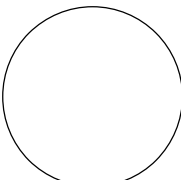


PROJECT LOCATION

CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



PROJECT LOCATION MAP

SWAN LAKE ROAD CULVERT REPLACEMENT FOR:

IOWA RIVER WILDLIFE UNIT

JOHNSON COUNTY

| NO. | BY | REVISION |
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14-05-63-02

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SHEET NO:

A.02

STANDARD CULVERT PLANS

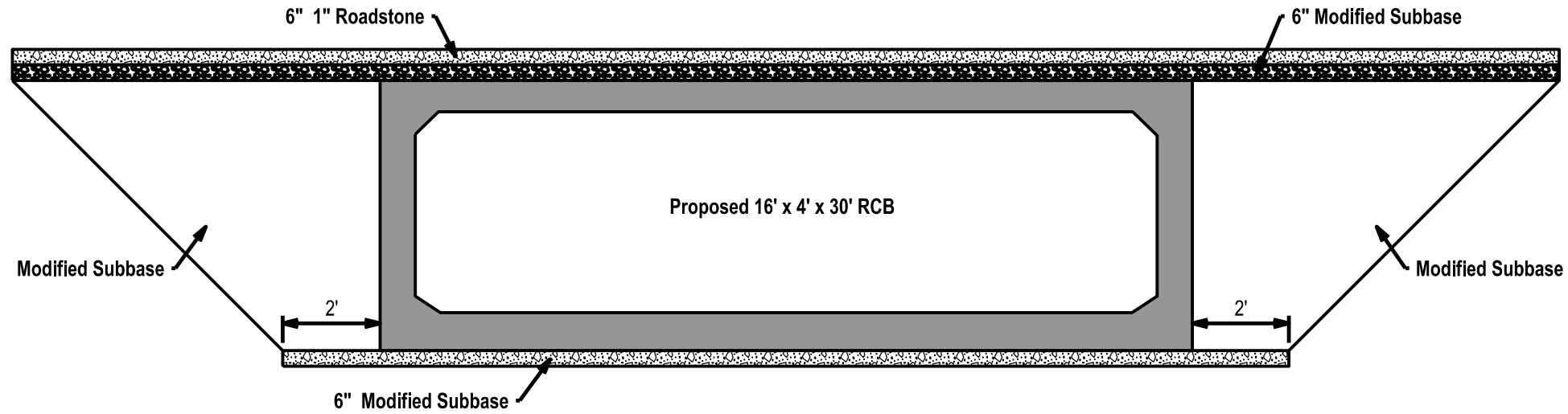
The following standard culvert plans shall be considered applicable to construction work on this project

| NUMBER | DATE | TITLE |
|----------------|---------|--|
| PRCB G1-20 | 12/2020 | Index & General Notes |
| PRCB G2-20 | 12/2020 | Typical Culvert Barrel Details |
| PRCB 16-20 | 12/2020 | Culvert Barrel Details, 16' Spans |
| PES 3-20-T1 S1 | 12/2020 | Type 1 End Section Details, Up to 7.5° Skews, 14' to 16' Spans, Sheet 1 of 2 |
| PES 4-20-T1 S2 | 12/2020 | Type 1 End Section Details, Up to 7.5° Skews, 14' to 16' Spans, Sheet 2 of 2 |
| PEP 12-20 | 12/2020 | Embankment Protection Details, 0° to 45° Skews |

STANDARD ROAD PLANS

The following standard road plans shall be considered applicable to construction work on this project

| NUMBER | DATE | TITLE |
|--------|----------|--|
| EC-204 | 10-19-21 | PERIMETER AND SLOPE SEDIMENT CONTROL DEVICES |
| TC-252 | 4-21-20 | ROUTES CLOSED TO TRAFFIC |



INSTALLATION DETAIL FOR PRE-CAST OR CAST-IN-PLACE BOX CULVERT

OPTIONAL CAST-IN-PLACE BOX CULVERT

REBAR TABULATION

| Location | Weight (LBS) |
|----------|--------------|
| RCB | 7,403 |
| Aprons | 5,382 |
| Total | 12,785 |

CONCRETE TABULATION

| Location | VOLUME (CY) |
|----------|-------------|
| RCB | 56.6 |
| Aprons | 38.2 |
| Total | 94.8 |

STANDARD CULVERT PLANS

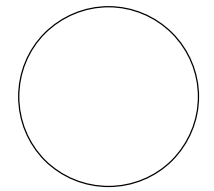
The following standard culvert plans shall be considered applicable to construction work on this project

| NUMBER | DATE | TITLE |
|-------------|---------|--|
| RCB G1-20 | 07/2020 | INDEX |
| RCB G2-20 | 07/2020 | GENERAL NOTES & SPECIFICATIONS |
| RCB G3-20 | 07/2020 | TYPICAL CULVERT BARREL DETAILS |
| RCB 16-4-20 | 07-2020 | SINGLE REINFORCE CONCRETE BOX CULVERT |
| PWH 0-1-20 | 07-2020 | PARALLEL WING HEADALL, DIMENSION TABLE, 0 DEGREE SKEW |
| FWH 0-2-20 | 07-2020 | PARALLEL WING HEADALL, CROSS SECTION DETAILS, 0 DEGREE SKEW |
| FWH 0-3-20 | 07-2020 | PARALLEL WING HEADALL, WINGWALL ELEVATIONS AND BOTTOM APRON REINFORCING, 0 DEGREE SKEW |
| FWH 0-4-20 | 07-2020 | PARALLEL WING HEADALL, PARAPET REINFORCING AND TOP APRON REINFORCING, 0 DEGREE SKEW |
| FWH 0-5-20 | 07-2020 | PARALLEL WING HEADALL, QUANTITY TABULATION 16'-0" SPAN, 0 DEGREE SKEW |
| PEP 12-20 | 12-2020 | EMBANKMENT PROTECTION DETAILS |

NOTE:

RCB 16-4-20 CULVERT BARREL DETAILS, 16X4 BARREL SECTIONS FOLLOW DESIGN SPECIFICATIONS FOR A FILL OF 0'.

CONSULTANT:



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TYPICAL CROSS SECTIONS AND DETAILS

SWAN LAKE ROAD CULVERT REPLACEMENT FOR:

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SHEET NO:

B.01

ESTIMATED PROJECT QUANTITIES

| ITEM NO. | ITEM | UNIT | TOTAL |
|----------|-----------------------------------|------|-------|
| 1 | Concrete Box Culvert Construction | LS | 1 |
| 2 | Modified Subbase | TON | 204 |
| 3 | 1" Roadstone | TON | 23 |
| 4 | Remove Existing Structure | LS | 1 |
| 5 | Revetment, Class E | TON | 65 |
| 6 | Filter Sock, 8" | LF | 120 |
| 7 | Construction Staking | LS | 1 |
| 8 | Traffic Control | LS | 1 |
| 9 | Mobilization | LS | 1 |
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ESTIMATE REFERENCE INFORMATION

| ITEM NO. | DESCRIPTION |
|----------|--|
| 1 | <p>Concrete Box Culvert Construction A. Contractor shall furnish and install a precast concrete box culvert, complete with end sections, meeting requirements in Iowa DOT Standard Culvert Plans PRCB G1-20, PRCB G2-20, and PRCB 16-20, Class 1, PES 3-20 and PES 4-20. B. Use joint sealant on all joints. Ties are to be located inside the RCBC sections. Apply bituminous waterproof materials to both sides of joint and wrap outside with geotextile fabric 2 ft. wide centered on joint. C. At the contractor's option, a cast-in-place concrete box culvert meeting the requirements on sheet B.01 may be substituted for the precast concrete box culvert. D. Includes dewatering, grading, earthwork, top soil striping, and site restoration. E. Seed, fertilizer and mulch on all disturbed areas as directed by the DNR Field Engineer. F. All seeding shall be completed using DOT rural permanent seed mixture.</p> |
| 4 | <p>Remove Existing Structure A. The contractor shall remove the existing structure as indicated in the plan sheets. B. Off site disposal is the responsibility of the contractor. C. No payment for overhaul will be allowed.</p> |
| 5 | <p>Revetment, Class E A. See DOT Standard Culvert Plan PEP 12-20. B. Engineering fabric is considered incidental.</p> |
| 6 | <p>Filter Sock, 8" A. Filter sock shall be installed to prevent sediment from exiting the project site and shall remain in place and be maintained during construction. DNR staff will remove once the site is stabilized.</p> |
| 7 | <p>Construction Staking A. Contractor is responsible for the survey staking of the construction of the project.</p> |
| 8 | <p>Traffic Control A. The Contractor shall furnish, erect and maintain all signing required to complete construction on this project. B. Place Type 3 barricades at nearest lot or turn around point on each side of the culvert.</p> |

GENERAL NOTES

Verify actual locations and elevations with DNR Engineer.

All work shall conform to and be performed in accordance with all applicable codes and ordinances.

The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.

The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.

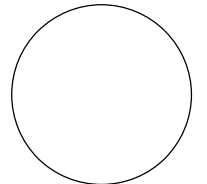
The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.

The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.

CONSULTANT:



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QUANTITIES AND GENERAL INFORMATION

SWAN LAKE ROAD CULVERT REPLACEMENT FOR:
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JOHNSON COUNTY

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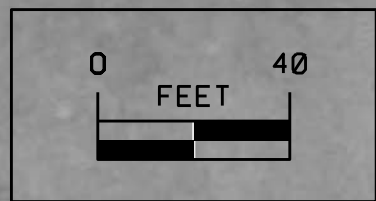
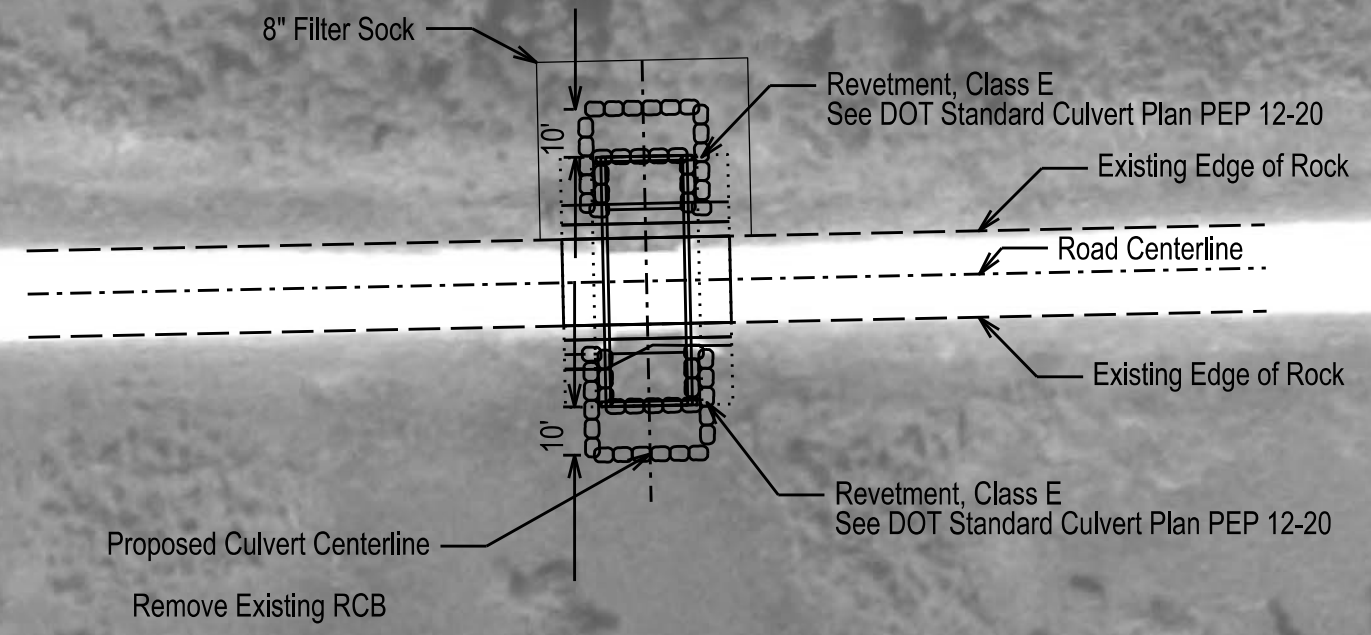
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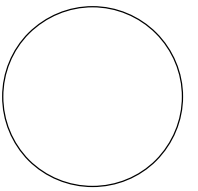


Proposed RCB with End Sections
 16'x4'x30'
 0° Skew
 Flowline depth such that top of culvert is
 1' below existing shoulder

Grade foreslope 3:1 minimum
 Grade channel as needed per Engineer.



CONSULTANT:



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SITE PLAN

SWAN LAKE ROAD CULVERT REPLACEMENT FOR:
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