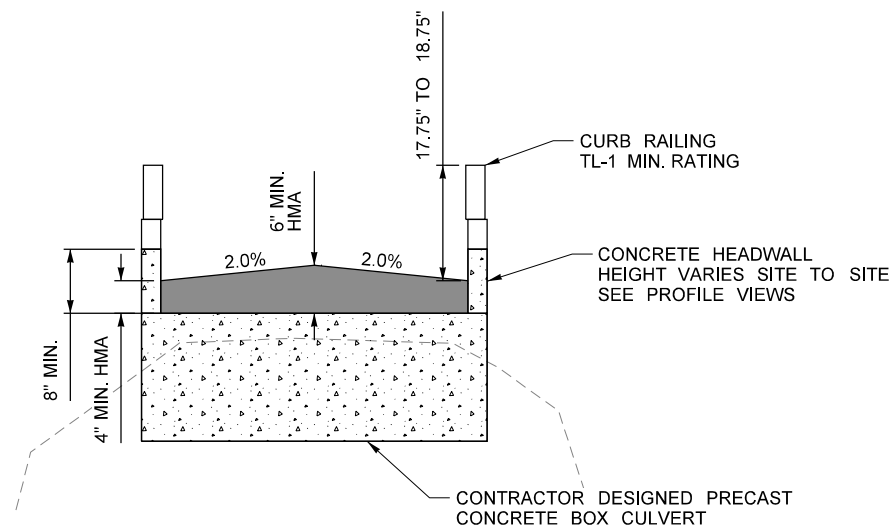
TYPICAL CHANNEL AND STRUCTURE SECTIONS

PROJECT NO.
CHEC-0021

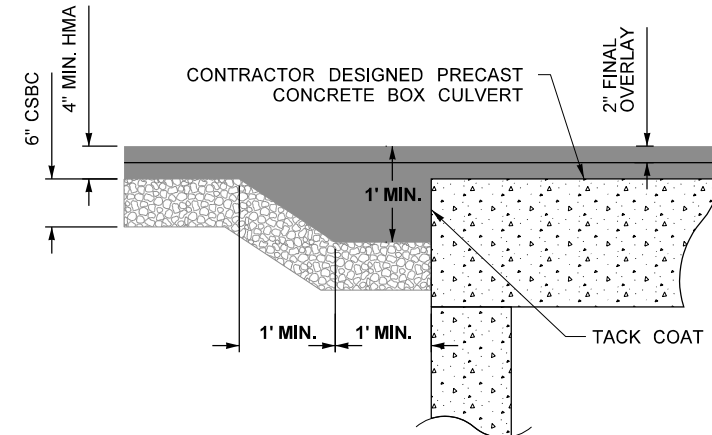
FILE NO.

SHEET NO.
30 OF 32

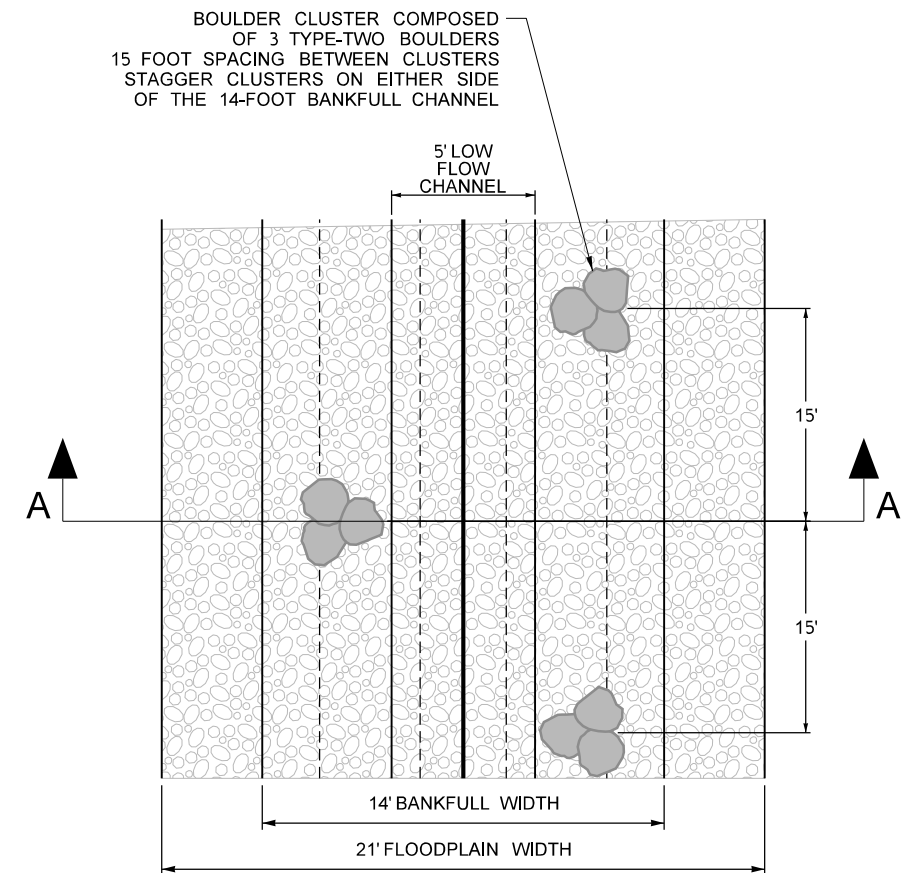
By: Maem
Plot Date: 3/21/2023 4:52 PM



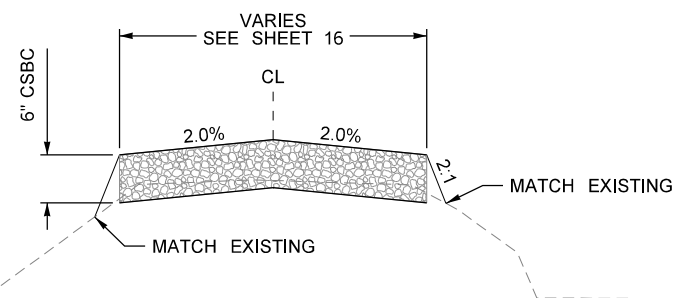
1
31 TYPICAL ROADWAY SECTION OVER STRUCTURE



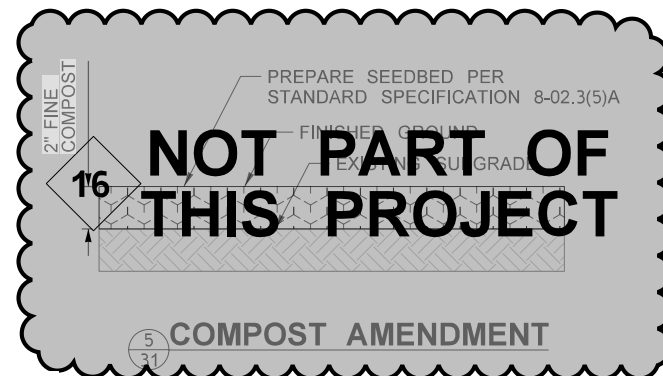
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31 THICKENED ASPHALT EDGE



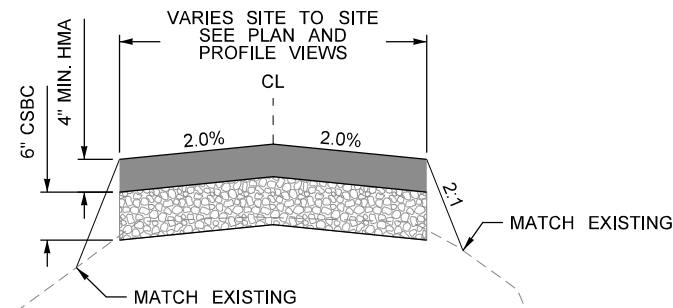
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31 HABITAT BOULDER PLANVIEW



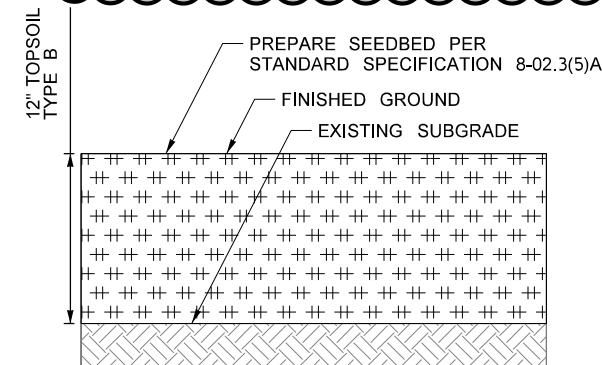
2
31 TYPICAL GRAVEL DRIVEWAY SECTION



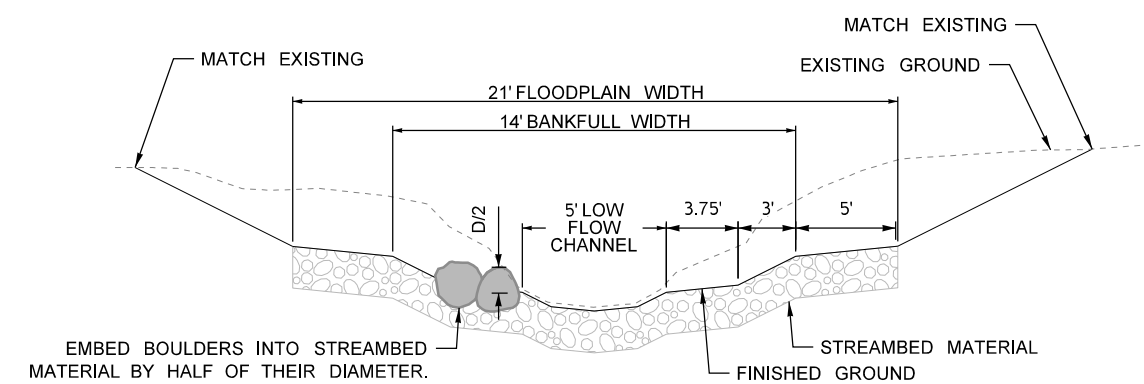
5
31 COMPOST AMENDMENT



3
31 TYPICAL PAVEMENT SECTION



6
31 TOPSOIL AMENDMENT



8
31 SECTION A-A HABITAT BOULDER SECTION VIEW

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: NTS
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:		DATE:	
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BELLEVUE, WA 98007
Phone: 425.519.6500



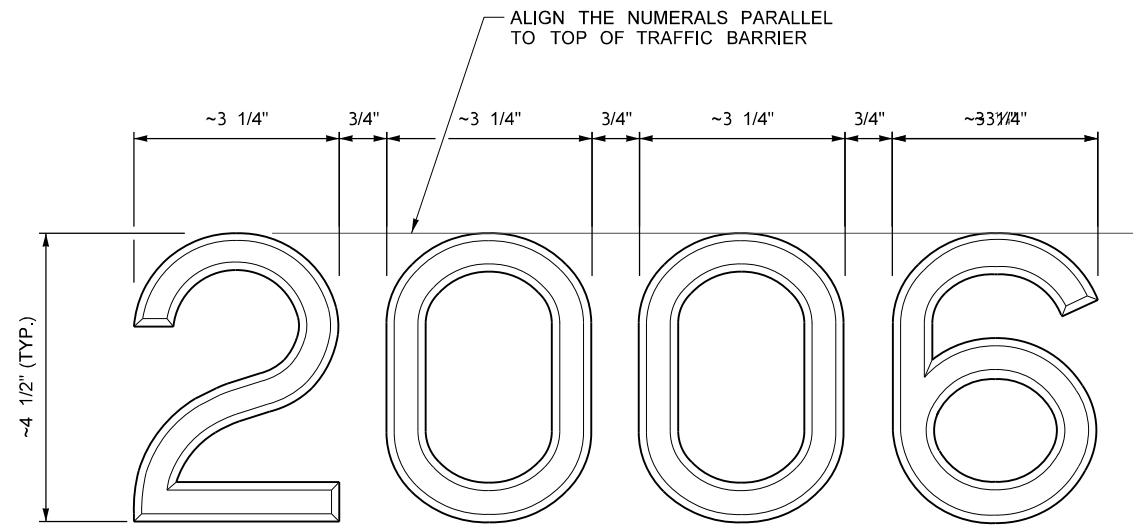
EAGLE CREEK CULVERT REPLACEMENT

TYPICAL DETAILS

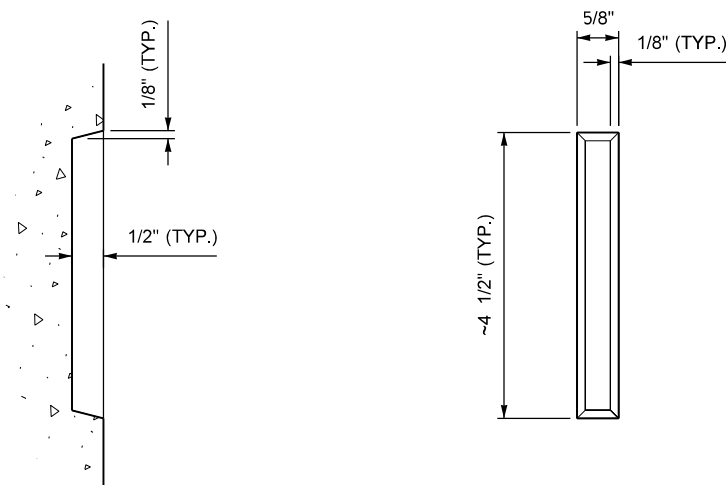
PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
31 OF 32



TYPICAL DATE NUMERALS



TYPICAL SECTION VIEW

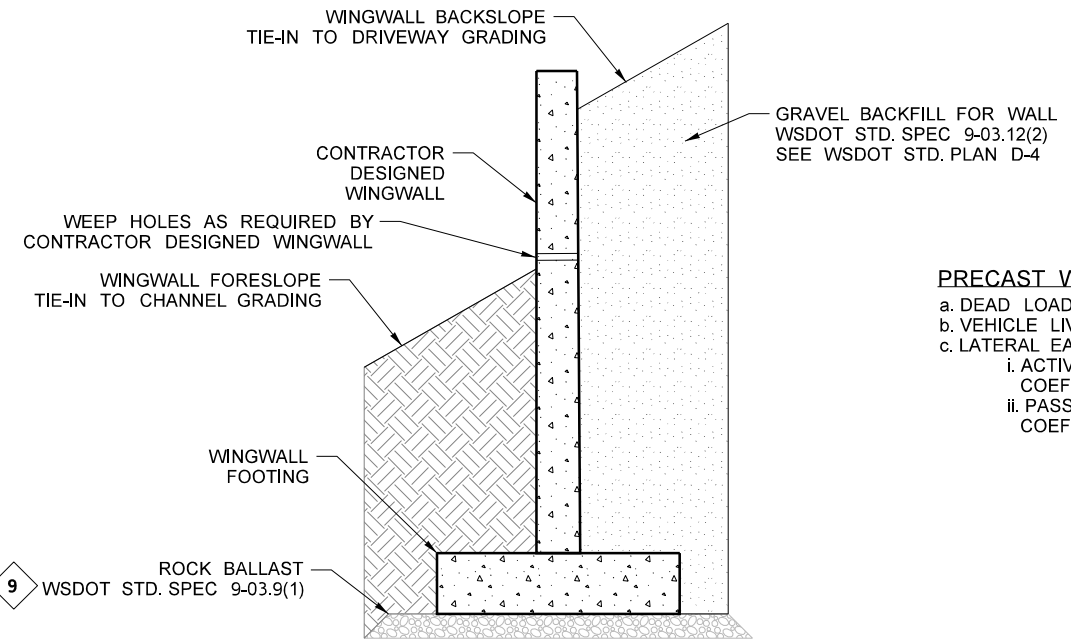
NUMERAL "1"

NOTES

1. ALL NUMERALS ARE APPROX. 3 1/4" WIDE EXCEPT NUMERAL "1" WHICH IS APPROX. 5/8" WIDE.
2. SPACING BETWEEN THE NUMERAL "1" AND ANY OTHER NUMERAL IS 1". SPACING BETWEEN ALL OTHER NUMERALS IS 3/4".

DATE NUMERAL DETAILS

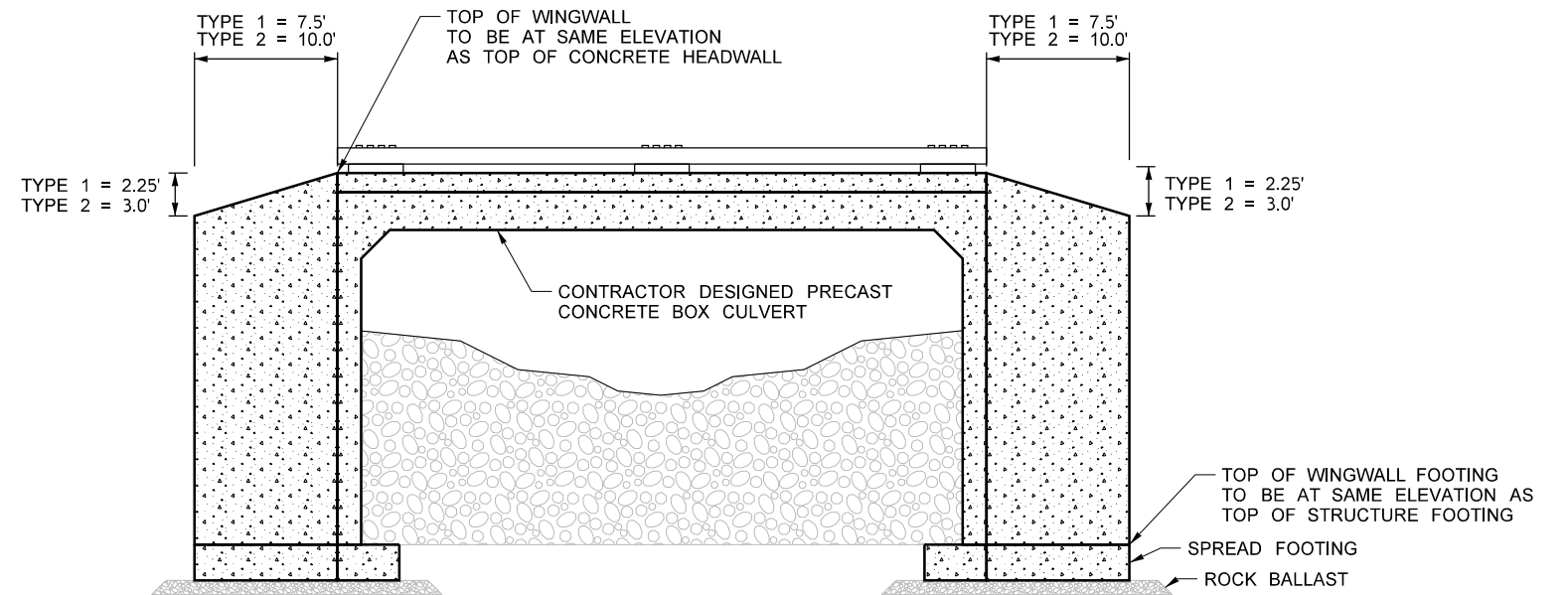
32 DOWNS (LOWER), DOWNS (UPPER), LORETH AND MORTON



- PRECAST WINGWALL DESIGN LOADS
- a. DEAD LOAD OF EARTH AND ROADWAY: 125 PCF
 - b. VEHICLE LIVE LOAD: HL-93
 - c. LATERAL EARTH PRESSURE DUE TO BACKFILL:
 - i. ACTIVE LATERAL EARTH PRESSURE
COEFFICIENT, STATIC K_a : 0.27
 - ii. PASSIVE LATERAL EARTH PRESSURE
COEFFICIENT, STATIC K_p : 3.69

SECTION A-A
TYPICAL WINGWALL SECTION VIEW

32 DOWNS (LOWER), DOWNS (UPPER), LORETH AND MORTON



SECTION B-B
TYPICAL WINGWALL ELEVATION VIEW

32 DOWNS (LOWER), DOWNS (UPPER), LORETH AND MORTON

SEC: 34
TWP: 25N
RGE: 18E

DATUM: NAVD 88
HOR: NTS
VERT: NTS

DESIGNED BY: MAEM
DRAWN BY: RHW
CHECKED BY: BJME



REVIEWED BY:		DATE:	
NO.	DATE	REVISION	BY

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14432 SE EASTGATE WAY, STE 400
BELLEVUE, WA 98007
Phone: 425.519.6500



EAGLE CREEK CULVERT REPLACEMENT

WINGWALL AND CONCRETE STAMPING
DETAILS

PROJECT NO.
CHEC-0021

FILE NO.

SHEET NO.
32 OF 32