



Staff Report

To: The Hanahan Planning Commission
Cc: Larry Sturdivant, Building Official; Matt Prosser, ADC Engineering
From: Jeff Hajek, Planner/Economic Development Director
Date: December 1, 2020
Re: Rezoning from Conservation/Preservation (CP) to Residential Office (RO)

General Information

Applicant/Owner: Charleston Water System (CWS)
Location: Murray Drive and Railroad Avenue
Approval Requested: Rezoning from CP to RO
Existing Zoning: Residential Office (RO)

Background and Context

ADC Engineering submitted a rezoning application, November 5, 2020, on behalf of Charleston Water System (CWS), to rezone a proposed subdivided parcel from the parent parcel, TMS# 265-02-00-015. The parent parcel, currently zoned Conservation /Preservation (CP), is 166 acres and is the site where the Hanahan Water Treatment Plant facility is housed. CWS is proposing to create a new parcel, "Tract 1", that will be a total of 16.03 acres and will house CWS's future Emergency Operations Center and Customer Technology Center, which will front



Figure 1: Proposed parcel (in yellow) to be rezoned to Residential Office (RO)

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MIKE COCHRAN



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ADAM SPURLOCK

Murray Drive. The subject parcel is located near the Murray Drive and Railroad Avenue intersection, across the street from the Berkeley County Library, Hanahan Branch.

The proposed subdivision plat has been submitted for the Planning Commission's approval for the December 1, 2020 meeting. CWS's intent for the proposed property will primarily consist of administrative offices with customer services (bill pay, etc.), therefore the applicant has requested to rezone its property to Residential Office (RO).

Analysis

Overview of Existing CP Zoning District

Under the existing zoning (CP) of the subject property, this conventional district's intent is to:

This zone intends to preserve and protect land, marsh, and waters of Hanahan that (1) serve as wildlife refuges, (2) possess great natural or historical significance, (3) serve recreational purposes, and (4) provide needed green space for the health and general welfare of the city's inhabitants. The zone further intends to prevent encroachment of land uses that would adversely impact areas of these four (4) types.

Below are the following Standards by Zone for the Conservation/Preservation district:

Requirement	Standard
Minimum Lot Area	43,560 square feet
Minimum Lot Width	200 feet
Minimum Setbacks	25 feet
Maximum Impervious Surface Ratio	5%
Maximum Floor/Area Ratio (non-residential)	5%
Maximum Height	35 feet
Maximum Residential Density	0

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Given the intent of the CP district, to protect natural lands for recreation and preservation, there are very few uses that are allowed by-right. The uses allowed in the CP district are the following: wireless communication tower (conditional/special exception), drinking water, irrigation and industrial water supply, utilities substation (conditional use), camps, camping and related establishments, natural and other recreational parks, crop production, forestry and logging and fishing, hunting, trapping and game preserves. During the redrafting of the City Zoning Ordinance in 2008, it was the decision of the Planning Commission and City Council to designate the property as CP because the majority of the parent parcel is undeveloped land. Allowed land uses, specific to the CWS property, were permitted so that the water treatment plant may operate in perpetuity.

Overview of Residential Office (RO) Zoning District and Compliance

The Residential Office (RO) zoning district's intent is to:

...accommodate office, institutional, and residential uses in areas along collector or arterial roads that will not sustain more intense uses or to transition between more intense zoning districts and residential areas.

The proposed rezoning for the subject parcel meets the intent of the RO district. Surrounding the subject parcel is primarily single-family housing (Single-Family Residential [RS]), with the Hanahan-Berkeley County Library across the street, also zoned RO. The proposed zoning will offer the land uses of both office and institutional, all along an arterial road within the city. Additionally, this proposed use will be contiguous to the RO zoning designation of the library and will also offer a transition from the institutional (and somewhat industrial) use of the water treatment facility to the single-family residential district.

The following are the Standards by Zone for RO:

Requirement	Standard
Minimum Lot Area—Residential/other	6,000 square feet
Minimum Lot Width	60 feet
Minimum Setbacks	

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Front, Street Frontage	25 feet
Side—Residential/other	5 feet
Rear—Residential/other	15 feet
Maximum Impervious Surface Ratio	75%
Maximum Floor/Area Ratio (non-residential)	65%
Maximum Height	35 feet
Maximum Residential Density	7 units per acre

Consistency with the Comprehensive Plan and Other Considerations

According to the City of Hanahan 2012 Comprehensive Plan (the most current to date), this proposed zoning amendment is within compliance of this guiding document. Firstly, in the “Overall Vision and Guiding Principles” section, the rezoning would meet two of the five principles. These principles include:

1. Hanahan will continue to manage the development and expansion of planned infrastructure systems that adequately serve the current and future residents and employees within the City.
2. Hanahan will promote reinvestment and revitalization efforts in its existing residential and commercial areas

Furthermore, in Section I: Issues, Goals and Policies of the comprehensive plan, this zoning amendment would be compliant with a list of goals set forth in the document. These include:

Population Goals and Policies

GOAL 2: Hanahan will continue to support the provision of quality community services that are essential to all population groups.

1. The City will continue to support the provision of community services for its diverse and growing population such as quality housing, opportunities for recreation and access.

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- a. **Analysis:** By permitting the rezoning to RO, this will provide Hanahan residents an expansion of services regarding their water provider CWS.

Lastly, the Future Land Use map (See APPENDIX) from the Comprehensive Plan highlights this parcel as under the “Institutional/Public Facilities” future land use. Under this designation, the intent is “to provide areas that are intended for use by federal, state, and local government agencies, houses of worship, schools and educational facilities.” This description was written with the water treatment facility in mind as the Comprehensive Plan was drafted in 2012.

Furthermore, this designation states that “some institutional/public facilities are less compatible with residential areas by nature—facilities such as water treatment facilities, outdoor storage, etc. Similar to industrial facilities, these facilities will require additional buffering.” By allowing this office and institutional use to be permitted, the proposed will still act as a buffer between the “industrial” nature of the treatment plant. The proposed structure that will occupy the site will be required to have landscaped buffers surrounding the parking area, as well as buffers to the rear of the proposed parcel.

Recommendations

Based upon staff’s review, it is recommended that the Planning Commission *approve* the amendment to the 2008 Zoning Ordinance for the following reasons:

1. The rezoning is compatible with the goals, policies and future land use districts, as laid out in the 2012 Hanahan Comprehensive Plan
2. The rezoning is compatible with the 2008 Zoning Ordinance, specifically through the proposed land use.
3. The proposed amendment will provide expanded utility services for the residents of Hanahan through its Customer Technology Center

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APPENDIX: Figure 2, Future Land Use Map

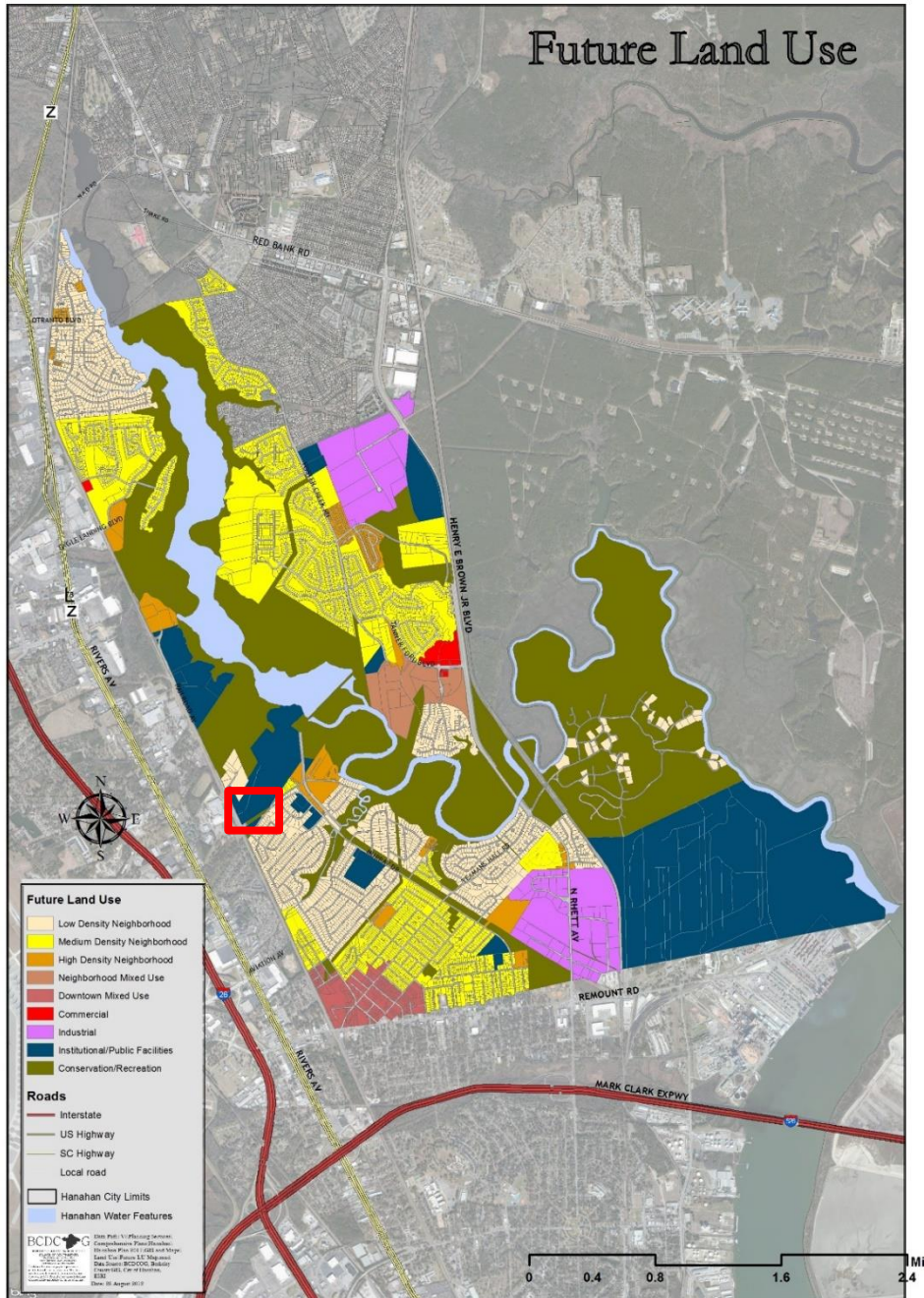


Figure 2: 2012 Future Land Use Map

CITY OF HANAHAN, SOUTH CAROLINA
REZONING REQUEST APPLICATION

DATE: 11/05/2020

PROJECT NAME: Charleston Water System Customer Technology Center

ENGINEERING FIRM: ADC Engineering, Inc.

APPLICANT'S NAME: Jeff Webb, P.E.

OWNER OF PROPERTY: Charleston Water System

ADDRESS: 103 St. Philip Street, Charleston, South Carolina

LOCATION OF PROPERTY TO BE REZONED: North East Corner of intersection of
Murray Dr and Railroad Ave, South of the CWS WTP entrance road.

TAX MAP NUMBER: 265-02-00-015

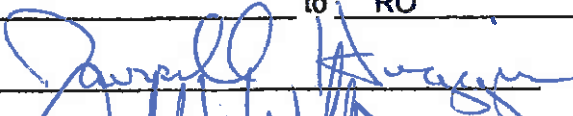
SIZE OF LOT OR PARCEL 698,168.10 sf/16.028 ac AREA: _____

PRESENT ZONING CLASSIFICATION: CP

REQUESTED ZONING CLASSIFICATION CHANGED TO: RO

PROPOSED USE OF SITE: Public Office Building

This is to certify that Jeff Webb is my authorized representative
for my zoning change request and that I request a change in land classification for my
property from CP to RO.

Signature of Owner: 

Signature of Applicant: 

o NOTE: This application should be typed, or printed in blue ink. This application allows the City of Hanahan to post notices on your property concerning this request.

There is a charge for this application. See attached fee schedule.

REFERENCES:

- UNRECORDED PLAT OF COMMISSIONERS OF PUBLIC WORKS, CITY OF CHARLESTON, SC, BERKELEY COUNTY, HANAHAN PARISH, DATED JUNE 16, 1980, BY ENWRIGHT ASSOCIATES, INC.
- PLAT SHOWING BOUNDARY SURVEY OF NEW PARCEL 'A' SUBDIVIDED FROM TMS #265-02-00-015 OWNED BY THE COMMISSIONERS OF PUBLIC WORKS CITY OF CHARLESTON, LOCATED IN THE CITY OF HANAHAN, BERKELEY COUNTY, SOUTH CAROLINA, DATED JANUARY-FEBRUARY 10, 2011, BY MICHAEL S. SHULSE, SCPLS No. 18268, AND RECORDED IN PLAT CABINET O, PAGE 328-P, BERKELEY COUNTY ROD OFFICE.
- BOUNDARY SURVEY FOR THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION LOCATED IN THE CITY OF HANAHAN IN BERKELEY COUNTY, SOUTH CAROLINA, DATED AUGUST 18, 2010, BY WILLIAM G. BRADSHAW, III, SCPLS No. 21618.
- SCDOT HIGHWAY PLANS PROJECT No. 8.803, DATED AUGUST 1, 2010.
- BERKELEY COUNTY TMS No. 265-02-00-015.

NOTES:

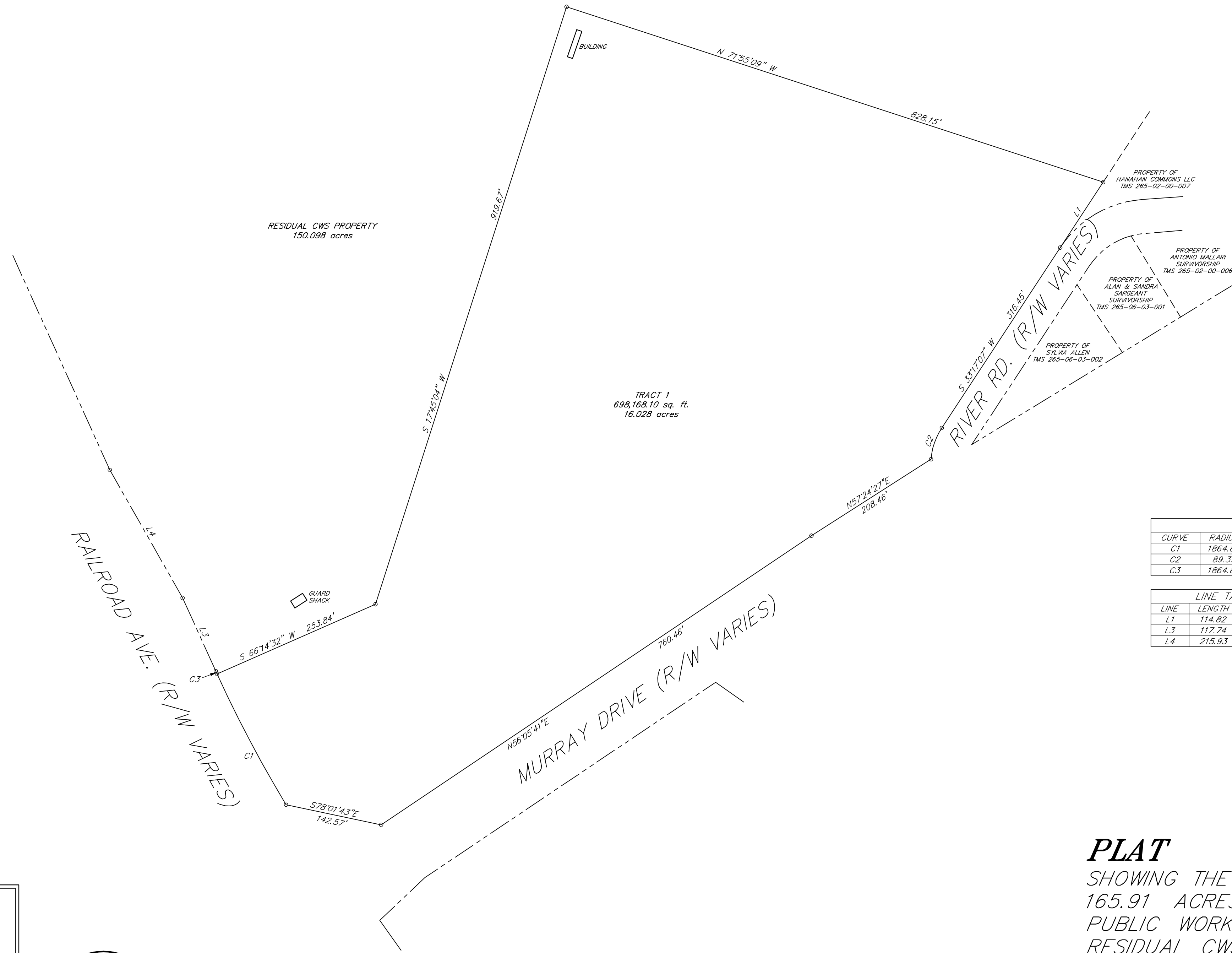
- BY GRAPHICAL PLOTTING ONLY, THIS PROPERTY APPEARS TO LIE WITHIN FLOOD ZONE 'X', AS PER F.I.R.M. COMMUNITY PANEL NUMBER 45015C 0695 E, WITH AN EFFECTIVE DATE OF DECEMBER 7, 2018.
- THE AREA WAS DETERMINED BY THE COORDINATE METHOD.
- NO PROPERTY CORNERS SET BY THIS SURVEY.
- ANYTHING SHOWN OUTSIDE THE DEFINED BOUNDARY OF THIS PLAT IS FOR DESCRIPTIVE PURPOSES ONLY.
- THE PUBLIC RECORDS REFERENCED ON THIS PLAT ARE ONLY THOSE USED FOR THE ESTABLISHMENT OF THE BOUNDARY OF THIS PROPERTY. THEY ARE NOT AND DO NOT CONSTITUTE A TITLE SEARCH.
- EASEMENTS SHOWN, IF ANY, ARE PER REFERENCED PLATS, PROPERTY MAYBE SUBJECT TO EASEMENTS AND RESTRICTIONS NOT OBVIOUS OR APPARENT TO THE SURVEYOR.
- HORIZONTAL DATUM IS SC NAD 83 (2011) STATE PLANE.

LINETYPE, SYMBOL & ABBREVIATION LEGEND

- PROPERTY LINE w/ 3/4" REBAR CORNER SET
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- CENTER LINE

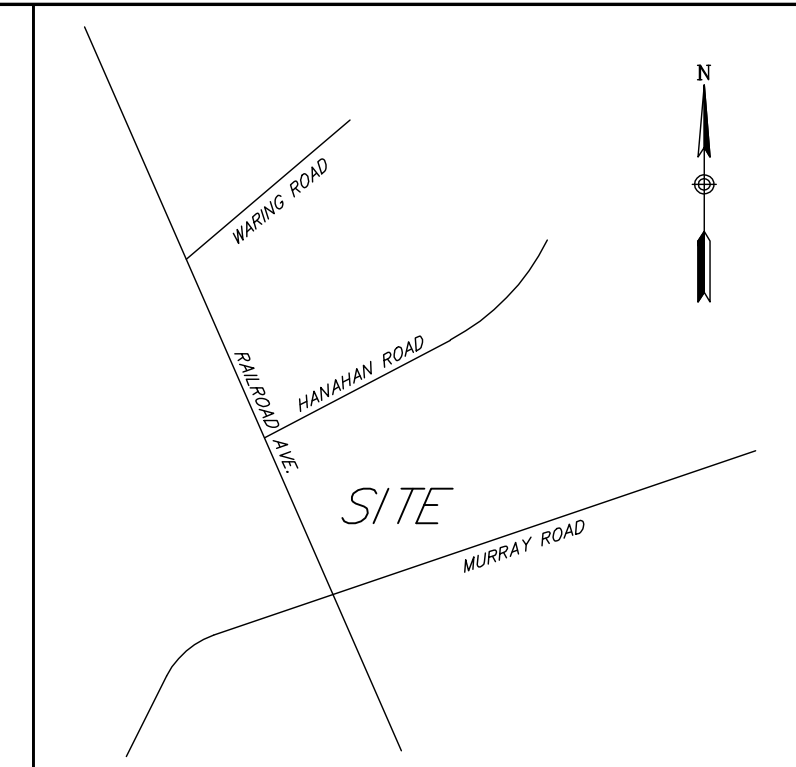
ACREAGE CHART

ORIGINAL PARCEL	165.91 AC.
RESIDUAL PARCEL	149.882 AC.
TRACT 1	16.028 AC.
ORIGINAL PARCEL	165.91 AC.

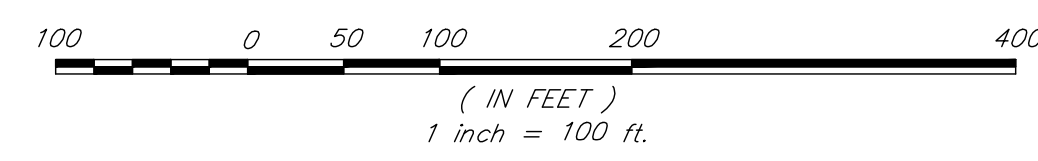


CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	1864.85	217.04	6°40'06"	216.92	S27°48'32"E
C2	89.35	48.79	31°17'03"	48.18	S19°02'17"W
C3	1864.85	4.65	0°08'34"	4.65	S24°25'17"E

LINE	LENGTH	BEARING
L1	114.82	N33°17'07"E
L3	117.74	N24°21'00"W
L4	215.93	N29°39'52"W



LOCATION MAP
N.T.S.



Parker Land Surveying, LLC
5910 Griffin Street
Hanahan, SC 29410
Phone: (843) 554-7777
Fax: (843) 554-7779

I HEREBY STATE TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS A SURVEY AS SPECIFIED THEREIN; ALSO THERE ARE NO VISIBLE ENCROACHMENTS OR PROJECTIONS OTHER THAN SHOWN.

RICHARD A. ALDRIDGE
REGISTERED PROFESSIONAL LAND SURVEYOR
NO. 20854
P.L.S. 20854



PLAT
SHOWING THE SUBDIVISION OF TMS 264-02-00-015, 165.91 ACRES, PROPERTY OF COMMISSIONERS OF PUBLIC WORKS, INTO TRACT 1, 16.028 ACRES AND RESIDUAL CWS PROPERTY, 149.882 ACRES, LOCATED IN THE CITY OF HANAHAN, BERKELEY COUNTY, SOUTH CAROLINA

DATE: OCTOBER 27, 2020 SCALE: 1" = 100'

ORDINANCE NO. 1-2021

AN ORDINANCE AMENDING THE CITY OF HANAHAN'S ZONING MAP

WHEREAS, Section 2.4 (Amendments) of the City of Hanahan Zoning Ordinance provides a procedure for amending the ordinance; and,

WHEREAS, the City of Hanahan Planning Commission, along with the City Planner, has recommended changes to the City's Zoning Map and has made its findings to City Council; and,

WHEREAS, a public hearing on these proposed changes was held by the Planning Commission on December 1st, 2020 after due publication of notice of said public hearing as required by law; and,

WHEREAS, after hearing all who wished to be heard on this matter and upon review of the findings and recommendations of the Planning Commission, City Council now wishes to act on this matter;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF HANAHAN, SOUTH CAROLINA:

Section 1. Amend Zoning Map –TMS numbers 265-02-00-039 as follows:

Amendment to rezone a subdivision (parcel to be assigned TMS # by Berkeley County) of parent parcel (TMS# 265-02-00-039) above referenced parcels from CP (Conservation Preservation) to RO (Residential Office) for consistency with the existing land use and the City of Hanahan's Comprehensive Plan future land use map.

Adopted and approved this the 9 day of February, 2021.



Christie Rainwater, Mayor

ATTEST:



Emily Huff, Clerk of Council

Introduced by: Jeff Hajek

First Reading and Public Hearing: 1/12/21

Second Reading: 2/9/21

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Staff Report

To: The Hanahan Planning Commission
Cc: Larry Sturdivant, Building Official; Matt Prosser, ADC Engineering
From: Jeff Hajek, Planner/Economic Development Director
Date: December 1, 2020
Re: Preliminary Land Development Plan Approval for Charleston Water System (CWS) Customer Technology Center

Applicant/Owner: ADC Engineering, Matt Prosser/Charleston Water System (CWS)
Location: Northeast quadrant of Murray Drive-Railroad Avenue intersection
Tax Map Number(s): 265-02-00-015
Approval Requested: Preliminary Development Plan Approval and Subdivision Plat Approval
Existing Zoning/Land Use: Conservation-Preservation (CP)/Undeveloped

General Application Overview and Background

The proposed site will be located adjacent to the northeast corner of Murray Drive and Railroad Avenue, across the street from the Berkeley County Library, Hanahan Branch. The existing site is currently undeveloped land.

The applicant, Charleston Water System (CWS) is proposing to construct a two-story, 30,000 SF office building, which will be setback near the rear corner of the property, approximately 160' from the frontage along Murray Drive. Stated facility will provide customer bill pay on the ground floor, both inside and via a drive-thru window. A small portion of the first and second floors will house the Operations Staff, who currently work in the downtown Charleston office location (103 St. Philip Street, Charleston, SC 29403). In total, CWS is projecting that one-hundred (100) employees will occupy the building.

ADC Engineering submitted a rezoning application, November 5, 2020, on behalf of Charleston Water System (CWS), to rezone a proposed subdivided parcel from the parent parcel, TMS# 265-02-00-015. The parent parcel, currently zoned Conservation /Preservation (CP), is 166 acres and is the site where the Hanahan Water Treatment Plant facility is housed. CWS is proposing to create a new parcel,

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“Tract 1”, that will be a total of 16.03. Pending approval of the subdivision plat and rezoning at the December 1, 2020 meeting, Tract 1 will be assigned a TMS number following approval by City Staff and Berkeley County.

Proposed access will be primarily off Murray Drive, which will be a two-way entrance/exit, with a proposed left-turn lane. This access will be primarily for customers only, a public entrance. There will be a secondary gated-access point for CWS employees only, which will consist of an arm gate with card reader and intercom. This secondary entrance is in the northern part of the site and allows direct access to the Water Treatment Facility property. Employees will be required to access the proposed office building through the existing gate, located on Railroad Avenue.

Utilities for Charleston Water System (CWS), Berkeley County Water and Sanitation Authority (BCWS) and Dominion Power are existing and little infrastructure enhancements, other than connections and/or extensions will be needed.

General Conformance Analysis

The following report utilized the 2008 Hanahan Zoning Ordinance, specifically Section 4.5.8 (Standards By Zone: Residential Office) to analyze the submitted preliminary land development plan for the CWS Customer Technology Center/Emergency Operations Center.

Per the Zoning Ordinance, staff finds the following general conformance standards for the proposed site:

1. **Lot size**—The proposed meets the minimum of 6,000 SF with a total of 16.03 acres (698,267 SF).
2. **Lot Width**— The proposed parcels meet the minimum width of 60’.
3. **Residential Density**— The density requirement of seven (7) units per acre only does not apply in this instance because of the office-based use.
4. **Setbacks**—The proposed structures on site, meets the required setbacks:
 - Front: 25’
 - Side: 5’.
 - Rear: 15’
5. **Maximum Impervious Surface Ratio**—approximately 55% of the site will impervious. The maximum allowed is 75%.
6. **Maximum Height**—35 feet.

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The proposed development is surrounded to the north of the site by a Conservation/Preservation (CP) and Residential—Manufactured Housing (RT) zoned properties, Single-Family Residential (RS) to the east and the Berkeley County Public Library, Hanahan Branch to the south.

Tree Survey and Mitigation

Although not specified in the plans, the applicant appears to have chosen to use the “standard” tree survey method (Section 7.6.) for the property. The intent of this survey is that “all protected and landmark trees shall be surveyed and graphically indicated on the appropriate development plan.” In total, there are 1,747 trees on-site, with 820 proposed to be removed, two (2) of which are 24” landmark oaks (no specific oak type provided). Of the 16-acre site, the applicant is proposing to retain 58 remaining trees per acre (20 trees is the minimum). By meeting and exceeding the 20-tree minimum (Section 7.7(B): Tree Removal Mitigation), the applicant has fulfilled their requirement for tree mitigation.

Landscape Plan Requirements

Applicant has provided adequate amount of plantings for landscaping requirements, as outlined in Section 6 (Landscaping), specifically pertaining to Section 6.5 (Landscaping provisions for off-street parking, loading, and vehicular use areas). In addition to providing the correct amount of tree and shrub plantings, the applicant is also proposing a landscaped, decorative courtyard plaza for its employees with picnic tables, benches and food truck parking at the northern end of the plaza.

Preliminary Plat Requested Corrections

Given that the submitted preliminary subdivision plat meets general zoning conformance, there are other pertinent and required elements needed to have a complete submittal. These documentation requirements may be found in the 2008 Zoning and Land Development Ordinance, Sections 3.2 and 4.3. The following will be needed for approval;

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Required Contents of the Preliminary Plan (Section 3.2)

Proposed Land Development Information

1. **Section 3.2(B)(4)(a):** Widths for all internal roads and rights-of-way will need to be shown on "Site Plan—Area A" (SHEET C200) and "Site Plan—Area B" (SHEET C201).
2. **Section 3.2(B)(4)(b):** New road names pre-approved by Berkeley County E-911 will need to be provided.
3. **Section 3.2(B)(4)(k):** Approximate gross floor area and dimensions will need to be included on footprint of building shown on "Site Plan—Area A" (SHEET C200).

Other

Subdivision Plat

As stated in the General Conformance Analysis section, the proposed subdivision plat meets all the "Standards by Zone" for the Residential Office (RO) zoning district. Furthermore, the provided subdivision plat meets the documentation requirements laid out in Section 3.5 (Final Plat/Minor Land Development Plat). This plat will need to be stamped and signed by the City, as well as stamped and recorded with Berkeley County. Following recordation, a TMS number will be assigned to the subdivided property.

Traffic Study

Per Section 3.3, a traffic study is required as part of a complete preliminary land development plan application or zoning permit for any land development projected to generate one hundred (100) or more peak-hour vehicle trips at any intersection at the perimeter of the development.

Included in the submittal is a request from ADC engineering asking that there be a waiver from the traffic study requirement. Correspondence between ADC (Jeff Webb) and SCDOT (Robert W. Grooms) has been provided stating that "we [SCDOT] concur that in accordance with guidance issued on traffic studies, we can proceed with no TIA (Traffic Impact Analysis) necessary and the requirement to construct (extend) a TWLTL on Murray Drive at the site access."

Even though SCDOT does not require a TIA for this project and City Staff is in general agreement with SCDOT's recommendations, it is required by The City of

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Hanahan, per Section 3.3 (Traffic study), that this is part of a complete preliminary land development plan application. There currently is no ordinance that gives the city planner or Planning Commission discretion on the option to not conduct a TIA. Furthermore, per applicant correspondence, there will be at least one-hundred (100) employees on-site during peak hours and additionally, customers that will access the site off of Murray.

Fire/EMS Public Safety

The Fire Chief is requesting that the fire hydrant located adjacent to the drive-thru be moved to the island to the west of the existing location.

Submittal to Respective Utilities

The applicant will need to ensure that the preliminary plan has been submitted to Charleston Water System (CWS), Berkeley County Water and Sanitation (BCWS) and Berkeley County Engineering for general review and review for stormwater management.

Copies of the eventual construction plans will also need to be submitted to Berkeley County Engineering. Comments received by said agencies may affect changes to the preliminary plan.

Recommendation

This plan constitutes a preliminary plat subdivision submittal. Approval of this plan does not imply approval of permits to begin construction. Approval of this application will enable the developer to seek permits for land disturbance and installation of necessary infrastructure to serve this phase of the project.

Subsequent to approval to install infrastructure, the applicant must submit a final plat that depicts all easements provided for its maintenance, whether by a public agency or property owners association. Such plat must be approved and recorded prior to transfer of individual lots depicted on this plan.

Based upon staff's review, the City recommends that the Planning Commission **approve** the submitted preliminary land development plan and subdivision plat, *with* conditions. Said conditions include:

1. Submitting all requested information in the "Preliminary Plat Requested Corrections" section of this staff report.

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2. Submitting all "Other" requested information in this staff report, which includes: "Subdivision Plat," "Traffic Study," "Fire/EMS Public Safety"
3. Receipt of recommendation letters from CWS, BCWS and Berkeley County Engineering.
4. Approved Resolution from Planning Commission recommending rezoning approval (from CP to RO) to City Council and final rezoning approval from City Council

transmittal

November 5, 2020

to: Jeff Hajek
company: City of Hanahan Planning
address: 1255 Yeamans Hall Road
Hanahan, SC 29410

from: Jeff Webb, P.E.
title: Civil Project Manager
tel: (843) 566-0161
email: jeffw@adcengineering.com

subject: **Preliminary Land Development**
CWS Customer Technology Center
Hanahan, South Carolina
ADC Project No. 19282

The following items are attached:

item #	date	description
1.	05 Nov 2020	Site Development Review Fee (\$400.00)
2.	05 Nov 2020	Request for TIA Waiver Letter (1 Copy)
3.	04 Nov 2020	Site Drawings (2 Full Size Sets)

If you have any questions or comments, please do not hesitate to contact me.

check request

November 5, 2020

to: Donna Yaw
company: Accounting
address: 1226 Yeamans Hall Road
Hanahan, SC 29410

from: Jennifer Papa
title: Project Administrator
tel: 843-566-0161
email: jenniferp@adcengineering.com

subject: CWS Customer Technology Center
Hanahan, South Carolina
ADC Project No. 19282

need date: Today

payable to: City of Hanahan

address: 1255 Yeamans Hall Road

amount: \$400.00

item purchased: Site Plan Review Fee

Please provide check to JP. Thank you.

SECURITY FEATURES INCLUDE TRUE WATERMARK PAPER, HEAT SENSITIVE ICON AND FOIL HOLOGRAM

ADC Engineering, Inc.
Misc. Account
1226 Yeamans Hall Road
Hanahan, SC 29410-2796

5449
67-604/539

DATE 11-5-2020

PAY TO THE ORDER OF City of Hanahan \$ 400⁰⁰

Four hundred & xx/100 DOLLARS

First Citizens Bank

FOR CWS Tech Center
ADC # 19282.00

Donna M Yaw

HEAT SENSITIVE

MP

11005449 05390604 100916 2758288



1226 YEAMANS HALL ROAD, HANAHAN, SC 29410
843-566-0161
ADCENGINEERING.COM

19294_a1.chkreq.2020 1105.site plan rev fee.docx

November 5, 2020

Via Email

Mr. Jeff Hajek
City of Hanahan
1255 Yeamans Hall Road
Hanahan, SC 29410

subject: Request for Traffic Study Waiver
CWS Customer Technology Center
Hanahan, South Carolina
ADC Project No. 19282

Dear Jeff:

ADC Engineering, Inc. respectfully requests, on behalf of the Owner – Charleston Water System, a waiver from the traffic study requirement. Please see attached email correspondence with SCDOT confirming a TIA will not be required

If you have any questions or comments, please do not hesitate to contact me.

Sincerely,
ADC Engineering, Inc.



Jeff Webb, P.E.
Civil Project Manager

enclosures:
▶ SCDOT Email, dated 08/07/2020

Jennifer Papa

To: Jeff Webb; Matt Prosser
Subject: RE: adc 19282; CWS Customer Technology Center at Hanahan WTP

From: Grooms, Robert W. <GroomsRW@scdot.org>
Sent: Friday, August 7, 2020 9:45 AM
To: Jeff Webb <JeffreyW@adcengineering.com>
Cc: Johnson, Joshua A. <JohnsonJA@scdot.org>; Dan Scheaffer <danscheaffer@ls3p.com>; Huggins, Russell L <hugginsrl@charlestoncpw.com>; Matt Prosser <MattP@adcengineering.com>; Fleming, Juleigh B. <FlemingJB@scdot.org>
Subject: RE: adc 19282; CWS Customer Technology Center at Hanahan WTP

Jeff - we concur that in accordance with guidance issued on traffic studies, we can proceed with no TIA necessary and the requirement to construct (extend) a TWLTL on Murray Ave at the site access. You will should confirm the existing median is 14 feet as shown on plan in order to ensure appropriate widening tying into existing.

thanks

From: Jeff Webb <JeffreyW@adcengineering.com>
Sent: Friday, August 7, 2020 9:40 AM
To: Fleming, Juleigh B. <FlemingJB@scdot.org>; Grooms, Robert W. <GroomsRW@scdot.org>
Cc: Johnson, Joshua A. <JohnsonJA@scdot.org>; Dan Scheaffer <danscheaffer@ls3p.com>; Huggins, Russell L <hugginsrl@charlestoncpw.com>; Matt Prosser <MattP@adcengineering.com>
Subject: RE: adc 19282; CWS Customer Technology Center at Hanahan WTP

*** This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. ***

Juleigh and Wade,

I also wanted to follow up to see if there were any comments on this plan or if you would like to meet to review.

Thanks

Jeff

Jeff Webb
Partner
Civil Engineering



1226 YEAMANS HALL ROAD
HANAHAN, SC 29410
Office 843-566-0161 / Direct 843-735-5157 / Mobile 843-991-7047

From: Jeff Webb
Sent: Wednesday, July 29, 2020 12:02 PM
To: Fleming, Juleigh B. <FlemingJB@scdot.org>; GroomsRW@scdot.org
Cc: JohnsonJA@scdot.org; Dan Scheaffer <danscheaffer@ls3p.com>; Huggins, Russell L <hugginsrl@charlestoncpw.com>; Matt Prosser <MattP@adcengineering.com>
Subject: adc 19282; CWS Customer Technology Center at Hanahan WTP

Juleigh and Wade

CWS is proposing to construct a new Customer Technology Center at the Hanahan Water Treatment Plant and we would appreciate any feedback or comments you may have. If you would like to go over on zoom or conference call, let me know your availability and we can set up.

Basically it is a 2-story, 30,000 sf office building. The ground floor would be customer bill pay, either inside or via drive-through. These services are currently located downtown and on Rivers Ave locations. Customers and other visitors would access via a new driveway on Murray Ave with proposed left turn lane. This is a fairly low number of customers and they are generally not arriving during peak hours.

A small portion the first floor and the second floor would be for Operations staff, who are currently working in the downtown CWS office. The plan is for 100 employees. Staff and service vehicles for the building would enter using the existing driveway on Railroad Ave. We propose to reconfigure the gate and access road on the site to accommodate this traffic and the Plant traffic, but we don't plan on having to widen the existing driveway within the ROW.

Let me know if you have questions or would like to go over on zoom or call.

Thanks

Jeff

Jeff Webb, PE, MASCE, LEED AP
Partner
Civil Engineering



REFERENCES:

1. UNRECORDED PLAT OF COMMISSIONERS OF PUBLIC WORKS, CITY OF CHARLESTON, SC, BERKELEY COUNTY, HANAHAN PARISH, DATED JUNE 16, 1980, BY ENWRIGHT ASSOCIATES, INC.
2. PLAT SHOWING BOUNDARY SURVEY OF NEW PARCEL 'A' SUBDIVIDED FROM TMS #265-02-00-015 OWNED BY THE COMMISSIONERS OF PUBLIC WORKS CITY OF CHARLESTON, LOCATED IN THE CITY OF HANAHAN, BERKELEY COUNTY, SOUTH CAROLINA, DATED JANUARY-FEBRUARY 10, 2011, BY MICHAEL S. SHULSE, SCPLS No. 18268, AND RECORDED IN PLAT CABINET O, PAGE 328-P, BERKELEY COUNTY ROD OFFICE.
3. BOUNDARY SURVEY FOR THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION LOCATED IN THE CITY OF HANAHAN IN BERKELEY COUNTY, SOUTH CAROLINA, DATED AUGUST 18, 2010, BY WILLIAM G. BRADSHAW, III, SCPLS No. 21618.
4. SCDOT HIGHWAY PLANS PROJECT No. 8.803, DATED AUGUST 1, 2010.
5. BERKELEY COUNTY TMS No. 265-02-00-015.

NOTES:

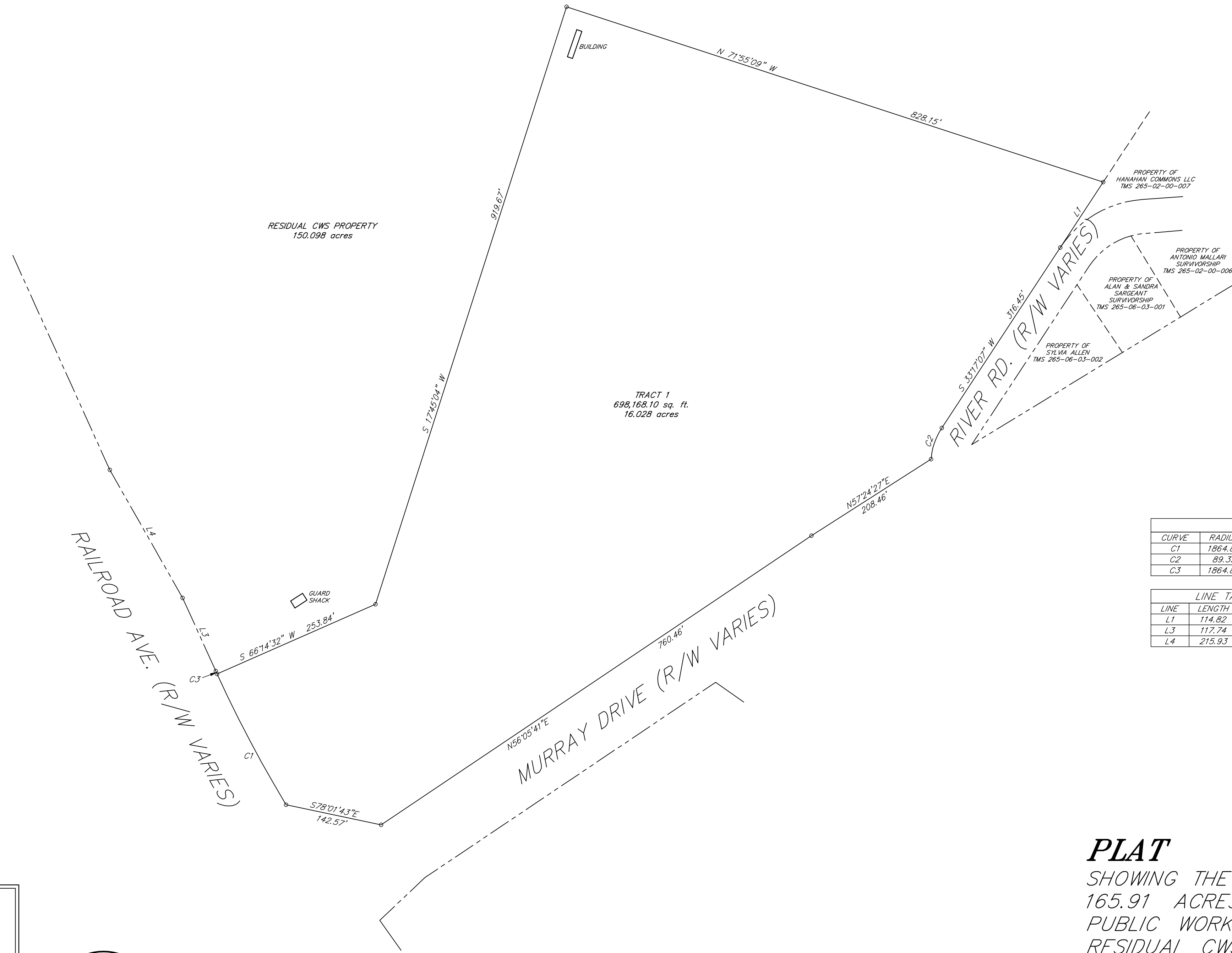
1. BY GRAPHICAL PLOTTING ONLY, THIS PROPERTY APPEARS TO LIE WITHIN FLOOD ZONE 'X', AS PER F.I.R.M. COMMUNITY PANEL NUMBER 45015C 0695 E, WITH AN EFFECTIVE DATE OF DECEMBER 7, 2018.
2. THE AREA WAS DETERMINED BY THE COORDINATE METHOD.
3. NO PROPERTY CORNERS SET BY THIS SURVEY.
4. ANYTHING SHOWN OUTSIDE THE DEFINED BOUNDARY OF THIS PLAT IS FOR DESCRIPTIVE PURPOSES ONLY.
5. THE PUBLIC RECORDS REFERENCED ON THIS PLAT ARE ONLY THOSE USED FOR THE ESTABLISHMENT OF THE BOUNDARY OF THIS PROPERTY. THEY ARE NOT AND DO NOT CONSTITUTE A TITLE SEARCH.
6. EASEMENTS SHOWN, IF ANY, ARE PER REFERENCED PLATS, PROPERTY MAYBE SUBJECT TO EASEMENTS AND RESTRICTIONS NOT OBVIOUS OR APPARENT TO THE SURVEYOR.
7. HORIZONTAL DATUM IS SC NAD 83 (2011) STATE PLANE.

LINETYPE, SYMBOL & ABBREVIATION LEGEND

- PROPERTY LINE w/ 3/4" REBAR CORNER SET
- RIGHT-OF-WAY LINE
- - - - - ADJACENT PROPERTY LINE
- CENTER LINE

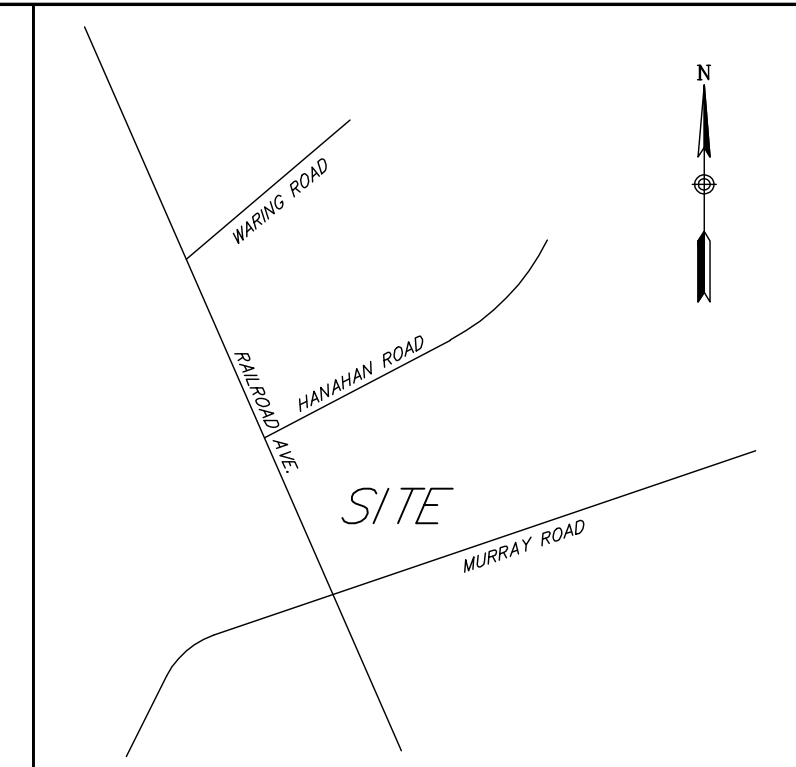
ACREAGE CHART

ORIGINAL PARCEL	165.91 AC.
RESIDUAL PARCEL	149.882 AC.
TRACT 1	16.028 AC.
ORIGINAL PARCEL	165.91 AC.

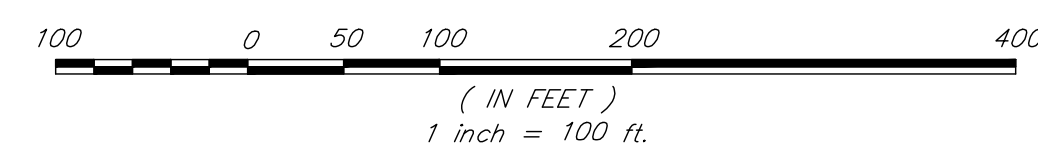


CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	1864.85	217.04	6°40'06"	216.92	S27°48'32"E
C2	89.35	48.79	31°17'03"	48.18	S19°02'17"W
C3	1864.85	4.65	0°08'34"	4.65	S24°25'17"E

LINE	LENGTH	BEARING
L1	114.82	N33°17'07"E
L3	117.74	N24°21'00"W
L4	215.93	N29°39'52"W



LOCATION MAP
N.T.S.



Parker Land Surveying, LLC
5910 Griffin Street
Hanahan, SC 29410
Phone: (843) 554-7777
Fax: (843) 554-7779

I HEREBY STATE TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS A SURVEY AS SPECIFIED THEREIN; ALSO THERE ARE NO VISIBLE ENCROACHMENTS OR PROJECTIONS OTHER THAN SHOWN.

RICHARD A. ALDRIDGE
REGISTERED PROFESSIONAL LAND SURVEYOR
NO. 20854
P.L.S. 20854

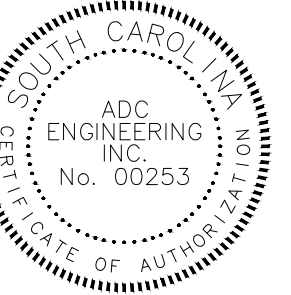


PLAT

SHOWING THE SUBDIVISION OF TMS 264-02-00-015, 165.91 ACRES, PROPERTY OF COMMISSIONERS OF PUBLIC WORKS, INTO TRACT 1, 16.028 ACRES AND RESIDUAL CWS PROPERTY, 149.882 ACRES, LOCATED IN THE CITY OF HANAHAN, BERKELEY COUNTY, SOUTH CAROLINA

DATE: OCTOBER 27, 2020

SCALE: 1" = 100'



ARCH NAME ARCH #

CWS Customer Technology
Center at HWTP

1104 HANAHAN ROAD
HANAHAN, SC 29410

LS3P PROJECT: 1101-195870

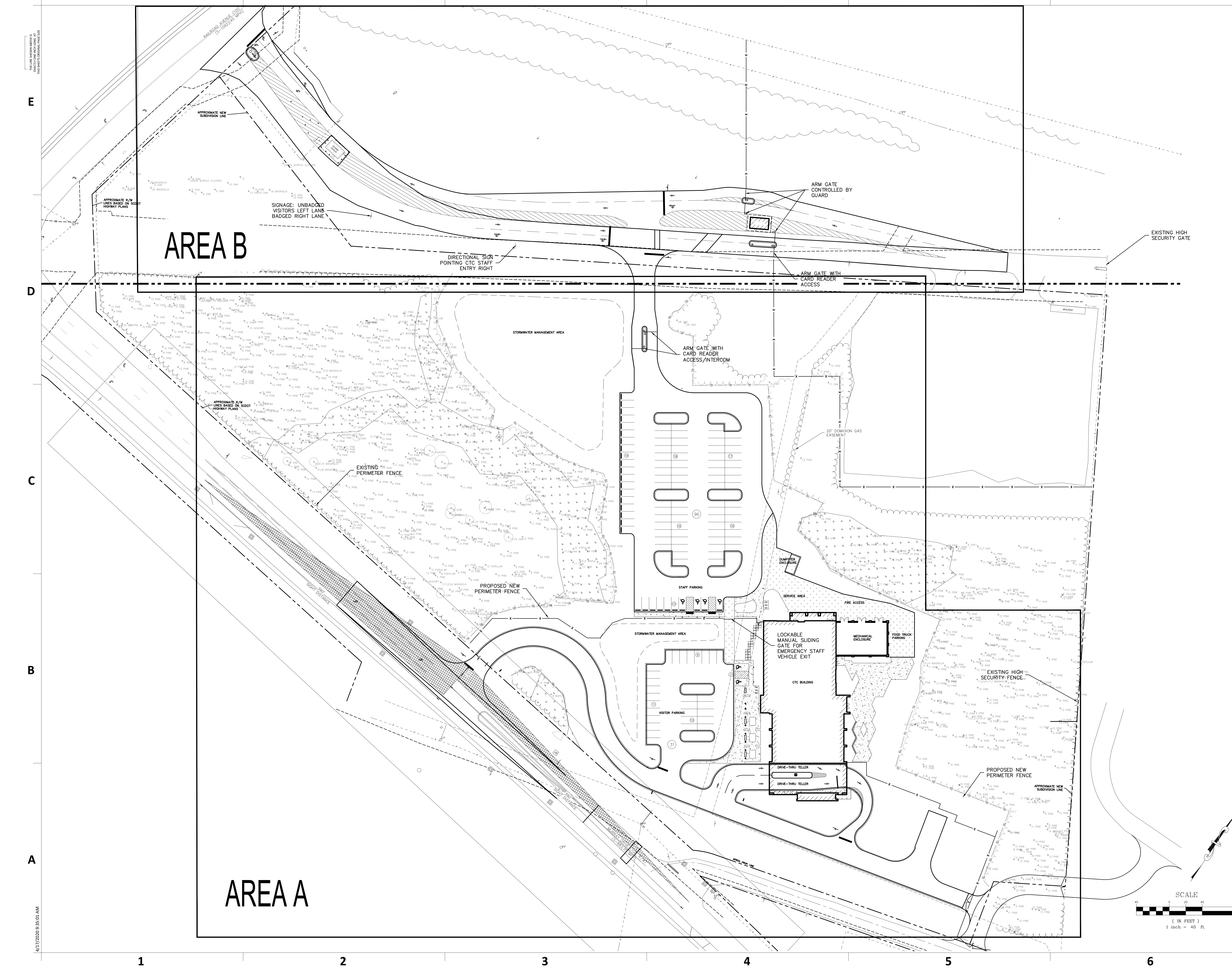
DATE	DESCRIPTION

SHEET NAME:
OVERALL SITE PLAN

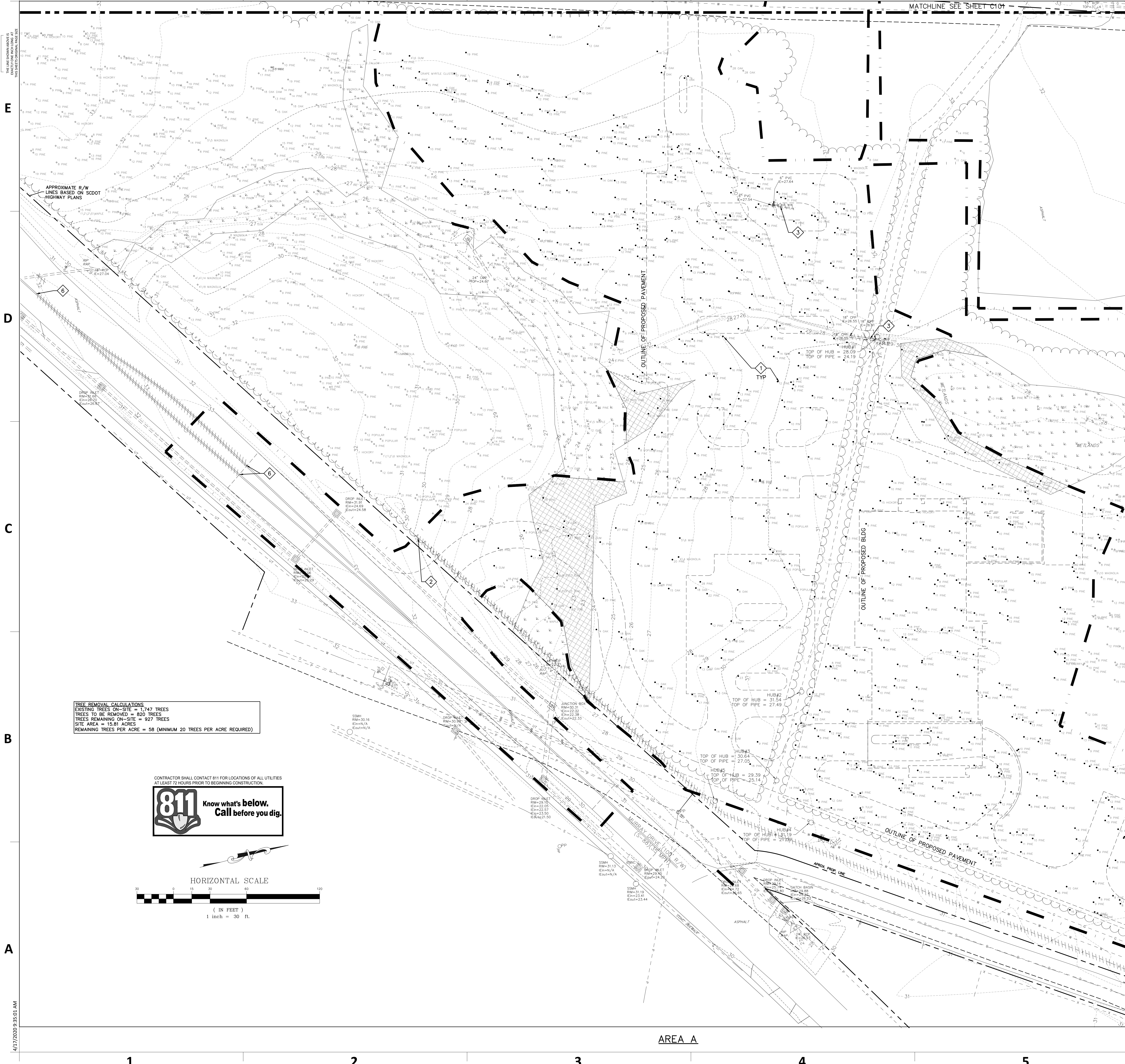
ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C002

PERMIT SET



4/17/2020 9:35:01 AM



GENERAL NOTES:

1. SEE SHEET C001 FOR CIVIL ABBREVIATIONS AND GENERAL NOTES.
2. CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
3. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF THE PROJECT.
4. ALL PROJECT STAKEOUT SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR TO BE PAID FOR BY THE CONTRACTOR. FOR STAKEOUT, DO NOT RELY SOLELY ON THE PHYSICAL SCALE AS SHOWN IN DRAWINGS. REFER TO THE GIVEN DIMENSIONS, SYMBOL LEGEND, KEYNOTES, AND REFERENCED DETAILS FOR CORRECT STAKEOUT.
5. ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.
6. CONTACT DOMINION ENERGY BEFORE ANY WORK WITHIN THE GAS EASEMENT. DOMINION ENERGY REPRESENTATIVE MUST BE ON-SITE FOR WORK WITHIN THE GAS EASEMENT.
7. SEE C700 SERIES FOR EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO ANY WORK.

KEYNOTES:

1. REMOVE EXIST AND CLEAR AND GRUB ALL VEGETATION TREES WITHIN LIMIT OF DISTURBANCE EXCEPT THOSE INDICATED TO BE SAVED. BACKFILL LAWN SPECIFICATIONS.
2. REMOVE EXIST CHAIN LINK FENCE.
3. REMOVE EXIST STORM DRAINAGE PIPE.
4. COORDINATE REMOVAL OF UNDERGROUND POWER AND LIGHT POLE WITH DOMINION.
5. SAWCUT AND REMOVE EXISTING ASPHALT PAVEMENT. SEE C200 AND C400 SERIES DRAWINGS FOR NEW PAVEMENT AND UTILITIES.
6. REMOVE EXIST PAVEMENT STRIPE. SEE C200 SERIES FOR NEW PAVEMENT STRIPING.

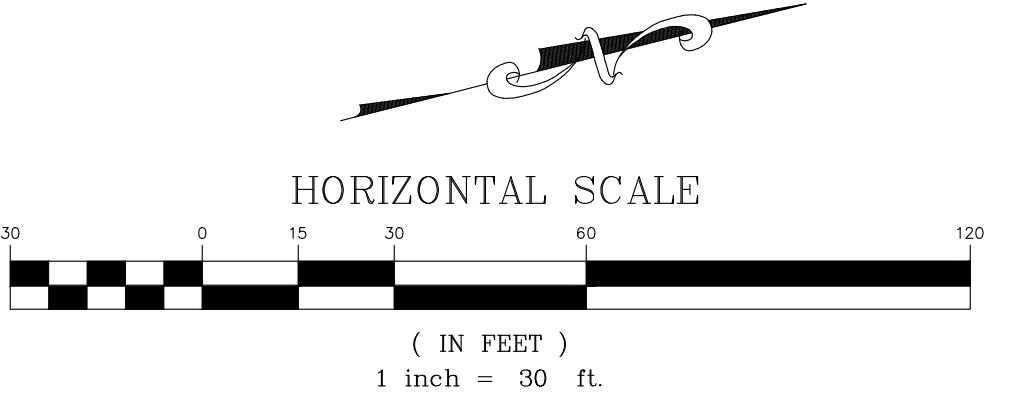
EXISTING SITE LEGEND

---	W -	WATER LINE W/ VALVE
---	WS -	WATER SERVICE
---	S -	SANITARY SEWER PIPE
---	SS -	SANITARY SEWER SERVICE
---	FM -	FORCE MAIN
----		STORM DRAIN
---	P -	POWER LINE (OVERHEAD)
---	UP -	POWER LINE (UNDERGROUND)
---	T -	TELEPHONE LINE (OVERHEAD)
---	UT -	TELEPHONE LINE (UNDERGROUND)
---	G -	GAS LINE
•	SIZE/TYPE	EXISTING TREE
○	PP	POWER POLE, GUY WIRE
□	E	ELECTRICAL BOX, HAND HOLE
○	LP	LIGHT POLE, CAMERA POLE
○	SMH	SANITARY MANHOLE
○	SC	SEWER CLEANOUT
□	CB	CATCH BASIN
○	FD	FIRE HYDRANT
○	WMH	WATER VAULT, MANHOLE
□		TELEPHONE VAULT, PEDESTAL
○		AIR CONDITION UNIT
○		GAS METER
---	X	FENCE
---	24	SIGN
---		CONTOUR
•	X23.45	SPOT ELEVATION
---		PROPERTY LINE
---		LIMITS OF CONSTRUCTION/DISTURBANCE

EXISTING DEMO LEGEND

▨		ITEMS TO BE DEMOLISHED
•	SIZE/TYPE	TREE TO BE DEMOLISHED

TREE REMOVAL CALCULATIONS
 EXISTING TREES ON-SITE = 1,747 TREES
 TREES TO BE REMOVED = 820 TREES
 TREES REMAINING ON-SITE = 927 TREES
 SITE AREA = 15.81 ACRES
 REMAINING TREES PER ACRE = 58 (MINIMUM 20 TREES PER ACRE REQUIRED)



1

2

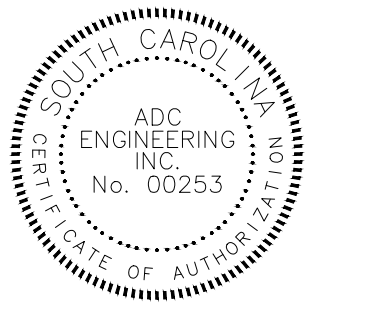
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4

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6

AREA A



ARCH NAME ARCH #

CWS Customer Technology Center at HWTP
 1104 HANAHAN ROAD
 HANAHAN, SC 29410
 LS3P PROJECT: 1101-195570

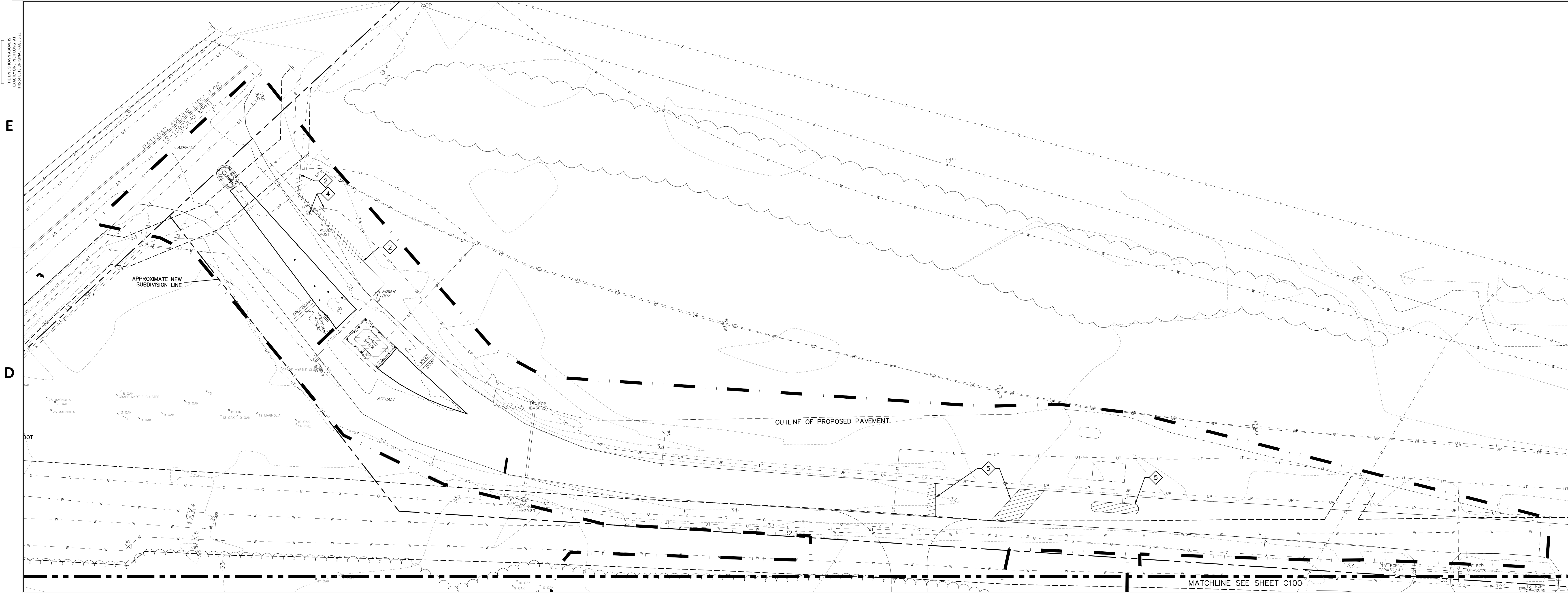
Δ DATE	DESCRIPTION

SHEET NAME:
EXISTING CONDITIONS AND DEMOLITION PLAN - AREA A

ORIG SUBMISSION: 04/20/2020
 CURRENT: 09/16/2020

SHEET:
C100

PERMIT SET



AREA B

GENERAL NOTES:

- SEE SHEET C001 FOR CIVIL ABBREVIATIONS AND GENERAL NOTES.
- CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF THE PROJECT.
- ALL PROJECT STAKEOUT SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR TO BE PAID FOR BY THE CONTRACTOR. FOR STAKEOUT, DO NOT RELY SOLELY ON THE PHYSICAL SCALE AS SHOWN IN DRAWINGS. REFER TO THE GIVEN DIMENSIONS, SYMBOL LEGEND, KEYNOTES, AND REFERENCED DETAILS FOR CORRECT STAKEOUT.
- ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.
- CONTACT DOMINION ENERGY BEFORE ANY WORK WITHIN THE GAS EASEMENT. DOMINION ENERGY REPRESENTATIVE MUST BE ON-SITE FOR WORK WITHIN THE GAS EASEMENT.
- SEE C700 SERIES FOR EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO ANY WORK.

KEYNOTES: ◇

- REMOVE EXST AND CLEAR AND GRUB ALL VEGETATION TREES WITHIN LIMIT OF DISTURBANCE EXCEPT THOSE INDICATED TO BE SAVED. BACKFILL IAW SPECIFICATIONS.
- REMOVE EXST CHAIN LINK FENCE.
- REMOVE EXST STORM DRAINAGE PIPE.
- COORDINATE REMOVAL OF UNDERGROUND POWER AND LIGHT POLE WITH DOMINION.
- SAWCUT AND REMOVE EXISTING ASPHALT PAVEMENT. SEE C200 AND C400 SERIES DRAWINGS FOR NEW PAVEMENT AND UTILITIES.
- REMOVE EXST PAVEMENT STRIPE. SEE C200 SERIES FOR NEW PAVEMENT STRIPING.

EXISTING SITE LEGEND

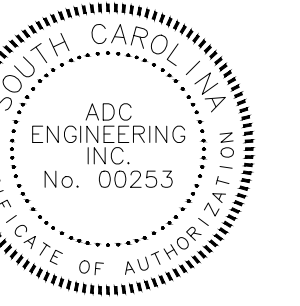
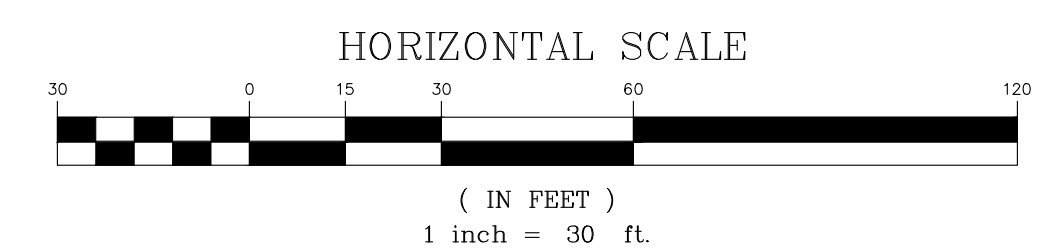
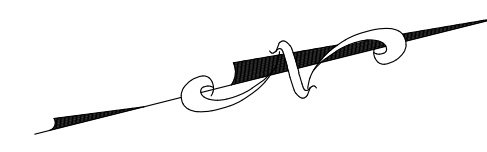
--- W --- W/V	WATER LINE W/ VALVE	○ CO	SEWER CLEANOUT
--- WS ---	WATER SERVICE	▣ CB	CATCH BASIN
--- S ---	SANITARY SEWER PIPE	⊖ FH	FIRE HYDRANT
--- SS ---	SANITARY SEWER SERVICE	⚡ FDC	FIRE DEPARTMENT CONNECTION
--- FM ---	FORCE MAIN	PIV ⊗	POST INDICATOR VALVE
---	STORM DRAIN	ICV ⊗	IRRIGATION VALVE
--- P ---</td <td>POWER LINE (OVERHEAD)</td> <td>WMH ○</td> <td>WATER VAULT, MANHOLE</td>	POWER LINE (OVERHEAD)	WMH ○	WATER VAULT, MANHOLE
--- UP ---</td <td>POWER LINE (UNDERGROUND)</td> <td>⊕ T</td> <td>TELEPHONE VAULT, PEDESTAL</td>	POWER LINE (UNDERGROUND)	⊕ T	TELEPHONE VAULT, PEDESTAL
--- T ---</td <td>TELEPHONE LINE (OVERHEAD)</td> <td>⊕</td> <td>AIR CONDITION UNIT</td>	TELEPHONE LINE (OVERHEAD)	⊕	AIR CONDITION UNIT
--- UT ---</td <td>TELEPHONE LINE (UNDERGROUND)</td> <td>⊗</td> <td>GAS METER</td>	TELEPHONE LINE (UNDERGROUND)	⊗	GAS METER
--- G ---</td <td>GAS LINE</td> <td>⊗</td> <td>GAS METER</td>	GAS LINE	⊗	GAS METER
--- X ---</td <td>EXISTING TREE</td> <td>---<!-- 24 ---</td--> <td>FENCE</td> </td>	EXISTING TREE	--- 24 ---</td <td>FENCE</td>	FENCE
--- PP ---	POWER POLE, GUY WIRE	x23.45	SIGN
⊓	ELECTRICAL BOX, HAND HOLE	---	CONTOUR
○ LP	LIGHT POLE, CAMERA POLE	--- x23.45 ---</td <td>SPOT ELEVATION</td>	SPOT ELEVATION
○ SSMH	SANITARY MANHOLE	--- x23.45 ---</td <td>PROPERTY LINE</td>	PROPERTY LINE
		--- </td <td>LIMITS OF CONSTRUCTION/DISTURBANCE</td>	LIMITS OF CONSTRUCTION/DISTURBANCE

EXISTING DEMO LEGEND

	ITEMS TO BE DEMOLISHED
	TREE TO BE DEMOLISHED

* SIZE/TYPE

CONTRACTOR SHALL CONTACT 811 FOR LOCATIONS OF ALL UTILITIES AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.



ARCH NAME _____ ARCH # _____

CWS Customer Technology
Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410
LSSP PROJECT: 1101-195570

Δ DATE	DESCRIPTION

SHEET NAME:
EXISTING CONDITIONS
AND DEMOLITION PLAN
- AREA B

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C101

PERMIT SET

C

B

A

E

D

DOT

1

2

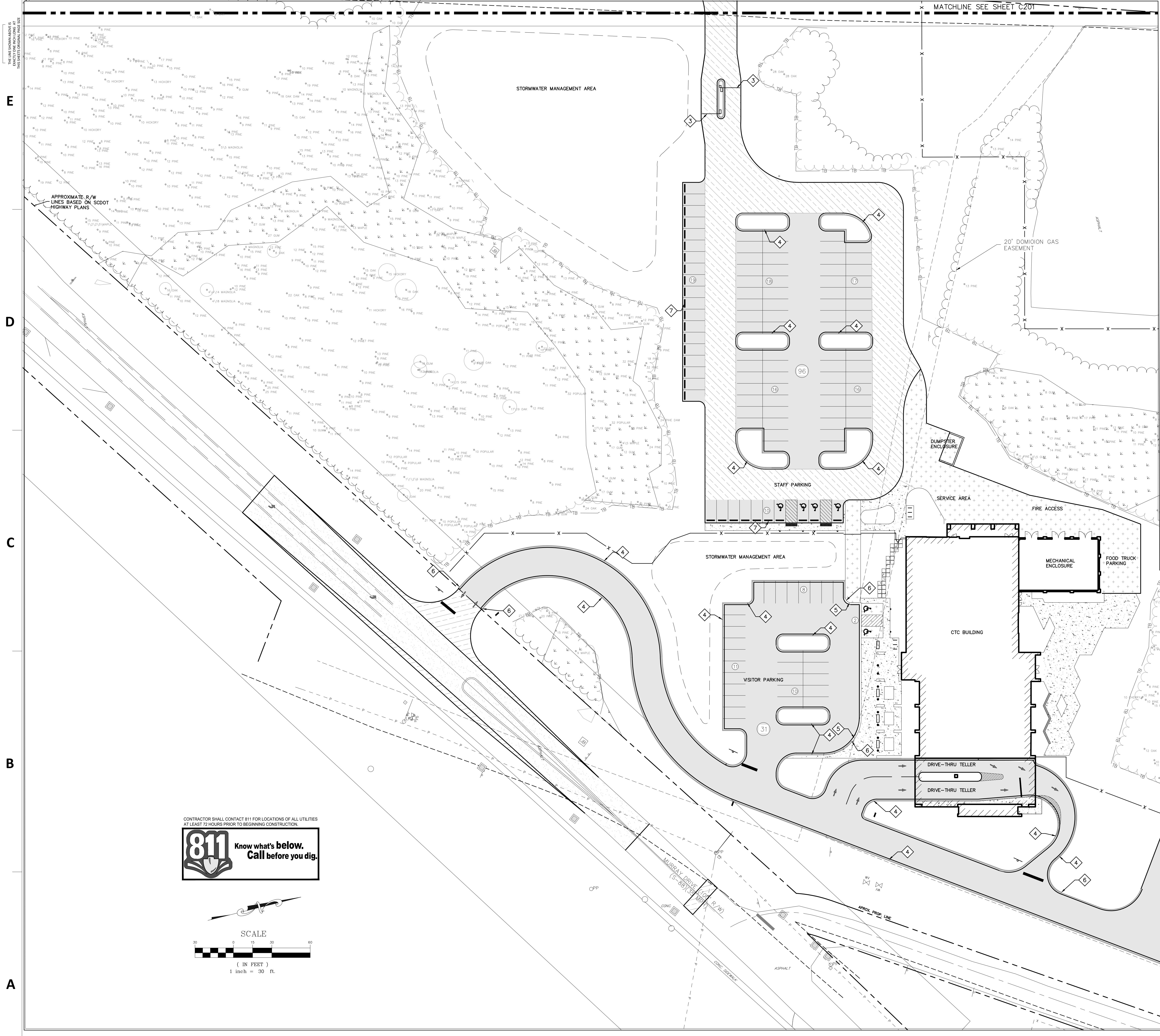
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6

4/17/2020 9:35:01 AM



GENERAL NOTES:

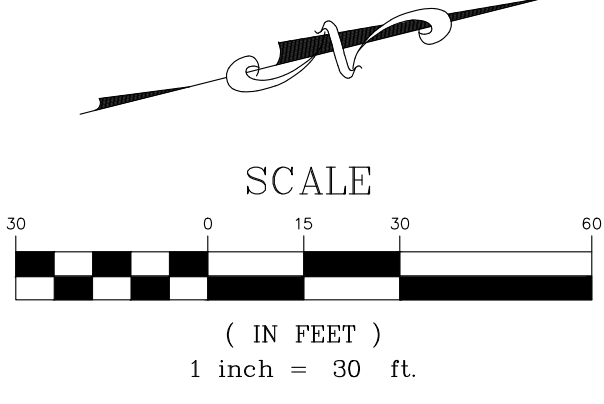
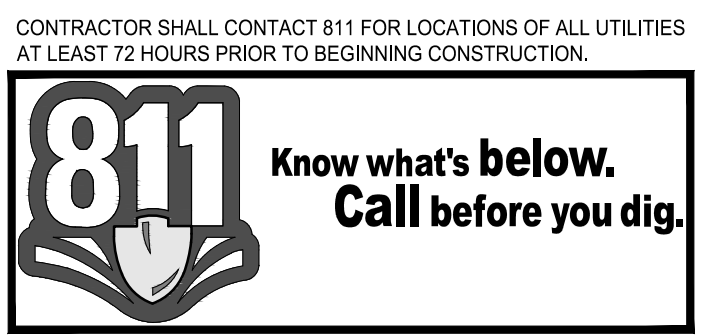
1. SEE SHEET C001 FOR CIVIL NOTES AND ABBREVIATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
3. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF THE PROJECT.
4. ALL PROJECT STAKEOUT SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR TO BE PAID FOR BY THE CONTRACTOR. FOR STAKEOUT, DO NOT RELY SOLELY ON THE PHYSICAL SCALE AS SHOWN IN DRAWINGS. REFER TO THE GIVEN DIMENSIONS, SYMBOL LEGEND, KEYNOTES, AND REFERENCED DETAILS FOR CORRECT STAKEOUT.
5. ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.

KEYNOTES: ◇

1. 4" SOLID YELLOW LINE.
2. 4" DASHED WHITE LINE.
3. INSTALL AUTOMATIC DROP ARM GATE.
4. INSTALL 18" CURB AND GUTTER IAW DETAIL G/C620.
5. INSTALL FLUSH CURB IAW DETAIL K/C621
6. TRANSITION TO FLUSH OVER 3 LF.
7. INSTALL CONCRETE WHEEL STOP.

CIVIL LEGEND - SITE

- STANDARD DUTY ASPHALT PAVEMENT - INSTALL IAW DETAIL C/C620.
- MILL AND OVERLAY EXISTING ASPHALT PAVEMENT WEARING COURSE IAW DETAIL J/C620.
- HEAVY DUTY ASPHALT PAVEMENT - INSTALL IAW DETAIL B/C620.
- HEAVY DUTY CONCRETE PAVEMENT - INSTALL IAW DETAIL E/C620.
- CONCRETE PAVEMENT/SIDEWALK - INSTALL IAW DETAIL H/C620.
- INTERIOR TRAFFIC ARROW - INSTALL IAW DETAIL H/C621.
- ACCESSIBLE PARKING SPACE AND AISLE - IAW DETAIL A/C620.
- SIDEWALK RAMP - INSTALL IAW DETAIL J/C620.
- STOP BAR - INSTALL IAW DETAIL I/C620.
- PARKING SPACES - STRIPE WITH 4" SINGLE WHITE SOLID LINE.
- NEW TRAFFIC SIGN - INSTALL PER PLAN AND IAW DETAILS D/C620 & G/C620.
- 6' HIGH CHAIN LINK FENCE - SEE LANDSCAPE PLANS.
- LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE.



CONTRACTOR SHALL CONTACT 811 FOR LOCATIONS OF ALL UTILITIES AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.



ARCH NAME ARCH #

CWS Customer Technology Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410

LS3P PROJECT: 1101-195570

DATE	DESCRIPTION

SHEET NAME:
SITE PLAN - AREA A

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C200

PERMIT SET

THE CONTRACTOR SHALL VERIFY THE EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS PRIOR TO CONSTRUCTION.

E

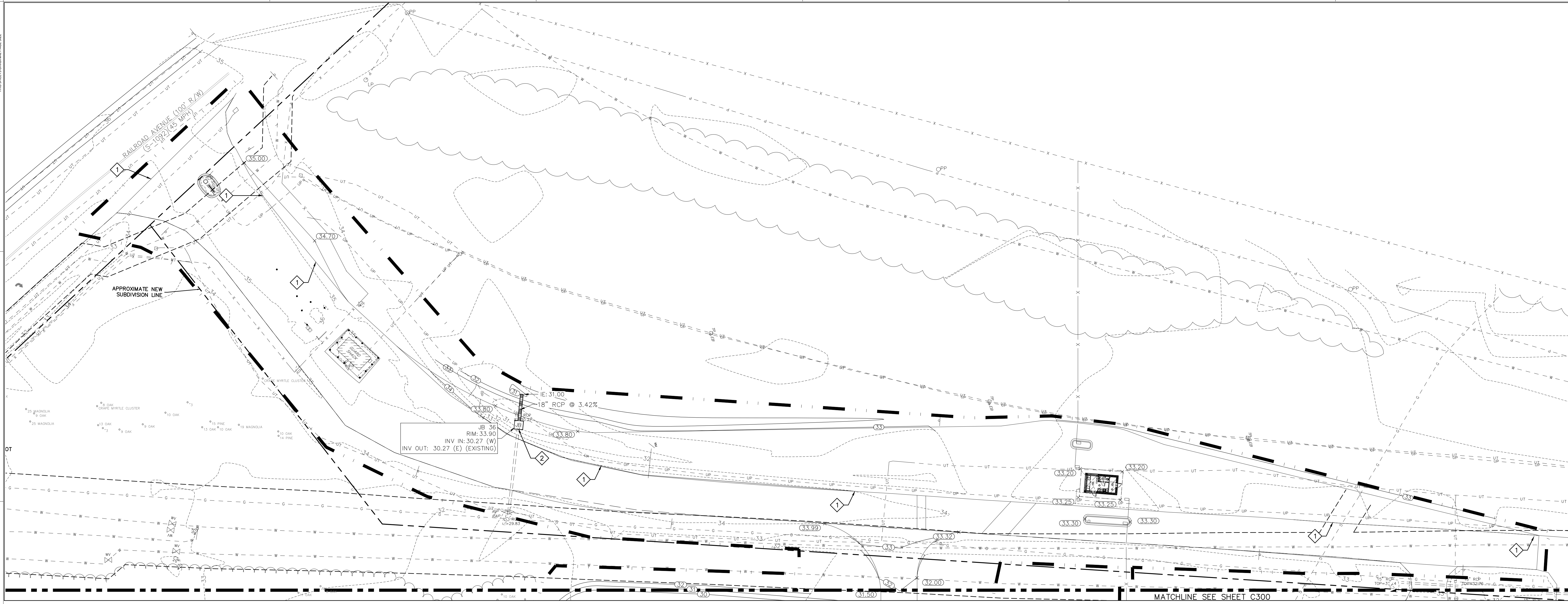
D

C

B

A

4/17/2020 9:35:01 AM



AREA B

MATCHLINE SEE SHEET C300

GENERAL NOTES:

- SEE SHEET C001 FOR CIVIL NOTES AND ABBREVIATIONS.
- CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
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- ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.

GRADING AND DRAINAGE NOTES:

- ALL SPOTS GIVEN ARE TO BOTTOM OF CURB OR TOP OF ASPHALT UNLESS NOTED OTHERWISE.
- GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS.

KEYNOTES:

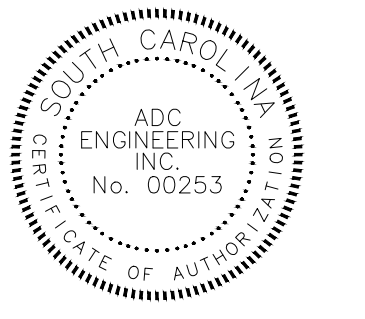
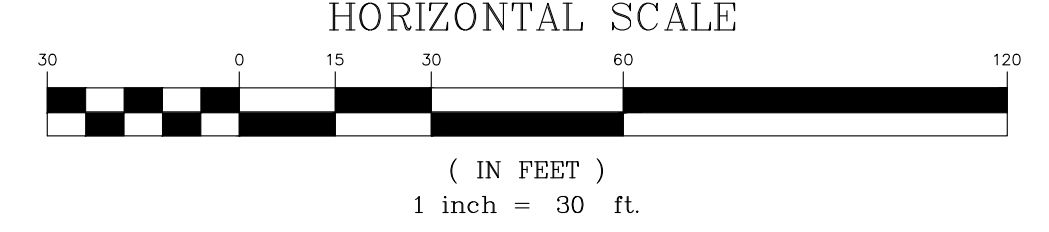
- MATCH EXISTING GRADE.
- INSTALL DRAINAGE STRUCTURE AROUND EXISTING PIPE.

CIVIL LEGEND – GRADING AND DRAINAGE

	CATCH BASIN – INSTALL IAW DETAIL A/C630.		NEW FINISHED GRADE SPOT ELEVATION
	JUNCTION BOX – INSTALL IAW DETAIL B/C630.		NEW FINISHED CONTOUR
	CURB INLET, TYPE 16 – INSTALL IAW DETAIL C/C630.		EXISTING GRADE SPOT
	CONTROL STRUCTURE – INSTALL IAW DETAIL A/C631.		EXISTING GRADE CONTOUR
	LAWN INLET – INSTALL IAW DETAIL B/C630.		DRAINAGE FLOW ARROW
	STORM DRAINAGE PIPE – INSTALL IAW DETAIL C/C630.		PERMANENT RIP RAP APRON – INSTALL IAW DETAIL G/C631.
	DOWNSPOUT – INSTALL IAW ARCHITECTURAL PLANS.		EMERGENCY SPILLWAY – INSTALL IAW DETAIL D/C631.
	ROOF DRAINAGE PIPE – INSTALL IAW DETAIL F/C631.		LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
	ROOF DRAINAGE CLEANOUT – INSTALL IAW DETAIL E/C630.		



CONTRACTOR SHALL CONTACT 811 FOR LOCATIONS OF ALL UTILITIES AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.

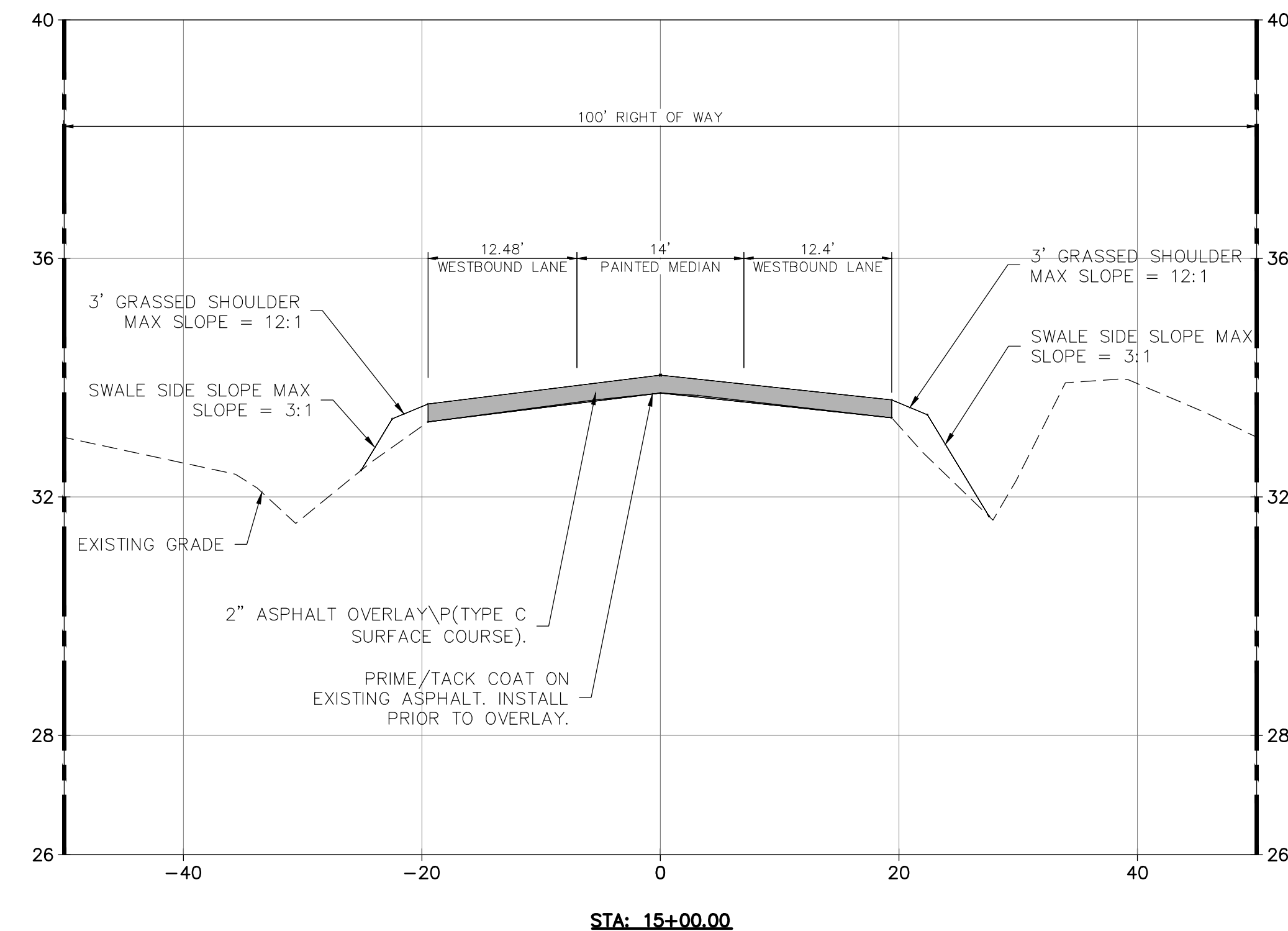


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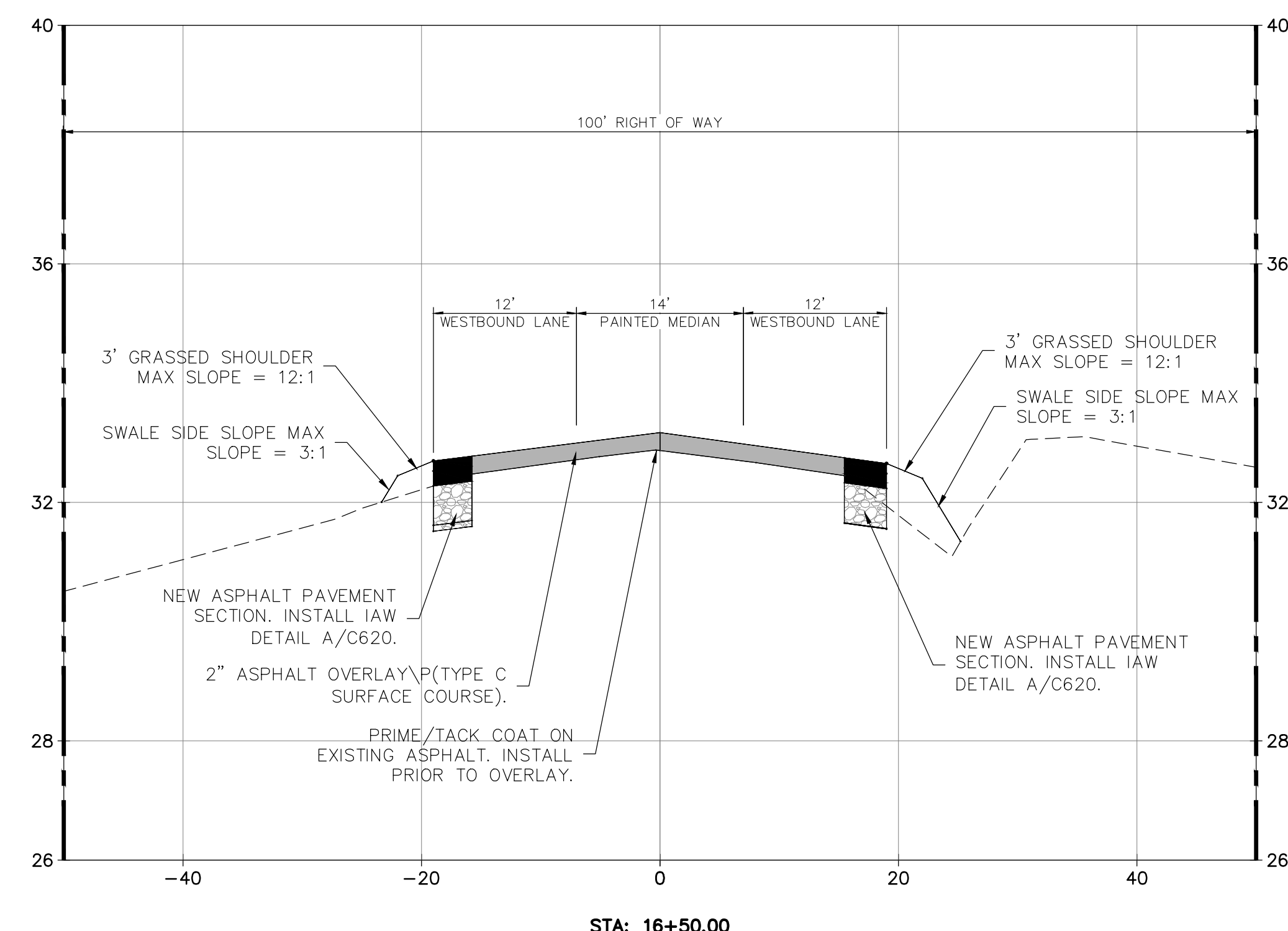
CWS Customer Technology Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410
LS3P PROJECT: 1101-195570

DATE	DESCRIPTION

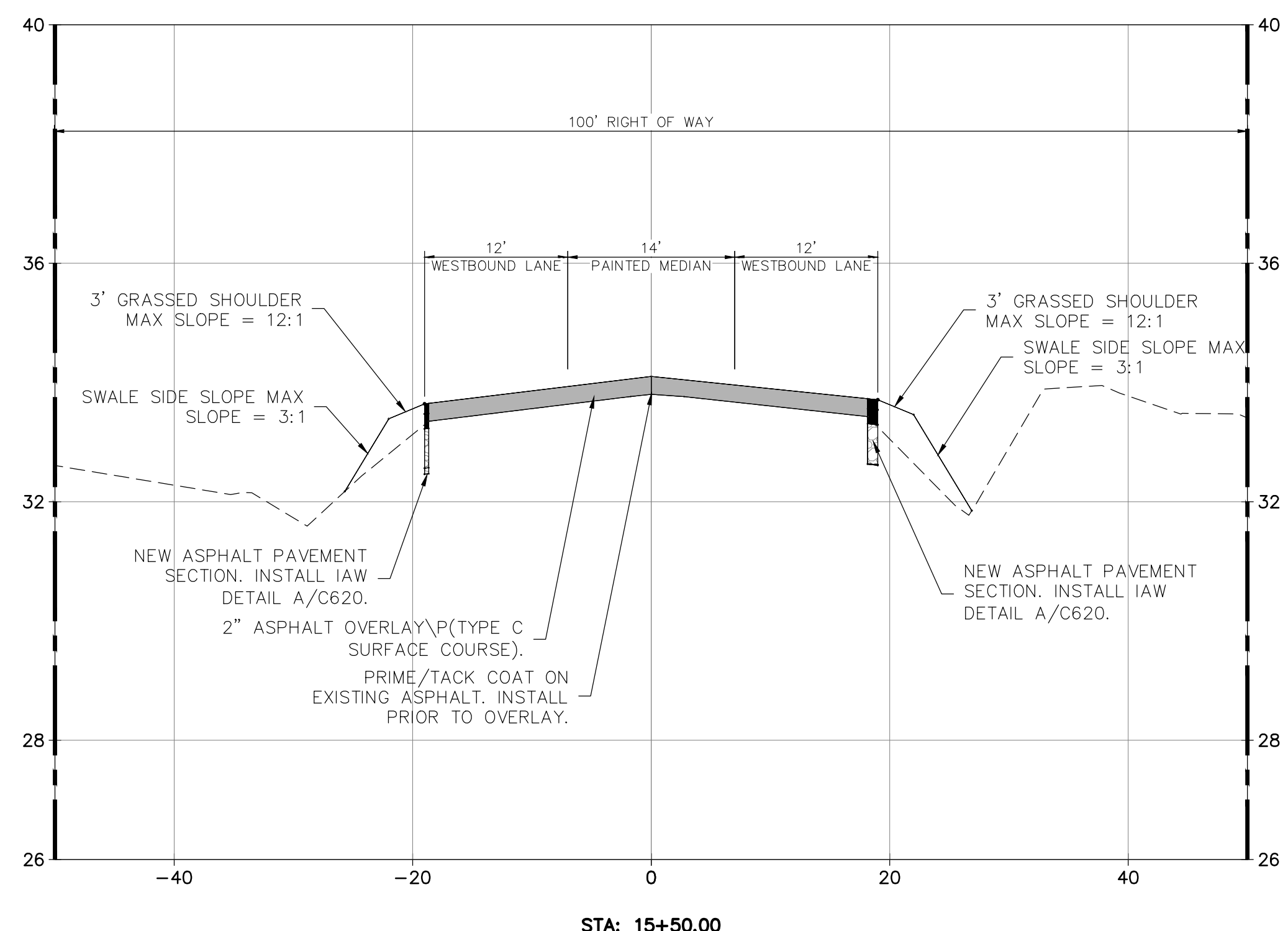
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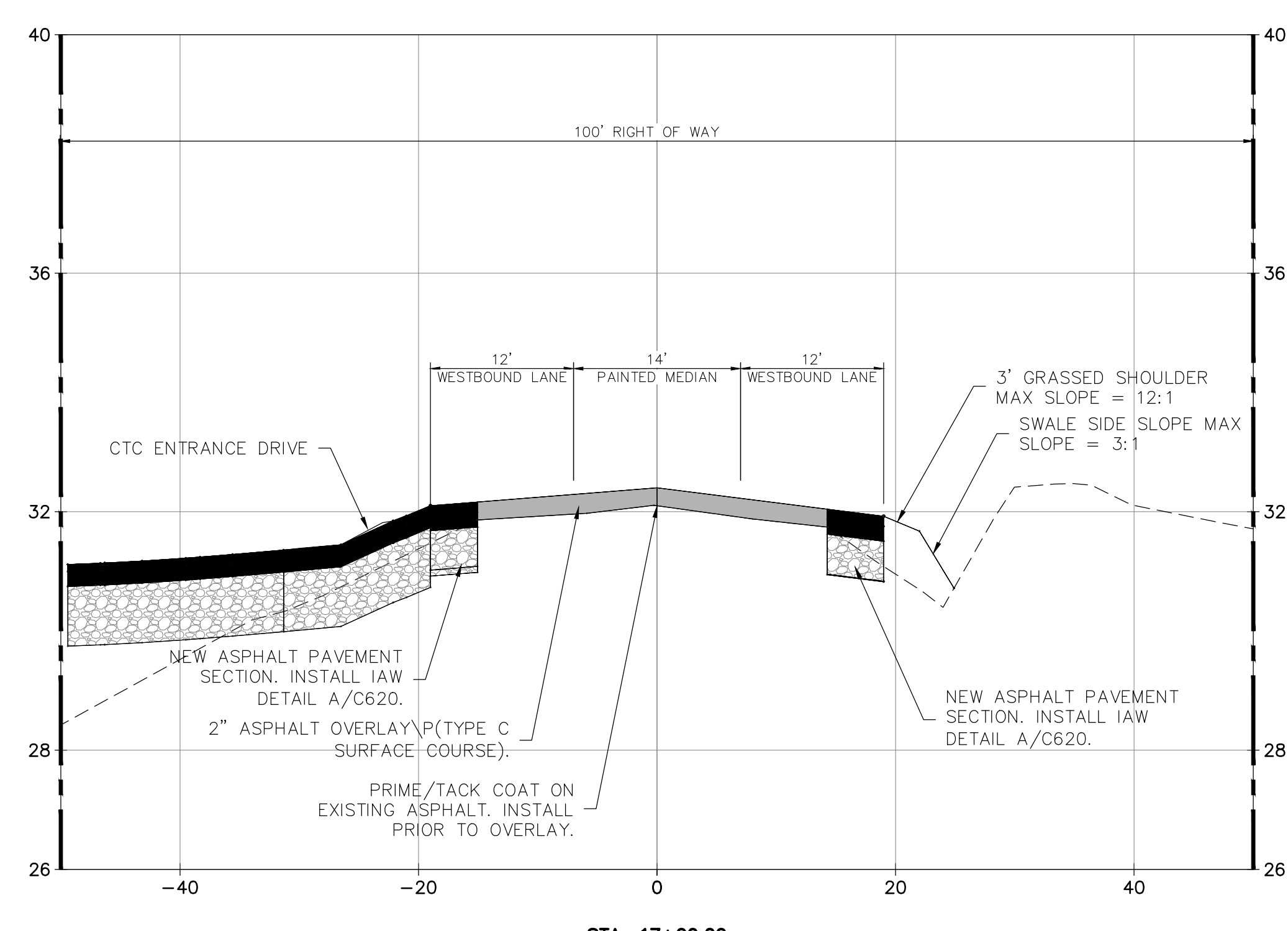
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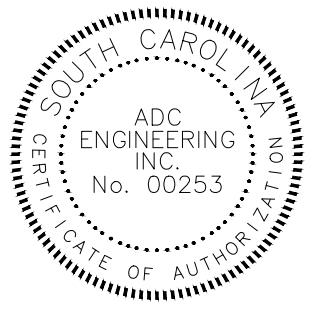
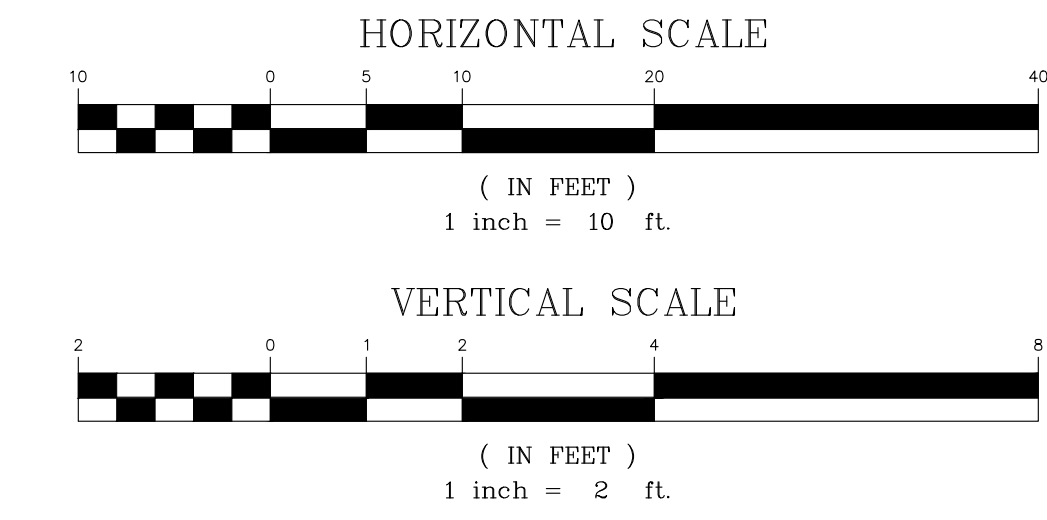
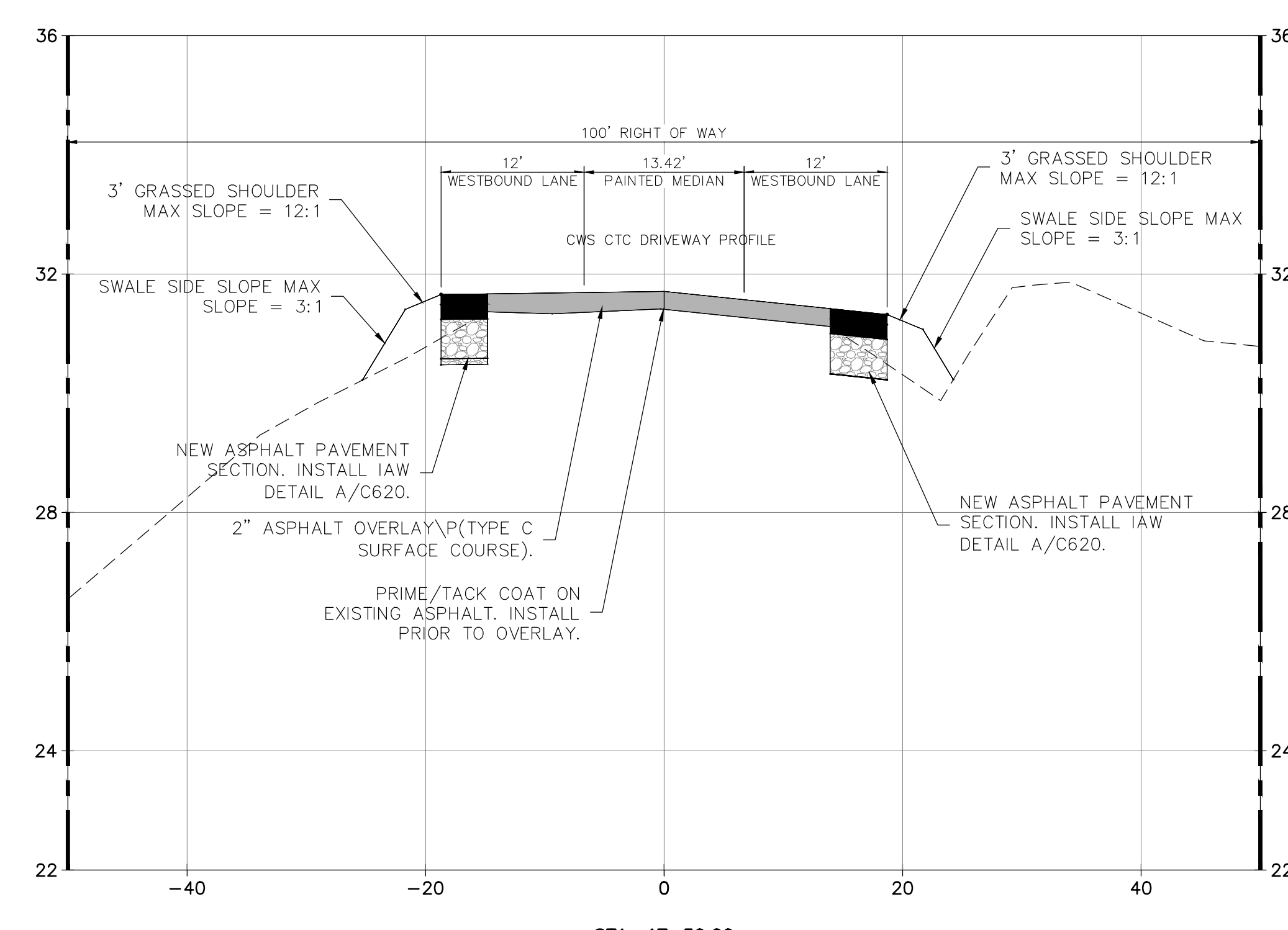
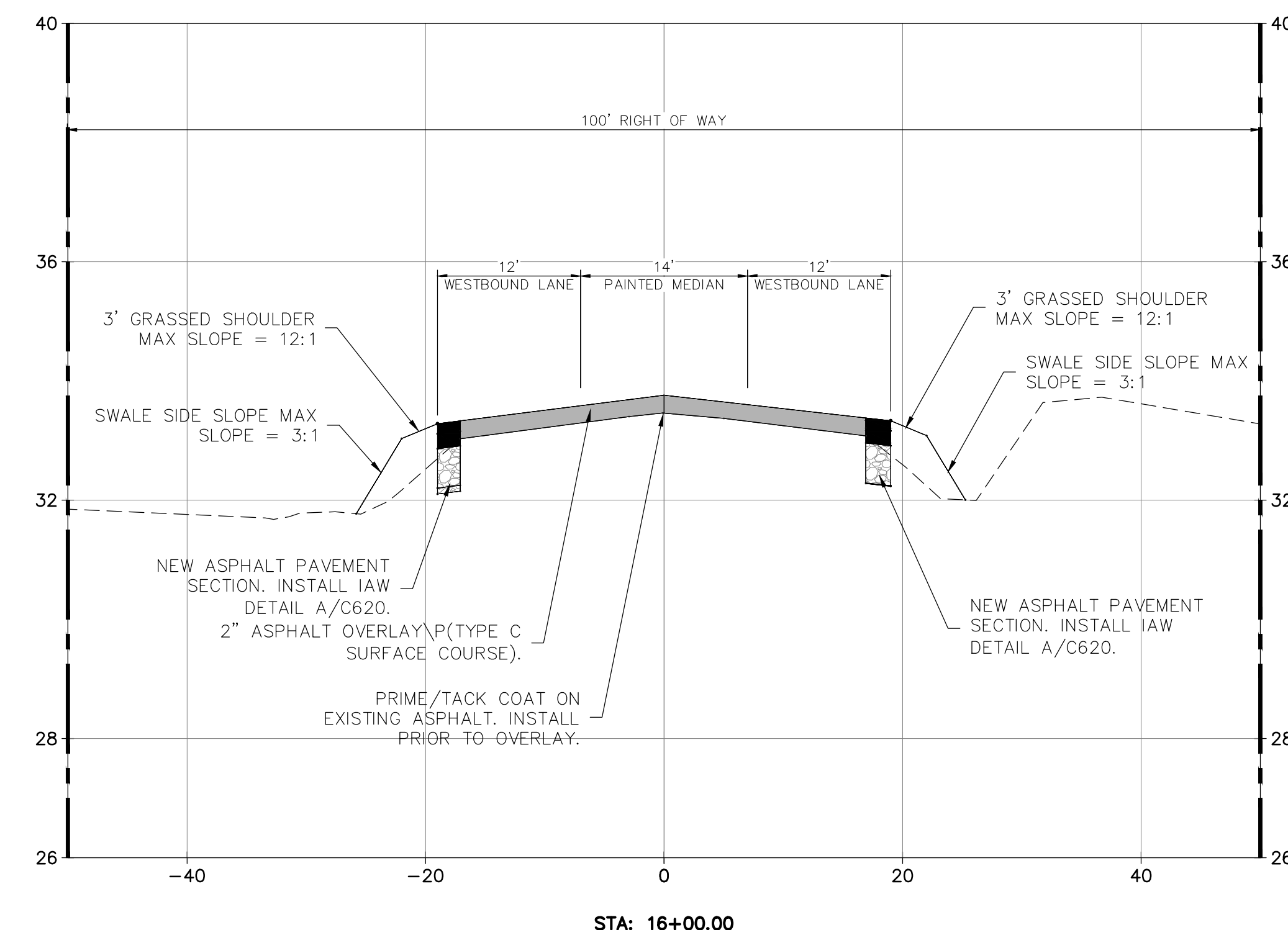
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B



A



ARCH NAME ARCH #

CWS Customer Technology
Center at HWTP

1104 HANAHAN ROAD
HANAHAN, SC 29410

LS3P PROJECT: 1101-195870

DATE	DESCRIPTION

SHEET NAME:
MURRAY DRIVE CROSS SECTIONS

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C310

1

2

3

4

5

6

E

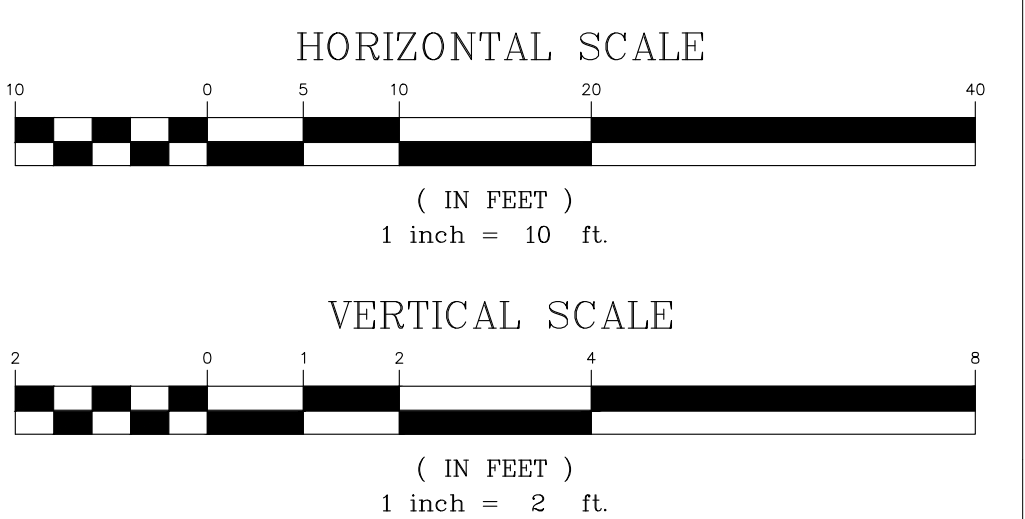
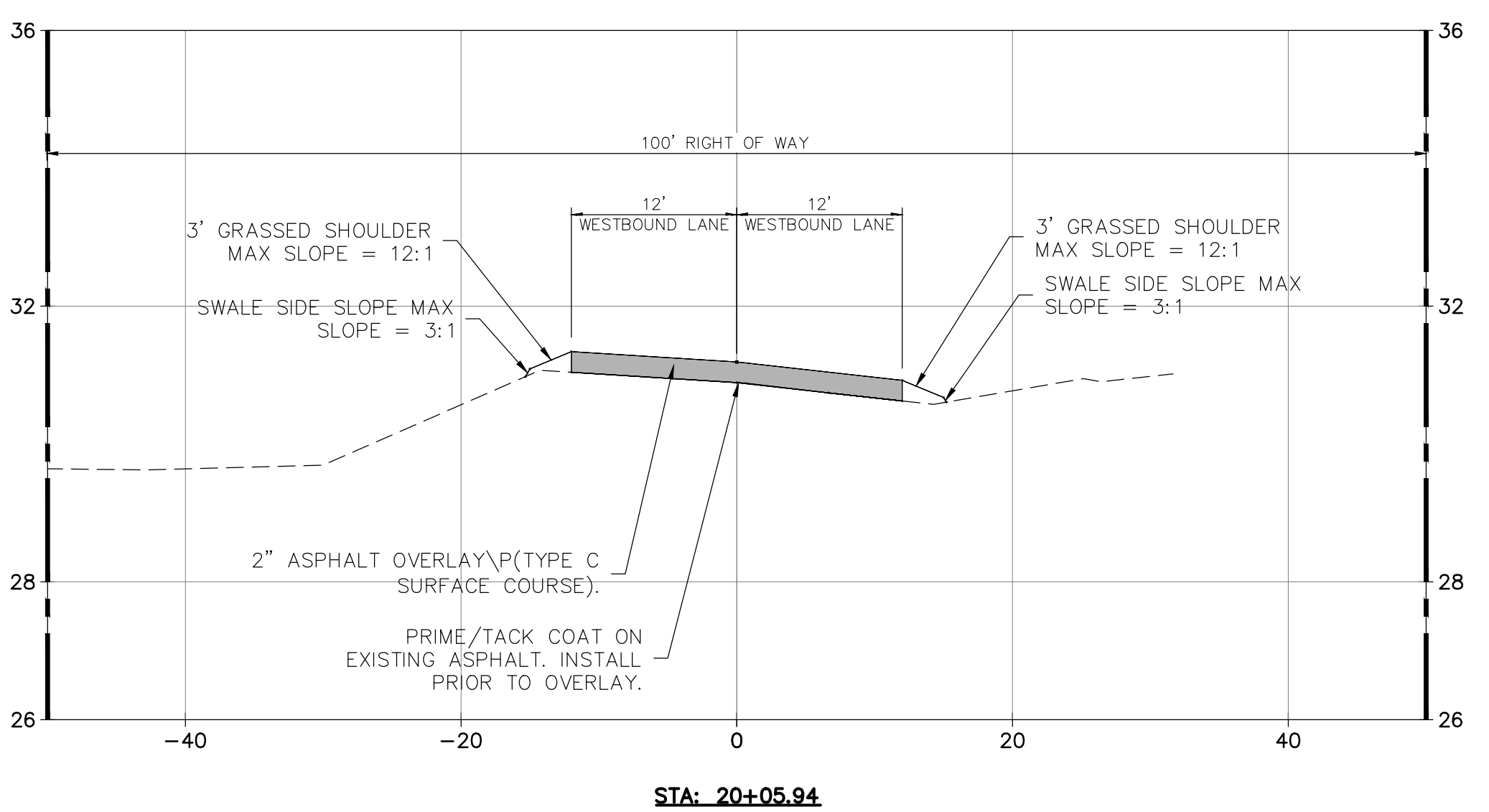
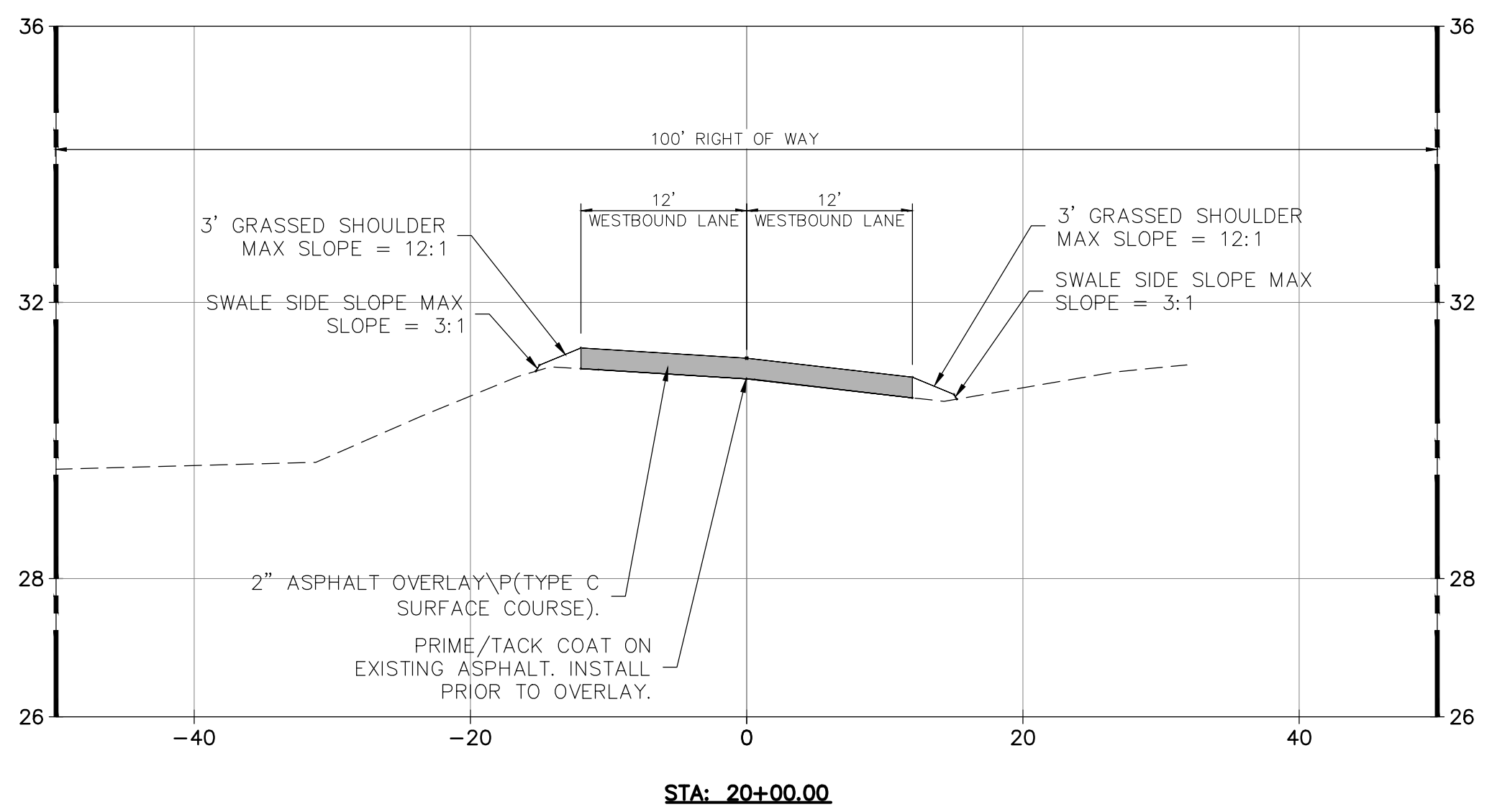
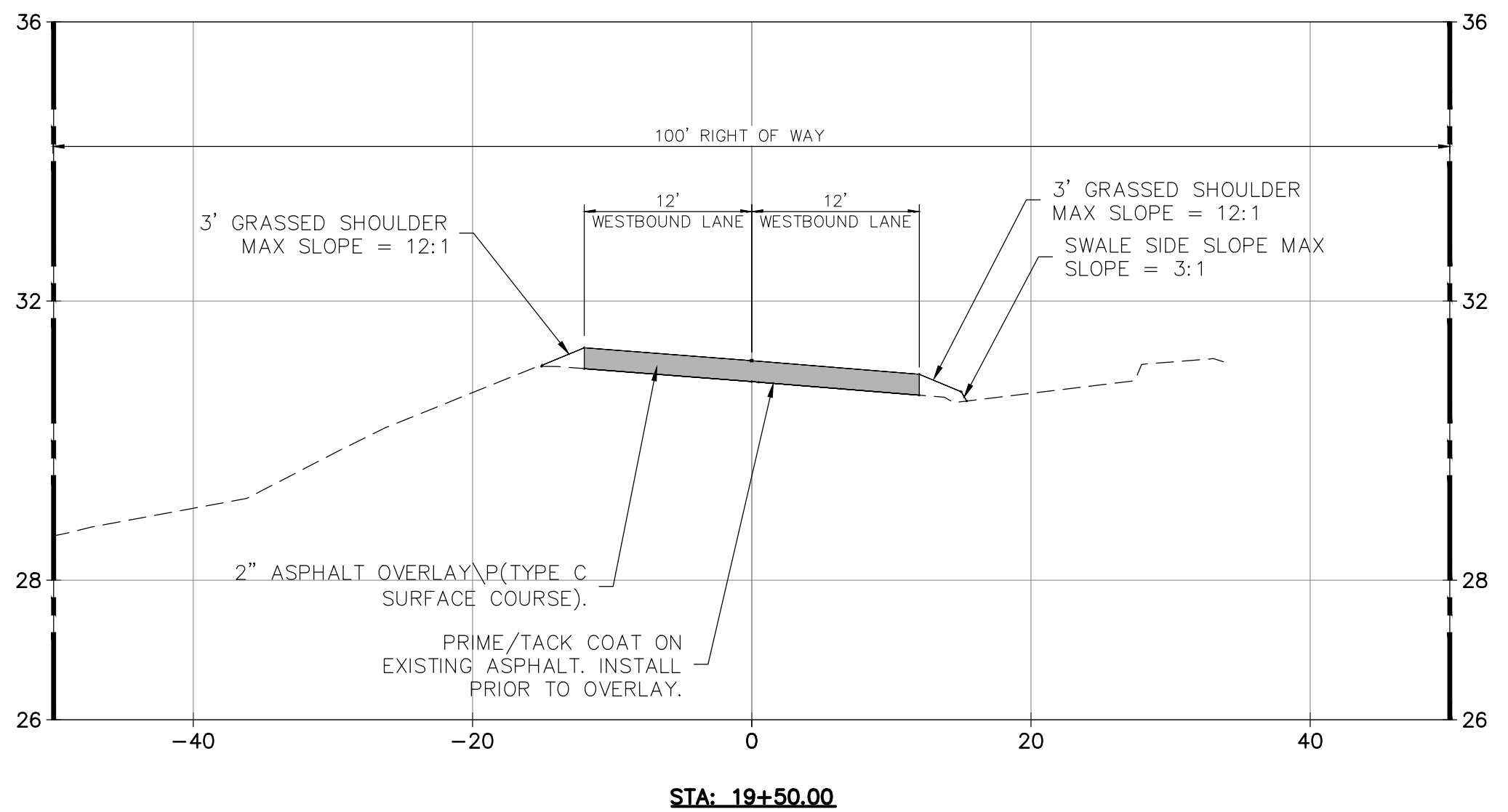
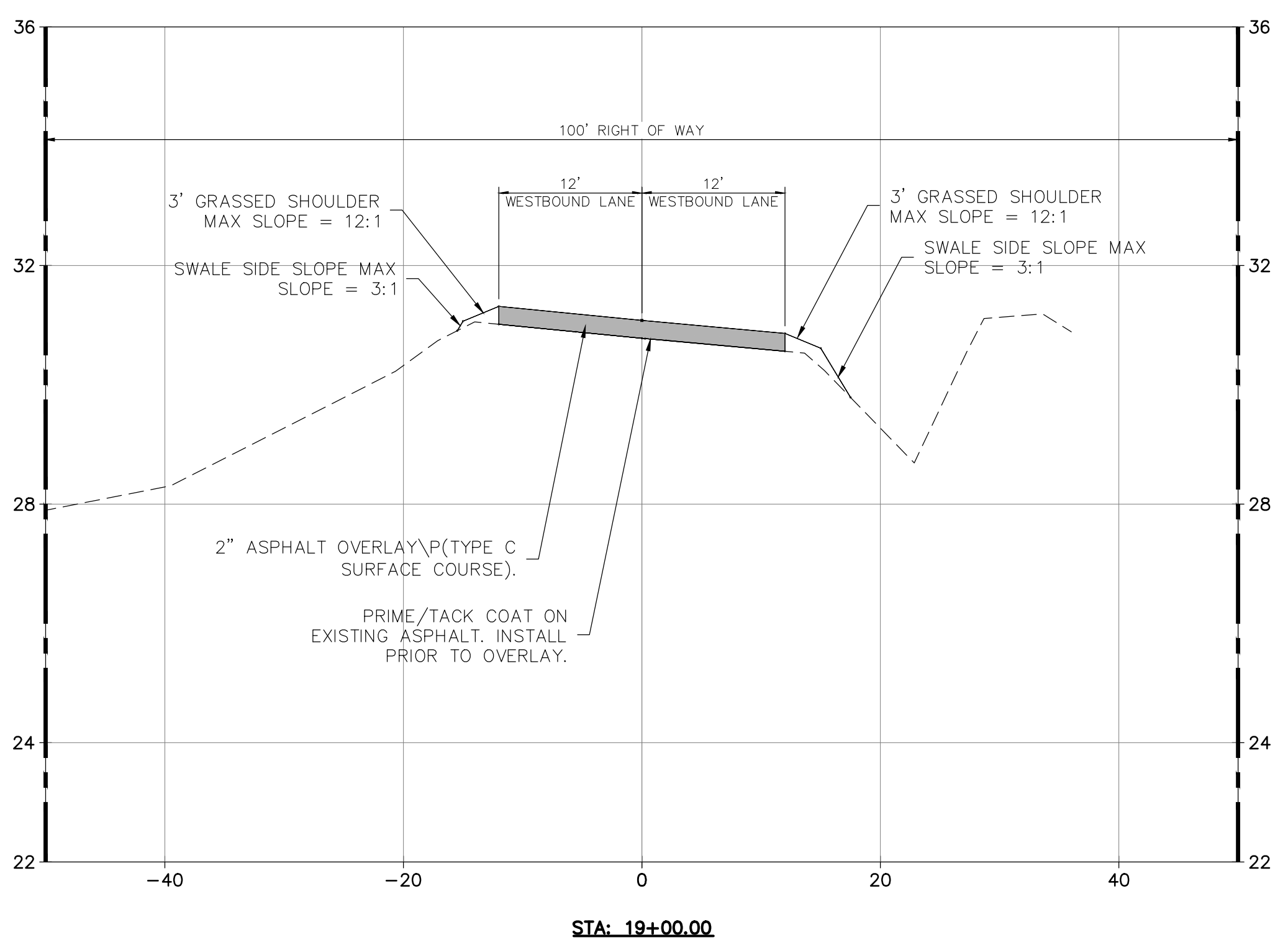
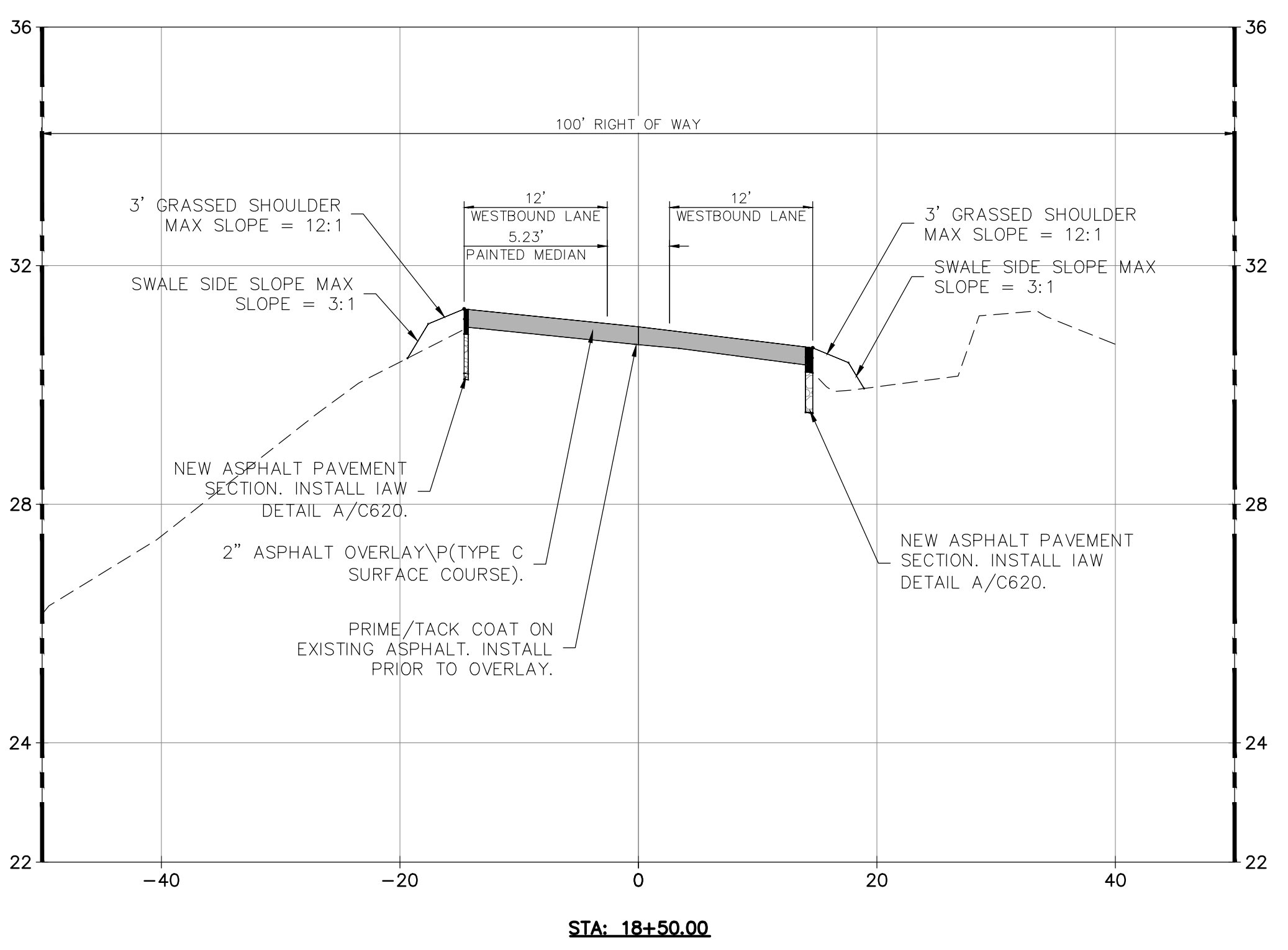
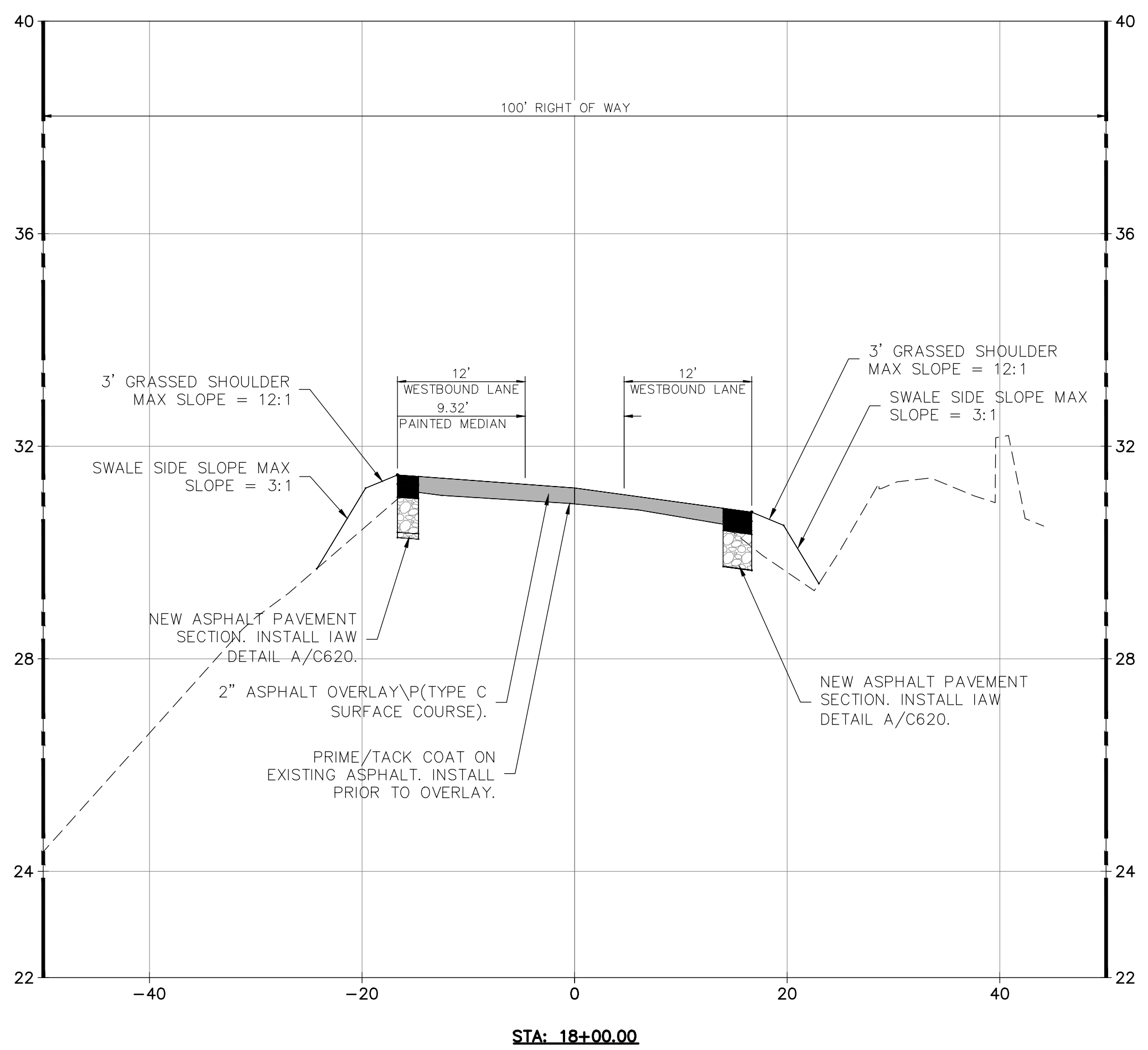
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C

B

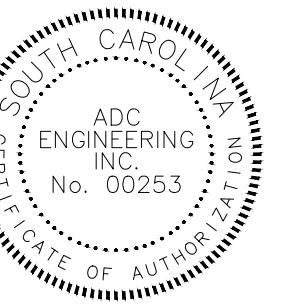
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4/17/2020 9:35:01 AM



CHARLESTON WATER SYSTEM

ADC ENGINEERING
 1226 YEAMANS HALL ROAD
 HANAHAN, SC 29410
 843-566-0161
 ADCENGINEERING.COM



ARCH NAME ARCH #

CWS Customer Technology

Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410

LS3P PROJECT: 1101-195570

DATE	DESCRIPTION

SHEET NAME:
MURRAY DRIVE CROSS SECTIONS

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C311

PERMIT SET

1

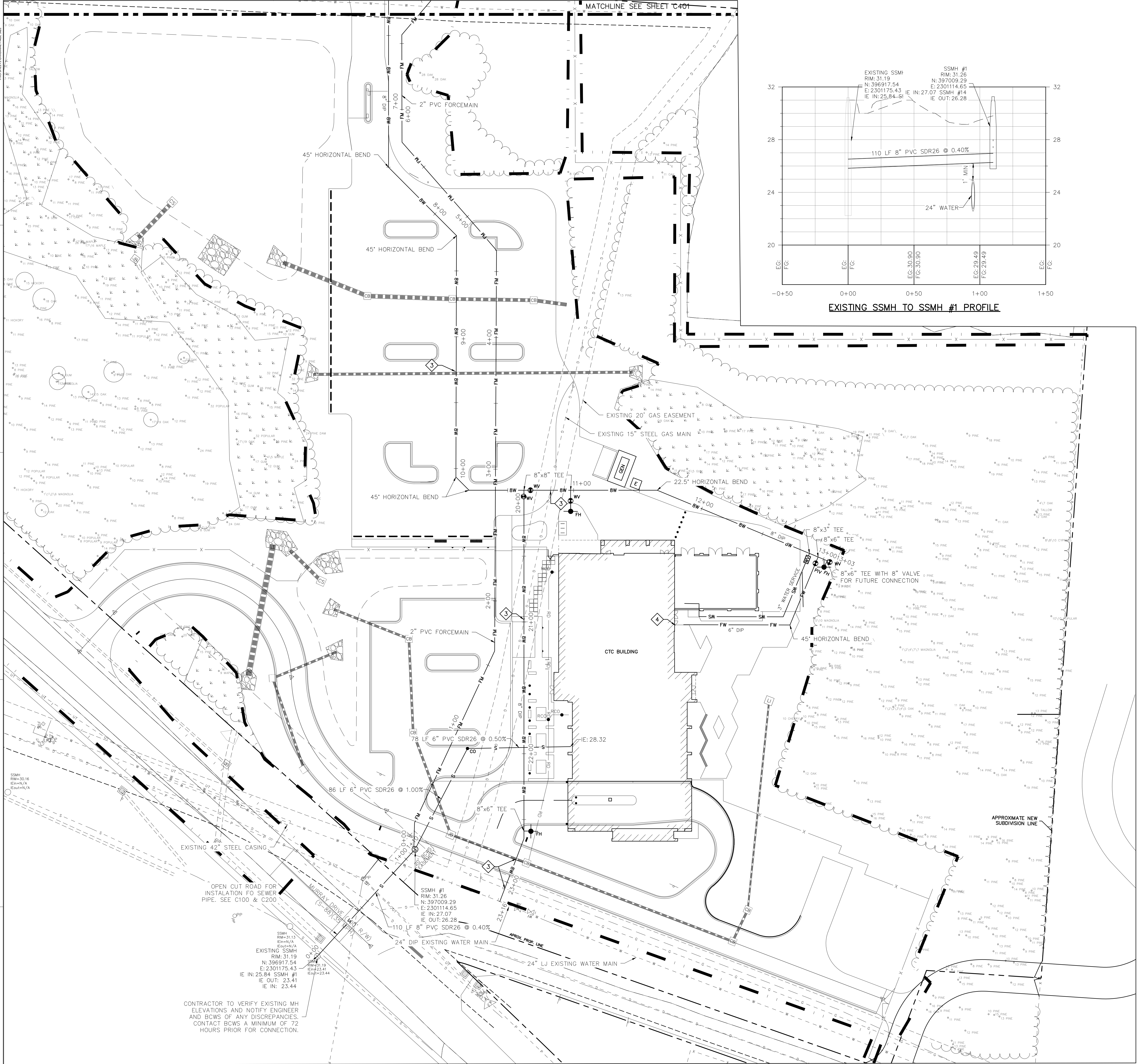
2

3

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6



GENERAL NOTES:

1. SEE SHEET C001 FOR CIVIL NOTES AND ABBREVIATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
3. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF THE PROJECT.
4. ALL PROJECT STAKEOUT SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR TO BE PAID FOR BY THE CONTRACTOR. FOR STAKEOUT, DO NOT RELY SOLELY ON THE PHYSICAL SCALE AS SHOWN IN DRAWINGS. REFER TO THE GIVEN DIMENSIONS, SYMBOL LEGEND, KEYNOTES, AND REFERENCED DETAILS FOR CORRECT STAKEOUT.
5. ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.

KEYNOTES: ◆

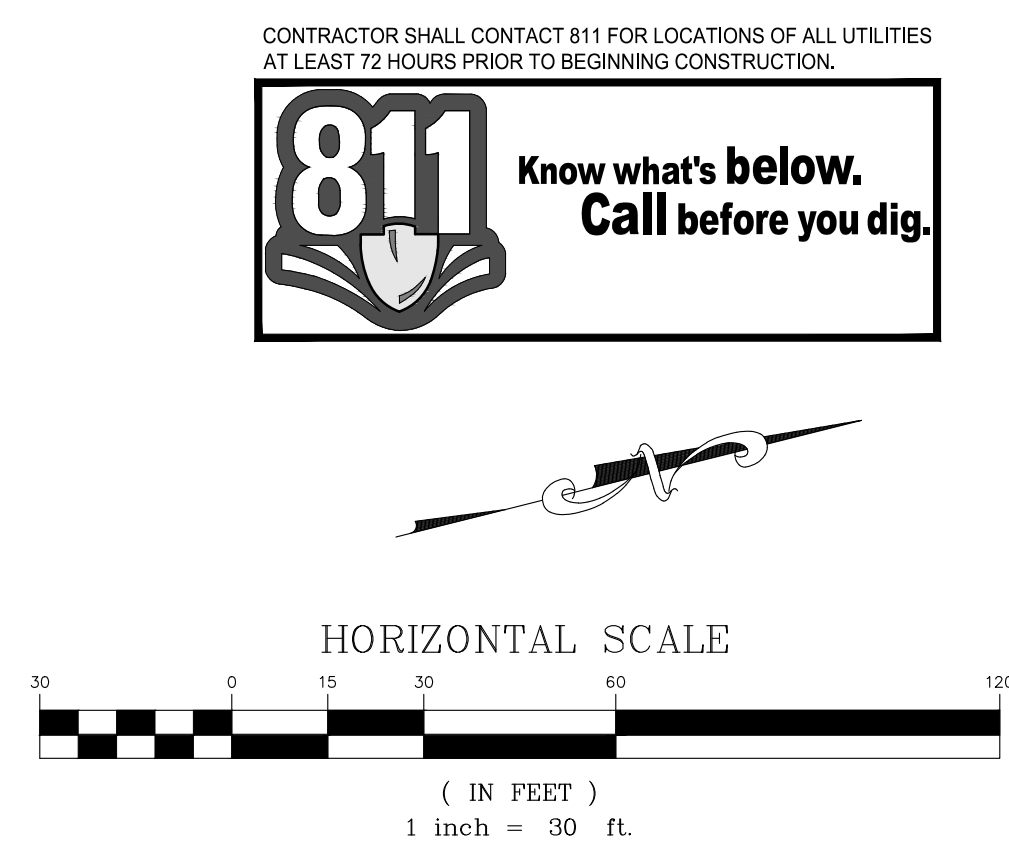
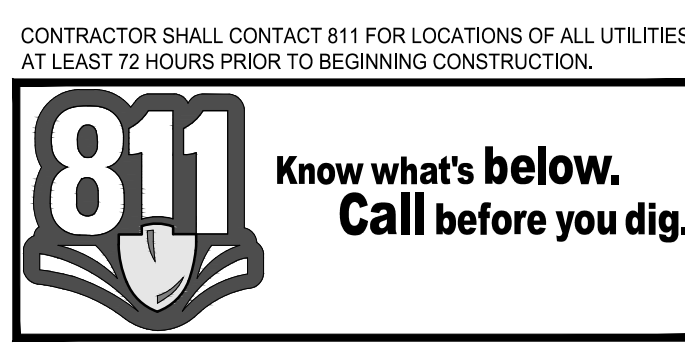
1. INSTALL 8"X8" TAPPING SLEEVE AND VALVE.
2. INSTALL 3" TAPPING SLEEVE AND VALVE.
3. PROVIDE VERTICAL OFFSET-WATER UNDER.
4. INSTALL FIRE SPRINKLER SERVICE LINE. STUB-UP INSIDE BUILDING ABOVE FFE WITH BLIND FLANGE. COORDINATE LOCATION AND ELEVATION WITH ARCHITECTURAL DRAWINGS AND FIRE PROTECTION DRAWINGS. FLUSH FIRE LINE IAW FIRE PROTECTION SPECIFICATIONS AND COORDINATE FLUSHING WITH FIRE PROTECTION ENGINEER AND GENERAL CONTRACTOR. PROVIDE ALL MATERIALS, INSTALLATION, TESTING, AND CERTIFICATIONS IAW NFPA REQUIREMENTS.
5. INSTALL 24"X8" TAPPING SLEEVE AND VALVE.

UTILITY NOTES:

1. GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS.
2. FIRE SERVICE LINE AND ALL ASSOCIATED FIRE SERVICE ITEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NFPA 24 REQUIREMENTS.
3. BACKFLOW PREVENTERS SHALL BE LOCATED INSIDE THE BUILDING.
4. UTILITY CONTRACTOR SHALL PROVIDE WATER AND SEWER RECORD DRAWINGS AND EASEMENT PLATS IN ACCORDANCE WITH UTILITY PROVIDER'S REQUIREMENTS.
5. UTILITY WORK SHALL BE PERFORMED BY A CWS APPROVED LARGE CONTRACTOR.

CIVIL LEGEND – WATER AND SEWER

- ◆ FH FIRE HYDRANT ASSEMBLY – INSTALL IAW DETAIL H/C640.
- ◆ GW GATE VALVE – INSTALL IAW DETAIL A/C641.
- ◆ FDC FIRE DEPARTMENT CONNECTION – SEE PLUMBING DRAWINGS.
- ◆ M METER AND METER VAULT – INSTALL IAW DETAIL B/C641.
- ◆ M3 3" METER AND METER VAULT – INSTALL IAW DETAIL B/C641.
- ◆ S SEWER MANHOLE – INSTALL IAW DETAIL B/C642.
- ◆ CO SEWER CLEANOUT – INSTALL USING 100 MIN. SPACING AND IAW DETAIL C/C642.
- W WATER MAIN – INSTALL IAW DETAIL D/C640.
- WS WATER SERVICE – INSTALL IAW C/C640.
- S SEWER MAIN – INSTALL IAW DETAIL A/C642.
- SS SEWER SERVICE – INSTALL IAW ASTM D 3034. ALL WORK SHALL MEET ASTM D 2321 AND SCDHEC REQUIREMENTS.
- ◆ TV TAPPING SLEEVE AND VALVE – INSTALL IAW DETAIL I/C640.
- ◆ PP NEW POWER POLE
- ◆ LP NEW LIGHT POLE
- ◆ T NEW TRANSFORMER
- ◆ GV GAS VALVE
- ◆ GM GAS METER



CHARLESTON WATER SYSTEM



ARCH NAME ARCH #

CWS Customer Technology
Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410
LSP PROJECT: 1101-195670

DATE	DESCRIPTION

SHEET NAME:
UTILITY PLAN - AREA A

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C400

PERMIT SET

4/17/2020 9:35:03 AM

AREA A

CONTRACTOR TO VERIFY EXISTING MH ELEVATIONS AND NOTIFY ENGINEER AND BCWS OF ANY DISCREPANCIES. CONTACT BCWS A MINIMUM OF 72 HOURS PRIOR FOR CONNECTION.

OPEN CUT ROAD FOR INSTALLATION FO SEWER PIPE. SEE C100 & C200

CONTRACTOR SHALL CONTACT 811 FOR LOCATIONS OF ALL UTILITIES AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.

THE INFORMATION AND DATA SHOWN ON THIS DRAWING ARE THE PROPERTY OF ADC ENGINEERING.

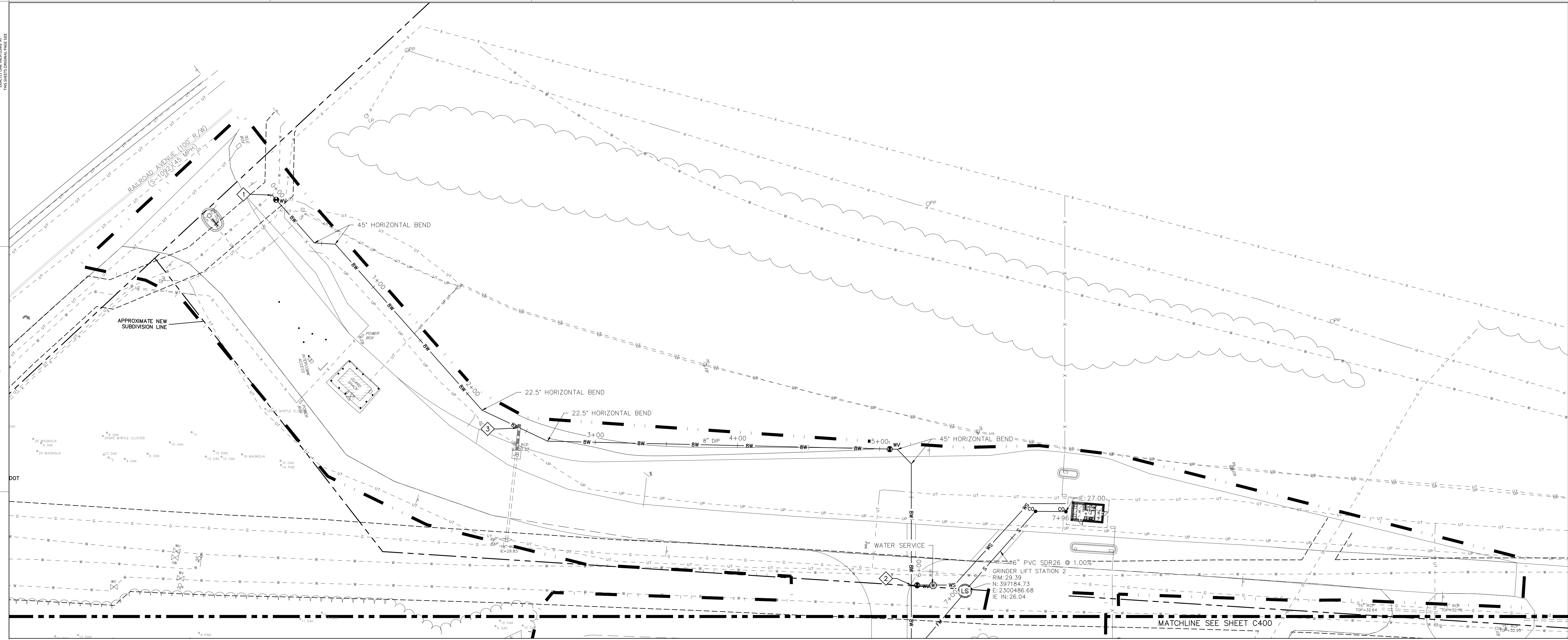
E

D

C

B

A



AREA B

GENERAL NOTES:

- 1. SEE SHEET C001 FOR CIVIL NOTES AND ABBREVIATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
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4. ALL PROJECT STAKEOUT SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR TO BE PAID FOR BY THE CONTRACTOR. FOR STAKEOUT, DO NOT RELY SOLELY ON THE PHYSICAL SCALE AS SHOWN IN DRAWINGS. REFER TO THE GIVEN DIMENSIONS, SYMBOL LEGEND, KEYNOTES, AND REFERENCED DETAILS FOR CORRECT STAKEOUT.
5. ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.

KEYNOTES:

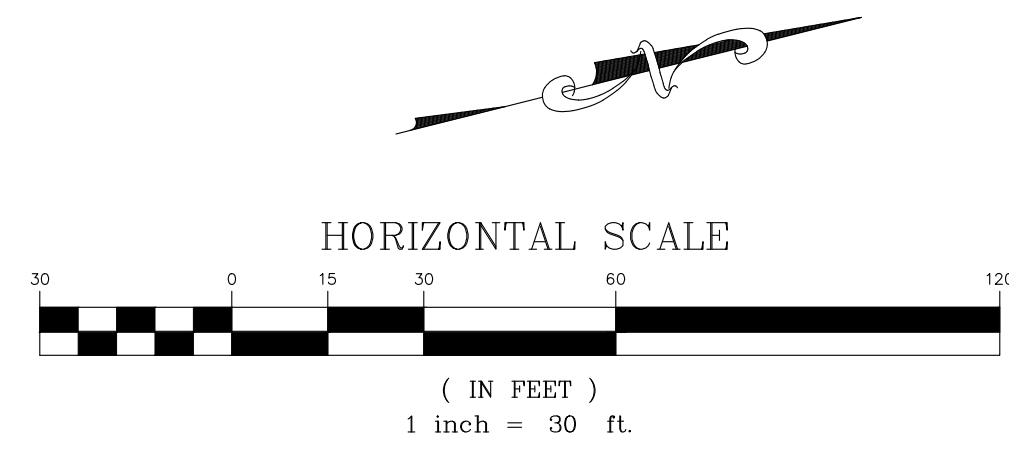
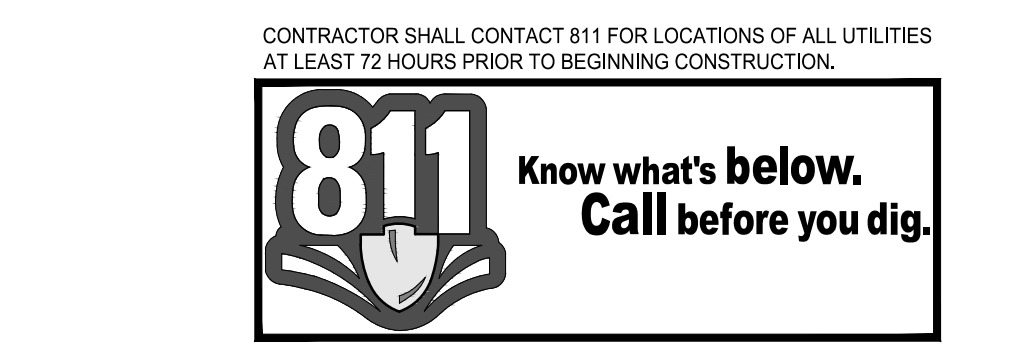
- 1. INSTALL 8"x8" TAPPING SLEEVE AND VALVE.
2. INSTALL 1/2" TAPPING SLEEVE AND VALVE.
3. PROVIDE VERTICAL OFFSET-WATER UNDER.
4. INSTALL FIRE SPRINKLER SERVICE LINE. STUB-UP INSIDE BUILDING ABOVE FFE WITH BLIND FLANGE. COORDINATE LOCATION AND ELEVATION WITH ARCHITECTURAL DRAWINGS AND FIRE PROTECTION DRAWINGS. FLUSH FIRE LINE IAW FIRE PROTECTION SPECIFICATIONS AND COORDINATE FLUSHING WITH FIRE PROTECTION ENGINEER AND GENERAL CONTRACTOR. PROVIDE ALL MATERIALS, INSTALLATION, TESTING, AND CERTIFICATIONS IAW NFPA REQUIREMENTS.
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UTILITY NOTES:

- 1. GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS.
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3. BACKFLOW PREVENTERS SHALL BE LOCATED INSIDE THE BUILDING.
4. UTILITY CONTRACTOR SHALL PROVIDE WATER AND SEWER RECORD DRAWINGS AND EASEMENT PLATS IN ACCORDANCE WITH UTILITY PROVIDER'S REQUIREMENTS.
5. UTILITY WORK SHALL BE PERFORMED BY A CWS APPROVED LARGE CONTRACTOR.

CIVIL LEGEND - WATER AND SEWER

Table with 4 columns: Symbol, Description, Symbol, Description. Includes items like Fire Hydrant Assembly, Gate Valve, Fire Department Connection, 3/4 inch Meter and Meter Vault, Sewer Manhole, Sewer Cleanout, Water Main, Water Service, Sewer Main, Sewer Service, Tapping Sleeve and Valve, New Power Pole, New Light Pole, New Transformer, Gas Valve, Gas Meter, and Limits of Construction/Limits of Disturbance.



CHARLESTON WATER SYSTEM

ADC ENGINEERING logo and contact information: 1228 YEAMANS HALL ROAD HANAHAN, SC 29410 843-566-0161 ADCENGINEERING.COM



ARCH NAME ARCH #

CWS Customer Technology

Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410

LSP PROJECT: 1101-195870

Table with 2 columns: DATE, DESCRIPTION. Multiple empty rows for recording changes.

SHEET NAME: UTILITY PLAN - AREA B

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET: C401

PERMIT SET

4/17/2020 9:35:03 AM

1

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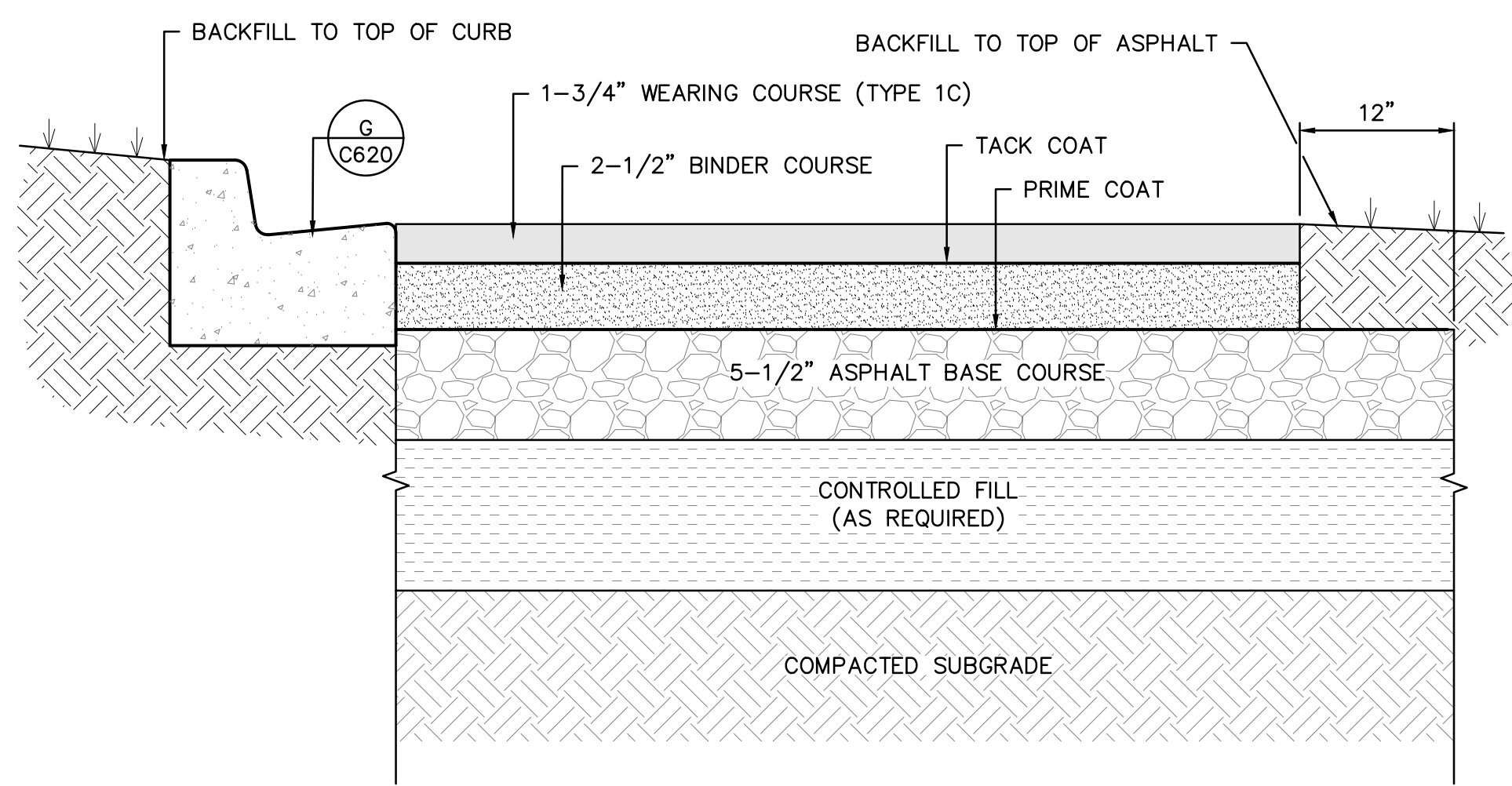
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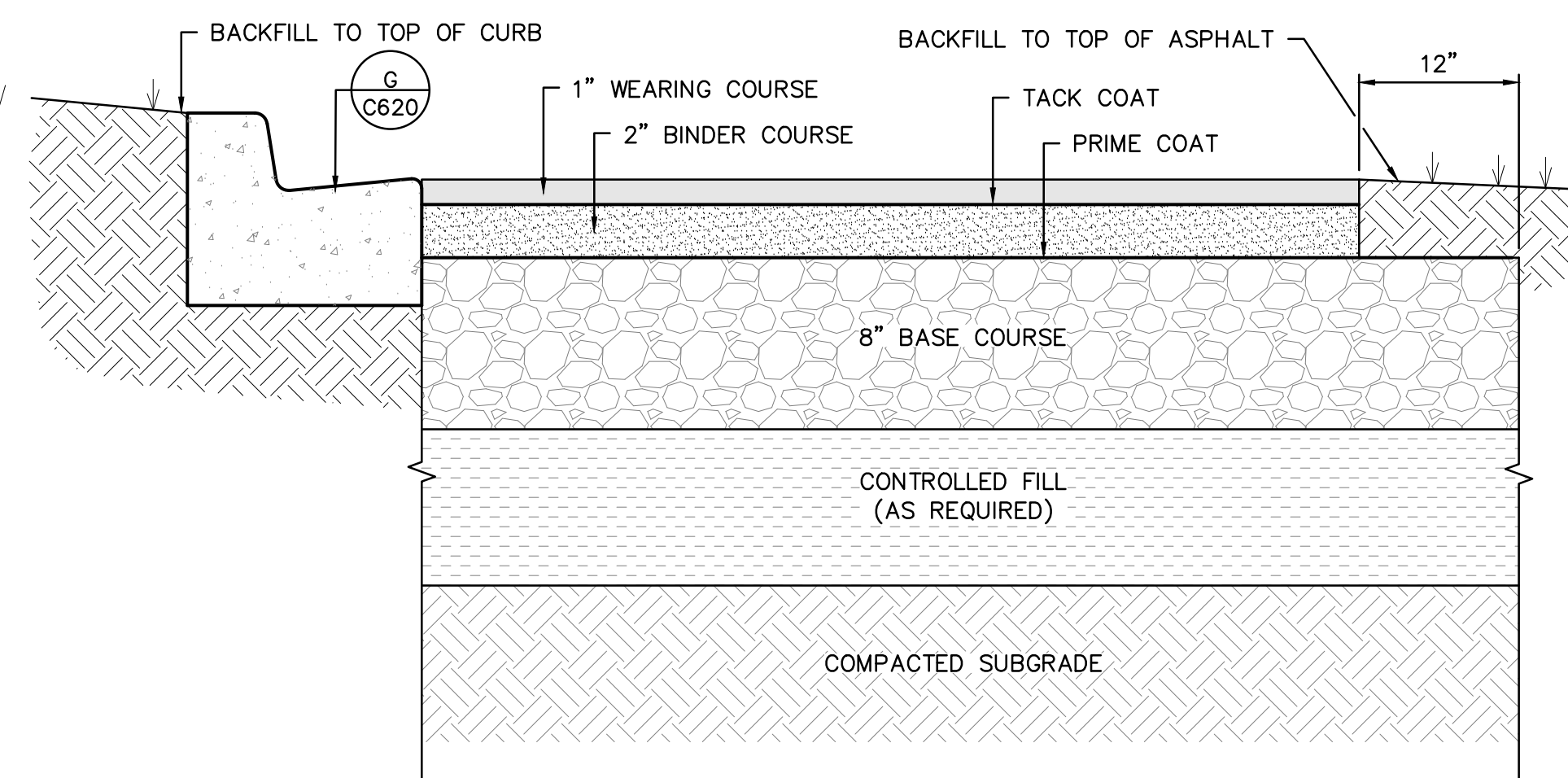
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E



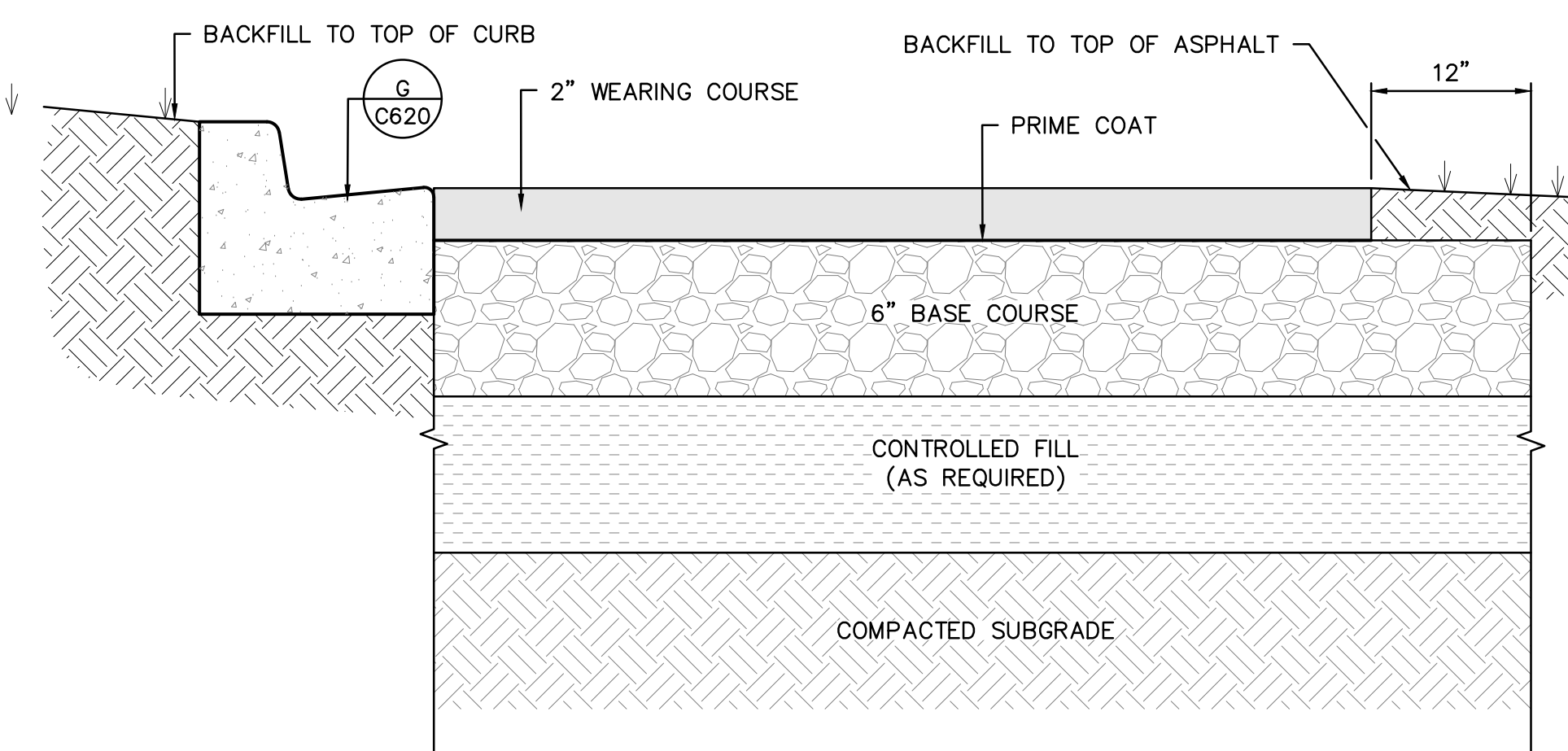
A SCDOT RIGHT-OF-WAY ASPHALTIC CONCRETE PAVEMENT SECTION

D



B HEAVY DUTY ASPHALTIC CONCRETE PAVEMENT SECTION

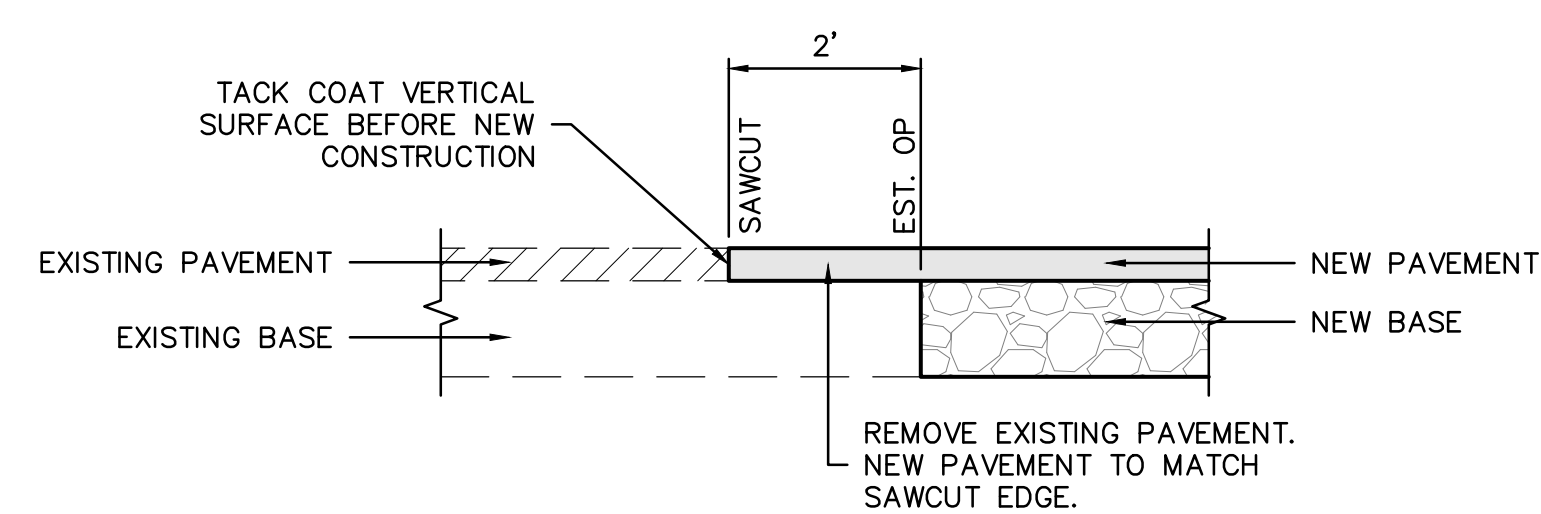
C



C TYPICAL ASPHALTIC CONCRETE PAVEMENT SECTION

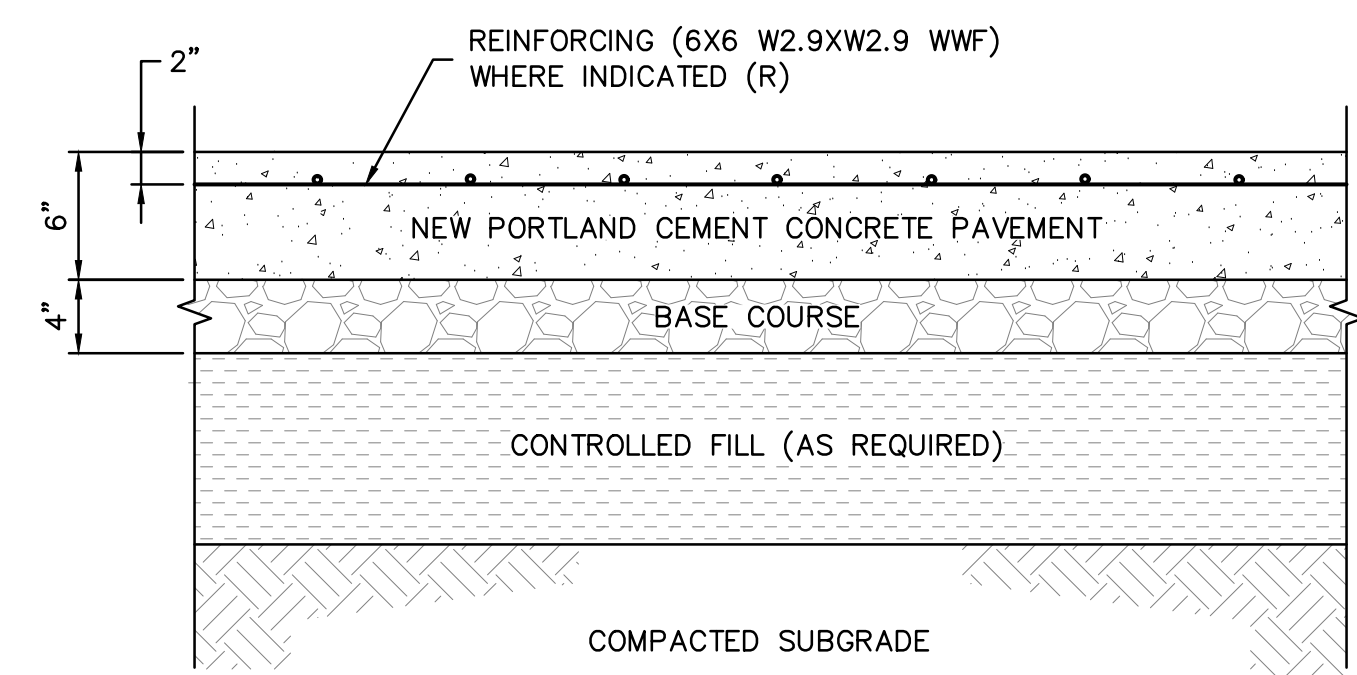
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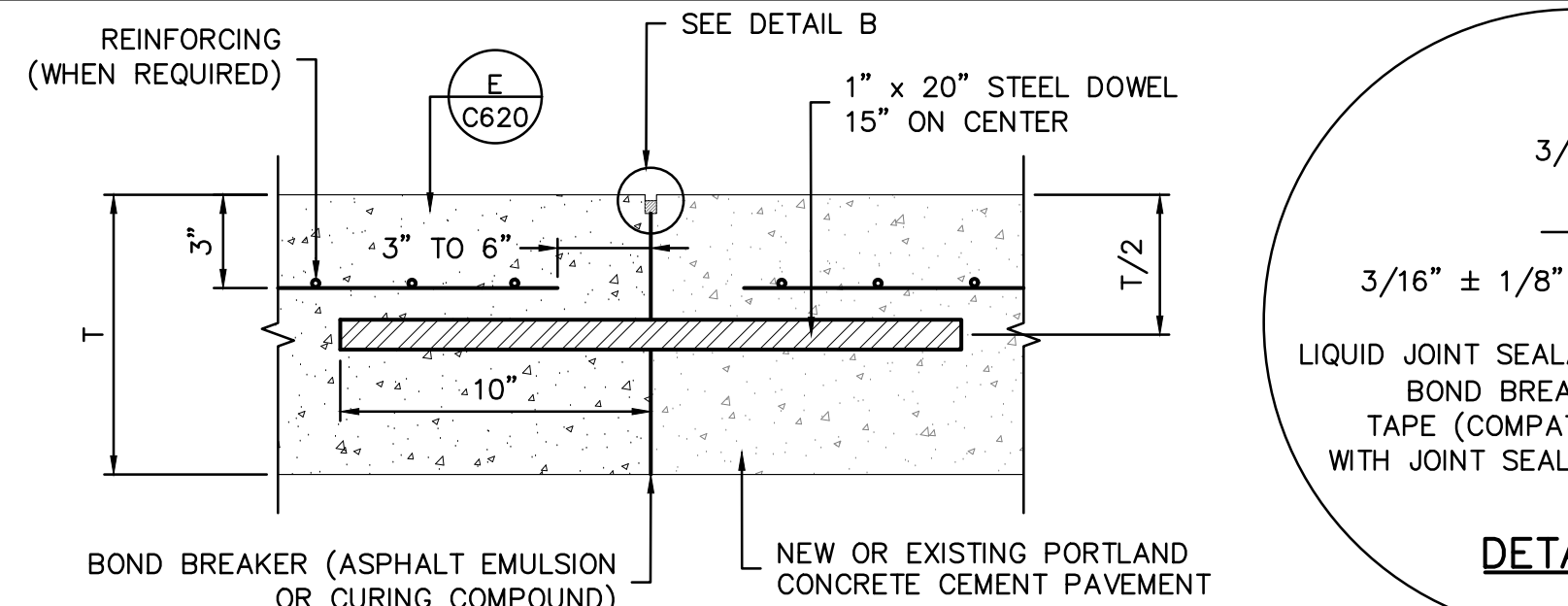


D PAVEMENT TIE-IN TO EXISTING PAVEMENT

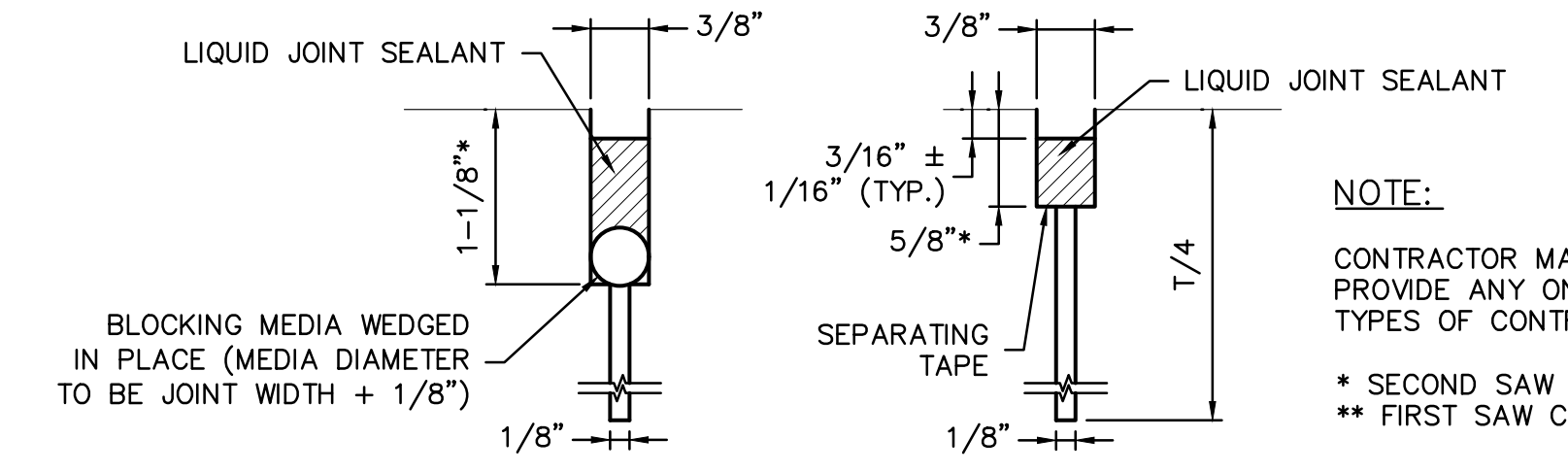
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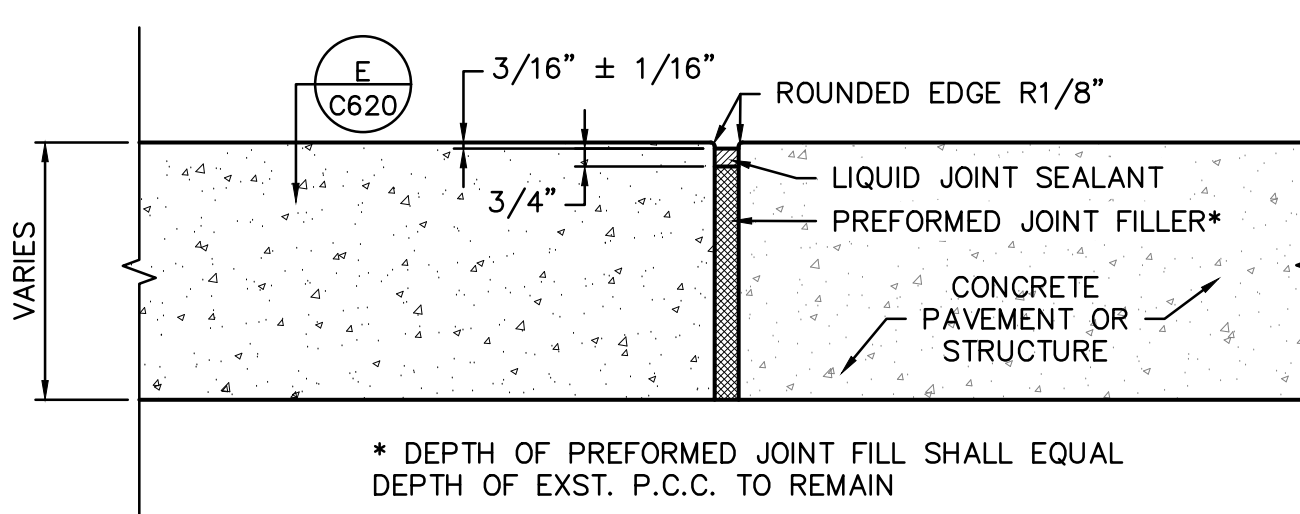
E STANDARD CONCRETE PAVEMENT SECTION



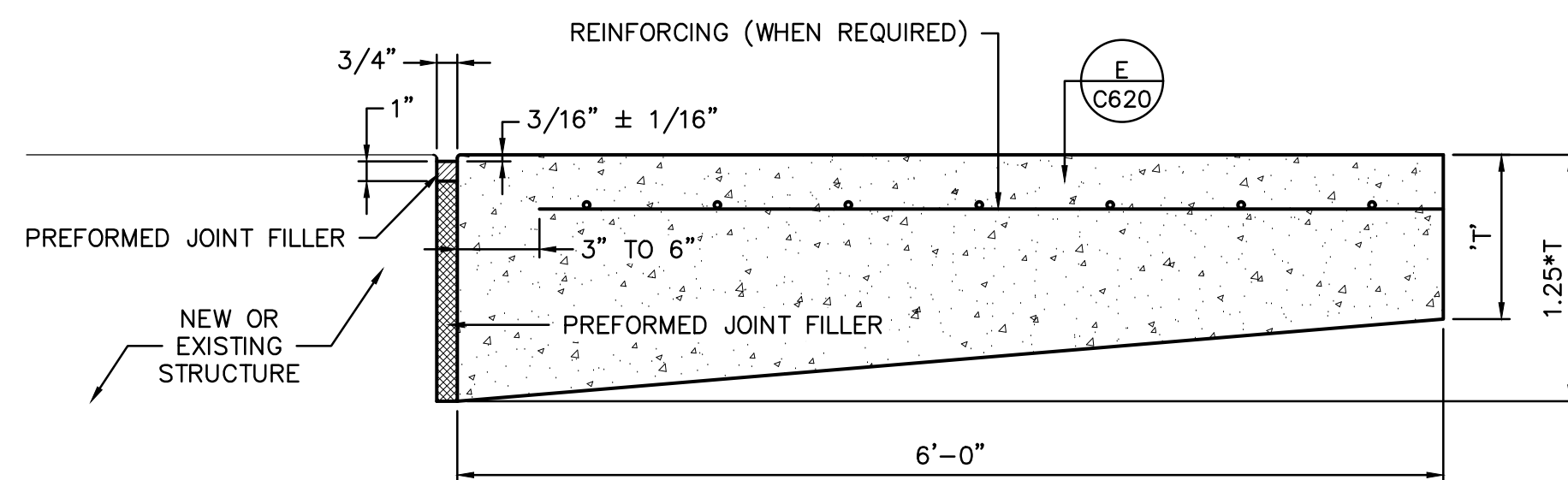
F DOWELED CONSTRUCTION JOINT (D.J.)



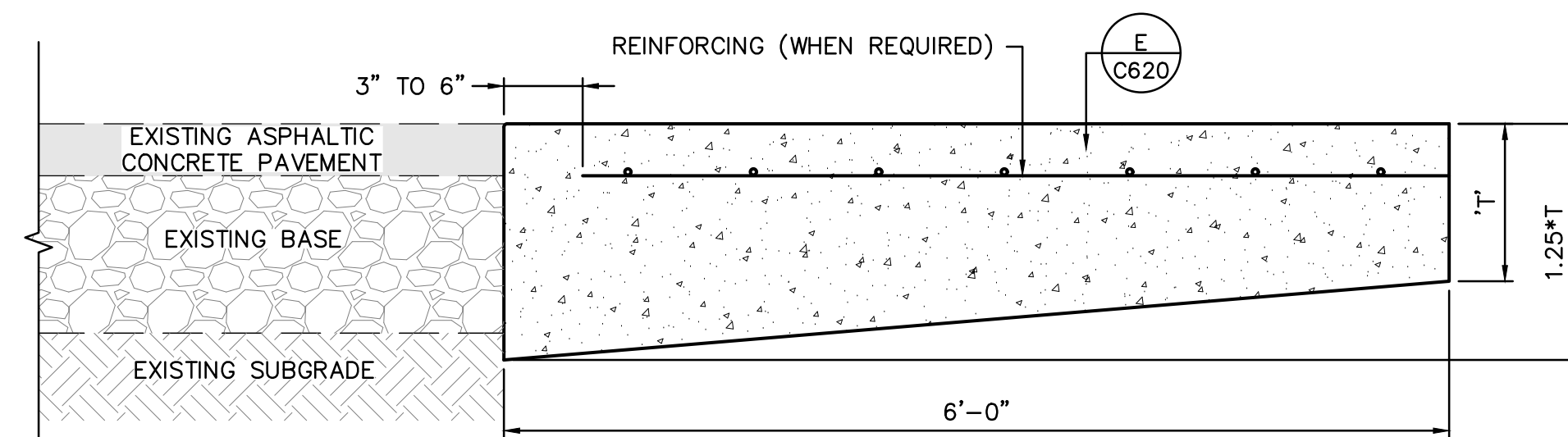
G CONTRACTION JOINTS (C.J.)



H EXPANSION JOINT (E.J.)



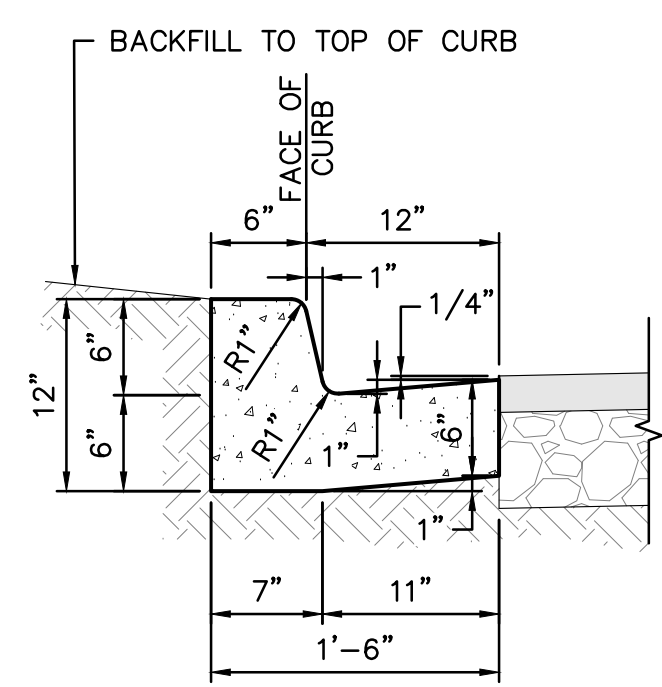
I THICKENED EDGE EXPANSION JOINT (TEEJ)



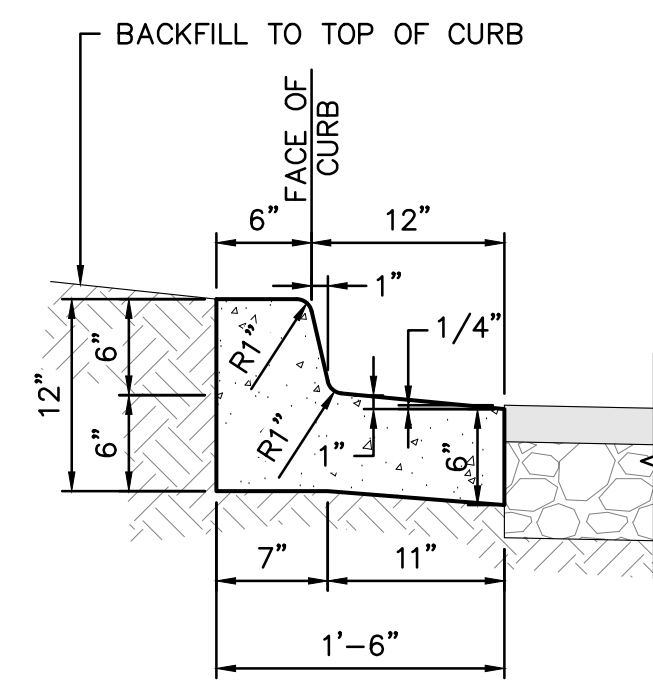
J THICKENED EDGE (TE)

F CONCRETE PAVEMENT JOINTS

PAVEMENT THICKNESS = T



K 18" STANDARD

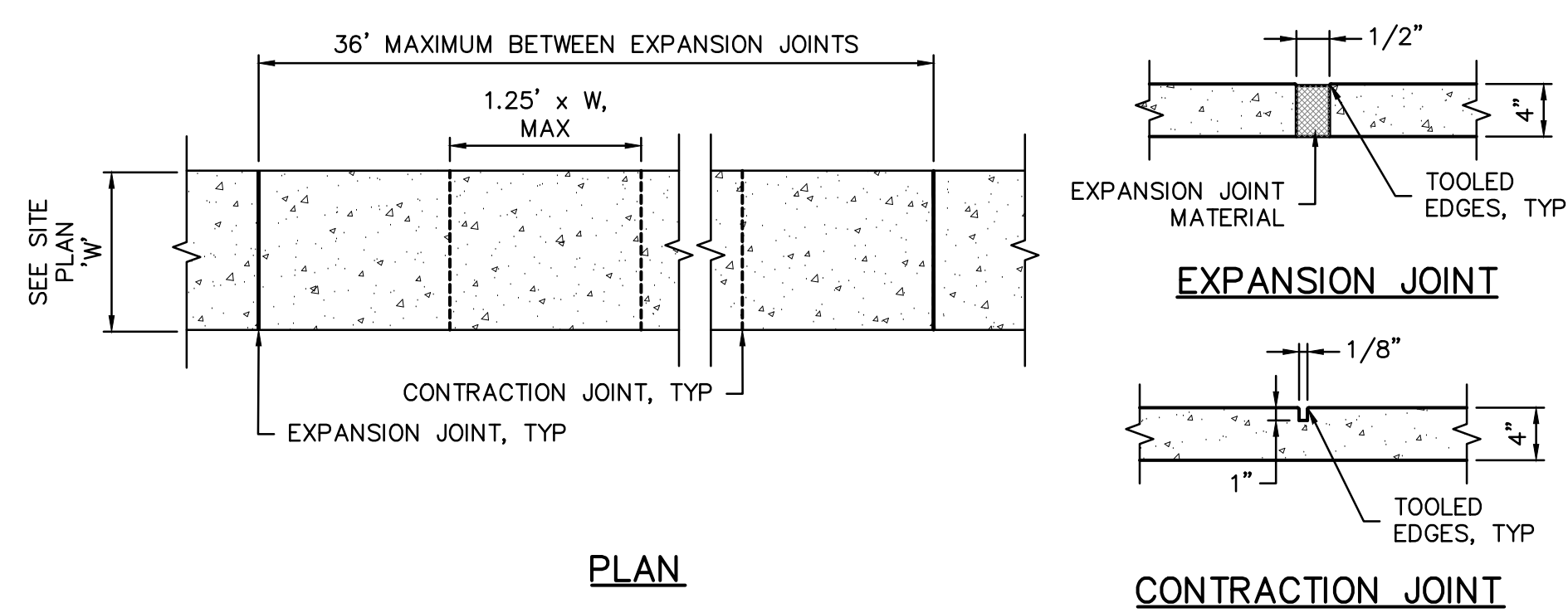


L 18" REVERSED PITCH

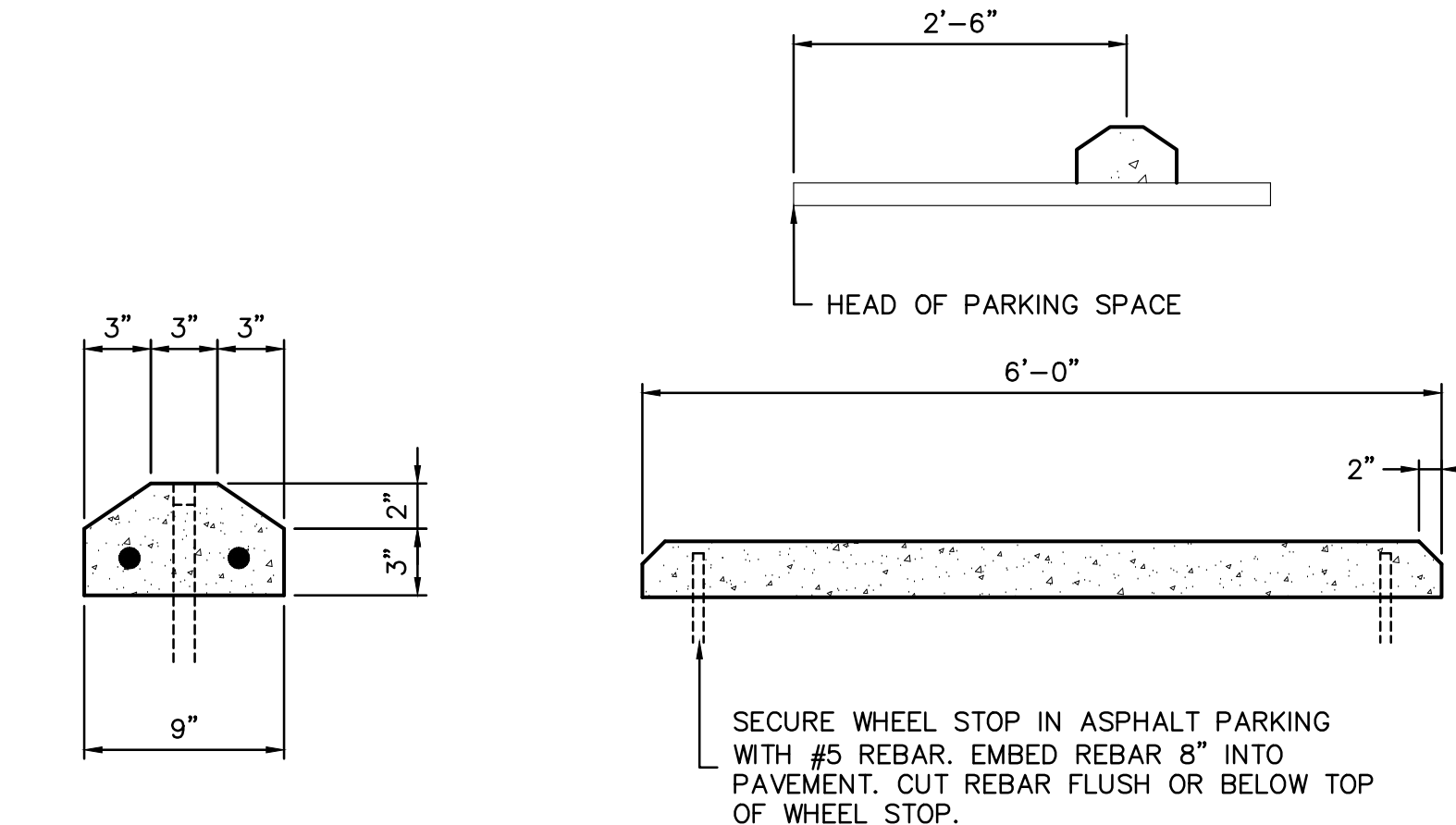
NOTES:

- WHERE PAVEMENT SLOPE IS TOWARDS CURB, USE STANDARD.
- WHERE PAVEMENT SLOPE IS AWAY FROM CURB, USE REVERSE PITCHED.
- PLACE CONTRACTION JOINTS AT 10' INTERVAL (5' MIN.).
- PLACE EXPANSION JOINTS AT 50' MAXIMUM INTERVALS AND WHERE NEW CURB ABUTS EXISTING CURBS OR STRUCTURES.
- CURB & GUTTER SHALL BE IN ACCORDANCE WITH SCDOT STANDARD DRAWING NO. 720-105-01.

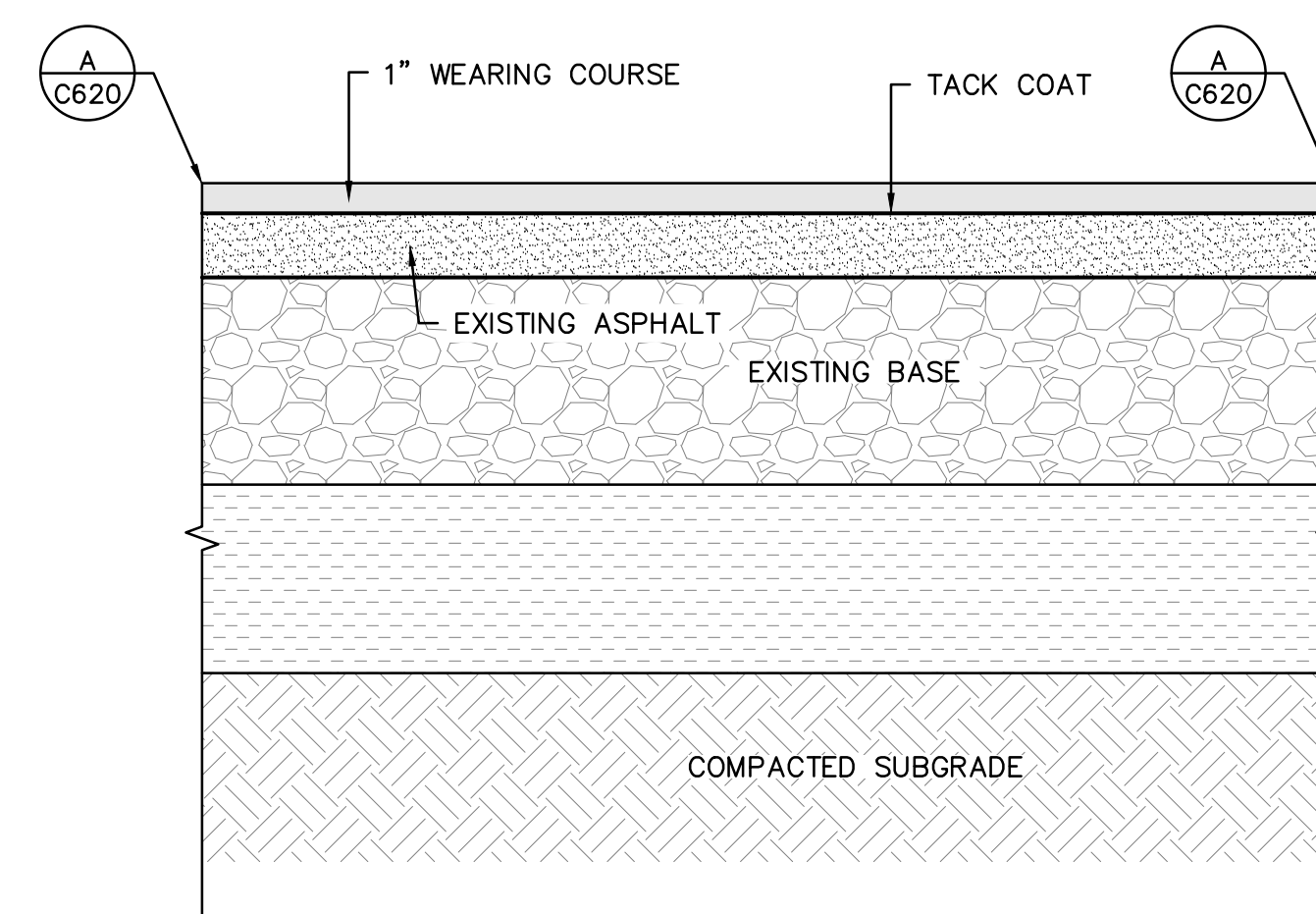
G 18" CURB AND GUTTER



H SIDEWALK DETAIL



I CONCRETE WHEEL STOP DETAIL



J 2" ASPHALT OVERLAY



ARCH NAME ARCH #

CWS Customer Technology Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410

LS3P PROJECT: 1101-195570

DATE	DESCRIPTION

SHEET NAME:
CIVIL DETAILS - SITE

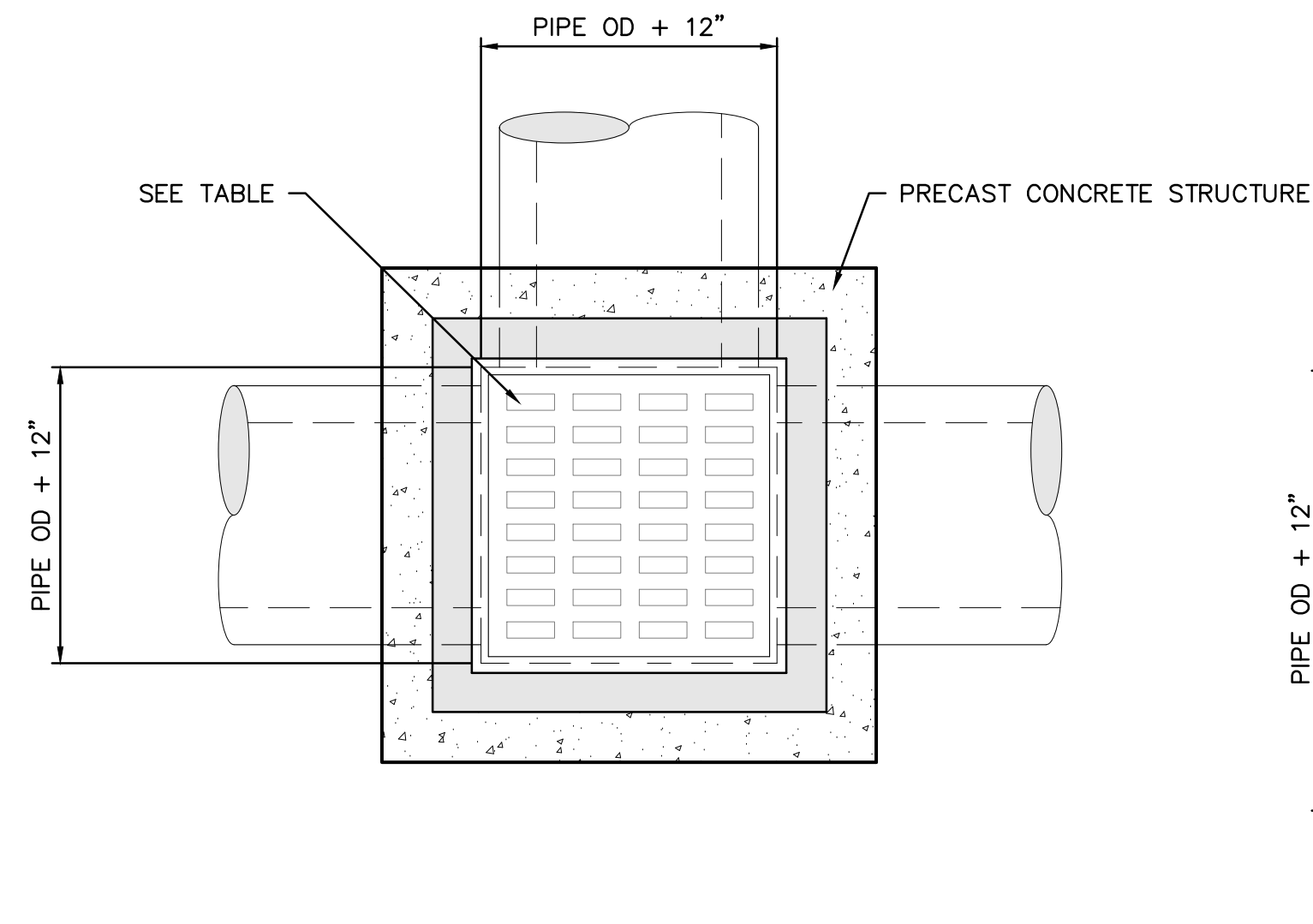
ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C620

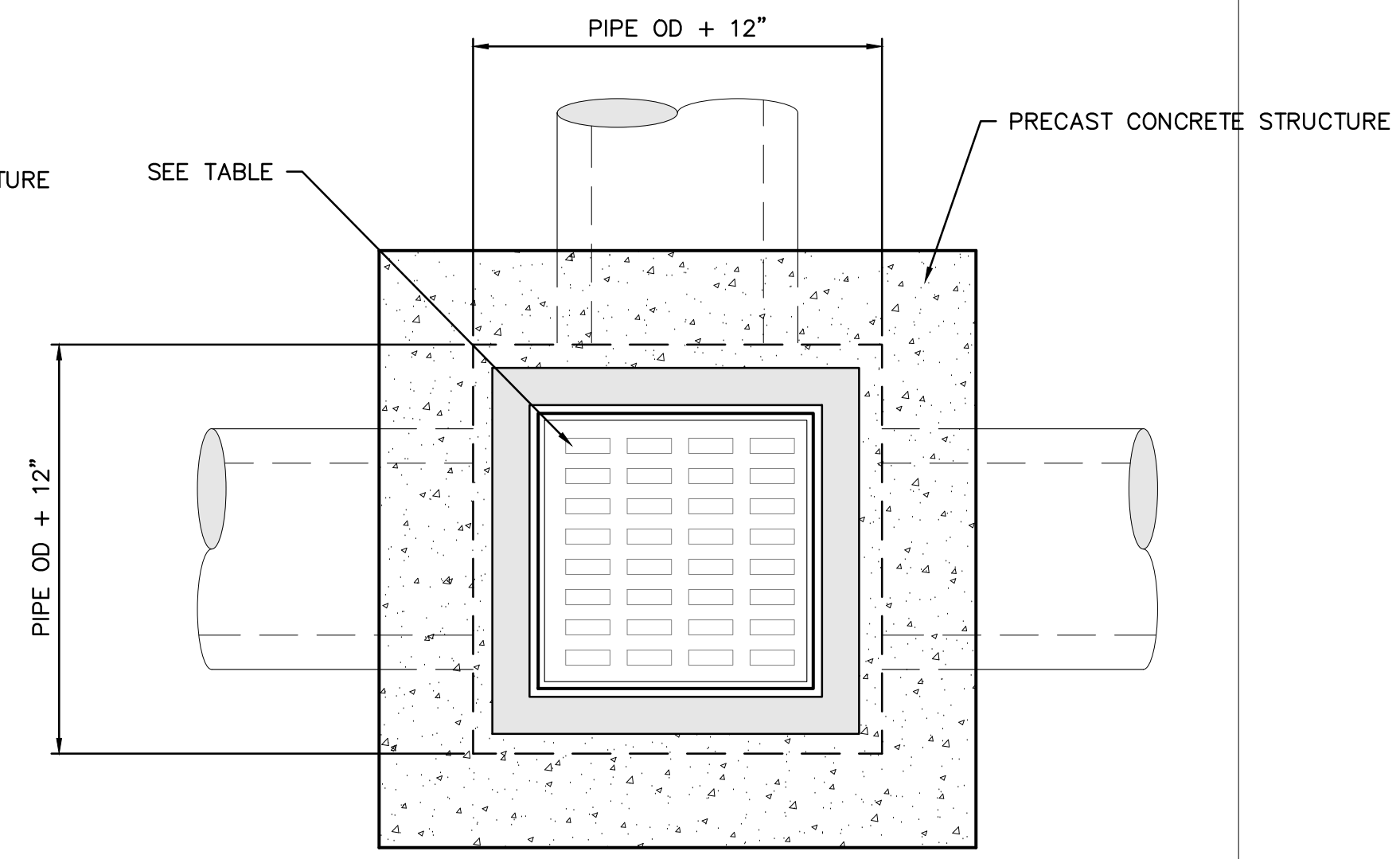
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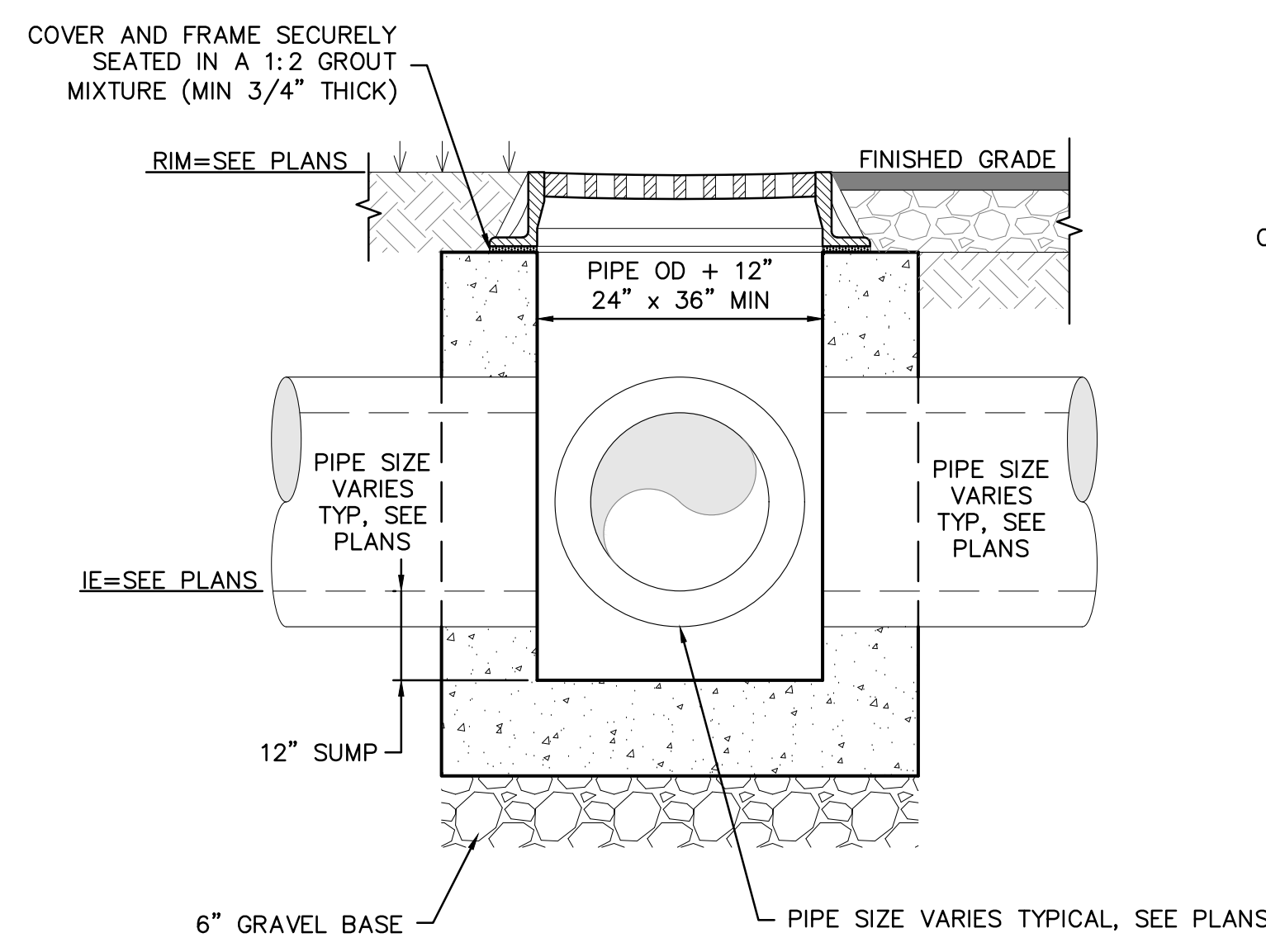


PLAN VIEW – CATCH BASIN WITHOUT SLAB TOP
FINISHED GRADE, PAVING, OR TURF NOT SHOWN THIS VIEW

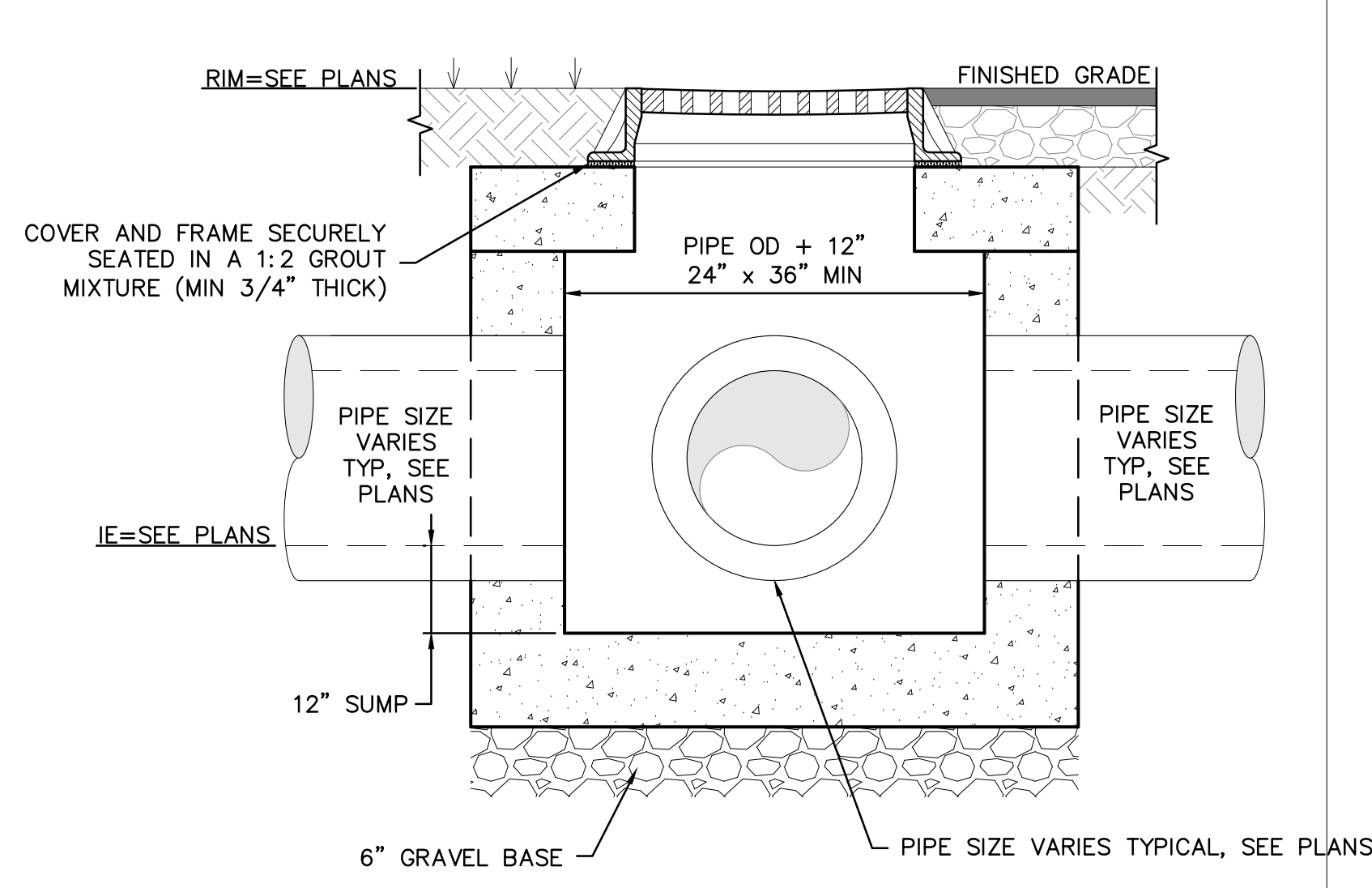


PLAN VIEW – CATCH BASIN WITH SLAB TOP
FINISHED GRADE, PAVING, OR TURF NOT SHOWN THIS VIEW

D



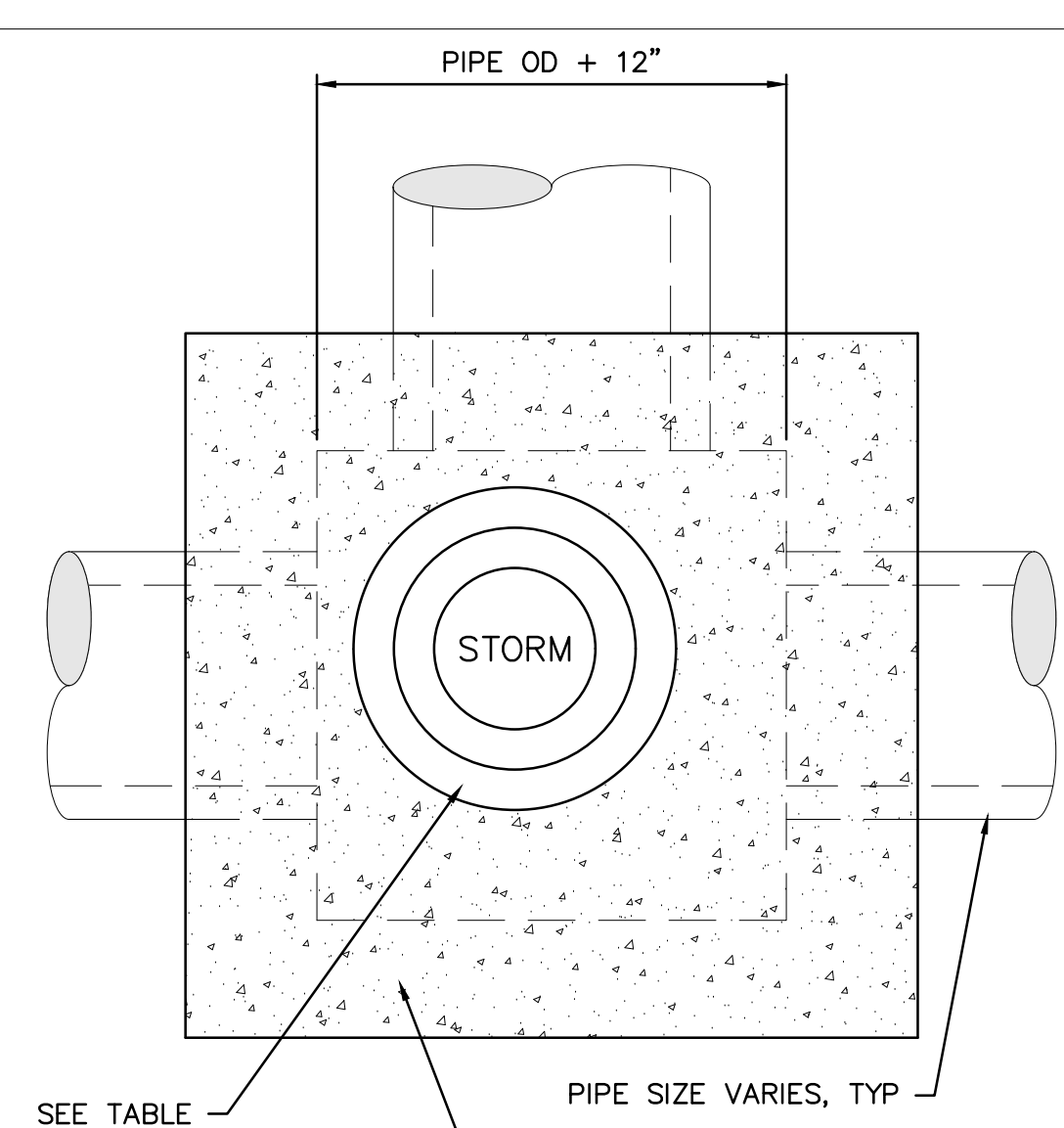
SECTION VIEW CATCH BASIN WITHOUT SLAB TOP



SECTION VIEW CATCH BASIN WITH SLAB TOP

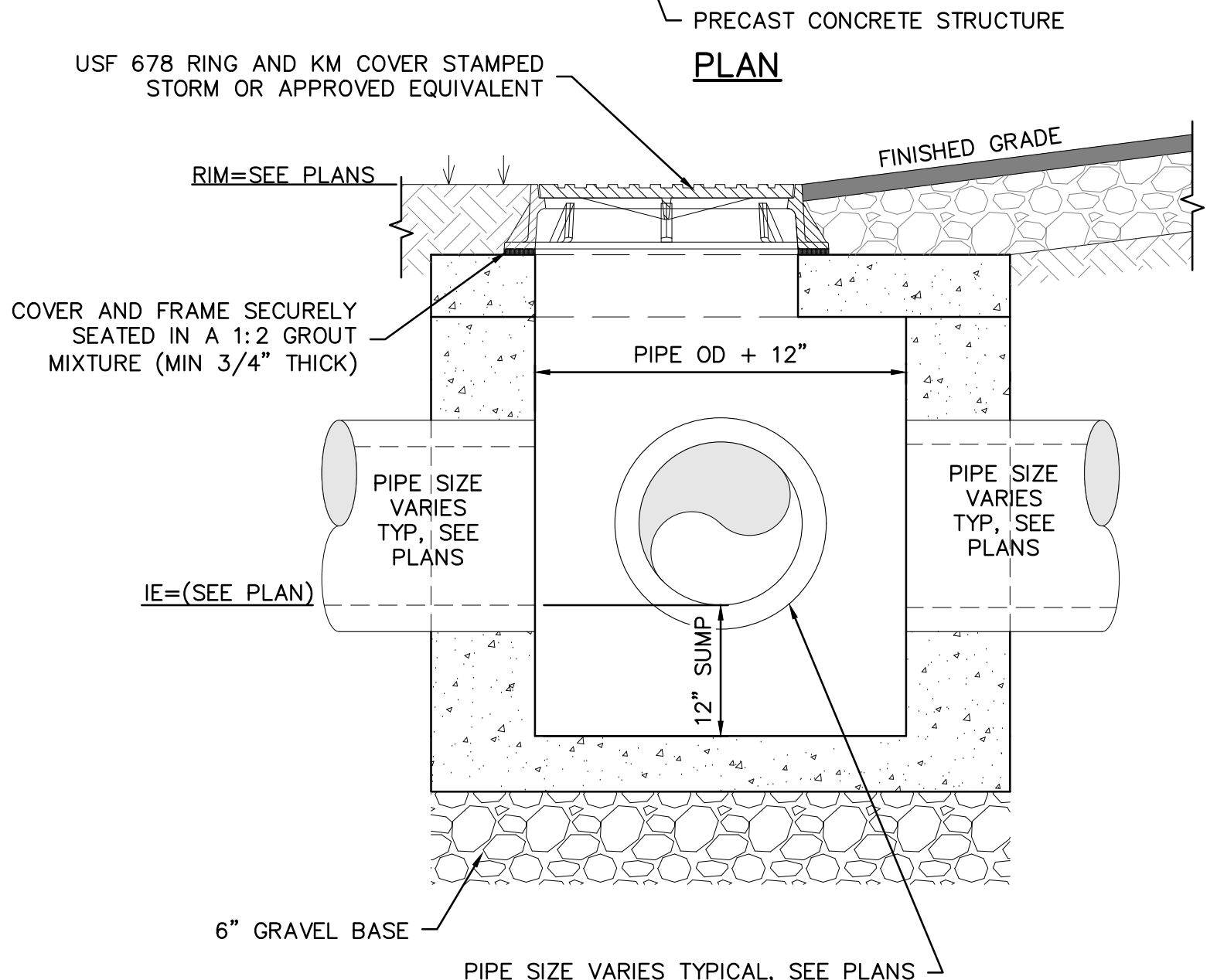
CATCH BASIN DETAILS

C



- NOTES:**
1. PRECAST STRUCTURES SHALL BE DESIGNED BY MANUFACTURER FOR SOIL LOADING AND HS-20 TRAFFIC LOADING.
 2. REFER TO PLANS AND PROFILES FOR RIM AND INVERT ELEVATIONS.

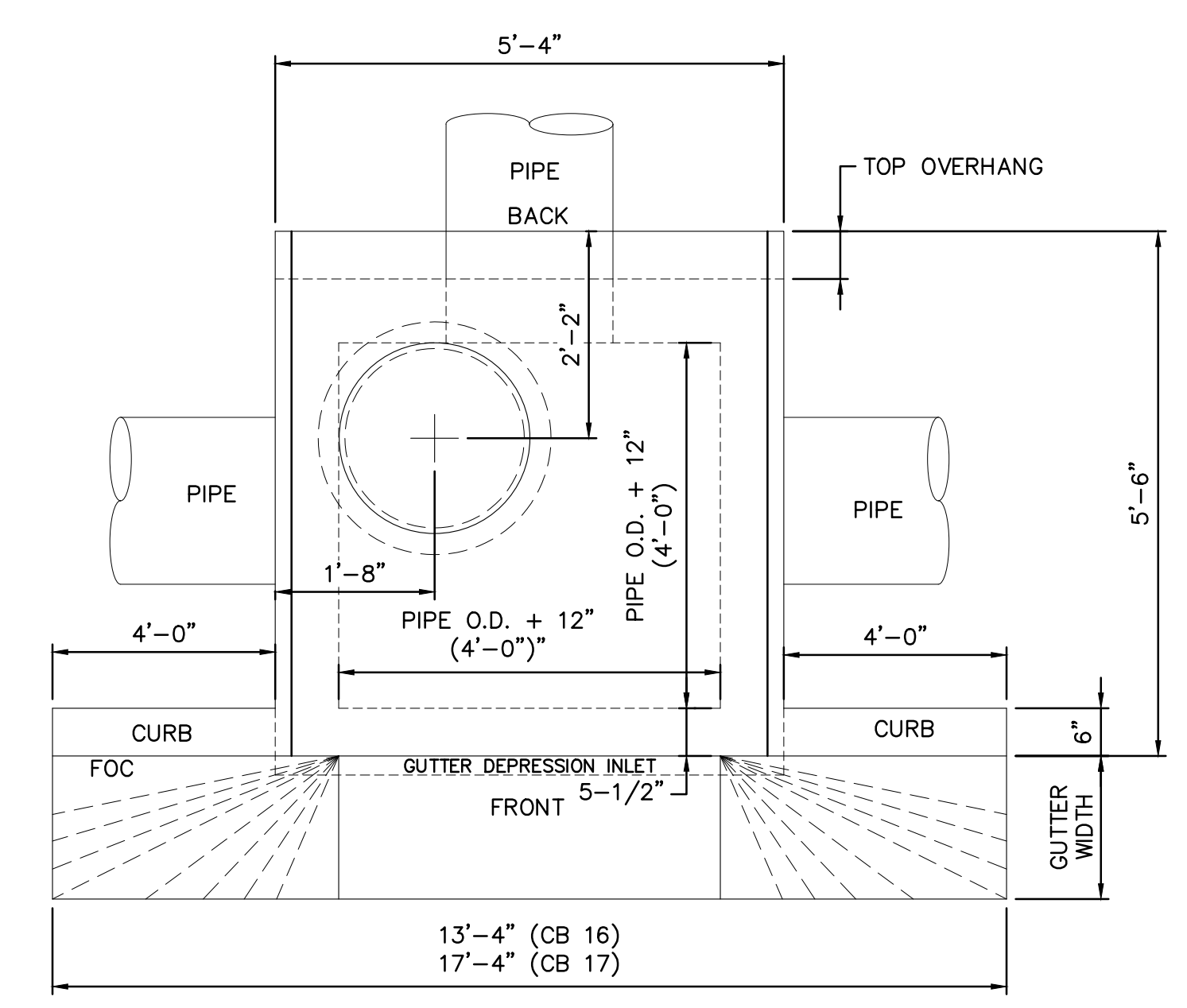
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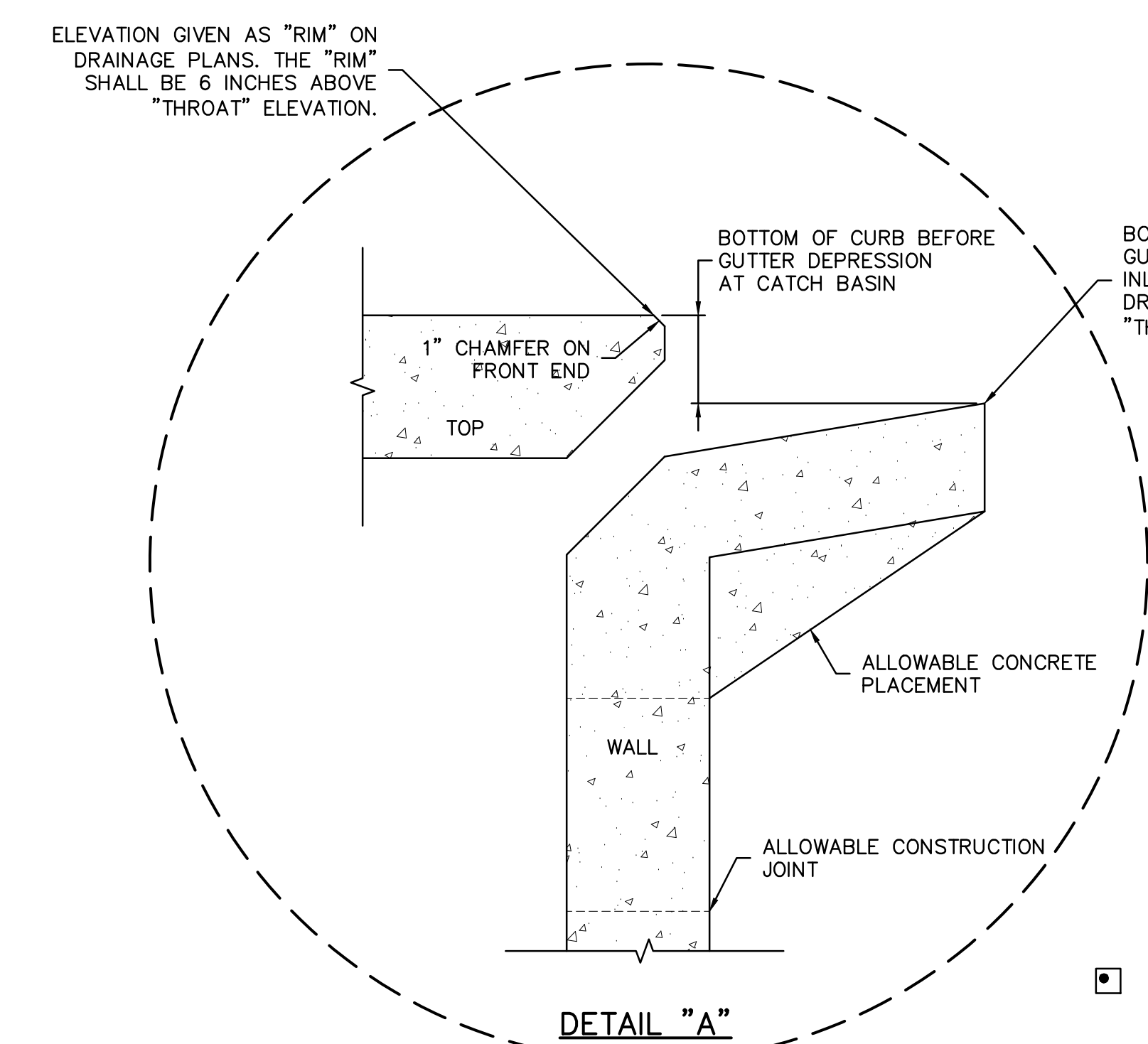
SECTION

JUNCTION BOX DETAIL

A



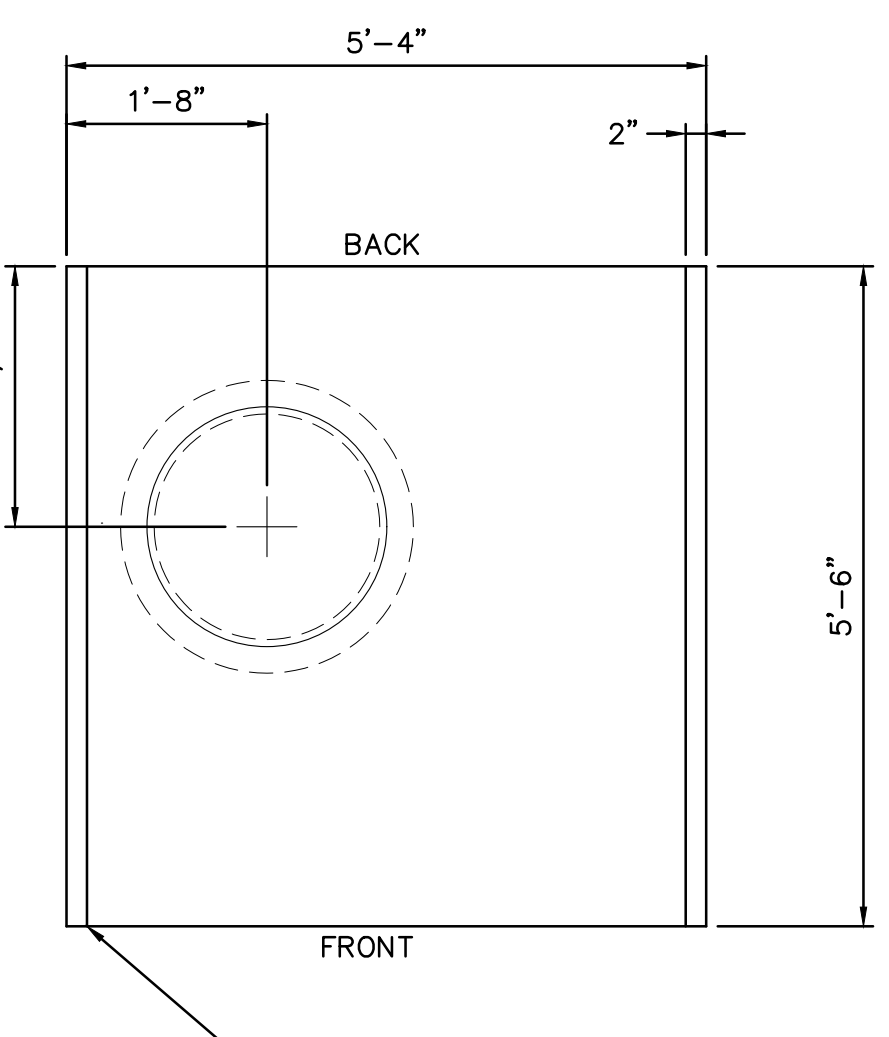
TOP VIEW



DETAIL "A"

TYPE 16 DETAIL OF BOTTOM MAT

TYPE 16 DETAIL OF TOP MAT

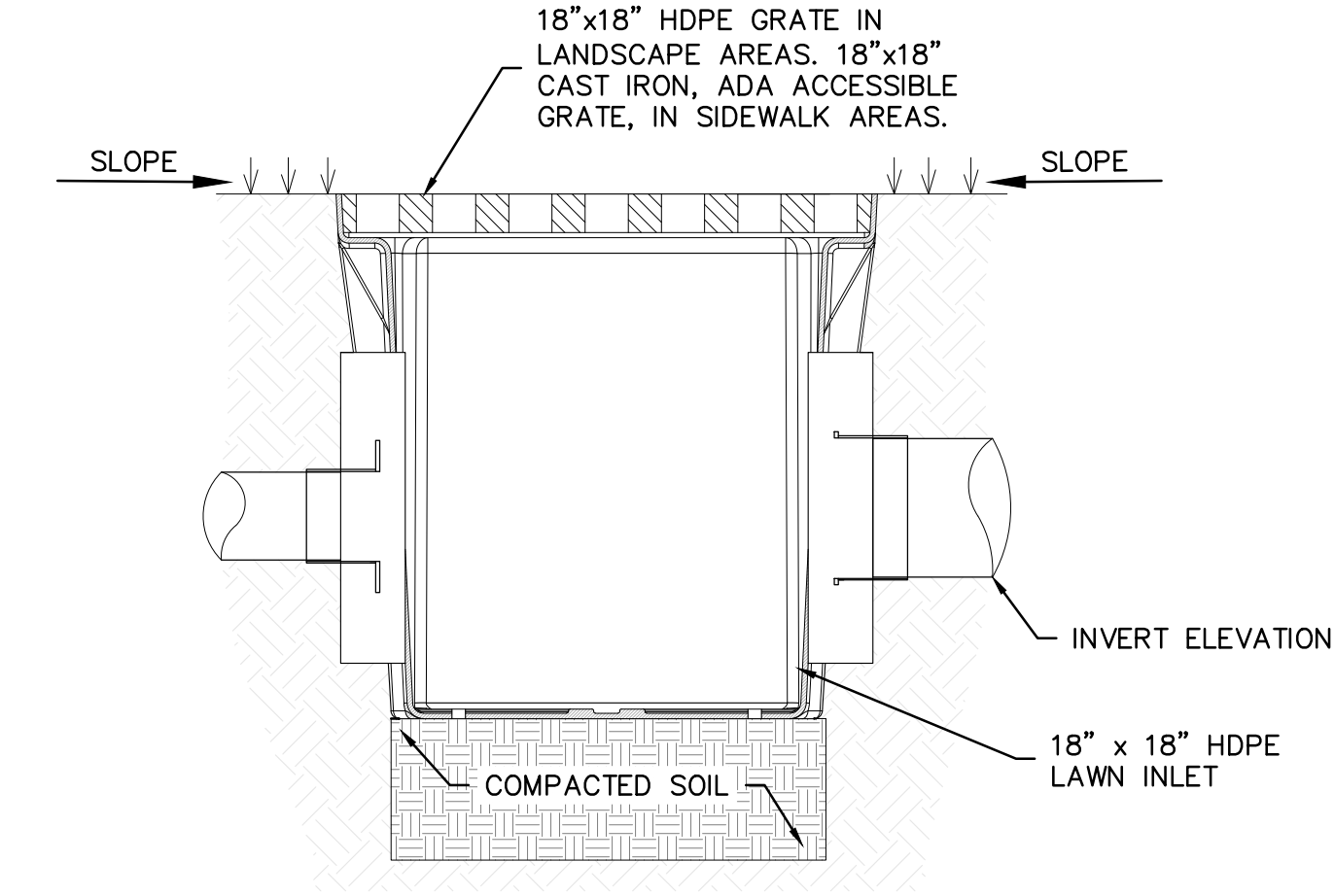
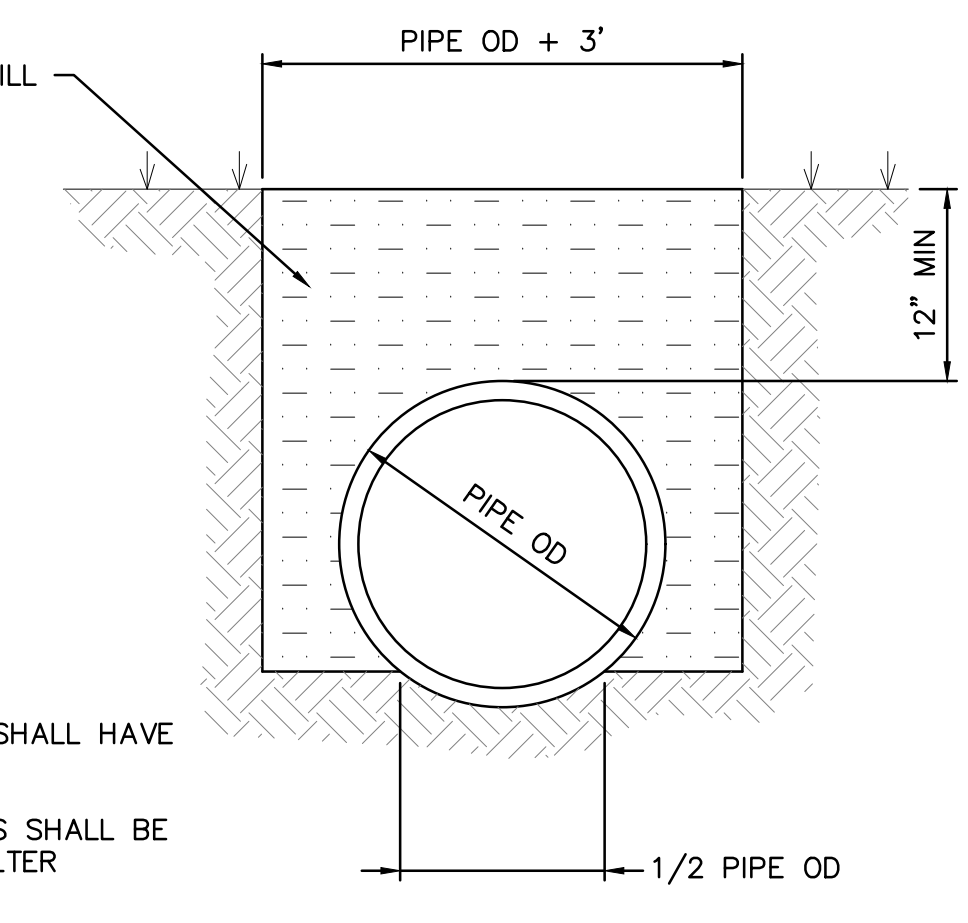


FRONT VIEW

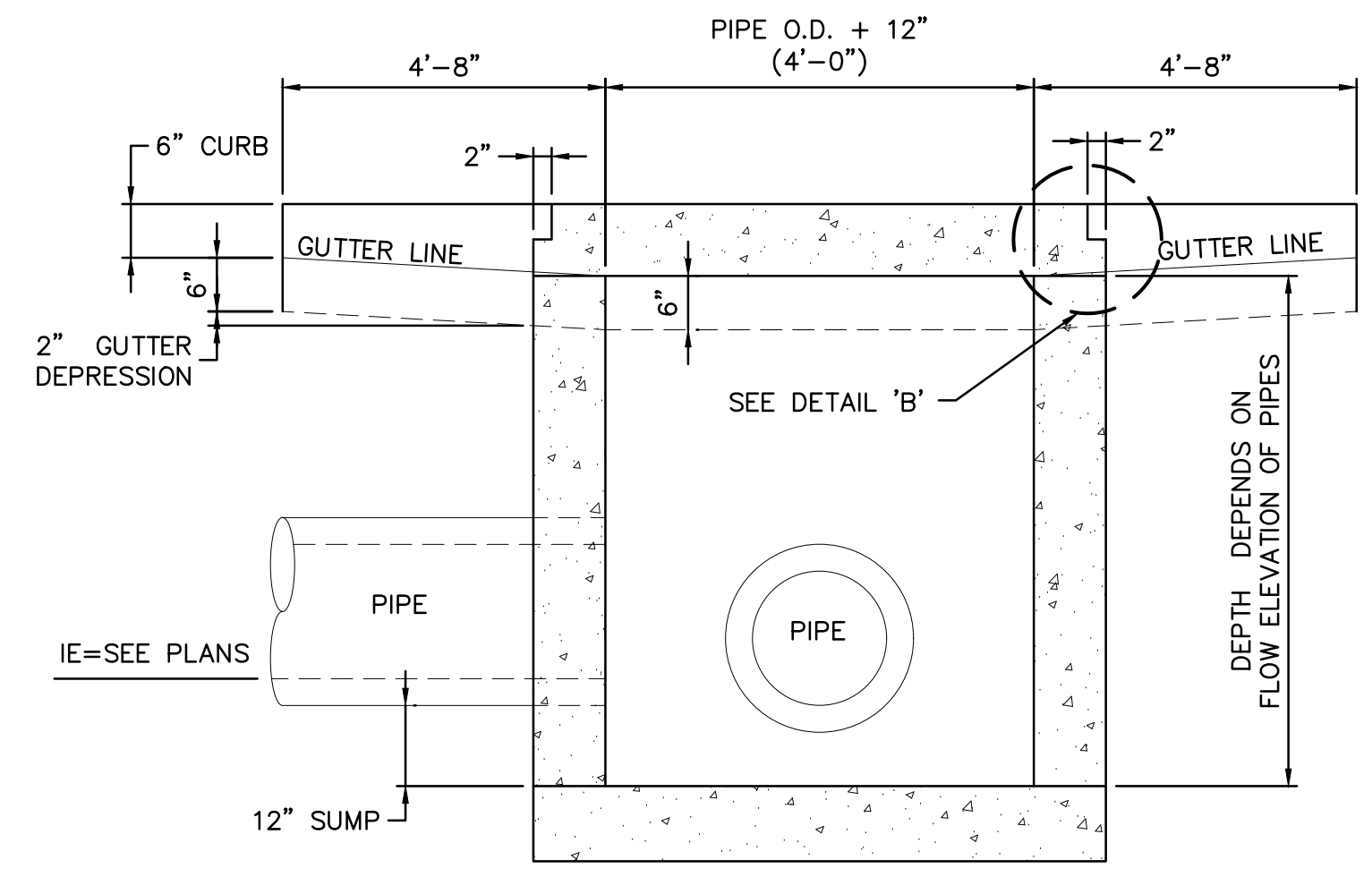
- NOTES:**
1. ALL RCP PIPE SHALL HAVE O-RING JOINTS.
 2. ALL RCP JOINTS SHALL BE WRAPPED IN FILTER FABRIC.

REINFORCED CONCRETE PIPE TRENCH

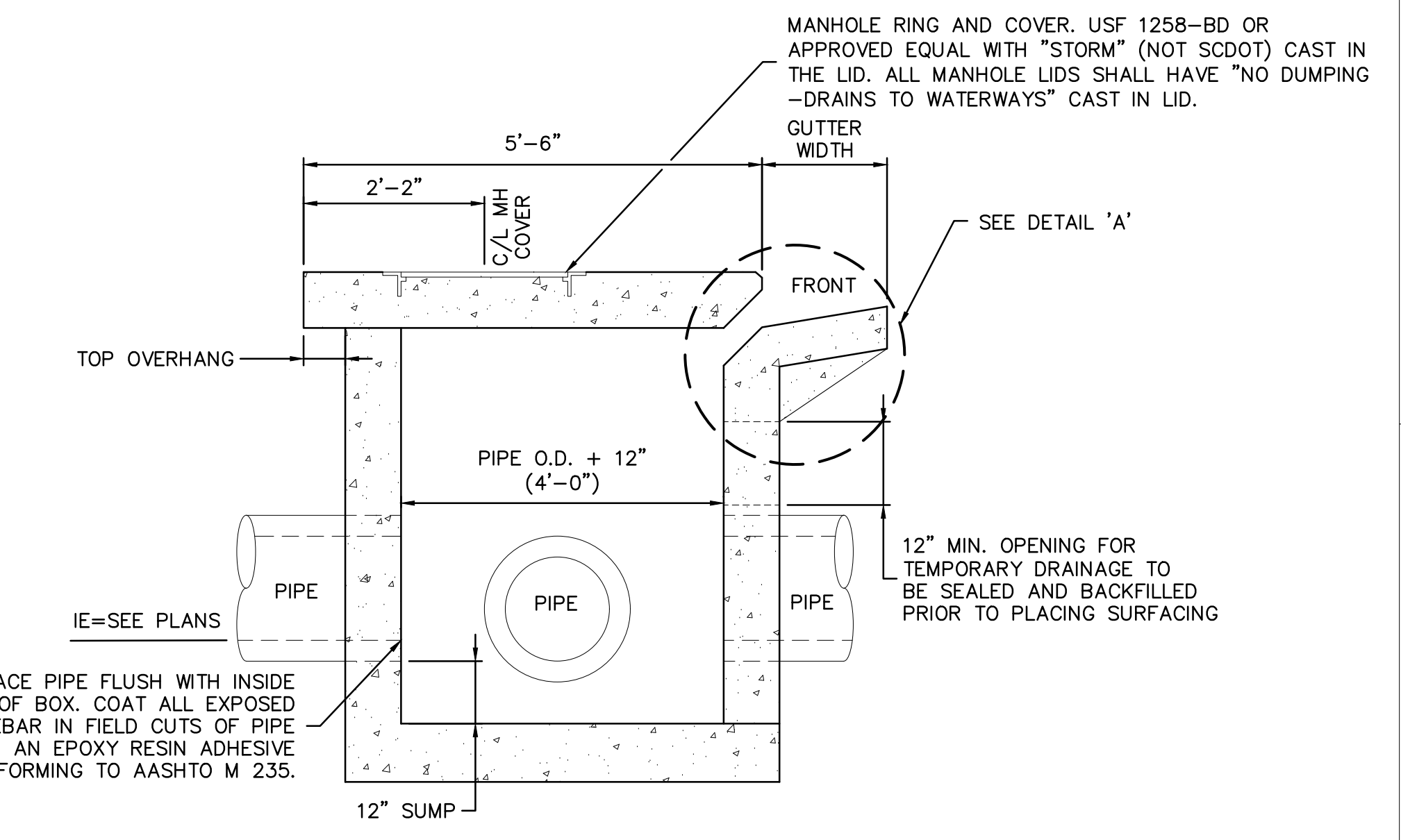
C



LAWN INLET



FRONT VIEW

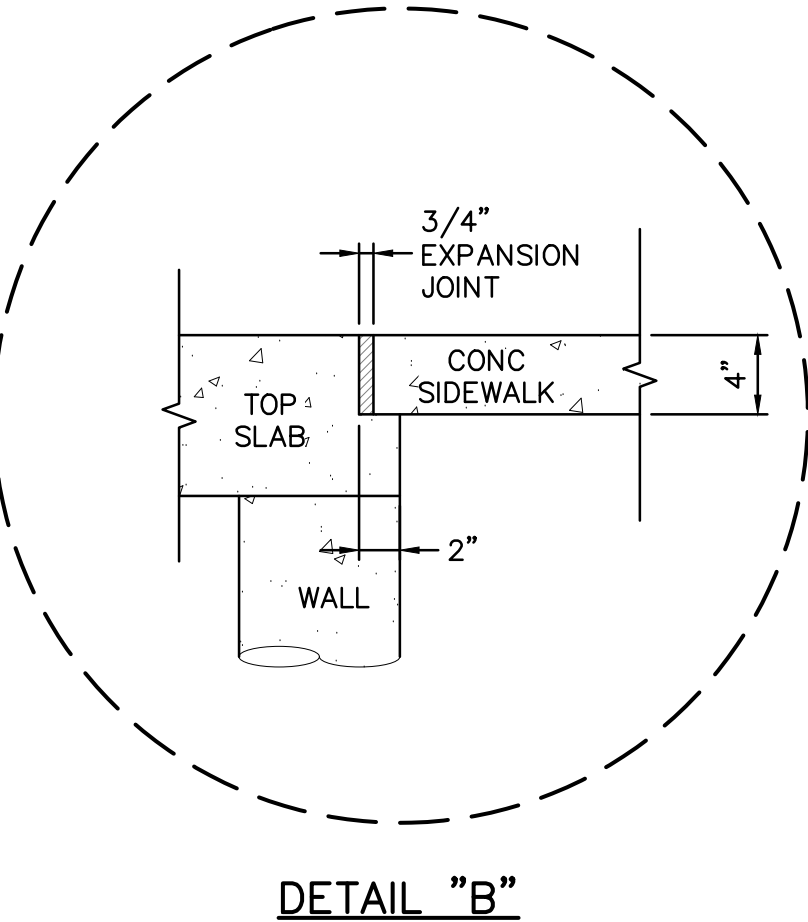


END VIEW

- NOTES:**
1. REFER TO SCDOT STANDARD DRAWINGS 719-016-01 AND 719-016-02 FOR CATCH BASIN TYPE 16.
 2. REFER TO SCDOT STANDARD DRAWINGS 719-017-01 AND 719-017-02 FOR CATCH BASIN TYPE 17.
 3. CONTRACTOR SHALL OFFSET TEMPORARY DRAIN OPENING TO AVOID CONFLICT WITH PERMANENT DRAIN PIPES.
 4. IF STRUCTURE DEPTH EXCEEDS 4', METAL STEPS ARE TO BE PLACED ON WALL SPACED 16" ON CENTER.
 5. REFER TO PLANS AND PROFILES FOR RIM AND INVERT ELEVATIONS.
 6. PRECAST STRUCTURES SHALL BE DESIGNED BY MANUFACTURER FOR SOIL LOADING AND HS-20 TRAFFIC LOADING.

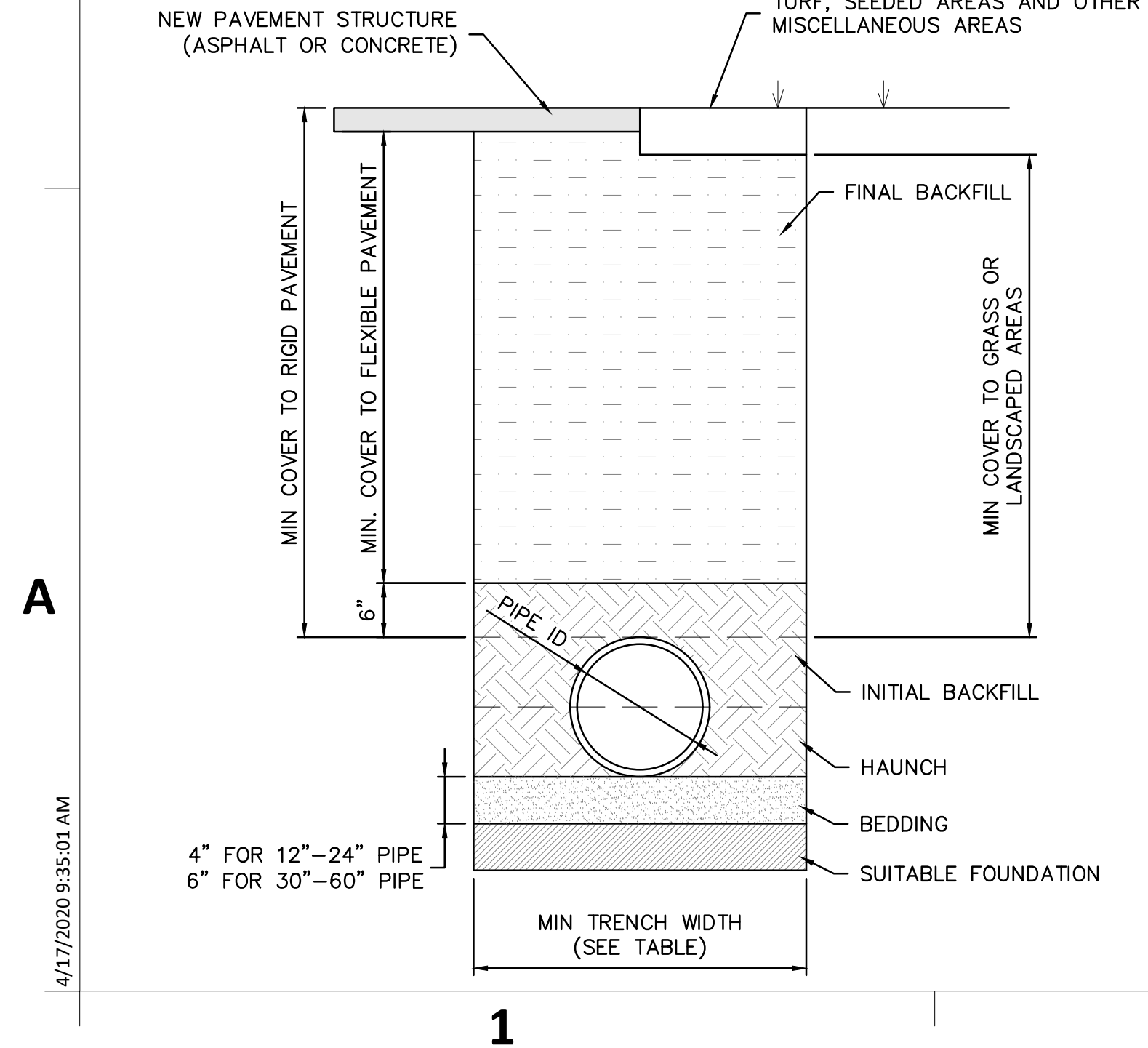
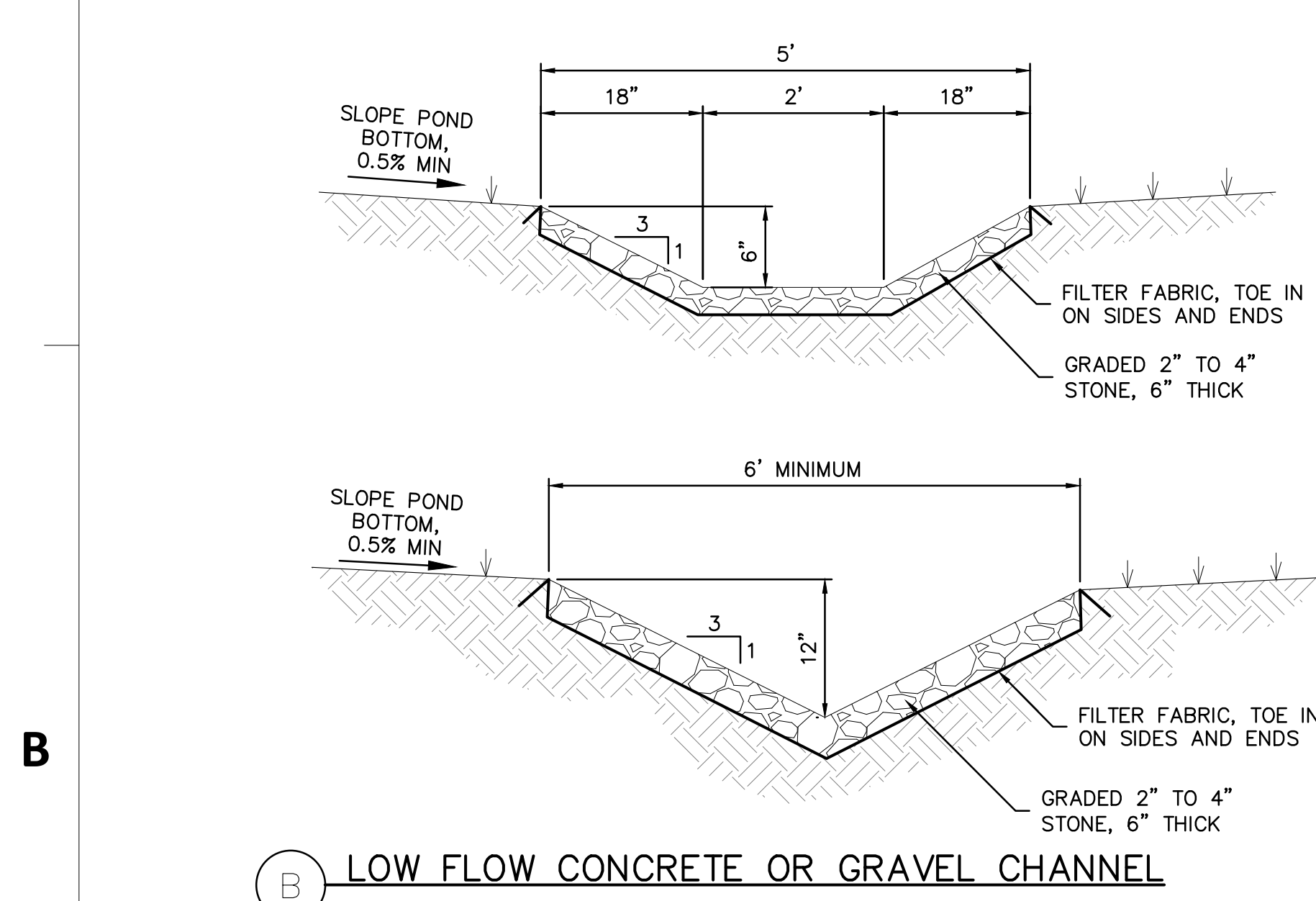
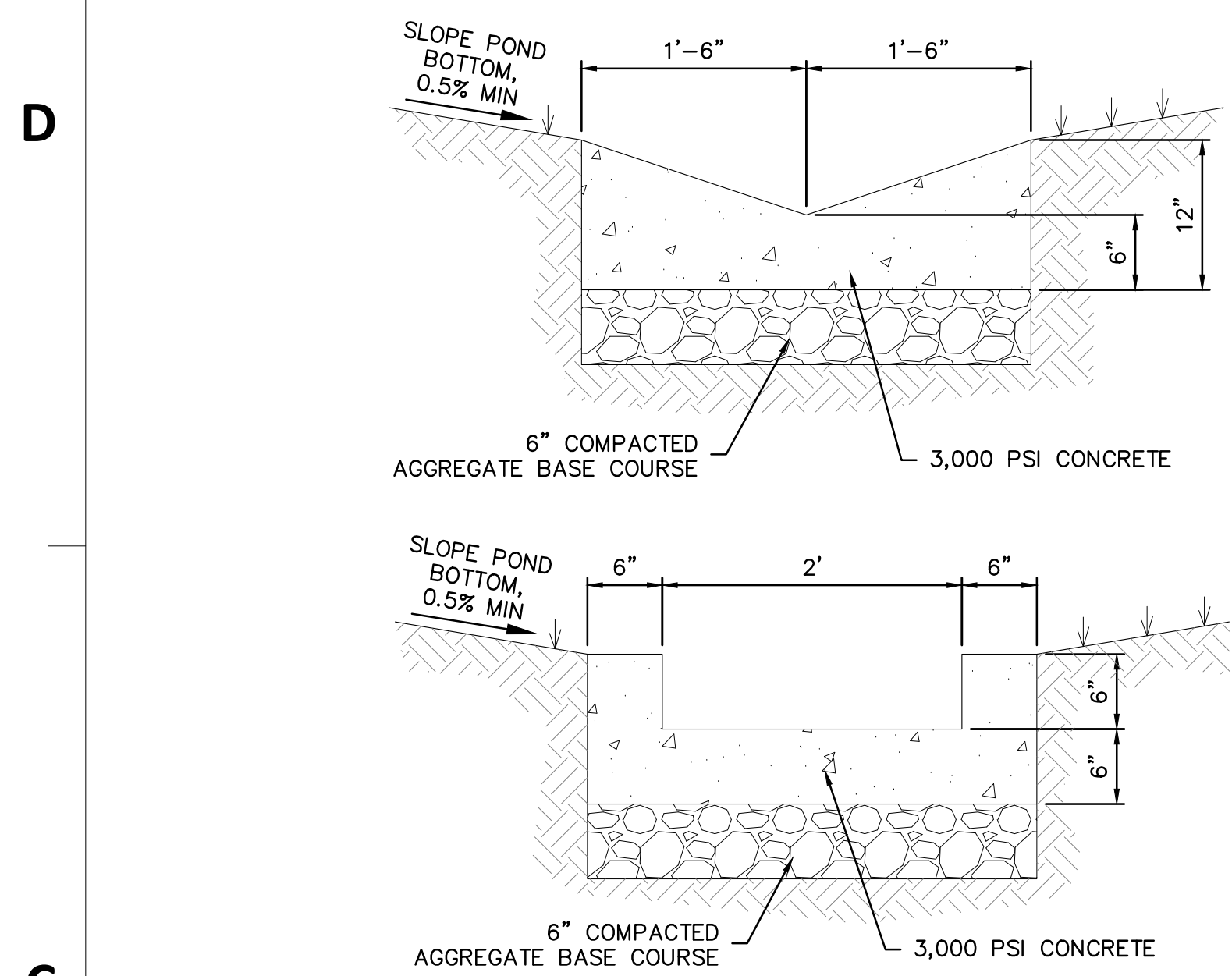
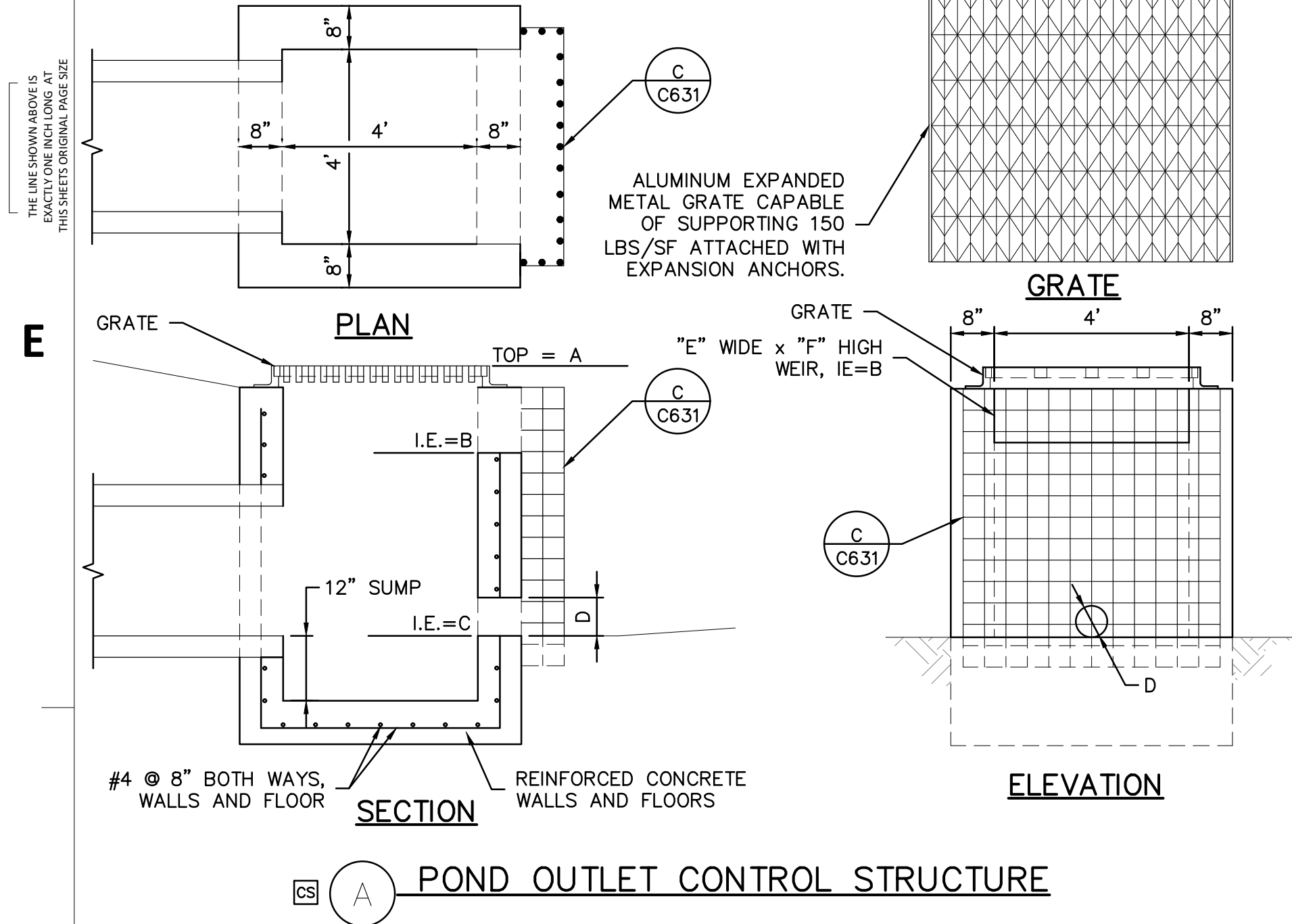
SCDOT TYPE 16 AND 17 CURB INLET

UPDATED 8/16/20 LH
REVISED DIMS TO MATCH DOT
DETAILS



DETAIL "B"

DATE	DESCRIPTION



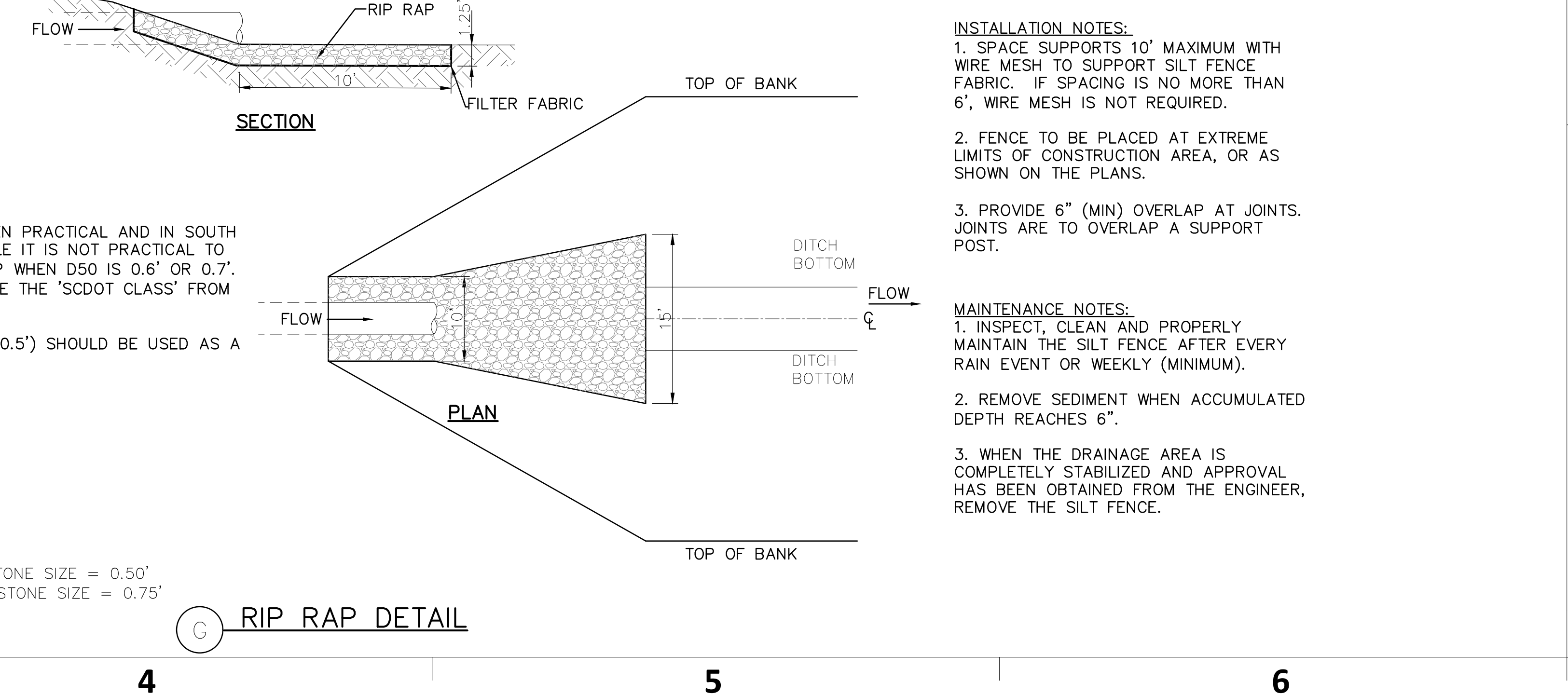
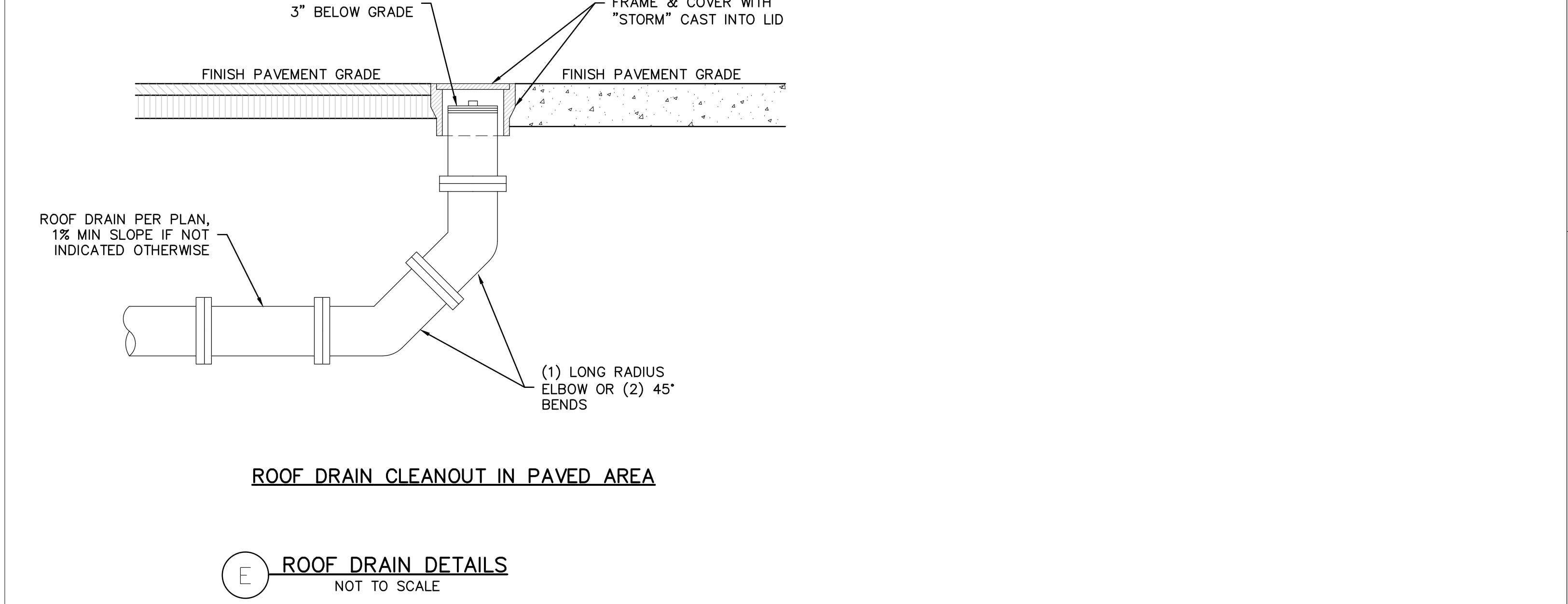
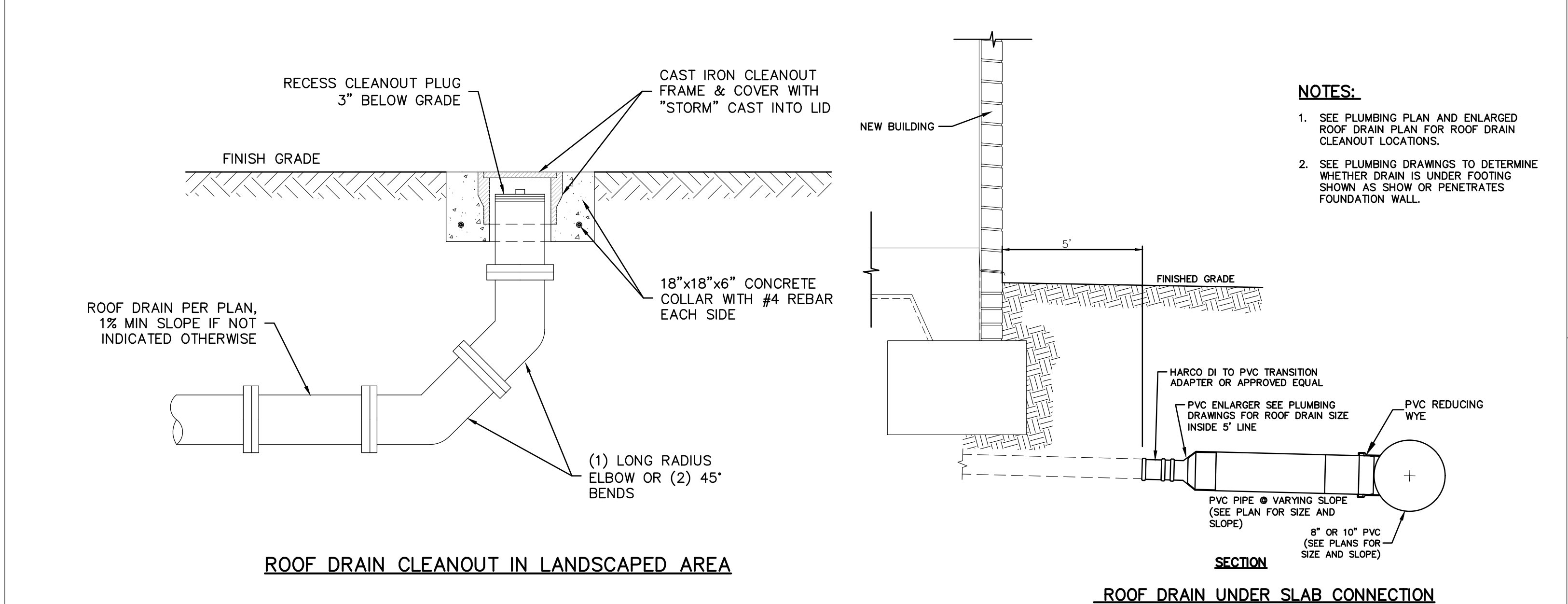
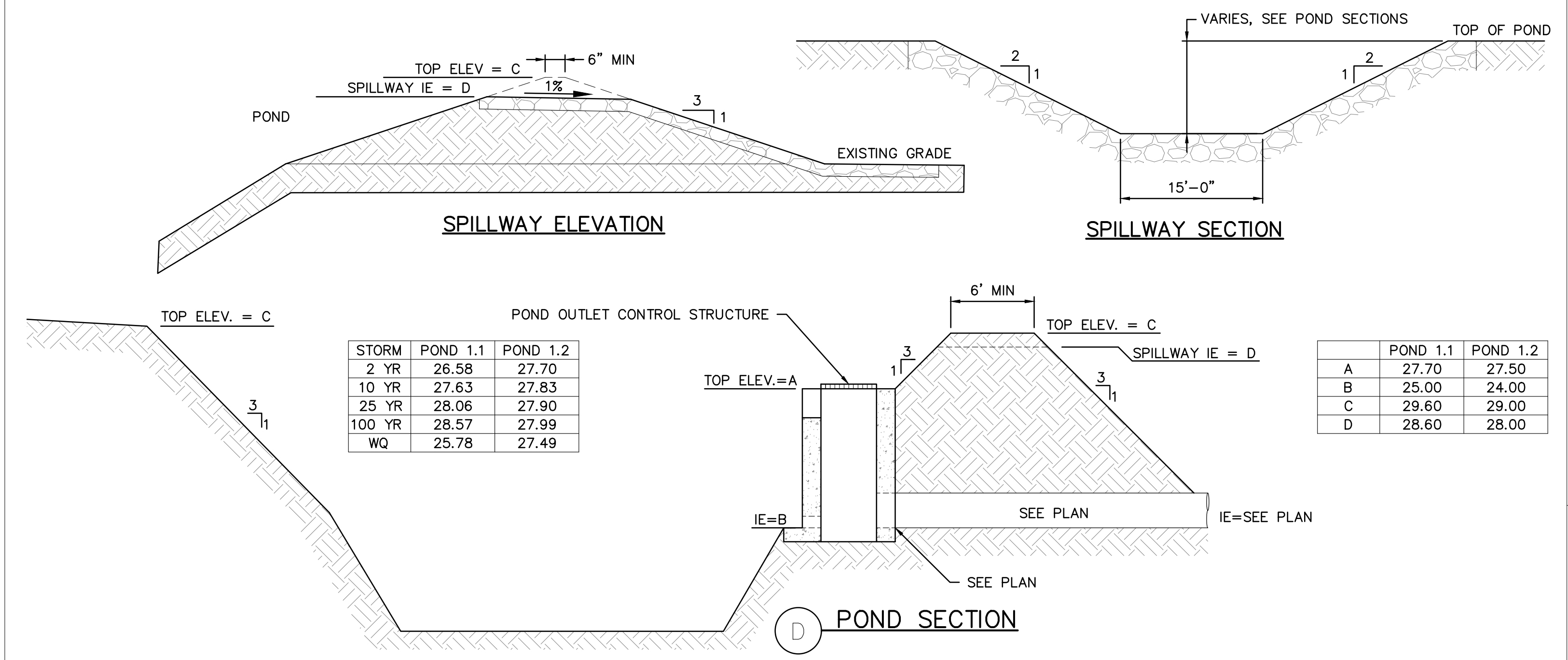
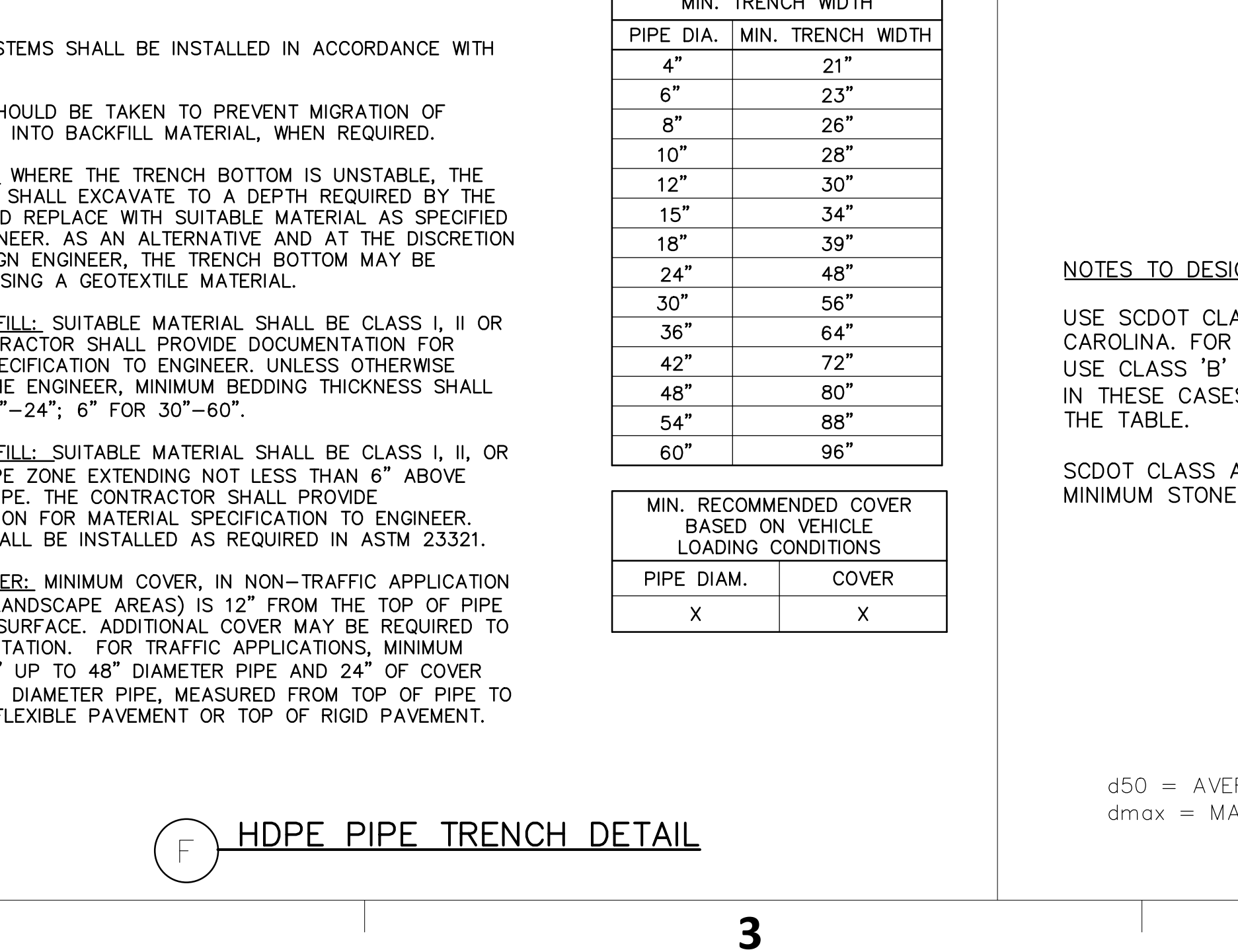
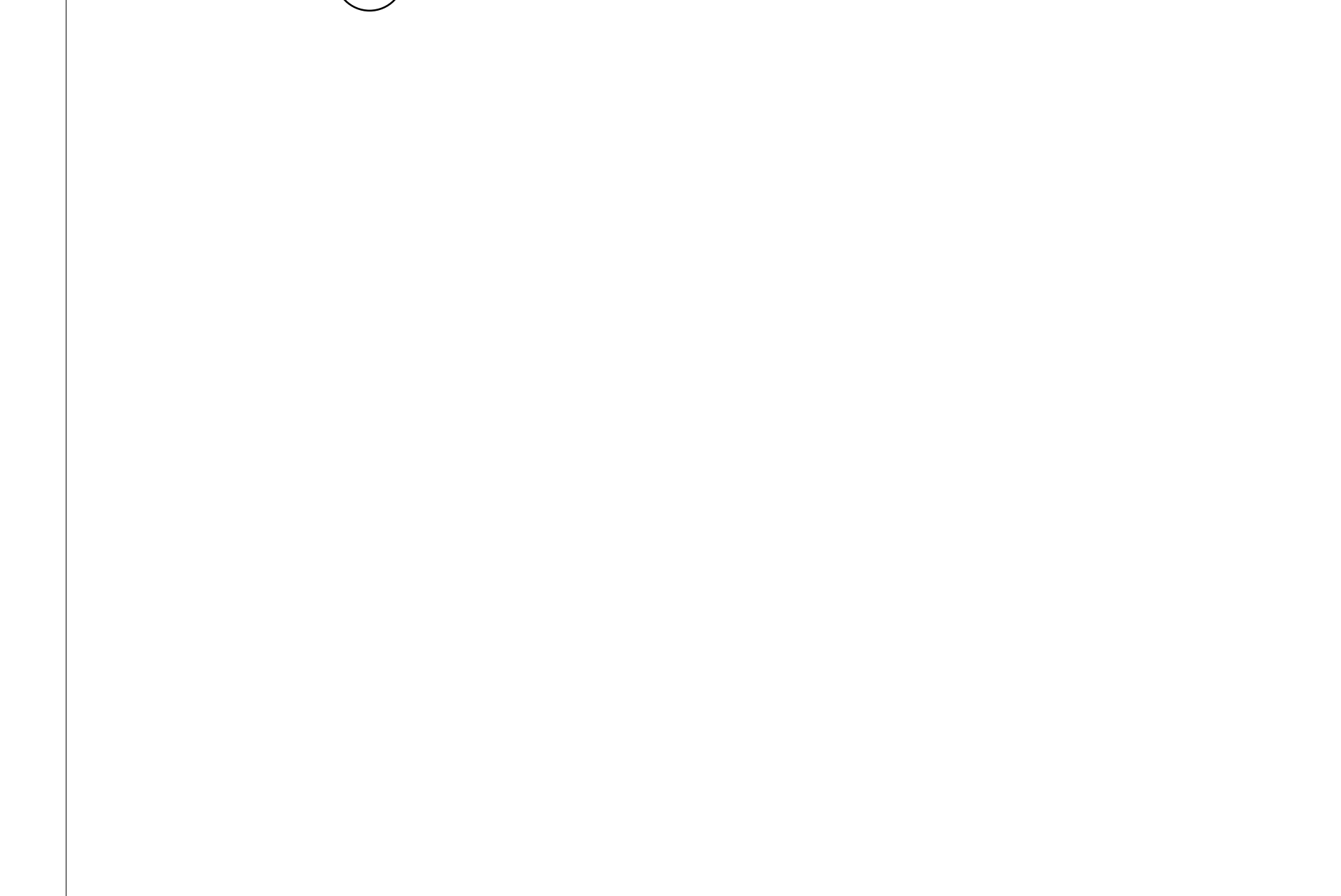
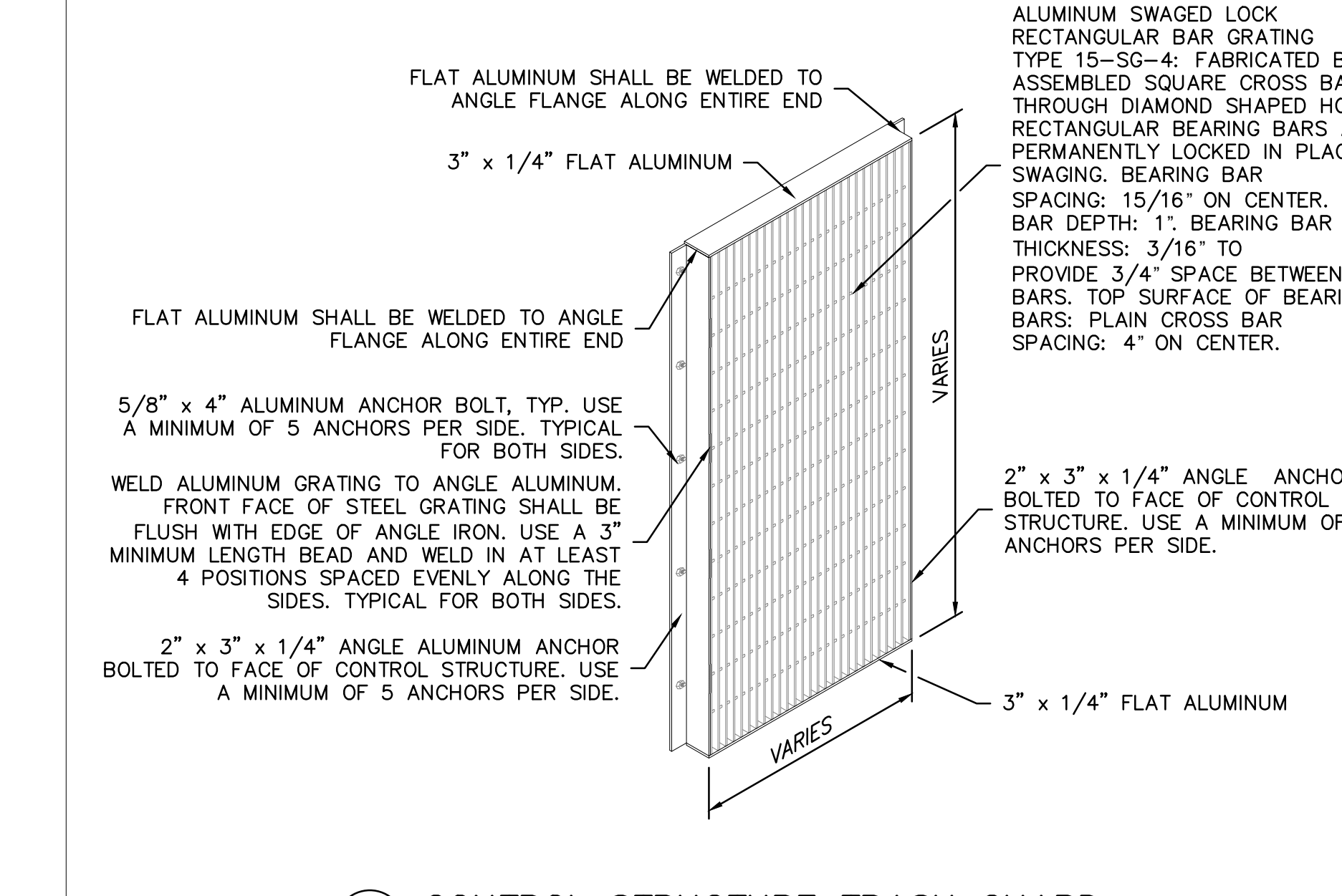
NOTES:

- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS II, OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" FOR 4"-24", 6" FOR 30"-60".
- INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I, II, OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM 23321.
- MINIMUM COVER:** MINIMUM COVER, IN NON-TRAFFIC APPLICATION (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT.

PIPE DIA.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	58"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

PIPE DIA.	MIN. RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS
X	X

MIN. TRENCH WIDTH (SEE TABLE)



ARCH NAME ARCH #

CWS Customer Technology Center at HWTP
 1104 HANAHAN ROAD
 HANAHAN, SC 29410
 LSSP PROJECT: 1101-195570

DATE	DESCRIPTION

SHEET NAME: CIVIL DETAILS - STORM DRAINAGE

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

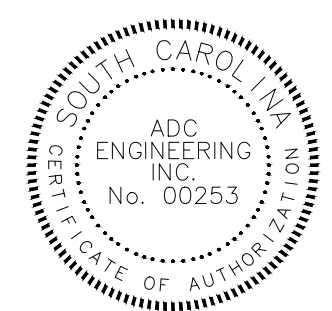
E

D

C

B

A



ARCH NAME ARCH #

CWS Customer Technology Center at HWTP

1104 HANAHAN ROAD HANAHAN, SC 29410

LSP PROJECT: 1101-195570

Table with columns for DATE and DESCRIPTION, containing project schedule entries.

SHEET NAME: CIVIL DETAILS - SEWER

ORIG SUBMISSION: 04/20/2020 CURRENT: 09/16/2020

SHEET: C642

PERMIT SET

FORCE MAIN/GRAVITY LINE TRENCH DETAIL. Includes depth schedule table and construction notes for trench excavation and bedding.

PRECAST CONCRETE MANHOLE. Includes cross-section diagram and detailed construction notes for manhole structure and invert.

GRINDER LIFT STATION DETAILS. Includes detailed diagrams of the lift station structure and electrical control panel.

GRINDER LIFT STATION DETAILS (continued). Includes pump specifications, performance graph, and control panel details.

SANITARY SEWER SERVICE CONNECTION SEWER PANEL 1A. Includes plan and profile views of the service connection and detailed construction notes.

TYPICAL MANHOLE FRAME AND COVER. Includes cross-section and plan views of the manhole frame and cover with detailed construction notes.

SEWER NOTES. A list of 17 detailed notes providing specifications and instructions for sewer installation and construction.



MATCHLINE SEE SHEET C701

GENERAL NOTES:

1. SEE SHEET C001 FOR CIVIL NOTES AND ABBREVIATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
3. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF THE PROJECT.
4. CONTRACTOR SHALL CONTACT PALMETTO UTILITY LOCATION SERVICE AT 1-888-721-7877 PRIOR TO ANY WORK. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING AND PROTECTING ALL UTILITIES. CONTACT THE ENGINEER IN THE EVENT THAT UTILITIES CONFLICT WITH NEW FACILITIES.
5. ALL PROJECT STAKEOUT SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR TO BE PAID FOR BY THE CONTRACTOR. FOR STAKEOUT, DO NOT RELY SOLELY ON THE PHYSICAL SCALE AS SHOWN IN DRAWINGS. REFER TO THE GIVEN DIMENSIONS, SYMBOL LEGEND, KEYNOTES, AND REFERENCED DETAILS FOR CORRECT STAKEOUT.
6. ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.

KEYNOTES: ◆

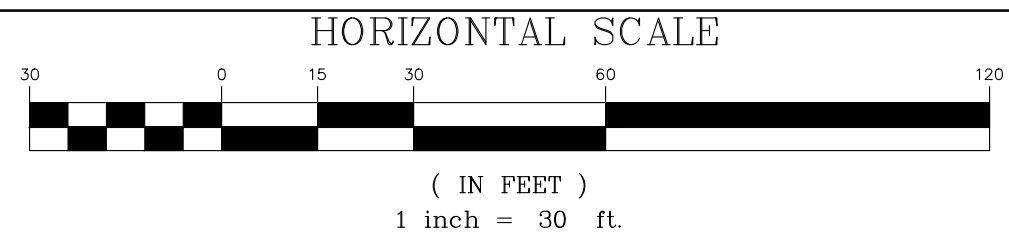
1. INSTALL CONSTRUCTION ENTRANCE/EXIT IAW DETAIL A/C710
2. INSTALL SWPPP INFORMATION SIGN IAW DETAIL B/C711. APPROXIMATE LOCATION SHOWN, ACTUAL LOCATION TO BE DETERMINED BY CONTRACTOR.
3. INSTALL CONCRETE WASHOUT IAW DETAIL C/C710. APPROXIMATE LOCATION SHOWN, ACTUAL LOCATION TO BE DETERMINED BY CONTRACTOR.

CIVIL LEGEND – EROSION CONTROL

- TS TEMPORARY SEEDING – INSTALL IAW DETAIL A/C711.
- PS PERMANENT SEEDING – INSTALL IAW DETAIL A/C711.
- LA LANDSCAPING – INSTALL IAW LANDSCAPING DRAWINGS.
- SILT FENCE – INSTALL IAW DETAIL B/C710.
- TB TREE BARRICADE – INSTALL IAW DETAIL D/C710.
- OVERFLOW WEIR – INSTALL IAW DETAIL D/C631.
- STONE FILTER RING – INSTALL IAW DETAIL D/C711.
- PERMANENT RIP RAP APRON – INSTALL IAW DETAIL G/C631.
- INLET PROTECTION – INSTALL IAW DETAIL C/711.
- SKIMMER – INSTALL IAW DETAIL E/C710.

INITIAL PHASE LAND DISTURBANCE/SWPPP SEQUENCE OF CONSTRUCTION NOTES:

1. PRIOR TO ANY LAND DISTURBANCE ACTIVITY CONDUCT A SWPPP PRE-CONSTRUCTION CONFERENCE. GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT SWPPP PRE-CONSTRUCTION MEETING WITH SWPPP PREPARING ENGINEER, CONTRACTING OFFICER, BERKELEY COUNTY, SCDHEC, OWNER AND ALL LAND DISTURBING CONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.
2. STAKE OUT CLEANING LIMITS, WETLAND BUFFER ZONES AND TREE PROTECTION AREAS.
3. CONDUCT LIMITED CLEARING, TIMBERING AND DEMOLITION AS REQUIRED TO INSTALL PERIMETER BEST MANAGEMENT PRACTICES AND CONSTRUCTION ENTRANCE.
4. INSTALL SWPPP SIGN, TREE BARRICADES, SILT FENCE, INLET PROTECTION AND CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS.
5. STOP AND GET SITE INSPECTED/CERTIFIED.
6. TEMPORARILY SEED OTHER DISTURBED AREAS IAW THE PLANS AND THE CONSTRUCTION GENERAL PERMIT.
7. MAINTAIN BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION.
8. COMPLETE INSPECTION REPORTS IAW THE CONSTRUCTION GENERAL PERMIT.



AREA A



ARCH NAME _____ ARCH # _____

CWS Customer Technology Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410
LSP PROJECT: 1101-195570

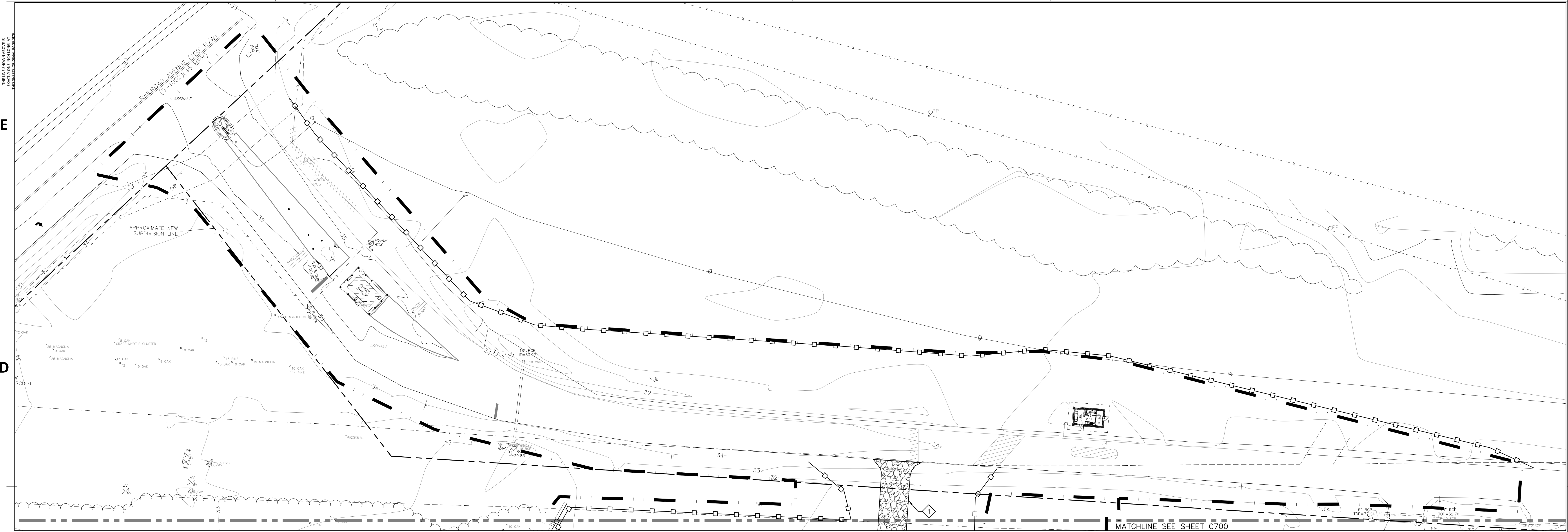
DATE	DESCRIPTION

SHEET NAME:
INITIAL PHASE
EROSION CONTROL
PLAN - AREA A

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C700

PERMIT SET



AREA B

MATCHLINE SEE SHEET C700

GENERAL NOTES:

- SEE SHEET C001 FOR CIVIL NOTES AND ABBREVIATIONS.
- CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF THE PROJECT.
- CONTRACTOR SHALL CONTACT PALMETTO UTILITY LOCATION SERVICE AT 1-888-721-7877 PRIOR TO ANY WORK. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING AND PROTECTING ALL UTILITIES. CONTACT THE ENGINEER IN THE EVENT THAT UTILITIES CONFLICT WITH NEW FACILITIES.
- ALL PROJECT STAKEOUT SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR TO BE PAID FOR BY THE CONTRACTOR. FOR STAKEOUT, DO NOT RELY SOLELY ON THE PHYSICAL SCALE AS SHOWN IN DRAWINGS. REFER TO THE GIVEN DIMENSIONS, SYMBOL LEGEND, KEYNOTES, AND REFERENCED DETAILS FOR CORRECT STAKEOUT.
- ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.

KEYNOTES: □

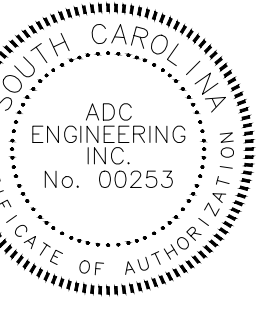
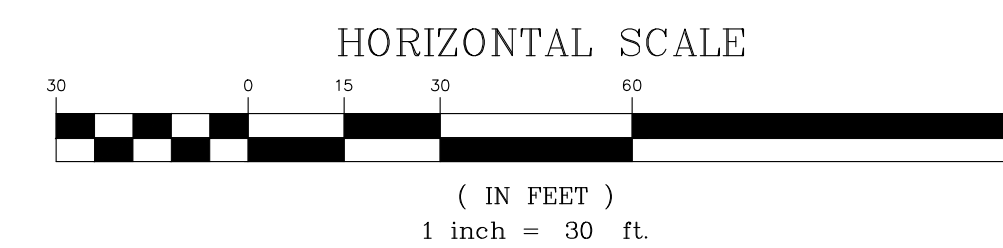
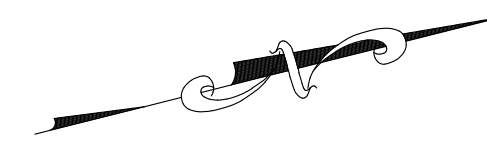
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- INSTALL SWPPP INFORMATION SIGN IAW DETAIL B/C711. APPROXIMATE LOCATION SHOWN, ACTUAL LOCATION TO BE DETERMINED BY CONTRACTOR.
- INSTALL CONCRETE WASHOUT IAW DETAIL C/C710. APPROXIMATE LOCATION SHOWN, ACTUAL LOCATION TO BE DETERMINED BY CONTRACTOR.

CIVIL LEGEND — EROSION CONTROL

- TEMPORARY SEEDING — INSTALL IAW DETAIL A/C711.
- PERMANENT SEEDING — INSTALL IAW DETAIL A/C711.
- LANDSCAPING — INSTALL IAW LANDSCAPING DRAWINGS.
- SILT FENCE — INSTALL IAW DETAIL B/C710.
- TREE BARRICADE — INSTALL IAW DETAIL D/C710.
- OVERFLOW WEIR — INSTALL IAW DETAIL D/C631.
- STONE FILTER RING — INSTALL IAW DETAIL D/C711.
- PERMANENT RIP RAP APRON — INSTALL IAW DETAIL G/C631.
- INLET PROTECTION — INSTALL IAW DETAIL C/711.
- SKIMMER — INSTALL IAW DETAIL E/C710.

INITIAL PHASE LAND DISTURBANCE/SWPPP SEQUENCE OF CONSTRUCTION NOTES:

- PRIOR TO ANY LAND DISTURBANCE ACTIVITY CONDUCT A SWPPP PRE-CONSTRUCTION CONFERENCE. GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT SWPPP PRE-CONSTRUCTION MEETING WITH SWPPP PREPARING ENGINEER, CONTRACTING OFFICER, BERKELEY COUNTY, SCDHEC, OWNER AND ALL LAND DISTURBING CONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.
- STAKE OUT CLEARING LIMITS, WETLAND BUFFER ZONES AND TREE PROTECTION AREAS.
- CONDUCT LIMITED CLEARING, TIMBERING AND DEMOLITION AS REQUIRED TO INSTALL PERIMETER BEST MANAGEMENT PRACTICES AND CONSTRUCTION ENTRANCE.
- INSTALL SWPPP SIGN, TREE BARRICADES, SILT FENCE, INLET PROTECTION AND CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS.
- STOP AND GET SITE INSPECTED/CERTIFIED.
- TEMPORARILY SEED OTHER DISTURBED AREAS IAW THE PLANS AND THE CONSTRUCTION GENERAL PERMIT.
- MAINTAIN BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION.
- COMPLETE INSPECTION REPORTS IAW THE CONSTRUCTION GENERAL PERMIT.



ARCH NAME _____ ARCH # _____

CWS Customer Technology Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410

LS3P PROJECT: 1101-195570

Δ DATE	DESCRIPTION

SHEET NAME:
INITIAL PHASE EROSION CONTROL PLAN - AREA B

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C701

PERMIT SET

E

D

C

B

A

1

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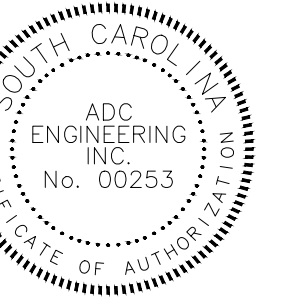
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ARCH NAME _____ ARCH # _____

CWS Customer Technology Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410
LSSP PROJECT: 1101-195570

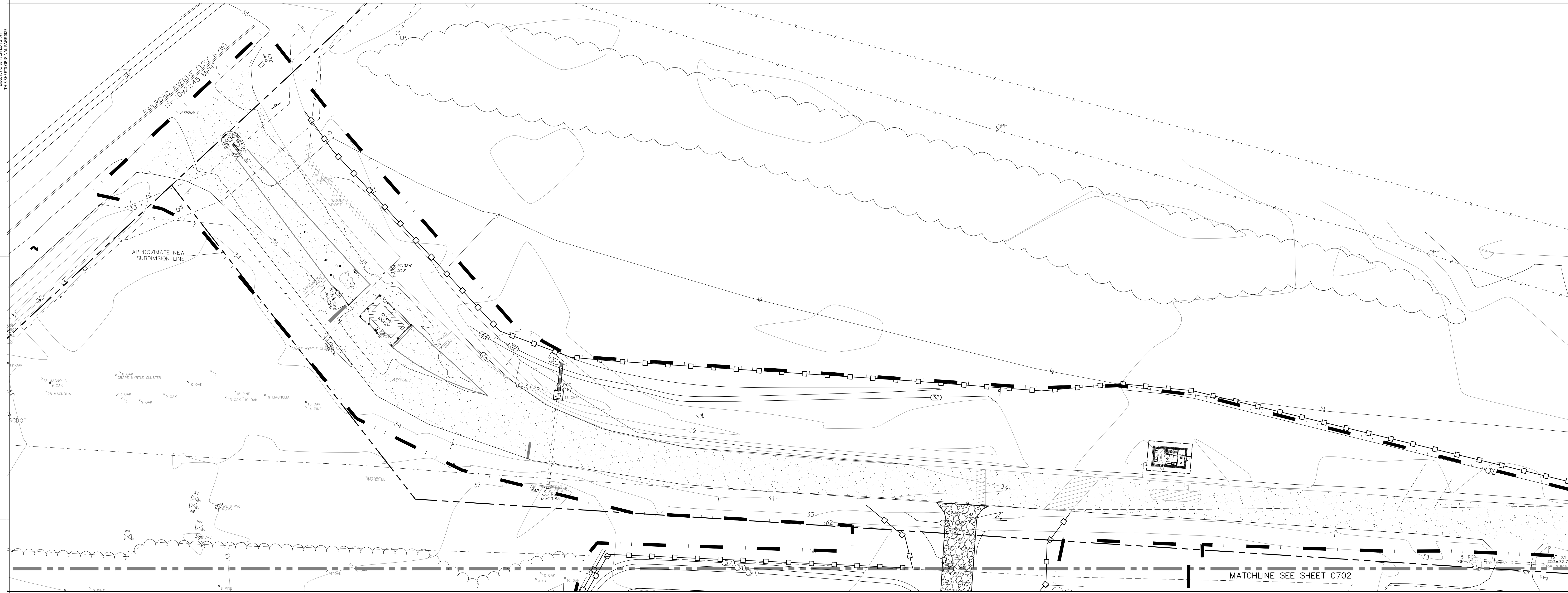
Δ DATE	DESCRIPTION

SHEET NAME:
INTERMEDIATE PHASE
EROSION CONTROL
PLAN - AREA B

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C703

PERMIT SET



AREA B

MATCHLINE SEE SHEET C702

GENERAL NOTES:

- SEE SHEET C001 FOR CIVIL NOTES AND ABBREVIATIONS.
- CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF THE PROJECT.
- CONTRACTOR SHALL CONTACT PALMETTO UTILITY LOCATION SERVICE AT 1-888-721-7877 PRIOR TO ANY WORK. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING AND PROTECTING ALL UTILITIES. CONTACT THE ENGINEER IN THE EVENT THAT UTILITIES CONFLICT WITH NEW FACILITIES.
- ALL PROJECT STAKEOUT SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR TO BE PAID FOR BY THE CONTRACTOR. FOR STAKEOUT, DO NOT RELY SOLELY ON THE PHYSICAL SCALE AS SHOWN IN DRAWINGS. REFER TO THE GIVEN DIMENSIONS, SYMBOL LEGEND, KEYNOTES, AND REFERENCED DETAILS FOR CORRECT STAKEOUT.
- ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.

KEYNOTES: ◊

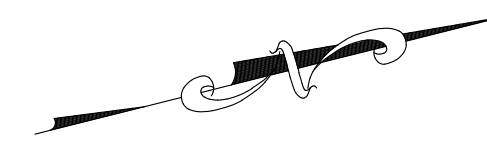
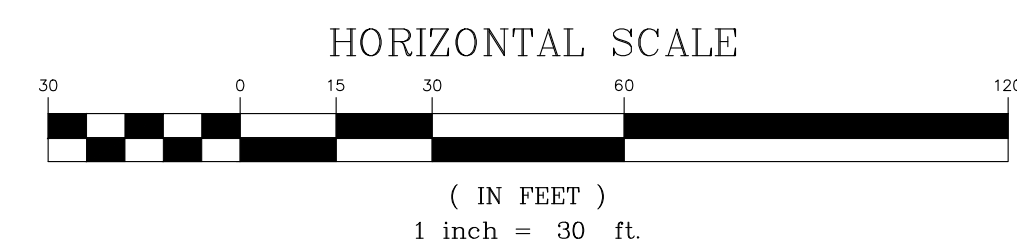
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- INSTALL CONCRETE WASHOUT IAW DETAIL C/C710.

CIVIL LEGEND – EROSION CONTROL

- (TS) TEMPORARY SEEDING – INSTALL IAW DETAIL A/C711.
- (PS) PERMANENT SEEDING – INSTALL IAW DETAIL A/C711.
- (LA) LANDSCAPING – INSTALL IAW LANDSCAPING DRAWINGS.
- SILT FENCE – INSTALL IAW DETAIL B/C710.
- TB— TREE BARRICADE – INSTALL IAW DETAIL D/C710.
- [Hatched Box] OVERFLOW WEIR – INSTALL IAW DETAIL D/C631.
- [Stone Ring] STONE FILTER RING – INSTALL IAW DETAIL D/C711.
- [Rip Rap] PERMANENT RIP RAP APRON – INSTALL IAW DETAIL G/C631.
- [Square with X] INLET PROTECTION – INSTALL IAW DETAIL C/711.
- [Skimmer] SKIMMER – INSTALL IAW DETAIL E/C710.

INTERMEDIATE PHASE LAND DISTURBANCE/SWPPP SEQUENCE OF CONSTRUCTION NOTES:

- CONDUCT CLEARING, TIMBERING AND DEMOLITION ACTIVITIES REQUIRED FOR EXCAVATION OF PONDS. DO NOT REMOVE STUMPS.
- EXCAVATE PONDS AND PLACE OUTFALL CONTROL STRUCTURE AS SHOWN ON PLANS WITH SKIMMER PLACED ON WATER QUALITY ORIFICE OF BOTH CONTROL STRUCTURES. PONDS WILL SERVE AS SEDIMENT BASINS DURING CONSTRUCTION.
- CLEAR AND GRUB REMAINDER OF SITE ONCE SEDIMENT BASINS HAVE BEEN INSTALLED.
- CONDUCT MASS GRADING AS SHOWN.
- ADJUST AND STABILIZE SILT FENCE AND SEDIMENT BASINS AS SITE IS BROUGHT TO ROUGH GRADE.
- INSTALL BUILDING PAD AS SHOWN AND CERTIFY TO OWNER.
- BEGIN BUILDING CONSTRUCTION.
- BEGIN INSTALLING SITE STORM DRAINAGE STRUCTURES AND INLET PROTECTION.
- TEMPORARILY SEED DISTURBED AREAS IAW THE PLANS, DETAILS AND THE CONSTRUCTION GENERAL PERMIT.
- MAINTAIN BEST MANAGEMENT PRACTICES THROUGH OUT CONSTRUCTION.
- COMPLETE INSPECTION REPORTS IAW CONSTRUCTION GENERAL PERMIT.



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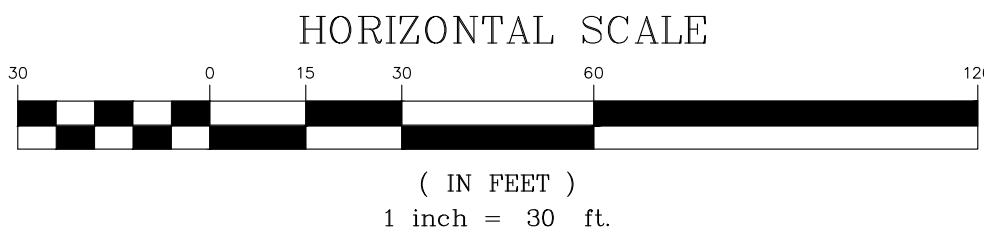
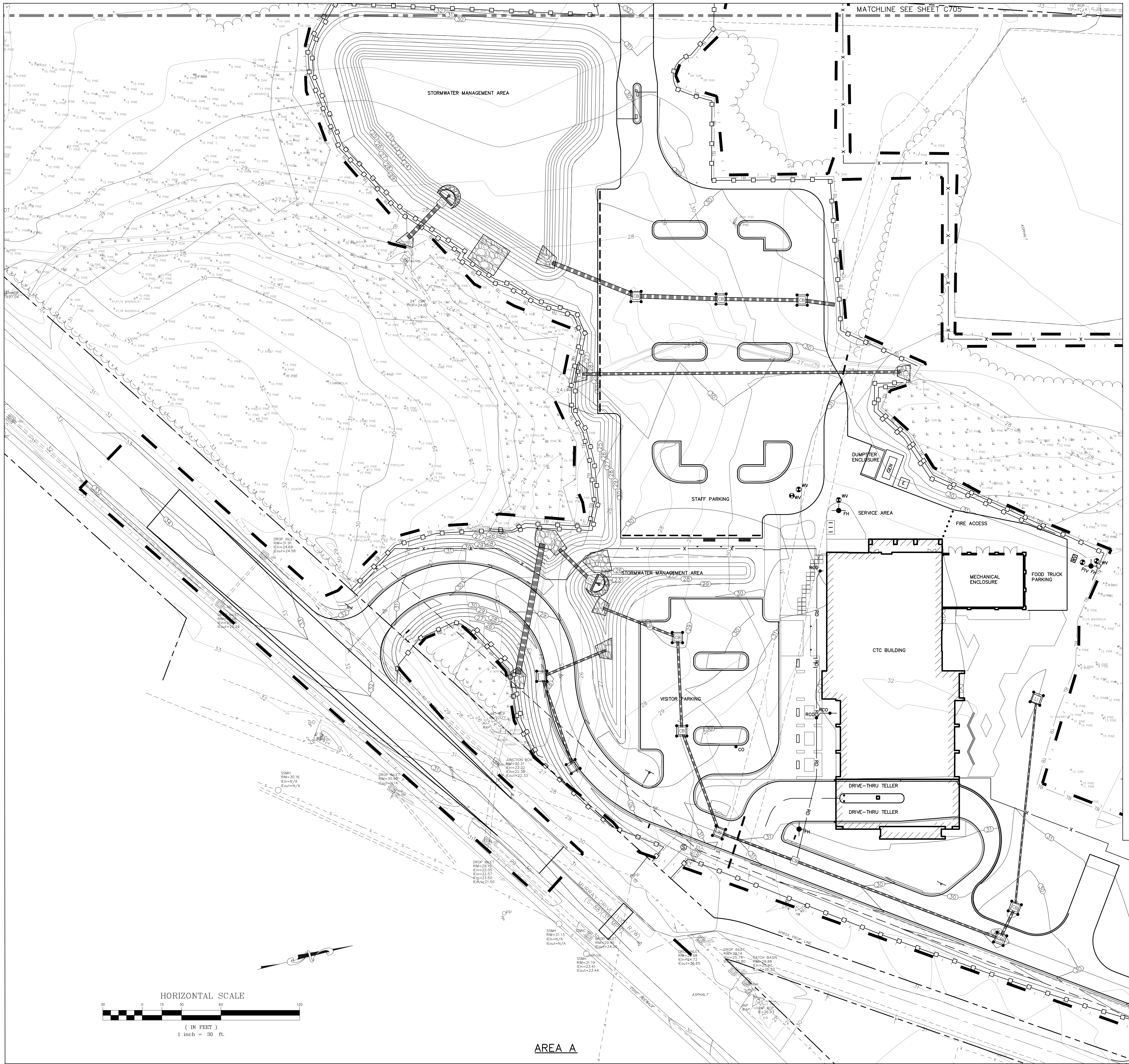
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AREA A











GENERAL NOTES:

1. SEE SHEET C001 FOR CIVIL NOTES AND ABBREVIATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
3. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF THE PROJECT.
4. CONTRACTOR SHALL CONTACT PALMETTO UTILITY LOCATION SERVICE AT 1-888-721-7877 PRIOR TO ANY WORK. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING AND PROTECTING ALL UTILITIES. CONTACT THE ENGINEER IN THE EVENT THAT UTILITIES CONFLICT WITH NEW FACILITIES.
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6. ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.

KEYNOTES:

1. INSTALL CONSTRUCTION ENTRANCE/EXIT IAW DETAIL A/C710
2. INSTALL SWPPP INFORMATION SIGN IAW DETAIL B/C711. APPROXIMATE LOCATION SHOWN, ACTUAL LOCATION TO BE DETERMINED BY CONTRACTOR.
3. INSTALL CONCRETE WASHOUT IAW DETAIL C/C710. APPROXIMATE LOCATION SHOWN, ACTUAL LOCATION TO BE DETERMINED BY CONTRACTOR.

CIVIL LEGEND — EROSION CONTROL

-  TEMPORARY SEEDING — INSTALL IAW DETAIL A/C711.
-  PERMANENT SEEDING — INSTALL IAW DETAIL A/C711.
-  LANDSCAPING — INSTALL IAW LANDSCAPING DRAWINGS.
-  SILT FENCE — INSTALL IAW DETAIL B/C710.
-  TREE BARRICADE — INSTALL IAW DETAIL D/C710.
-  OVERFLOW WEIR — INSTALL IAW DETAIL D/C631.
-  STONE FILTER RING — INSTALL IAW DETAIL D/C711.
-  PERMANENT RIP RAP APRON — INSTALL IAW DETAIL G/C631.
-  INLET PROTECTION — INSTALL IAW DETAIL C/711.
-  SKIMMER — INSTALL IAW DETAIL E/C710.

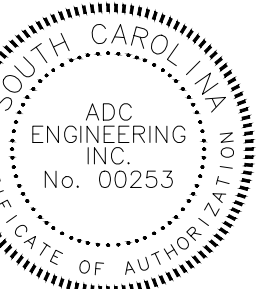
FINAL PHASE LAND DISTURBANCE/SWPPP SEQUENCE OF CONSTRUCTION NOTES:

1. GRADE SITE TO ELEVATIONS SHOWN ON PLAN. SEE GRADING PLANS FOR SPOT ELEVATIONS.
2. INSTALL INLET PROTECTION AS STRUCTURES ARE COMPLETED.
3. INSTALL/COORDINATE REMAINING UTILITIES.
4. PREPARE SITE FOR PAVING.
5. INSTALL CURBS, SIDEWALKS AND PAVE SITE.
6. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
7. COMPLETE REMAINING GRADING.
8. COMPLETE FINAL GRADING OF PERMANENT PONDS AND INSTALL OUTLET PROTECTION, IAW GRADING PLANS AND DETAILS. SKIMMER AND FILTER RINGS MUST REMAIN AT POND OUTLETS AS SHOWN UNTIL SITE IS STABILIZED.
9. PERMANENTLY STABILIZE DISTURBED AREAS IAW LANDSCAPE PLAN AND DETAILS.
10. MAINTAIN BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION.
15. CLEAN ALL STORM PIPES AND BOXES.
16. PREPARE THE STORMWATER AS-BUILTS AS INDICATED ON SHEET C720. SCHEDULE AN ONSITE INSPECTION WITH BERKELEY COUNTY, THE ENGINEER AND THE CONTRACTING OFFICER AFTER THE SITE IS FULLY STABILIZED.
17. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES INCLUDING SKIMMER, WEIR COVER AND FILTER RINGS IN PONDS AFTER APPROVAL OF THE ENGINEER AND THE CONTRACTING OFFICER AND STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF THE BEST MANAGEMENT PRACTICES.
18. CONTINUE INSPECTION REPORTS IAW CONSTRUCTION GENERAL PERMIT UNTIL THE SITE IS FULLY STABILIZED AND THE PERMIT MAY BE TERMINATED.



CHARLESTON WATER SYSTEM

ADC ENGINEERING
 1228 YEAMANS HALL ROAD
 HANAHAN, SC 29410
 843-585-6161
 ADCENGINEERING.COM



ARCH NAME _____ ARCH # _____

CWS Customer Technology

Center at HWTP

1104 HANAHAN ROAD
HANAHAN, SC 29410

LSP PROJECT: 1101-195570

DATE	DESCRIPTION

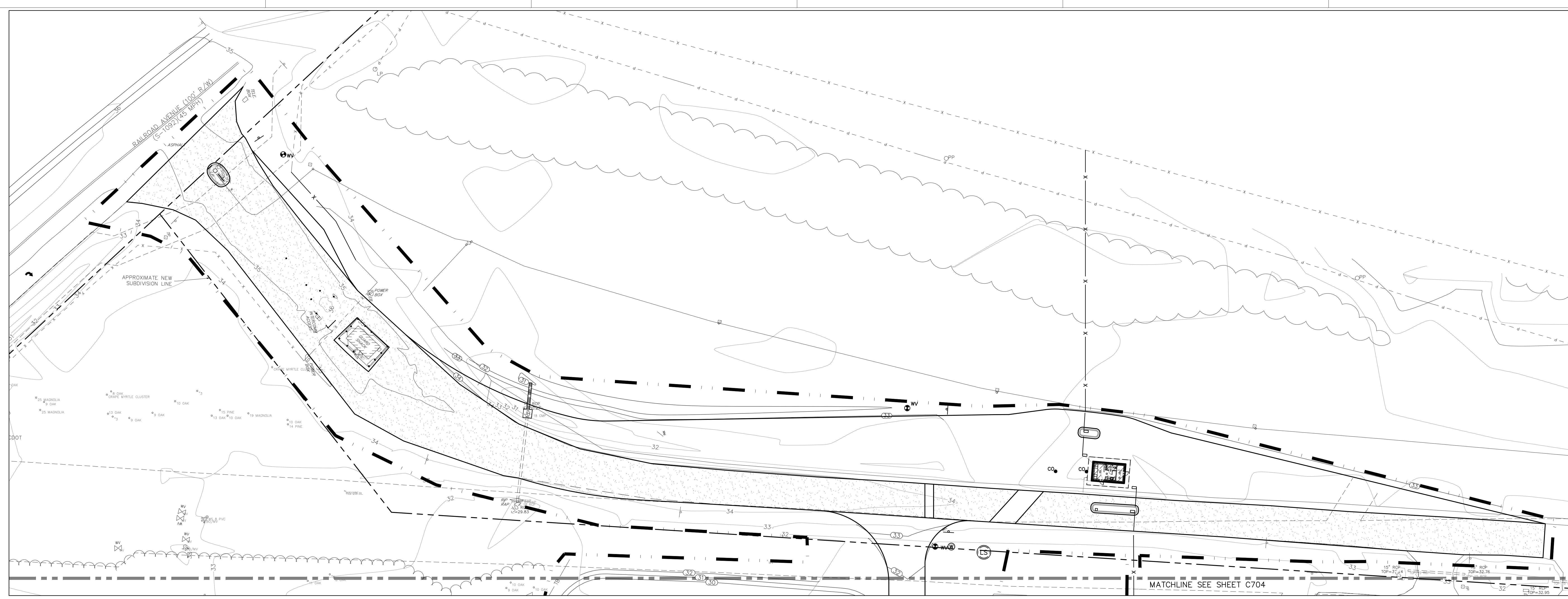
SHEET NAME:
 FINAL PHASE EROSION CONTROL PLAN - AREA A

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C704

PERMIT SET

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C
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A



AREA B

GENERAL NOTES:

- SEE SHEET C001 FOR CIVIL NOTES AND ABBREVIATIONS.
- CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF THE PROJECT.
- CONTRACTOR SHALL CONTACT PALMETTO UTILITY LOCATION SERVICE AT 1-888-721-7877 PRIOR TO ANY WORK. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING AND PROTECTING ALL UTILITIES. CONTACT THE ENGINEER IN THE EVENT THAT UTILITIES CONFLICT WITH NEW FACILITIES.
- ALL PROJECT STAKEOUT SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR TO BE PAID FOR BY THE CONTRACTOR. FOR STAKEOUT, DO NOT RELY SOLELY ON THE PHYSICAL SCALE AS SHOWN IN DRAWINGS. REFER TO THE GIVEN DIMENSIONS, SYMBOL LEGEND, KEYNOTES, AND REFERENCED DETAILS FOR CORRECT STAKEOUT.
- ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.

KEYNOTES: ◊

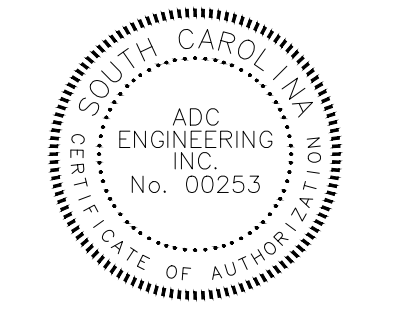
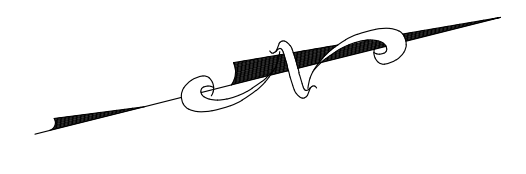
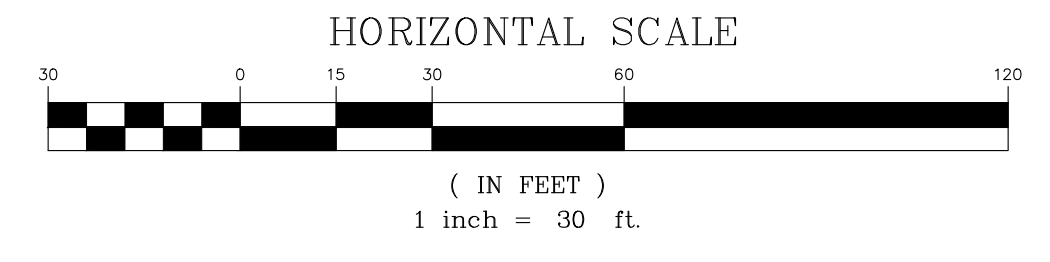
- INSTALL CONSTRUCTION ENTRANCE/EXIT IAW DETAIL A/C710
- INSTALL SWPPP INFORMATION SIGN IAW DETAIL B/C711. APPROXIMATE LOCATION SHOWN, ACTUAL LOCATION TO BE DETERMINED BY CONTRACTOR.

CIVIL LEGEND – EROSION CONTROL

- (TS) TEMPORARY SEEDING – INSTALL IAW DETAIL A/C711.
- (PS) PERMANENT SEEDING – INSTALL IAW DETAIL A/C711.
- (LA) LANDSCAPING – INSTALL IAW LANDSCAPING DRAWINGS.
- S — SILT FENCE – INSTALL IAW DETAIL B/C710.
- TB — TREE BARRICADE – INSTALL IAW DETAIL D/C710.
- [Hatched Box] OVERFLOW WEIR – INSTALL IAW DETAIL D/C631.
- [Stone Ring] STONE FILTER RING – INSTALL IAW DETAIL D/C711.
- [Rip Rap] PERMANENT RIP RAP APRON – INSTALL IAW DETAIL G/C631.
- [Box] INLET PROTECTION – INSTALL IAW DETAIL C/711.
- [Skimmer] SKIMMER – INSTALL IAW DETAIL E/C710.

FINAL PHASE LAND DISTURBANCE/SWPPP SEQUENCE OF CONSTRUCTION NOTES:

- GRADE SITE TO ELEVATIONS SHOWN ON PLAN. SEE GRADING PLANS FOR SPOT ELEVATIONS.
- INSTALL INLET PROTECTION AS STRUCTURES ARE COMPLETED.
- INSTALL/COORDINATE REMAINING UTILITIES.
- PREPARE SITE FOR PAVING.
- INSTALL CURBS, SIDEWALKS AND PAVE SITE.
- INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
- COMPLETE REMAINING GRADING.
- COMPLETE FINAL GRADING OF PERMANENT PONDS AND INSTALL OUTLET PROTECTION, IAW GRADING PLANS AND DETAILS. SKIMMER AND FILTER RINGS MUST REMAIN AT POND OUTLETS AS SHOWN UNTIL SITE IS STABILIZED.
- PERMANENTLY STABILIZE DISTURBED AREAS IAW LANDSCAPE PLAN AND DETAILS.
- MAINTAIN BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION.
- CLEAN ALL STORM PIPES AND BOXES.
- PREPARE THE STORMWATER AS-BUILTS AS INDICATED ON SHEET C720. SCHEDULE AN ONSITE INSPECTION WITH BERKELEY COUNTY, THE ENGINEER AND THE CONTRACTING OFFICER AFTER THE SITE IS FULLY STABILIZED.
- REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES INCLUDING SKIMMER, WEIR COVER AND FILTER RINGS IN PONDS AFTER APPROVAL OF THE ENGINEER AND THE CONTRACTING OFFICER AND STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF THE BEST MANAGEMENT PRACTICES.
- CONTINUE INSPECTION REPORTS IAW CONSTRUCTION GENERAL PERMIT UNTIL THE SITE IS FULLY STABILIZED AND THE PERMIT MAY BE TERMINATED.



ARCH NAME _____ ARCH # _____

CWS Customer Technology Center at HWTP
1104 HANAHAN ROAD
HANAHAN, SC 29410
LS3P PROJECT: 1101-195570

Δ DATE	DESCRIPTION

SHEET NAME:
FINAL PHASE EROSION CONTROL PLAN - AREA B

ORIG SUBMISSION: 04/20/2020
CURRENT: 09/16/2020

SHEET:
C705

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SCDHEC STANDARD NOTES:

- 1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.
- WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
- WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.
4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE SEDIMENT BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
7. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C. REG. 72-300 ET SEQ. AND SCR100000.
8. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
9. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.
10. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
11. A COPY OF THE SWPPP, INSPECTIONS RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
12. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
13. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.
14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
15. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.).
16. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:
- WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
- WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
- FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
- SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
17. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
18. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
19. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

DEWATERING NOTES:

- 1. THE DESIGN, ADEQUACY AND OPERATION OF ANY AND ALL DEWATERING ACTIVITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTIES, RIGHTS OF WAYS, NATURAL AREAS AND EXISTING UTILITY SYSTEMS FROM EROSION AND SEDIMENTATION ASSOCIATED WITH DEWATERING ACTIVITIES.
3. DEWATERING OF EXISTING PONDS OR LARGE PONDING AREAS SHALL ALWAYS UTILIZE A FLOATING INTAKE.
4. DEWATERING DISCHARGES SHALL ALWAYS BE DIRECTED THROUGH SUITABLE BEST MANAGEMENT PRACTICE (BMP) SUCH AS A TEMPORARY SEDIMENT POND/TRAP OR SEDIMENT TRAPPING DEWATERING BAG.
5. ALL DEWATERING ACTIVITIES SHOULD BE IN ACCORDANCE WITH THE SCDHEC CGP.

SCDHEC POST-CONSTRUCTION MAINTENANCE REQUIREMENTS

Table with 3 columns: SYSTEM, MAINTENANCE REQUIREMENTS, MAINTENANCE FREQUENCY. Rows include: A. VEGETATED AREAS, B. STORM DRAINAGE SYSTEM, C. WET DETENTION PONDS, D. DRY DETENTION PONDS, E. UNDERGROUND DETENTION, F. INFILTRATION BASIN, G. EXFILTRATION TRENCHES, H. BIO-RETENTION AREA, I. SAND FILTERS, J. GRASS LINED DITCHES AND SWALES, K. PRE-FABRICATED WATER QUALITY DEVICES, L. ENERGY DISSIPATORS, M. VEGETATED FILTER STRIPS, N. PERVIOUS PAVEMENT.

SCDHEC STORMWATER AS-BUILT/RECORD DRAWING REQUIREMENTS:

- 1. PRIOR TO SUBSTANTIAL COMPLETION AND PRIOR TO REQUESTING FINAL SITE INSPECTION BY SCDHEC THE CONTRACTOR SHALL PROVIDE AND RECEIVE APPROVAL OF AS-BUILT/RECORD DRAWINGS CONSISTING OF SURVEY DRAWINGS MEETING THE FOLLOWING REQUIREMENTS:
A. FIELD SURVEYED DRAWINGS BASED ON AN AS-BUILT SURVEY OF NEWLY CONSTRUCTED STORM WATER MANAGEMENT FACILITIES WITH:
(i) EXISTING GRADES/CONTOURS/DEPTHS OF THE FACILITY.
(ii) ELEVATIONS AND DIMENSIONS OF ALL INLET/OUTLET STRUCTURES, INCLUDING:
-PIPE AND ORIFICE INVERTS AND DIAMETERS.
-WEIR ELEVATIONS AND DIMENSIONS.
-RISER DIMENSIONS AND ELEVATIONS.
-EMERGENCY SPILLWAY DIMENSIONS AND ELEVATIONS.
-LOCATIONS AND INVERTS FOR ALL PIPES DISCHARGING INTO THE FACILITY.
-DETAILED SKETCHES OF THE STRUCTURES SHALL BE PROVIDED IF NECESSARY FOR CLARITY.
(iii) SPOT ELEVATIONS ALONG THE TOP, BOTTOM AND SHELVES OF THE FACILITY'S EMBANKMENT.
(iv) CONTOURS, DIMENSION, AND LOCATIONS OF ALL STRUCTURAL COMPONENTS (E.G., FOREBAYS, LEVEL SPREADERS, RIP RAP APRONS, INLET STRUCTURES, LOW FLOW CHANNELS) OF THE FACILITY.
(v) TABLE OF ELEVATIONS AND ASSOCIATED CONTOUR AREA AT EACH ELEVATION FOR STAGE/STORAGE VERIFICATION. IF FACILITY IS SEPARATED INTO DIFFERENT BASINS OR FOREBAYS, THE TABLE SHALL PROVIDE AREA DATA FOR EACH SEPARATE BASIN.
(vi) WETLAND AREAS.
B. AS-BUILT SURVEYS SHALL BE PREPARED IN STATE PLANE COORDINATES NAD 83 DATUM.
C. AS-BUILT SURVEYS SHALL BE PREPARED USING THE SAME VERTICAL DATUM AS USED ON THE APPROVED DESIGN PLANS.
D. ALL DRAWINGS SHALL BEAR THE FOLLOWING STATEMENTS SIGNED BY THE SURVEYOR:
" I HEREBY SIGN, DATE AND AFFIX MY SEAL TO CERTIFY THAT THE AS-BUILT/RECORD DRAWING SURVEY SHOWN IS CORRECT AND ACCURATE."
S.C. REGISTERED PROFESSIONAL LAND SURVEYOR

2. THE CONTRACTOR SHALL SUBMIT PRELIMINARY VERSIONS OF THE AS-BUILT/RECORD DRAWINGS TO THE (CONTRACTING OFFICER)(ENGINEER) FOR REVIEW PRIOR TO SUBMITTING TO SCDHEC FOR REVIEW.

3. UPON RECEIPT OF ANY COMMENTS FROM THE (CONTRACTING OFFICER)(ENGINEER), THE CONTRACTOR SHALL MAKE ALL NECESSARY CORRECTIONS AND RESUBMIT FINAL VERSIONS OF THE AS-BUILT/RECORD DRAWINGS TO THE (CONTRACTING OFFICER)(ENGINEER) FOR FORWARDING TO SCDHEC FOR REVIEW AND/OR APPROVAL.

4. UPON RECEIPT OF ANY COMMENTS FROM SCDHEC, THE CONTRACTOR SHALL MAKE ALL NECESSARY CORRECTIONS AND RESUBMIT CORRECTED FINAL VERSIONS OF THE AS-BUILT/RECORD DRAWINGS TO THE (CONTRACTING OFFICER)(ENGINEER) FOR FORWARDING TO SCDHEC FOR REVIEW AND/OR APPROVAL.

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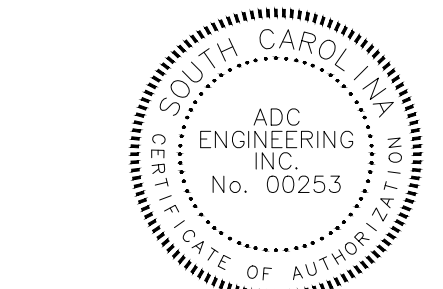
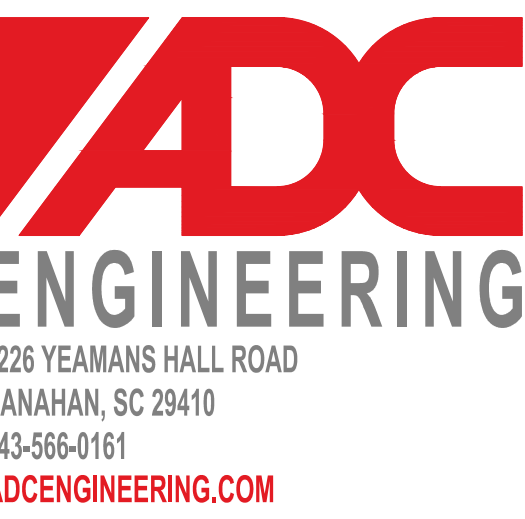
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CHARLESTON WATER SYSTEM



ARCH NAME ARCH #

CWS Customer Technology Center at HWTP 1104 HANAHAN ROAD HANAHAN, SC 29410 LSP PROJECT: 1101-195570

Table with 2 columns: DATE, DESCRIPTION. Multiple empty rows for recording changes.

SHEET NAME: CIVIL DETAILS - EROSION CONTROL

ORIG SUBMISSION: 04/20/2020 CURRENT: 09/16/2020

SHEET: C720

PERMIT SET