

SUBDIVISION AND DEVELOPMENT PLAN APPLICATION

See subdivision hand-outs for more information regarding the permitting process and the materials required for a complete application.

NOTE: Must be accompanied by a DEVELOPMENT PERMIT APPLICATION form.

To be completed by Applicant

PROJECT SUMMARY SUBDIVISION B
BLACETAILE MOUNTAIN ESTATES
 Number of Existing Parcels 1 Total Land Area 18 acres Number of Resulting Parcels 4

HAS THE PARCEL BEEN CREATED BY A MINOR SUBDIVISION IN THE PRECEDING 24 MONTHS
 NO YES Case Number _____

TYPE OF SUBDIVISION OR PLATTING APPROVAL REQUESTED

<p style="text-align: center;"><u>MINOR DEVELOPMENT</u> (changing or creating 13 or fewer lots)</p> <p><input type="radio"/> Preliminary Plat (MIP)</p> <p><input type="radio"/> Final Plat (MIF)</p> <p><input type="radio"/> Panhandle Subdivision</p> <p><input type="radio"/> Accretion Survey</p> <p><input type="radio"/> Boundary Adjustment</p> <p><input type="radio"/> Lot Consolidation (SLC)</p> <p><input type="radio"/> Bungalow Lot Subdivision</p> <p><input type="radio"/> Common Wall/Zero Lot Subdivision</p> <p><input type="radio"/> Other _____</p>	<p style="text-align: center;"><u>MAJOR DEVELOPMENT</u> (changing or creating 14 or more lots)</p> <p><input checked="" type="radio"/> Preliminary Plat (SMP)</p> <p><input type="radio"/> Final Plat (SMF)</p> <p><input type="radio"/> Preliminary Development Plan – PUD (PDP)</p> <p><input type="radio"/> Final Development Plan – PUD (PDF) Preliminary</p> <p><input type="radio"/> Development Plan – ARS (ARP) Final</p> <p><input type="radio"/> Development Plan – ARS (ARF)</p> <p><input type="radio"/> Bungalow Lot Subdivision</p> <p><input type="radio"/> Common Wall/Zero Lot Subdivision</p> <p><input type="radio"/> Other _____</p>
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ALL REQUIRED DOCUMENTS ATTACHED

Pre-application conference notes

Narrative including:

- Legal description(s) of property to be subdivided
- Existing structures on the land
- Zoning district
- Density
- Access
- Current and proposed use of any structures
- Utilities available
- Unique characteristics of the land or structure(s)

Preliminary Plat checklist

-----DEPARTMENT USE ONLY BELOW THIS LINE-----

SUBDIVISION/PLATTING FEES	Fees	Check No.	Receipt	Date
Application Fees	\$ <u>440</u>			
Admin. of Guarantee	\$ <u> </u>			
Adjustment	\$ <u> </u>			
Total Fee	\$ <u>440</u>			

For assistance filling out this form, contact the Permit Center at 586-0770.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

Case Number <u>Smp 21-008</u>	Date Received <u>12/2/21</u>
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PRELIMINARY PLAT CHECK LIST

Name of Proposed Subdivision: BME "B"

The following items must be included with the initial submittal of a Preliminary Plat:

- Application, filled out completely
- Project Narrative
- Pre-application Conference Report
- Disclosure of all known environmental hazards and any proposed mitigation measures recommended in the applicable environmental document.
- Preliminary Plat Checklist: I have reviewed the checklist and all submittals for completeness and accuracy.
- Application fee (see fee schedule)
- Five (5) – 24" by 36" Copies
- Lot Closure Report

[Signature]
Applicant or Surveyor - Signature

12/2/21
Date

Applicant or Surveyor - Print Name

GENERAL REQUIREMENTS

- The preliminary plat shall be prepared by a professional land surveyor, registered in the State of Alaska
- The preliminary plat shall be submitted on 22 by 34 inch sheets. The director of engineering and public works may approve alternate sheet sizes
- The preliminary plat shall be drawn with black ink to a scale of one-inch to 100 feet or less, or other suitable scale approved by the director of engineering and public works
- The preliminary plat shall be oriented with north toward the top of the sheet.
- A vicinity map shall be located in the upper right-hand corner of the sheet
- The vicinity map shall be oriented in the same direction as the plat
- A suitable north arrow shall be shown for the plat and vicinity map
- All line work and lettering must be of professional quality, and all line widths and lettering sizes must be of such size that all information can be clearly shown without overlap or confusion

GRAPHIC REQUIREMENTS - A preliminary plat shall contain the following information:

Title block - An enclosed title block in the lower right-hand corner containing the following information:

- The proposed name of the subdivision
- The legal description of the parcel to be subdivided including U.S. Survey, U.S. Mineral Survey, A.T.S. number or section, township, and range number, as applicable
- "City and Borough of Juneau, Alaska"
- "State Recorder's Office at Juneau"
- The date the preliminary plat was prepared and revised
- The horizontal scale
- The name and address of the owner of record
- The name, address, and telephone number of the surveyor preparing the preliminary plat

Lot, block, and street information:

- The area of each lot
- The dimensions in feet and hundredths of a foot
- An identifying number and letter for lots and blocks
- Lots numbered consecutively, commencing with the number "1," with no omissions or duplications
- If the remainder of an original parcel being subdivided is relatively large, it shall be designated as a "tract" with an identifying number
- All parcels of land intended to be dedicated for public use or reserved for the use of all of the property owners in the proposed subdivision shall be shown as lots, and consecutively numbered. The purpose and any conditions or limitations on the use of the parcel shall be noted on the plat
- Abutting properties shall be shown with dashed lines, numbers, and/or letters
- For subdivisions or public way vacations, the lines and legal description of the previous lots shall be shown with light dashed lines, numbers, and/or letters, or by a separate plat on the same sheet showing the previous lot lines
 - The minimum data shown for each curve shall be as follows:
 - Length
 - Central angle
 - Radius
 - Bearing and distance of long chord
- Setbacks shall be shown on all corner lots and any lots with multiple frontage. Setbacks shall be shown on typical lots

Boundary lines:

- All boundary lines of the subdivision with bearings and distances described
- All retraced boundary lines shall show record and measured bearings and distances where they differ. Record dimension information shall be shown within parentheses and include a record source identification
- The exterior boundary lines of the subdivision shall be a solid black opaque line that is of a width that distinguishes it from all other property lines shown on the plat
- If phasing is proposed, then the boundaries and number of each phase, sequential lot numbering, and a subdivision name consistent with previous phases shall be shown

Monumentation:

- The monuments used to establish the basis of bearing
- Each monument found or set shall be identified on the plat by a symbol
- A complete description of the monument, including type and all information printed on the cap. A typical drawing shall be shown for each type of monument cap set
- A legend showing the symbols for all the types of monuments
- The identification, description location, elevation, and datum of the benchmark used to establish vertical control

Site access, circulation, and utilities:

- The widths and names of existing rights-of-way within the subdivision and within 100 feet of the subdivision boundary
- Proposed rights-of-way, including their widths and proposed names
- The grades of existing and proposed streets within these rights-of-way
- The width, ownership, use, and record reference of all proposed and existing easements within the subdivision and within 100 feet of the subdivision boundary
- The width, ownership, and use of all proposed easements

- All proposed and existing easements shall have sufficient dimensions shown to determine their location on the ground
- Existing trails or pathways within the subdivision and within 100 feet of the subdivision boundary, including the width of any associated rights-of way or easements
- Proposed trails or pathways and widths of their rights-of-way
- If the plat submitted covers only a part of the tract under the control of the applicant, a sketch plat of the prospective street system of the unplatted part shall be submitted
- The location of any existing or proposed driveways/curb cuts that access or are proposed to access any existing or proposed street

Topographic information:

- For slopes of less than five percent, show one foot contour lines and include spot elevations at all breaks in grade, along all drainage channels or swales, and at selected points not more than 100 feet apart in all directions
- For slopes between five percent and ten percent, show two foot contour lines
- For slopes greater than ten percent, show five foot contour lines
- Every fifth elevation contour shall be distinctive and clearly labeled
- Dashed lines shall represent existing contours
- Mapping shall include any significant features which can materially affect the design of the subdivision, including, but not limited to, structures, fences, walls, and utility poles
- If irregular slopes or special features are present, additional contour information may be required by the director of engineering and public works for planning or construction purposes. Additional required information may include projecting the topography of the site after grading has taken place, showing such items as:
 - Pad elevations and drainage patterns for each lot
 - Tops and toes of all manufactured slopes, including daylight lines
 - Existing and proposed retaining wall locations and heights
- For subdivisions located in hillside areas with slopes greater than eighteen percent, additional requirements apply in accordance with CBJ 49.70, Article II

Sewer and water:

- Existing sewer and water mains within the tract with pipe sizes and grades
- A draft plan for proposed water and sewer lines showing the size, approximate slope, and connection points with elevations for the purpose of determining the feasibility of construction

Multisheet plats:

- When a plat requires more than one sheet, exclusive of a certificate sheet, an index sheet shall be included. When a plat requires more than three sheets, a cover sheet shall also be included, showing the subdivision title, a key map, and all certificates. Each additional sheet shall include the following data:
 - North arrow
 - Legend
 - Surveyor's seal and signature
 - Title block
 - Sheet _____ of _____
 - Scale
 - All plat notes
 - Vicinity map

Preliminary Plat Checklist

Updated 1/2018

Page 4 of 5

ADDITIONAL MAPPING OR REPORTS- *At the pre-application meeting, it will be determined if any of the following additional mapping or reports are required to be submitted with the preliminary plat. If required, the following additional mapping or reports shall be submitted:*

Hazard and Special Habitat Areas:

- Any portion of a special flood hazard area, landslide or avalanche area, habitat area as defined by CBJ 49.70.310, or watersheds, either existing at the proposed subdivision site or shown on the overlay maps, adopted pursuant to this title, to exist at the proposed subdivision site, must be depicted on the preliminary plat
- The boundaries of any wetland areas must be depicted on the preliminary plat. Boundaries must be determined by a person qualified to perform wetland delineations

Soils report:

- A soils report prepared by an engineer licensed by the State of Alaska shall be required if the proposed subdivision is located farther from the existing public sewer system than specified in CBJ 49.35, and the applicant chooses to provide on-lot waste disposal rather than to connect to the public system. A soils report shall include the following:
 - Certification that the proposed lots are large enough and have soil of sufficient permeability to permit the construction of approved waste treatment systems for on-lot waste disposal
 - The location and size of drain fields for each lot
 - The locations and logs of test borings, percolation test results, and a hydrological evaluation of on-site sewage disposal
 - If the soils report indicates that the soils found on the site are not of sufficient permeability or the lots are not large enough to permit the construction of systems for on-lot waste disposal, the size of the proposed lots must be increased or alternate methods for waste disposal proposed
 - The soils report shall describe the nature of the subsurface soils and any soil conditions that would affect the design of the proposed development. The soils report shall state whether the proposed subdivision plan is feasible and provide general solutions for all known geotechnical conditions or problems

Drainage report:

- A preliminary report specifying the method by which the applicant proposes to manage surface and subsurface drainage for the subdivision and the effect of such method on adjacent areas. Unlike the drainage plan required by CBJ 49.35.510, the preliminary drainage report does not need to be prepared by a licensed engineer. The report must address the following:
 - A calculation of the increase in stormwater runoff resulting from the proposed development as well as the runoff from all drainage areas associated with the site. Runoff calculations shall be based on a fully-developed subdivision and a 25-year storm event
 - How drainage from the proposed subdivision will join an established drainage channel or channels, unless the director of engineering and public works approves use of an alternative drainage way
 - An evaluation of existing drainage ways and structures located between the subdivision and the receiving water body, and verification that the existing drainage ways can accommodate the increased runoff. If the increased runoff cannot be handled, the plan must propose solutions to the problem
 - All required improvements, on or off site, that are shown on the construction plans in accordance with CBJ 49.35, Article V, and that will be constructed as part of the subdivision

Water:

- For subdivisions of five or more lots, including major subdivisions, the following shall be included, where applicable, in accordance with CBJ 49.15.412:
 - If a proposed subdivision is located at greater distance from the existing public water system than specified in CBJ 49.35, Article III, and the applicant chooses not to connect to the public system, a statement that the applicant will provide a community water system or that individual wells will be used

- A report by a registered engineer or geologist that clearly supports the legal and physical availability of adequate water. Methods for proof of water availability and the standards for quantity are listed in CBJ 49.35, Article III
- A copy of the State application for a permit to appropriate water in the quantity required to meet the subdivisions demands
- This does not apply to remote subdivisions unless: the subdivider of the remote subdivision chooses to provide potable water, a public water system is available and the subdivision falls within the criteria outlined in CBJ 49.35.310(a), or the subdivision has four or fewer lots.
- The director for minor subdivisions, and the planning commission for major subdivisions, may, for good cause, temporarily waive the requirement to provide a water report and proof of water, and condition the approval of the preliminary plat upon the provision of both documents as part of the final plat application and approval process.

Erosion control: *SWPPP being finalized*

- A report explaining the method by which the applicant proposes to control erosion and manage runoff, and potential impacts to adjacent properties or water bodies. The report shall include a plan for preservation of ground cover in areas where runoff and resulting erosion need to be minimized.

Traffic study: *NA*

- A traffic impact analysis may be required with the preliminary plat in accordance with CBJ 49.40.300.

Shadow plats:

- For subdivisions of five or more lots in transition areas, a shadow plat shall be submitted according to CBJ 49.70.710. The shadow plat shall consist of a sketch superimposed on the proposed subdivision layout. This sketch shall reflect any future resubdivision of the parcels into smaller lots consistent with the higher density and the lot size allowed under the transition zoning.



(907) 586-0715
 CDD_Admin@juneau.org
 www.juneau.org/CDD
 155 S. Seward Street • Juneau, AK 99801

Peel Subdivision above Bonnie Brae

Case Number: PAC2019 0062

Applicant: Bruce Griggs, Peter Peel, Gabe Hayden

Property Owner: Peter Peel

Property Address: Not Assigned

Parcel Code Number: 6D0801110010

Site Size: 3,964,656 Square Feet (91.0160 Acres)

Zoning: D3

Existing Land Use: Vacant

Conference Date:	September 11, 2019
Report Issued:	September 18, 2019

List of Attendees

Note: Copies of the Pre-Application Conference Report will be emailed, instead of mailed, to participants who have provided their email address below.

Name	Title	Email address
Bruce Griggs Gabe Hayden Peter Peel	Applicants	Brucegriggs@hotmail.com Hayden@katabaticeng.com Pppeeel84@gmail.com
Laurel Christian Amy Liu	Planning	Laurel.Christian@juneau.org Amy.Liu@juneau.org
Autumn Sapp	General Engineering	Autumn.Sapp@juneau.org
Kyle Paw	Permits	Kyle.Paw@juneau.org

Conference Summary

Questions/issues/agreements identified at the conference that weren't identified in the attached reports.

The following is a list of issues, comments and proposed actions, and requested technical submittal items that were discussed at the pre-application conference.

Planning Division

1. **Zoning** – D3 zone district. Minimum lot size is 12,000 sq. ft. Minimum lot width and depth are 100' each. Preliminary plat requirements are found in CBJ 49.15.411. Final plat requirements are found in CBJ 49.15.412.
2. **Setbacks** – D3 setbacks: 25' front and rear; 10' side; 17' street side. Parcel is surrounded on the east, west, and south by Rural Reserve zoning. When two different zoning districts touch, the greater of the two setbacks applies on the common property line. Rural reserve zoning district setbacks: 25' front and rear; 15' side; and 17' street side.
 - a. The front yard setback is measured from the shared access.
3. **Height** – 35' permissible uses; 25' accessory uses
4. **Access** – There are 3 undeveloped ROW's that provide frontage to the subject parcel, Bonnie Doon Dr., Sherri St., and Wee Burn Dr.
5. **Shared Access Subdivision Requirements** – A parcel can only create 1 shared access subdivision. The applicant must first subdivide the large tract into 3 tracts. The 3 large tracts can then be subdivided into the shared access lots. See CBJ 49.35.260 for full details of Shared Access Subdivisions. Some key points are summarized below:
 - a. The shared access easement shall be 50' wide. This width will not be waived due to the large size of the parcels and potential for further subdivision.
 - b. Applicant must submit a preliminary plan and profile of the proposed shared access and a proposed access easement, drainage, and utility agreement for review by CBJ.
 - c. The shared access can only serve 4 or fewer lots. A lot may not have frontage on two shared access easements (Lot B3 has frontage on 2 shared accesses).
 - i. Each lot is limited to a single-family dwelling and accessory apartment. A plat note will be required.
 - d. Shared access is prohibited if the subdivision abuts a parcel that does not have alternative and practical frontage on a publically maintained right-of-way.
 - i. USS 4605 FR to the east of the subject parcel does not have frontage on a ROW. The developer will be required to provide access to the subject parcel through a ROW which can be accepted for public maintenance by CBJ. The developer may apply for a roadway construction standards waiver through CBJ 49.35.240(i) (4).
 - ii. The access requirements for the CBJ parkland parcel may be waived in accordance with CBJ 49.15.422.
 - e. The portion of the shared access in the ROW or the first 20 feet from the edge of the public roadway shall be paved, whichever length is greater.
 - f. All lots must meet the minimum lot size and dimensions for the zone district excluding the shared access easement.

- g. Once the preliminary plat is approved, the shared access must be constructed. The applicant cannot bond for this requirement.
- 6. **Parking & Circulation**– A single-family dwelling requires 2 parking spaces, an accessory apartment requires 1 parking space.
- 7. **Traffic** – A single-family dwelling generates 9.52 average daily trips (ADTs) and an accessory apartment generates 6.65 ADTs. The subdivision would be limited to 12 single-family dwellings, each could have one accessory apartment. The ADTs for 12 single-family dwellings and 12 accessory apartment is 194. The requirement for a Traffic Impact Analysis (TIA) is not triggered (CBJ 49.40.300(a) (2)).
- 8. **Lot Coverage** – 35% permissible or conditional uses
- 9. **Vegetative Coverage** – 20% minimum
- 10. **Wetlands** – There are wetlands on the southern portion of the subject parcel. A Wetlands delineation is required.
- 11. **Habitat** – (Eagle – remind applicant to check with Feds; Riparian, etc.) – No known at this time.
- 12. **Plat or Covenant Restrictions** – Easements should be shown on the preliminary plat.
- 13. **Public Use Lots** – If land is set aside for open space, natural area park, conservation lots, or similar uses, the Director (minor subdivision) or commission (major subdivision) may waive dimensional standards and access/frontage requirements for the public use lot. See CBJ 49.15.422 for full list of requirements.

Building Division

- 14. **Building**
- 15. **Outstanding Permits** -

General Engineering/Public Works

- 16. **Engineering** –
 - a. **Driveway:** Driveway grades in excess of 14% are beyond what is allowed by code. For driveway grades steeper than 14%, the driveway will need to be designed and inspected by an Alaskan licensed civil engineer at cost to the developer. Please do note the fire code restricts grade to 10%. For shared access the driveway must be installed and accepted prior to the recording of the final plat.
 - b. **Easements:** Site plan (plat) shall include all existing (and proposed) easements for drainage, utility lines including plumbing lines, access, snow storage, trash (dumpster) storage, or any other shared use that requires crossing the property line.
 - c. **Agreements:** A maintenance and hold harmless (of CBJ) agreement will need to be drafted, signed, and recorded for all shared infrastructure for the development, e.g. driveway, water, sewer, etc.
- 17. **Drainage** – Submit a drainage plan indicating how drainage from the proposed subdivision will join an established drainage channel or structures. Easements must be provided on the plat for all established drainage ways or any proposed drainage ways that cross any current or future abutting property lines.
- 18. **Utilities** – (water, power, sewer, etc.) - A minimum of 1" water service and 4" sewer service will need to be installed to the property line of each newly created lot within one-year of recording of the plat. At the time of preliminary plat submittal, please submit a construction plan with for the new utilities. The plan needs to include pipe locations, sizing, for both water and sewer and grades for sewer to indicate appropriate fall will be achieved. The construction plan can be shown on an existing as-built drawing that also includes existing features such as structures and other existing utilities.

The following permits will need to be obtained to provide utilities to the newly created lot:

- a. **CBJ right-of-way (ROW) permit**- Once the construction plan for the utilities is approved, CBJ will create the ROW permit. The permit will allow the tapping of the water and sewer mains, water and sewer service installation, and road restoration within the right-of-way. Inspection fees, refundable bond amount, and conditions will be determined after review of the proposed construction plan. The extension of the utilities within the property will require further permitting and fee assessments. This process is done separately from the subdivision and typically in conjunction with the building permit application.
- b. **Shared sewer** - Depending on your development plan you may request to share the existing sewer line. To determine if this will be feasible it is advised to speak with an Alaskan licensed mechanical engineer to determine if the existing pipe will provide the capacity required. This option would require the point of tie in to be within the private property. The shared line would need to be eased and a maintenance agreement will need to be recorded by you that would run with the properties involved.

Fire Marshal

19. Fire Items/Access –

- a. Minimum width for access road is 20 feet drivable surface.
- b. The material can be anything that when compacted can support a minimum of 75,000 pounds vehicle weight. Due to the potential length of road, there is going to be a required apparatus access turn around, unless, every structure built on the road has a sprinkler system.
- c. There will also have to be additional fire hydrants added. We would need to know where the nearest hydrant is to base measurements from. For residential the hydrant spacing is no more than 500 feet apart with a minimum fire flow requirement of 1,500 gallons per minute depending on the construction material used to build.
- d. A hammerhead turn around can be used if desired, where ever it is placed, there has to be signage stating it is for emergency use only and no parking allowed.
- e. By fire code, maximum grade is 10% unless approved by fire code official. Depending on how steep the grade is, it may or may not be allowed to be increased, we would need to know what the range is. The grade can be allowed to be steeper if again, all structures built on road have sprinkler system installed.

Other Applicable Agency Review

20. DOT&PF / Alcohol Beverage Control Board / Army Corps / DEC (wastewater) / DNR / USF&W / F&G / FAA / Corrections...
- 21.

List of required applications

Based upon the information submitted for pre-application review, the following list of applications must be submitted in order for the project to receive a thorough and speedy review.

1. Subdivision Application
2. Development Permit Application

Additional Submittal Requirements

Pre-Application Conference Final Report

Submittal of additional information, given the specifics of the development proposal and site, are listed below. These items will be required in order for the application to be determined Counter Complete.

1. A copy of this pre-application conference report.
2. Preliminary Plat Checklist
3. Wetlands Delineation
4. Preliminary plan and profile of the proposed shared access and a proposed access easement, drainage, and utility agreement

Fee Estimates

The preliminary plan review fees listed below can be found in the CBJ code section 49.85.

Based upon the project plan submitted for pre-application review, staff has attempted to provide an accurate estimate for the permits and permit fees which will be triggered by your proposal.

1. Minor Subdivision Fees
 - a. \$400.00 plus \$25 for each resulting lot
2. Major Subdivision Fees
 - a. Preliminary Plat - \$110.00 per lot
 - b. Final Plat - \$70.00 per lot
 - c. Public Notice Sign Fee - \$50 plus \$100 refundable deposit
3. ROW Permit (work within the ROW):
 - a. \$10 permit fee
 - b. Inspection fees - \$60 per inspection trip or hour, will be determined at time of construction plan review
 - c. Refundable bond – will be determined at time of construction plan review. Can be paid in the form of cash, check, surety, or conveyance.
4. Bond fee – dependent on type of bond payment.

For informational handouts with submittal requirements for development applications, please visit our website at www.juneau.org/cdd.

Submit your Completed Application

You must submit your application(s) in person with payment made to:

City & Borough of Juneau, Permit Center
230 South Franklin Street
Fourth Floor Marine View Center
Juneau, AK 99801

Phone: (907) 586-0715
Fax: (907) 586-4529
Web: www.juneau.org/cdd

Site Geotechnical Memo

PROPERTY OWNER:

Name: Peter Peel
Email: pppeel84@gmail.com

PROPERTY REFERENCE:

Legal: USS 471 FR
Address: NHN
Juneau, AK 99801
Physical: Lat: 58.324248°
Long: -134.499248° (reference google earth)

SUMMARY

- The site is suitable for the proposed development.
- The southern portion of the parcel consists of muskeg, and the proposed development aims to minimize site work within the muskeg zone.
- The northern portion of the parcel consists of a forested zone with a shallow colluvium overlying bedrock. Nine of the twelve proposed lots are to be located within this zone.

NARRATIVE

Site conditions were determined by visual observation between 2019 and 2021. No subsurface investigation was conducted in support of this memo as the site is largely undeveloped and inaccessible to construction machinery. Visual observations were supported by the USGS report Surficial Geology of the Juneau Urban Area and Vicinity, Robert Miller 1972. The historical quarry on Tract C allowed for observation of the bedrock and soil profile at that location.

The site can be broadly divided into two distinct zones. The southern two-thirds of the original parcel (USS 471 FR) consist of flat muskeg, and the northern third of the parcel consist of steep terrain with exposed or shallow bedrock overlain with forested peatland. The proposed Lots C4, B3, and B4 comprise the entirety of the southern two-thirds of the original parcel, and the remaining 9 proposed lots are located on the northern third. The CBJ parcel Bonnie Brae Estates II Park Site shares general geologic characteristics with the northern third of the original parcel. These general zones are shown in the figure below.

Site Geotechnical Memo



The 'Flat Muskeg' zone in the figure above lies on a bench between approximately 300-400 feet above sea level. The muskeg is assumed to be typical of other muskegs on Douglas Island with 10 feet or less of peat overlying a low permeability glacial till unit. Any development within this zone required the removal of all peat within the footprint of all building pads prior to the placement of structural fill. This involves the excavation of a large quantity of peat for each building site, and as such the proposed development within this zone has been limited to three large lots. The size of the proposed lots allows the most advantageous subsurface conditions to be identified during site development and the building pads targeted for these locations.

The northern zone climbs from approximately 160 feet elevation to 300 feet elevation, with the rock knob on the CBJ Park Site reaching an elevation of 400 feet. The bedrock generally consists of volcanic graywacke and slate. Bedrock outcrops can be observed along the steep slope running east/west that forms the dividing line between the forested zone and the upper muskeg bench. The CBJ park site is largely exposed bedrock, and the quarry on the proposed lot C3 exposes the bedrock section to a depth of approximately 30 feet. A poorly drained colluvium is assumed to cover the bedrock below the steep slope discussed above, and a shallow layer of forest duff was observed to cover the colluvium throughout this zone. In general the colluvium makes for a poor structural foundation and care should be taken to remove native soils within the footprint of all building pads down to either bedrock or a competent bearing soil prior to construction of the structural fill house pads or driveways. Development of house pads on the steep flanks of the rock knob on the CBJ Park Site is not recommended due to the hazard of mass wasting from the rock knob.

Site Geotechnical Memo

Newly created slopes are to be graded at 2H:1V unless otherwise noted on the construction drawings, and vegetative cover re-established on the entire site per the construction plans, the CBJ stormwater manual, and the developer's site-specific SWPPP.

As subsurface investigation was not undertaken outside of Tract C the developer should inform the Engineer of any conditions encountered during the initial site development that are not consistent with this memo.

ENGINEER CERTIFICATION:



Gabriel Hayden, PE#14703, 9/20/2021

Blacktail Mountain Estates Subdivision – Grading & Drainage Memo

To: Bruce Griggs

From: Gabe Hayden, PE

Date: 9/8/2021

SUMMARY

The proposed Blacktail Mountain Estates Subdivision will be graded to reduce or maintain the existing stormwater run-on to the lots immediately downhill of the subdivision. The subdivision will be graded such that the majority of the stormwater flow in contact with the new subdivision will be directed to the existing stormwater ditches on Bonnie Doon, Sherri Street, and Wée Burn Drive via existing CBJ ROWs and drainage easements. The total peak storm flows exiting the subdivision will be increased due to the replacement of some natural channels with engineered ditches, and the storm flow total volume will increase due to reduced infiltration in the developed portions of the subdivision.

LOT GRADING

The grading plan for the new subdivision is included in the Construction Drawings as sheets 13 through 16. This plan shows the new grading contours in solid line-type, and existing contours in dashed linetype. Where bold contours are not shown the existing ground is not planned to be re-graded.

The stormwater management system and grading for the new subdivision is designed so that stormwater flow to each existing lot downhill of the subdivision is either not increased or reduced. A table is given below showing the 25yr/24 hr storm uphill flow onto each affected zone directly below the subdivision.

Zone	Peak Flow - Prior to Development (CFS)	Peak Flow - Developed (CFS)	Change in flow in developed condition (CFS) [+ is increase, (-) is decrease]
6751 Sherri Drainage Easement	187	228	41
6747 Sherri Drainage Easement	351	213	-138
6737 Sherri Drainage Easement	226	291	65
Driveway A at Sherri	31	1,217	1,185
6721 Sherri	166	166	0
6717 Sherri	95	95	0
Driveway C at Bonnie Doon & Sherri Intersection	215	1,063	848
Bonnie Doon & Sherri St Intersection, 24" culvert	610	2,830	2,220

Blacktail Mountain Estates Subdivision – Grading & Drainage Memo

Bonnie Doon west side discharge culvert	745	3,571	2,826
Natural Creek at Eastern Property Line	2,377	2,550	173
USS 4605 #1	696	202	-494
Natural Creek at Western Property Line	2,367	2,785	418
USS 4605 #2	1,959	1,959	0
Upper Wee Burn west ditch	33	1,724	1,691
Lower Wee Burn west ditch	1,466	2,312	846

All new lots will be developed to consist of a rockfill building pad, minimum size 50'X50', an access driveway to that pad, and the remainder of the lots will be graded per the Construction Drawings using local non-structural fill.

Lot A3 will be graded to expand an existing rock quarry to accommodate the removal of approximately 40,000 Bank Cubic Yards of rock, to be drilled and blasted. Final contours at Lot A3 are shown on sheet 3 of the Construction Drawings.

Lot A4 will be graded to maintain the existing site drainage patterns, per sheet 16 of the Construction Drawings. Where the new driveway to the Lot A4 building pad cross existing drainage channels 12-18" culverts will be installed through the driveways at locations determined by the engineer in the field in order to maintain the natural drainage pathways.

Drainage ditches, minimum depth of 18 inches, will be installed at the toe of the fill of Lots B1, B2, and B3. These ditches will be graded to drain to existing drainage easements between downhill developed lots, per sheet 14 of the Construction Drawings.

DITCH SYSTEM

Ditches will be constructed on both sides of the new shared driveways, except in cross-slope locations as shown on the construction drawings. Ditches are sized to accommodate the 100 Year – 24 Hour storm event, with a minimum freeboard of 1.0 ft at the normal flow during the 100 Year storm event. All ditch systems report to the existing CBJ stormwater system downhill of the new subdivision, with the exception of the left ditch of Driveway A, which reports to an existing natural creek at the eastern property boundary.

Blacktail Mountain Estates Subdivision – Grading & Drainage Memo

EXISTING BONNIE BRAE STORMWATER SYSTEM

The stormwater discharge from Driveways A & C will report to the western ditch on Bonnie Doon Drive. This ditch and the associated culverts are appropriately sized to pass the post-developed condition stormflows. This ditch terminates at a culvert discharging to a natural drainage channel that is capable of conveying the post developed condition stormflows to North Douglas Highway. The stormwater flow from Driveway A will be routed to Bonnie Doon Drive via the uphill ditchline on Sherri Street. This ditch must be rehabilitated to match the CBJ typical section #101 and graded to drain towards Bonnie Doon Drive. Any culverts in the ditch system less than 18" in diameter should be upgraded to 18" diameter CPP culverts.

The stormwater discharge from Driveway B will report to the western ditch on Wee Burn Drive. This ditch and the associated culverts with diameters 18" and greater are appropriately sized to pass the post-developed condition stormflows to the North Douglas Highway ditch system. Any culverts in the ditch system less than 18" in diameter should be upgraded to 18" diameter CPP culverts.

ASSUMPTIONS

CBJ 2013 lidar was used to establish the existing natural drainage basins.

Hydrologic modeling was conducted using HEC HMS 4.2. The SCS Curve Number method was used for loss, CN=70 assumed for the undeveloped condition, and CN=80 with 25% impervious was used for developed lot condition. SCS unit hydrograph was used for the transform method with a PRF-484. SCS storm type 1A was used for the meteorological model, 100-year storm 24hr rainfall = 6.29 inches and 25-year 24hr rainfall = 5.05 inches, per the NOAA Atlas 14 Point Precipitation Frequency estimate for lat: 58.3235°, long:-134.4995°, elevation: 312 ft.

ATTACHMENTS

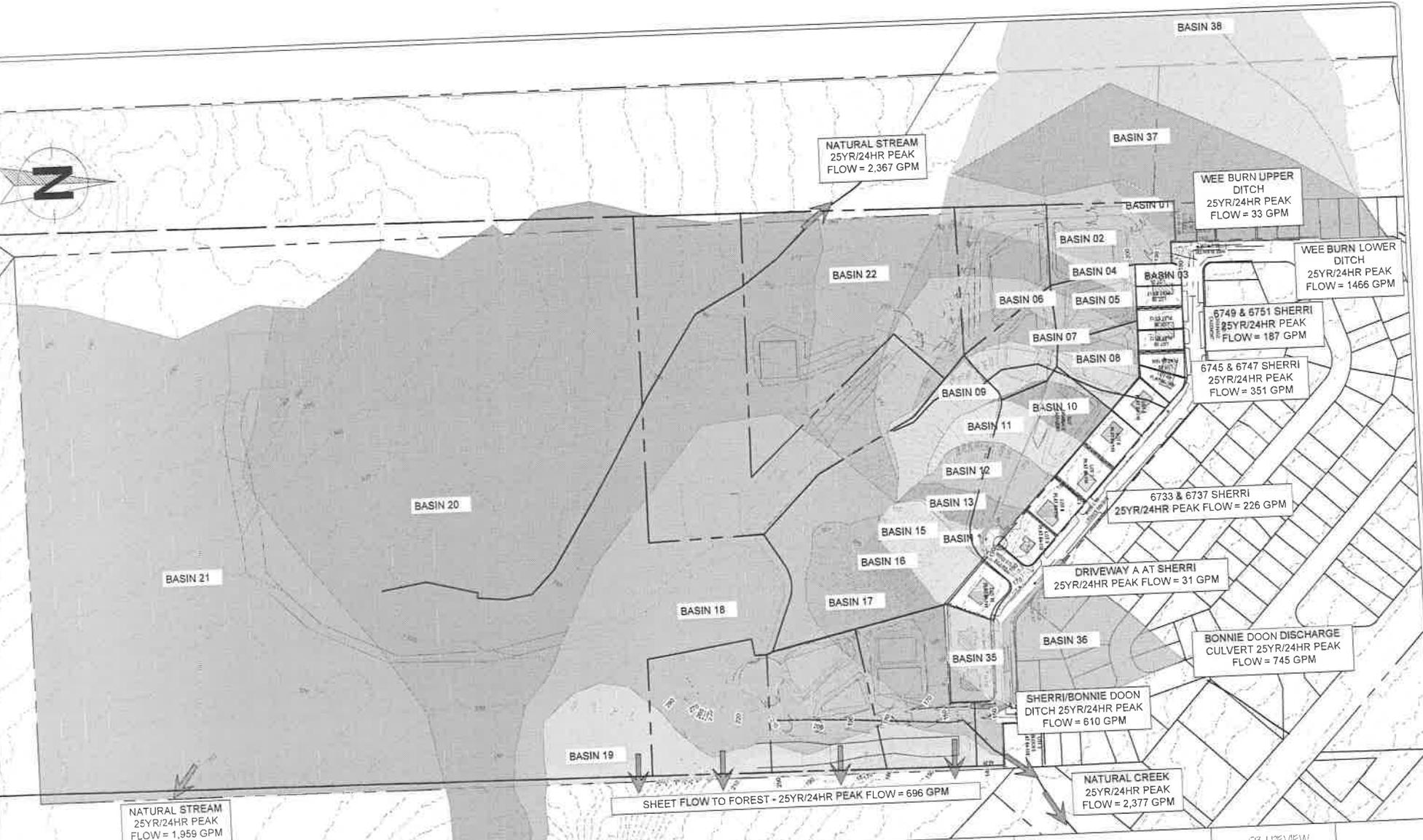
Figure 1

Figure 2



Gabriel Hayden, P.E.

9/8/2021



NATURAL STREAM
25YR/24HR PEAK
FLOW = 1,959 GPM

NATURAL STREAM
25YR/24HR PEAK
FLOW = 2,367 GPM

WEE BURN UPPER
DITCH
25YR/24HR PEAK
FLOW = 33 GPM

WEE BURN LOWER
DITCH
25YR/24HR PEAK
FLOW = 1466 GPM

6749 & 6751 SHERRI
25YR/24HR PEAK
FLOW = 187 GPM

6745 & 6747 SHERRI
25YR/24HR PEAK
FLOW = 351 GPM

6733 & 6737 SHERRI
25YR/24HR PEAK FLOW = 226 GPM

DRIVEWAY A AT SHERRI
25YR/24HR PEAK FLOW = 31 GPM

BONNIE DOON DISCHARGE
CULVERT 25YR/24HR PEAK
FLOW = 745 GPM

SHERRI/BONNIE DOON
DITCH 25YR/24HR PEAK
FLOW = 610 GPM

NATURAL CREEK
25YR/24HR PEAK
FLOW = 2,377 GPM

SHEET FLOW TO FOREST - 25YR/24HR PEAK FLOW = 696 GPM



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Blacktail Mountain Estates

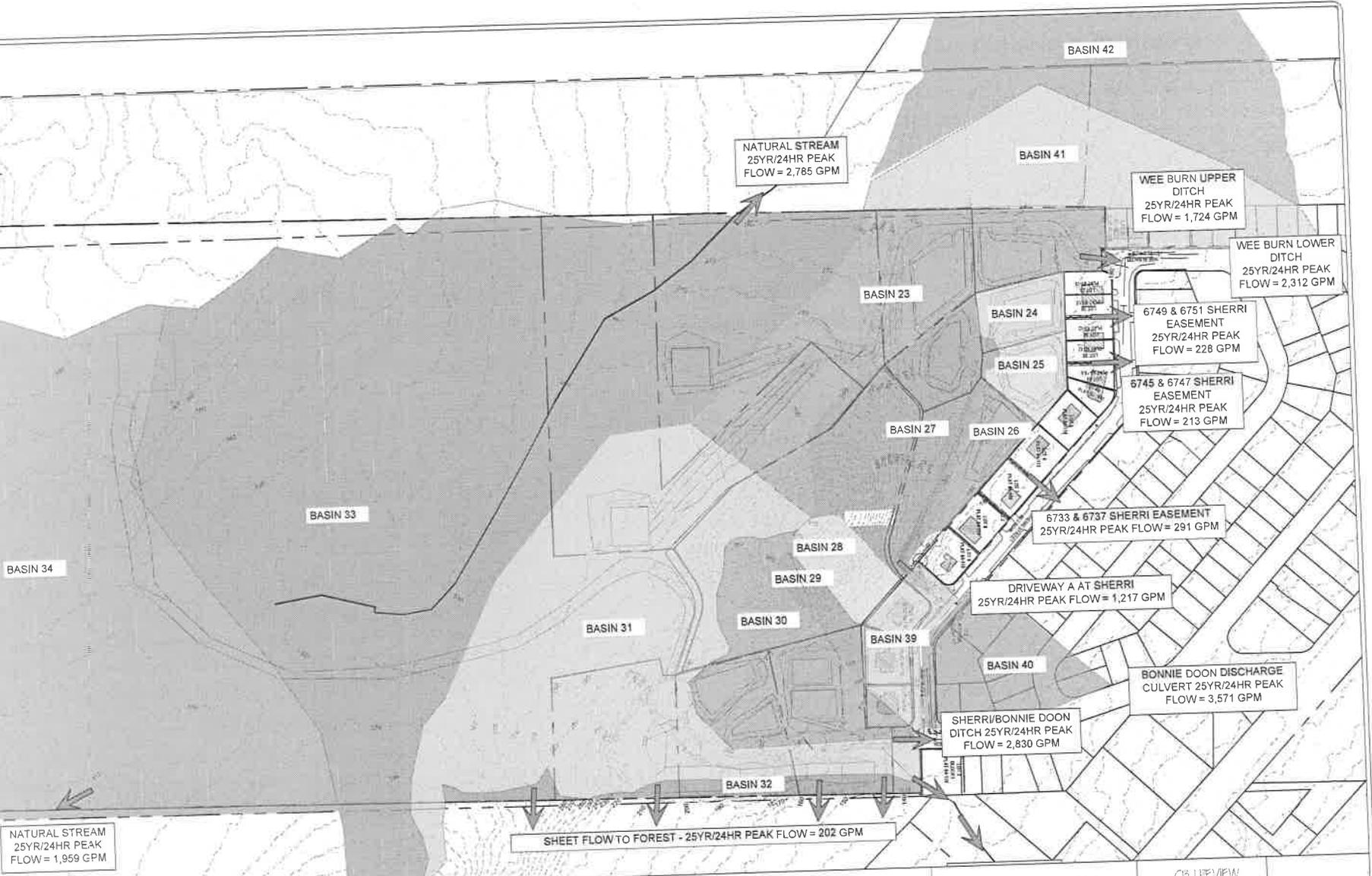
CONSTRUCTION DRAWINGS

DRAINAGE BASINS
PRE-DEVELOPMENT CONDITION

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APPROVED: _____
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FIGURE 1



NATURAL STREAM
25YR/24HR PEAK
FLOW = 1,959 GPM

SHEET FLOW TO FOREST - 25YR/24HR PEAK FLOW = 202 GPM



KATABATIC
ENGINEERING

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Blacktail Mountain Estates
CONSTRUCTION DRAWINGS

DRAINAGE BASINS
POST-DEVELOPMENT CONDITION

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APPROVED:
DATE: _____

FIGURE 2

Blacktail Mountain Estates Subdivision – Water Services Memo

To: Bruce Griggs

From: Gabe Hayden, PE

Date: 9/20/2021

SUMMARY

All new lots in Blacktail Mountain Estates Subdivision are proposed to be served by individual 2" SIDR 7 HDPE water services, with service connections to the existing CBJ water main on Sherri Street. Service connection locations and water service alignments are shown on the Construction Drawings. Water pressure at 25 GPM was calculated for all proposed house pad locations, and will be greater than 30 psi for all house pad locations except for A4, C3, and C4. These lots will require an in-line booster pump to be installed along the water service pipe corridor within the shared driveway easement.

ASSUMPTIONS

Pressure tests results for hydrants adjacent to the proposed subdivision were provided by CBJ, and summarized below.

Shared Driveway	Adjacent Hydrant Number	Hydrant Elevation (ft)	Static Hydrant Pressure (psi)
Driveway A	66	142	74.00
Driveway B	67	168	64.00
Driveway C	69	160	60.00

SERVICE PRESSURES

The static pressures and the flowing pressure at 25 GPM at the proposed house pad locations are presented below. Lots A4, C3, and C4 will require an inline booster pump in order maintain service pressure at the house pad locations. The booster pump is assumed to be a Grundfos 2 hp booster pump, model CMBE 5-62 I-U-C-E-D-F, for the purposes of this memo. Design details for the booster pump stations will be provided at a later date.

Residential Service Designation	Elevation at house pad (ft)	Static Pressure at house pad (psi)	Flowing pressure at house pad (psi)	Flowing Pressure with booster pump (psi)
Service A1	190.00	53.20	51.42	
Service A2	220.00	40.20	36.48	
Service A3	220.00	40.20	36.24	
Service A4	375.00	-26.97	-43.04	28.96
Service B1	200.00	50.13	46.41	

Blacktail Mountain Estates Subdivision – Water Services Memo

Service B2	210.00	45.80	41.35	
Service B3	210.00	45.80	41.35	
Service B4	215.00	43.63	39.19	
Service C1	210.00	38.33	36.31	
Service C2	220.00	34.00	31.13	
Service C3	300.00	-0.67	-8.02	63.98
Service C4	315.00	-7.17	-15.97	56.03

FIRE

It is proposed that all dwelling units in the new subdivision be required to be served by residential fire sprinkler systems.

Information regarding existing hydrant proximity to the proposed house pads is presented below.

Residential Service Designation	Adjacent Hydrant #	Hydrant Pressure (psi)	Hose Distance - house to hydrant (ft)	Elevation Gain – House to Hydrant (ft)
Service A1	66	74	500	48
Service A2	66	74	900	78
Service A3	66	74	950	78
Service A4	66	74	3,450	233
Service B1	67	64	750	32
Service B2	67	64	900	42
Service B3	67	64	900	42
Service B4	67	64	900	47
Service C1	69	60	850	50
Service C2	69	60	1,025	60
Service C3	69	60	1,950	140
Service C4	69	60	2,250	155



Gabriel Hayden, P.E.,

BLACKTAIL MOUNTAIN ESTATES SUBDIVISION CONSTRUCTION DRAWINGS

September 09, 2021

INDEX

SHEET #	REVISION DATE	TITLE
SHEET 1	12/22/2019	COVER SHEET
SHEET 2	12/22/2019	GENERAL NOTES
SHEET 3	12/22/2019	SHARED DRIVEWAY A - PLAN VIEW
SHEET 4	12/22/2019	SHARED DRIVEWAY B - PLAN VIEW
SHEET 5	12/22/2019	SHARED DRIVEWAY C - PLAN VIEW
SHEET 6	12/22/2019	SHARED DRIVEWAY A - PROFILE VIEW
SHEET 7	12/22/2019	SHARED DRIVEWAY B - PROFILE VIEW
SHEET 8	12/22/2019	SHARED DRIVEWAY C - PROFILE VIEW
SHEET 9	12/22/2019	DRIVEWAY TYPICAL SECTIONS #1 & #2
SHEET 10	12/22/2019	DRIVEWAY TYPICAL SECTIONS #3 & #4
SHEET 11	12/22/2019	DRIVEWAY TYPICAL SECTIONS #5 & #6
SHEET 12	12/22/2019	DRIVEWAY TYPICAL SECTIONS #7
SHEET 13	12/22/2019	SHARED DRIVEWAY A - DRAINAGE SCHEMATIC
SHEET 14	12/22/2019	SHARED DRIVEWAY A - DRAINAGE SCHEMATIC
SHEET 15	12/22/2019	SHARED DRIVEWAY A - DRAINAGE SCHEMATIC
SHEET 16	12/22/2019	SOUTHERN LOTS - GRADING PLAN AND DRAINAGE SCHEMATIC



VICINITY MAP

NTS



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Blacktail Mountain Estates
CONSTRUCTION DRAWINGS

Coversheet

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9/9/2021
SHEET #
1 / 16

GENERAL NOTES:

- All work shall conform to the most recent CBJ Standard Specifications and Details, including errata. Available online at: http://www.juneau.org/engineering/Rev_Standards.php and http://www.juneau.org/engineering_ftp/documents/Cover_000.pdf.
- All HDPE pipe installations shall additionally conform to the 'HDPE Special Provisions March 2017' document attached to this design packet.
- Existing pipe and electrical utility locations based on historical asbuilt information, actual locations may vary. Contractor shall call for utility locates at (907) 586-1333 prior to excavation in zones of existing development.
- Contractor shall notify CBJ water utility department (907) 780-6808 of proposed water service interruptions, and submit the 'water system special use permit' application to CBJ water utilities superintendent for approval at least 48 hours prior to shutdown or flushing of mainline water pipe. No water service interruptions may occur until the above application is approved.
- Contractor shall reference all existing property corner monuments prior to construction and re-monument using an Alaska Professional Land Surveyor after Work is complete.
- Grades and alignments are subject to minor revisions as approved by the Engineer.
- Property line locations used were derived from record plats and not a boundary survey.
- "Jumping Jack" or similar type compactors shall be used for compaction within 18 inches of the outside surface of all water valve boxes, catch basins, and manholes.
- Contractor shall install and maintain construction stormwater control BMPs per the Erosion Control Plan and SWPPP CGP permit obtained by the Contractor.
- For any planned driveway closures, Contractor shall notify resident of each driveway to be closed of the planned closure, including time period, the day prior to the planned closure.
- Contractor shall provide submittal described in the CBJ standard specifications to Engineer for review prior to procurement of all materials.
- All slopes steeper than 2:1 require special inspection pursuant to Chapter 19.12, excavation and grading code.
- Clay, bedrock, organics, stumps and logs, and boulders may be encountered by the Contractor during excavation operations. No subsurface geotechnical investigation was conducted for this project. Contractor shall inform Engineer of subsurface conditions encountered during share driveway construction, and Engineer may make minor adjustments to design as necessary.
- Contractor shall prepare and submit a SWPPP plan to the Alaska Department of Environmental Conservation prior to beginning site work, and shall maintain compliance with the provisions of that SWPPP plan throughout the project.

ABBREVIATIONS

AC	Asphaltic Concrete Pavement		
CB	Catch Basin		
CPP	Corrugated Polyethylene Pipe		
Conc	Concrete		
CTE	Connect to Existing		
DIA	Diameter		
GV	Gate Valve		
HDPE	High Density Polyethylene		
INV	Invert		
LT	Left	PT	Point of Tangency
MH	Manhole	RT	Right
MTE	Match to Existing	STA	Station
NO	Number	TP	Top of Pavement
NTS	Not to Scale	TYP	Typical
PVC	Polyvinyl Chloride Pipe		
PC	Point of Curvature		

Abbreviations may be used without periods.

CBJ SPECIFICATIONS

DIVISION 1 - GENERAL REQUIREMENTS

- 01045 Cutting and Patching
- 01070 Acronyms of Institutions
- 01090 Reference Standards
- 01300 CONTRACTOR Submittals - Includes changes listed in 1/15/04 Errata Sheet
- 01400 Quality Control - Includes change listed in 1/15/04 Errata Sheet
- 01505 Mobilization
- 01530 Protection and Restoration of Existing Facilities
- 01550 Site Access and Storage
- 01560 Temporary Environmental Controls
- 01660 Equipment Testing and Plant Start-Up
- 01700 Project Closeout - Includes change listed in 5/5/04 Errata Sheet No. 3

DIVISION 2 - SITEWORK

- 02090 Blasting Controls
- 02201 Clearing and Grubbing
- 02202 Excavation and Embankment
- 02203 Trenching
- 02204 Base Course - Includes change listed in 3/17/04 Errata Sheet No. 2
- 02205 Riprap
- 02401 Sanitary Sewer Pipe
- 02402 Sanitary Sewer Manholes and Cleanouts
- 02403 Sanitary Sewer Encasement
- 02501 Storm Sewer Pipe
- 02502 Storm Sewer Manholes, Inlets, and Catch Basins
- 02601 Water Pipe
- 02602 Valves
- 02603 Fire Hydrants
- 02605 Water Services
- 02702 Construction Surveying
- 02703 Monuments
- 02707 Chain Link Fence
- 02709 Topsoil - Includes change listed in 5/5/04 Errata Sheet No. 3
- 02710 Seeding
- 02711 Landscape Planting
- 02712 Jute Mesh
- 02714 Filter Cloth
- 02715 Underdrain
- 02718 Sign Assembly
- 02719 Mailboxes
- 02720 Painted Traffic Markings
- 02801 Asphalt Concrete Pavement - Includes changes listed in Errata 1 through 4
- 02802 Tack Coat
- 02803 Fog Seal Coat
- 02806 Remove Existing Asphalt Surfacing

DIVISION 3 - CONCRETE

- 03301 Structural Concrete
- 03302 Concrete Structures
- 03303 Sidewalk, Curb and Gutter
- 03304 Remove Existing Sidewalk, Concrete Slab, or Curb and Gutter

CBJ STANDARD DETAILS - 4TH EDITION

Street Details

- 102D Local Access Street With Biofiltration Swale
- 103A Driveway For Streets Without Curb & Gutter
- 104B Culvert Headwall Without Hinged Trash Rack
- 107 Local Access Street Cul-De-Sac
- 116 Cantilevered Single Mailbox
- 117 Cantilevered Gang Mailbox
- 119A Junction Box Type 1 & Type 1A
- 119B Junction Box Type II & Type III
- 120 Private Utility Location Within CBJ R-O-W
- 125 Pavement Resurfacing And Trench Detail
- 126 Concrete Collar
- 127A Sign Assembly Single-Post
- 127B Sign Assembly Double-Post

Sanitary Sewer Details

- 213 Sanitary Sewer Service Lateral
- 214 Sanitary Sewer Connection Customer Service Line
- 215 Sanitary Sewer Crossing
- 216 Pressure Sanitary Sewer Service Lateral

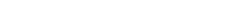
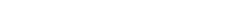
Drainage Details

- 311 Silt Fence
- 312 Rock Check Dam

Water Details

- 403 Fire Hydrant
- 404 Hydrant Guard Posts
- 405 Hydrant Pad
- 406A Water Service
- 412 Rigid Insulation
- 414A Downward Concave Thrust Block
- 414B Horizontal And Concave Upward Thrust Blocks
- 419 Residential Water Service Connection
- 420 Meter Installation

LEGEND

	NEW GRADING FEATURES
	EXISTING
	REMOVE EXISTING
	EXISTING CONTOUR MAJOR
	EXISTING CONTOUR MINOR
	WATER PIPE
	SEWER PIPE
	PROPERTY LINE
	WATER VALVE
	MANHOLE
	FIRE HYDRANT
	STREET LIGHT



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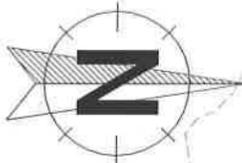
Blacktail Mountain Estates
 CONSTRUCTION DRAWINGS

General Notes, Legend, CBJ
 specifications and details references

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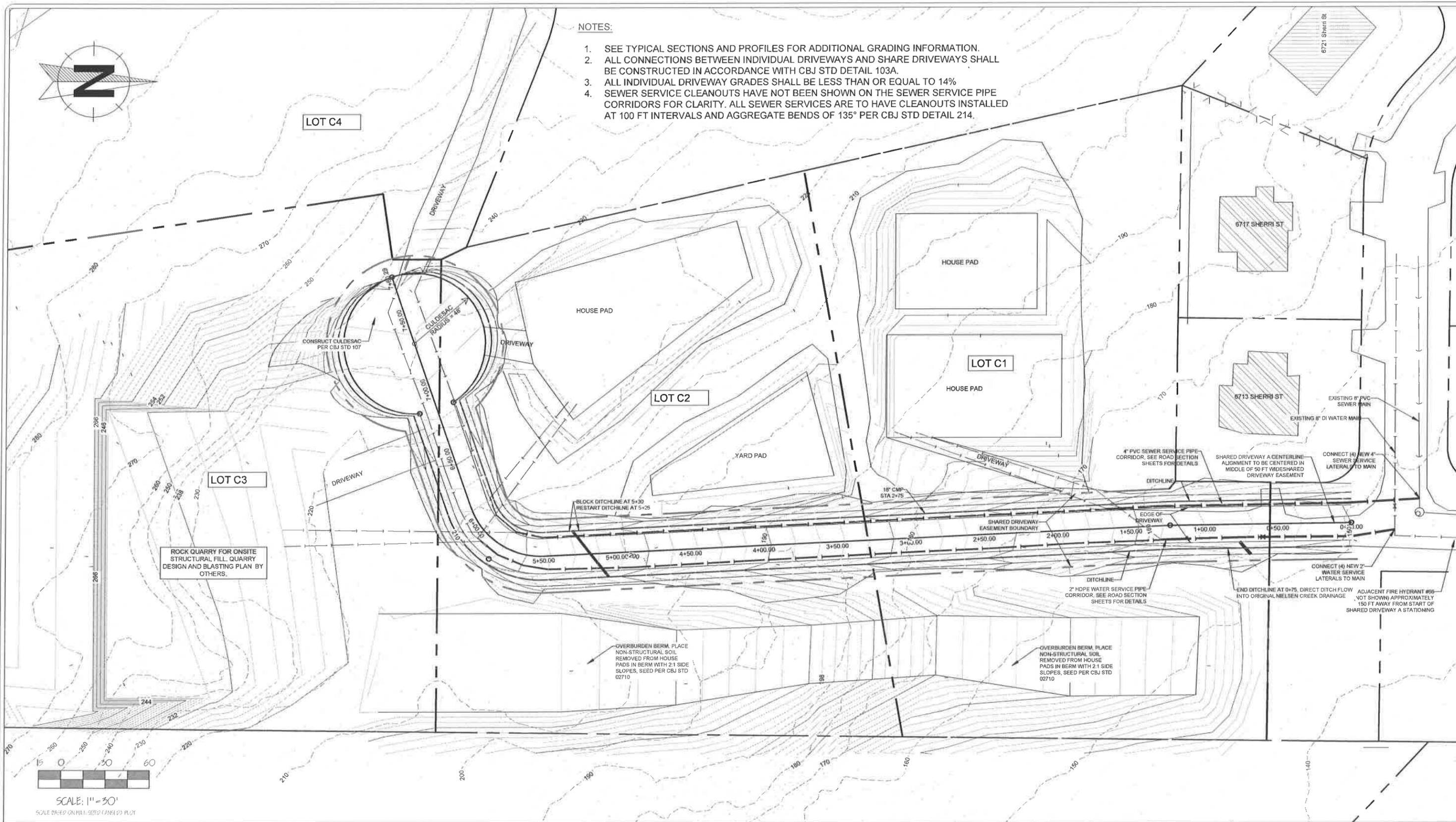
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NOTES:

1. SEE TYPICAL SECTIONS AND PROFILES FOR ADDITIONAL GRADING INFORMATION.
2. ALL CONNECTIONS BETWEEN INDIVIDUAL DRIVEWAYS AND SHARE DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CBJ STD DETAIL 103A.
3. ALL INDIVIDUAL DRIVEWAY GRADES SHALL BE LESS THAN OR EQUAL TO 14%.
4. SEWER SERVICE CLEANOUTS HAVE NOT BEEN SHOWN ON THE SEWER SERVICE PIPE CORRIDORS FOR CLARITY. ALL SEWER SERVICES ARE TO HAVE CLEANOUTS INSTALLED AT 100 FT INTERVALS AND AGGREGATE BENDS OF 135° PER CBJ STD DETAIL 214.



SCALE: 1" = 30'
 SCALE BASED ON FULL-SEED CANONIC PLOT



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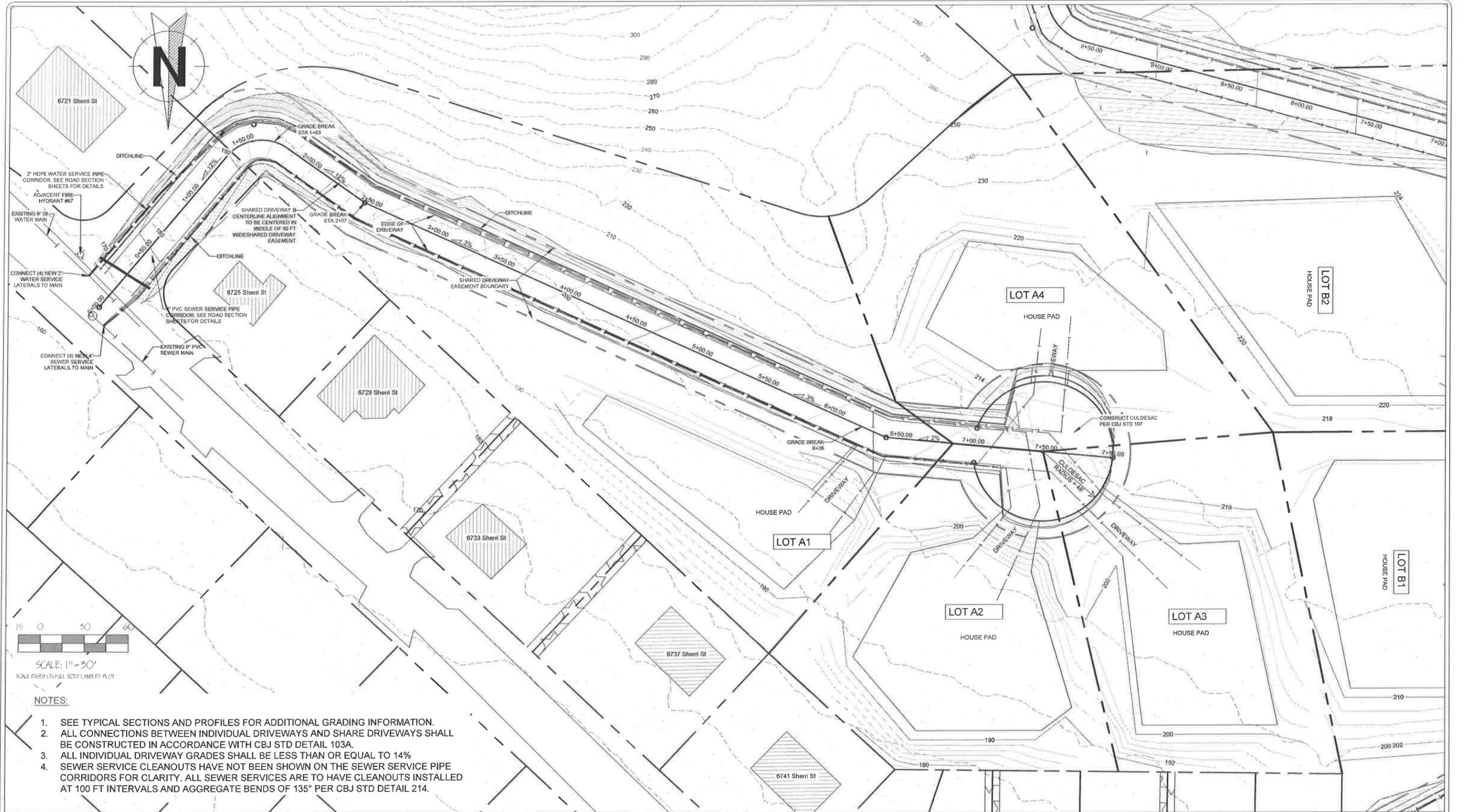
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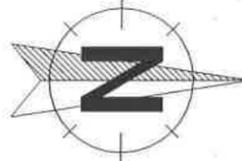
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SHARED DRIVEWAY A
 PLAN VIEW

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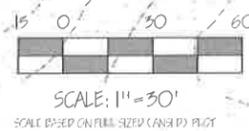
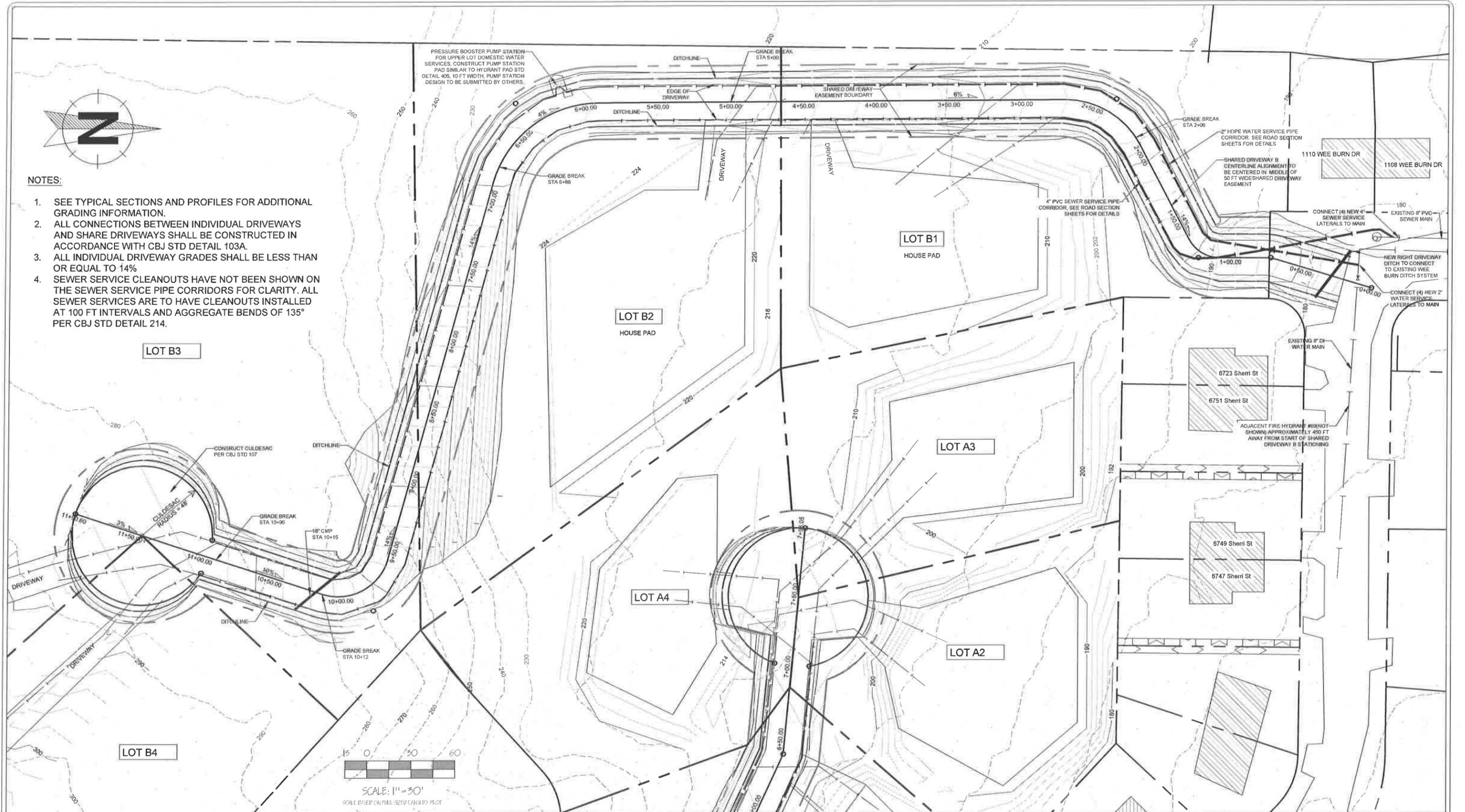
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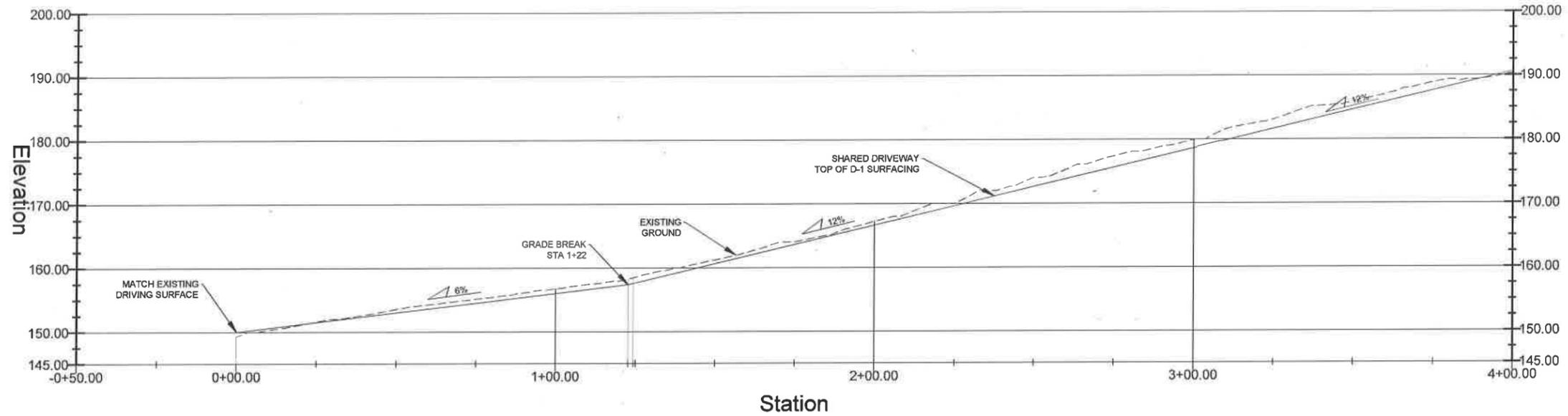
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SHARED DRIVEWAY B PLAN VIEW

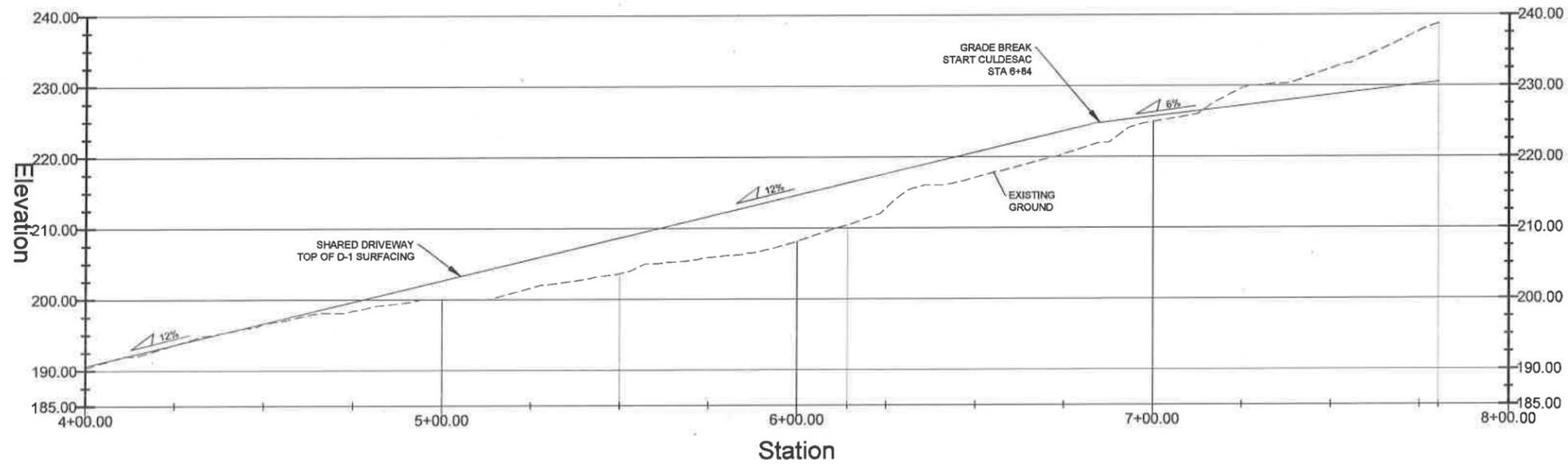
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DRIVEWAY C - PROFILE



DRIVEWAY C - PROFILE

10 0 20 40
 SCALE: 1" = 20'
 2X VERTICAL EXAGGERATION
 SCALE BASED ON FULL SIZE (ANSI D) PLOT

NOTES:

1. WATER AND SEWER SERVICES ARE NOT SHOWN ON PROFILE, SEE TYPICAL SECTIONS FOR INSTALLATION DETAILS. ALL WATER SERVICES TO BE INSTALLED WITH MIN 5 FT OF COVER, AND SEWER SERVICES WITH MIN 4 FT OF COVER.



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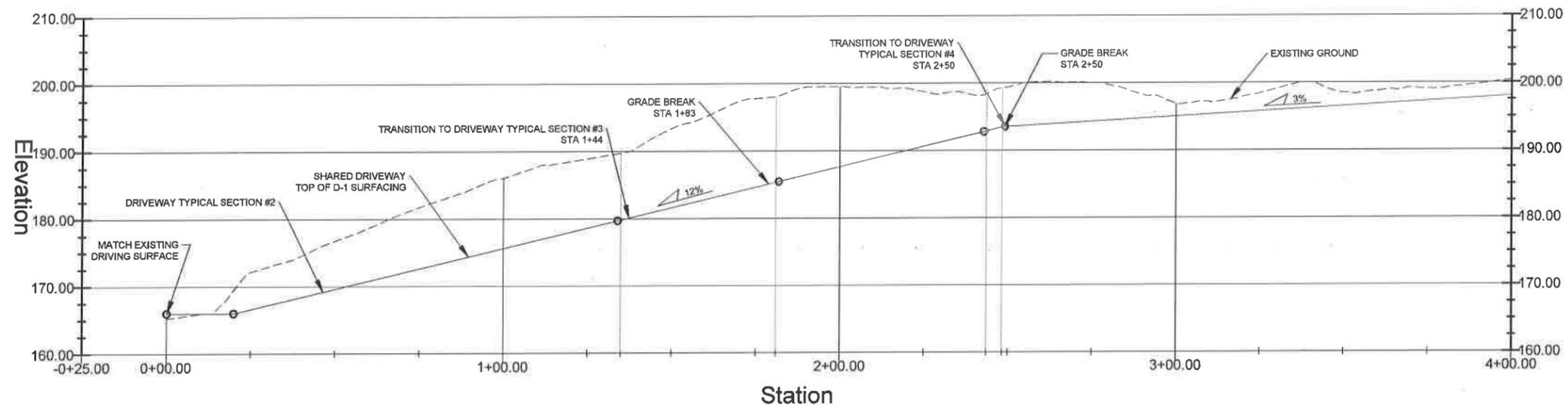
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SHARED DRIVEWAY C
 PROFILE

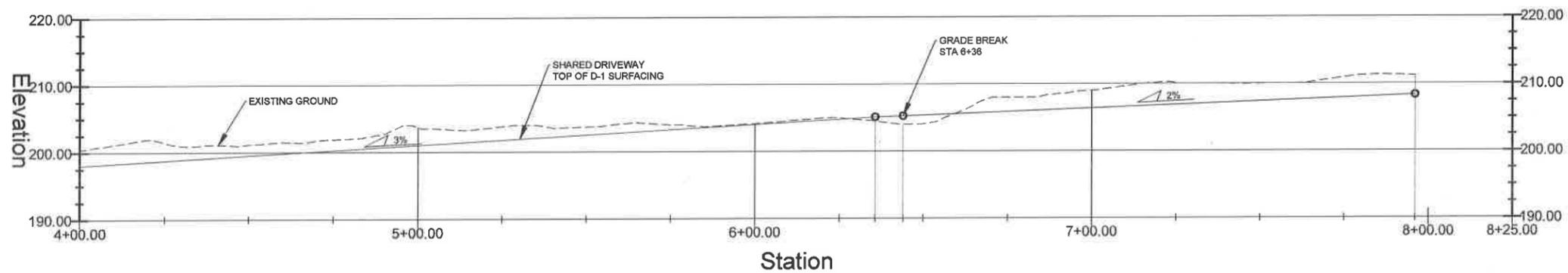
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 SHEET #
 6 / 16



DRIVEWAY A - PROFILE



DRIVEWAY A - PROFILE

10 0 20 40
 SCALE: 1" = 20'
 2X VERTICAL EXAGGERATION
 SCALE BASED ON FULL SIZE (ANSI) PLOT

NOTES:

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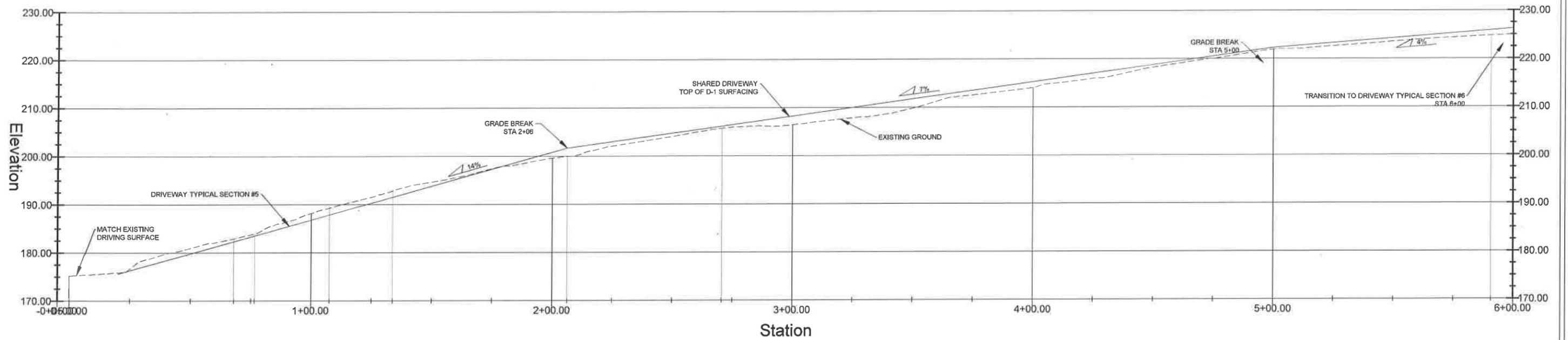
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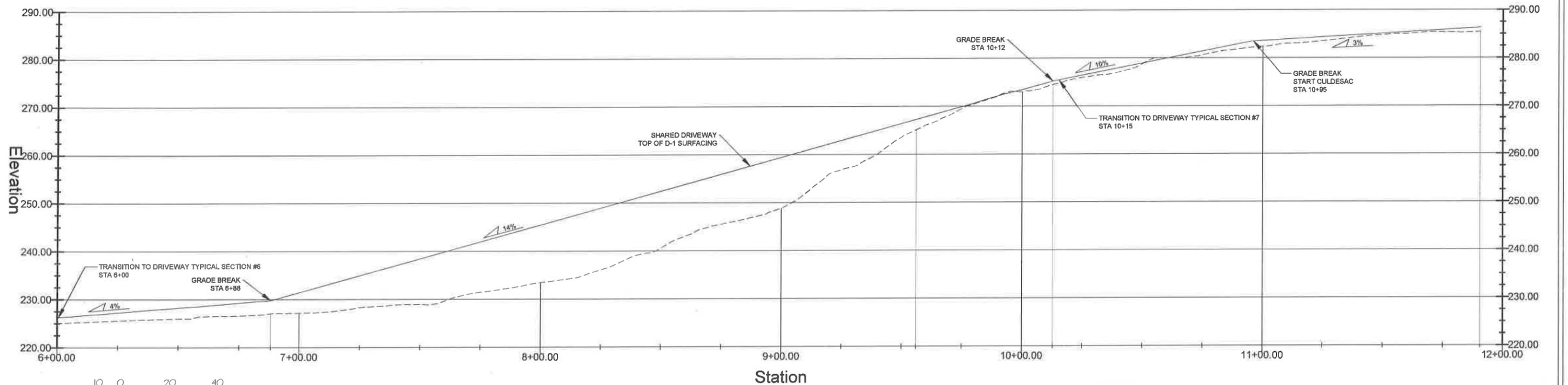
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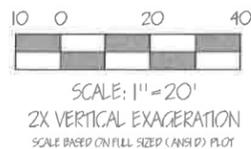
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DRIVEWAY B - PROFILE



DRIVEWAY B - PROFILE



NOTES:

1. WATER AND SEWER SERVICES ARE NOT SHOWN ON PROFILE, SEE TYPICAL SECTIONS FOR INSTALLATION DETAILS. ALL WATER SERVICES TO BE INSTALLED WITH MIN 5 FT OF COVER, AND SEWER SERVICES WITH MIN 4 FT OF COVER.



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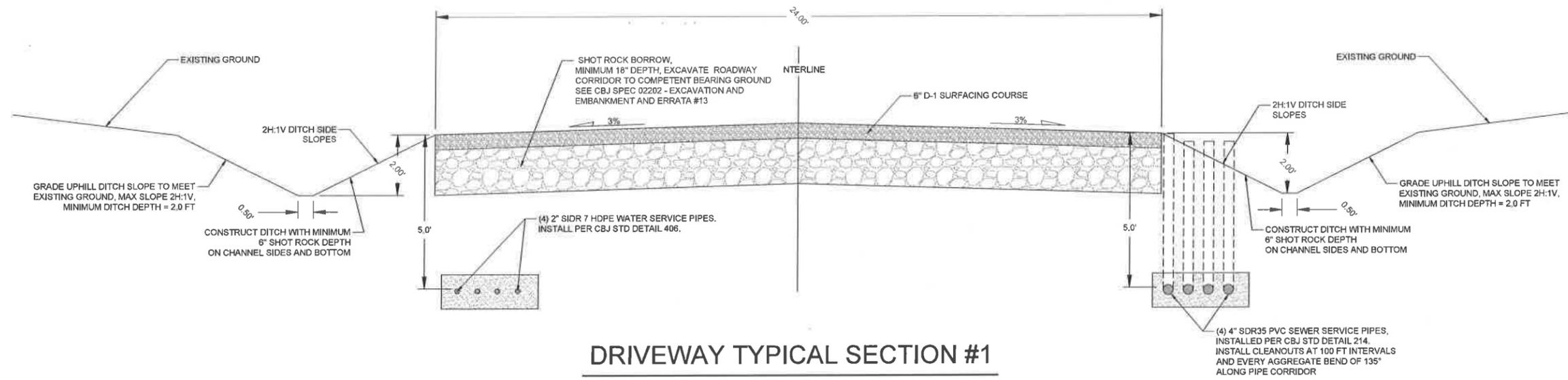
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 CONSTRUCTION DRAWINGS

SHARED DRIVEWAY B
 PROFILE

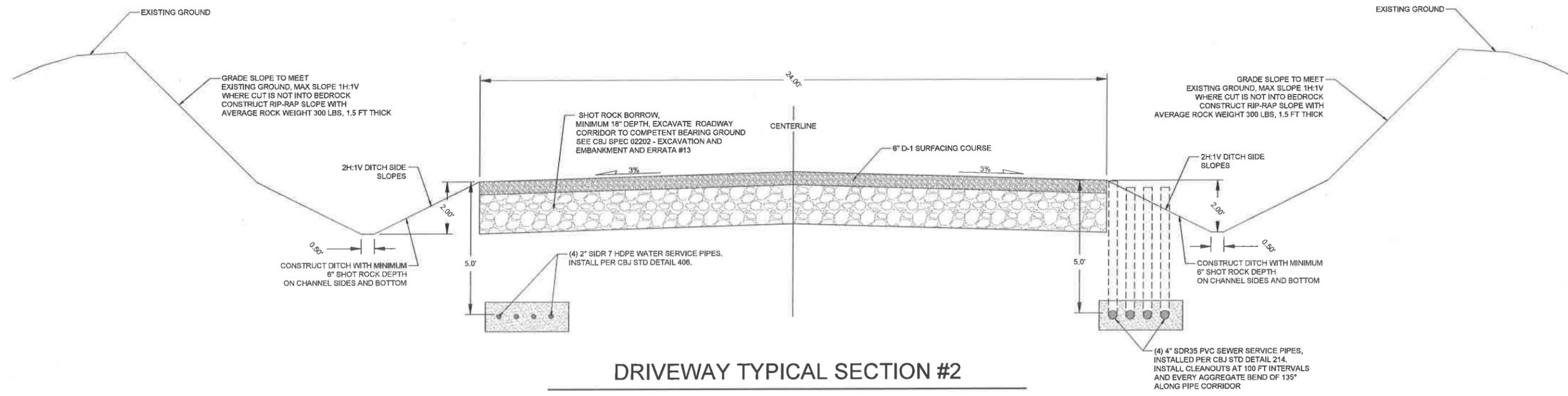
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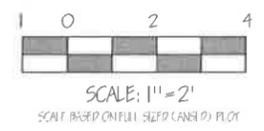
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DRIVEWAY TYPICAL SECTION #1
SHARED DRIVEWAY C



DRIVEWAY TYPICAL SECTION #2
SHARED DRIVEWAY A - START TO STA 1+44



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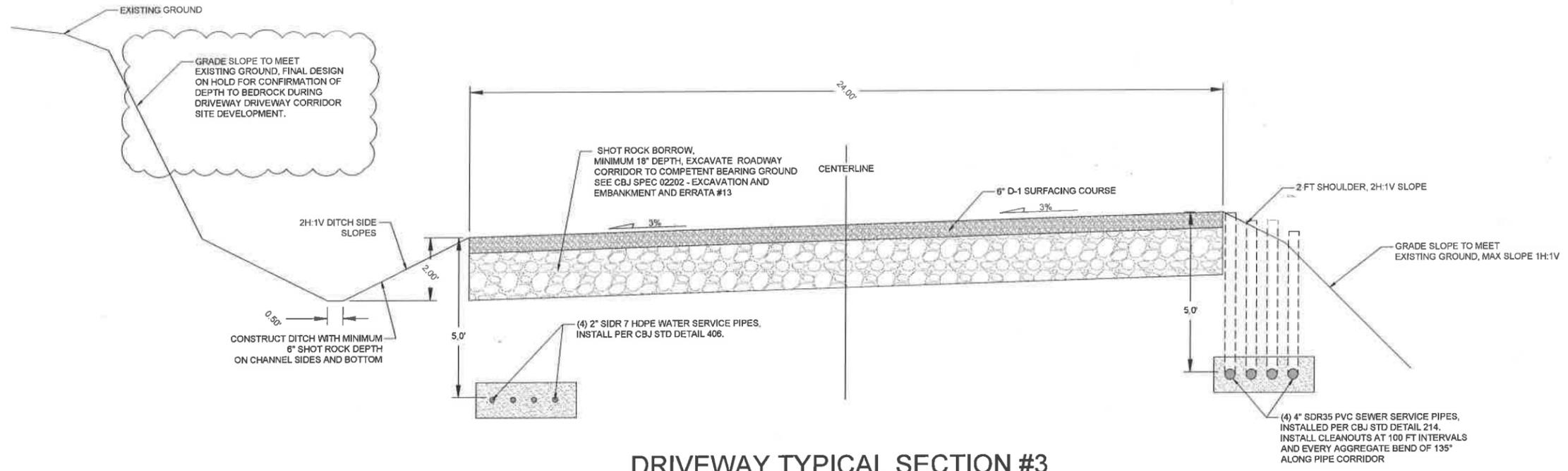
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DRIVEWAY TYPICAL SECTIONS
 #1 & #2

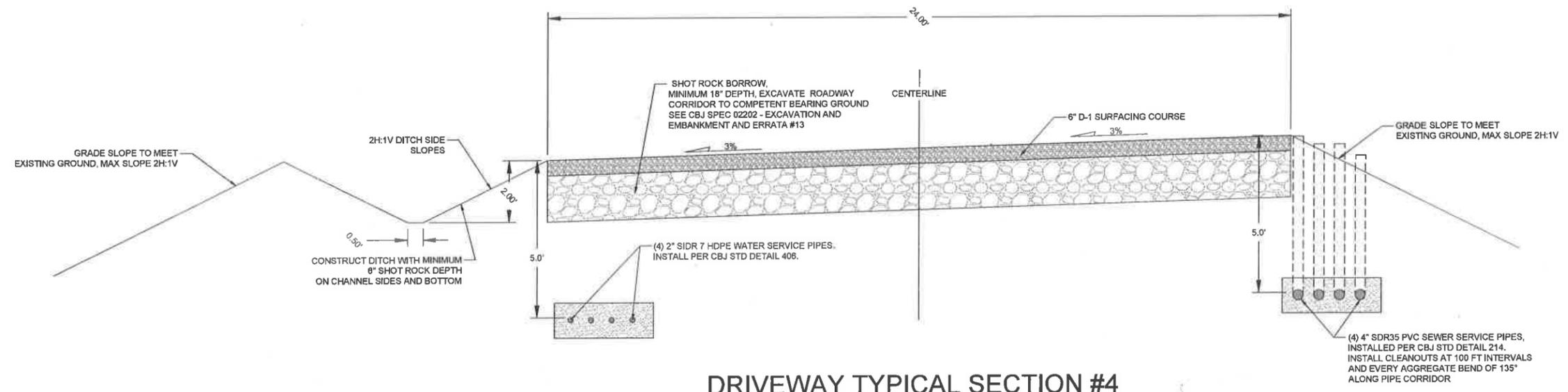
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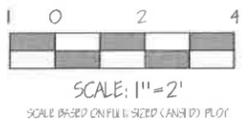
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DRIVEWAY TYPICAL SECTION #3
SHARED DRIVEWAY A - STA 1+44 TO STA 2+50



DRIVEWAY TYPICAL SECTION #4
SHARED DRIVEWAY A - STA 2+50 TO END



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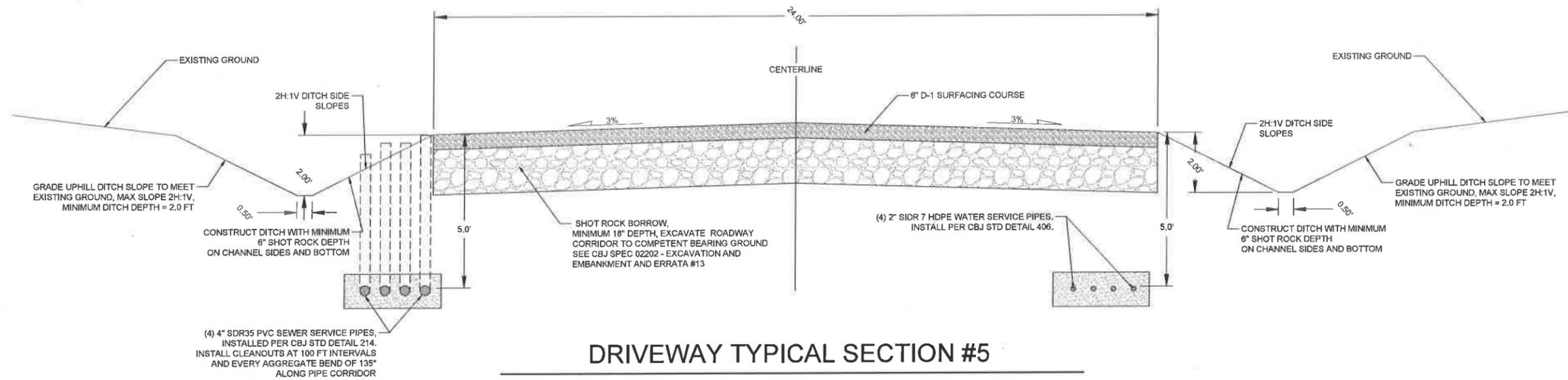
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DRIVEWAY TYPICAL SECTIONS
 #3 & #4

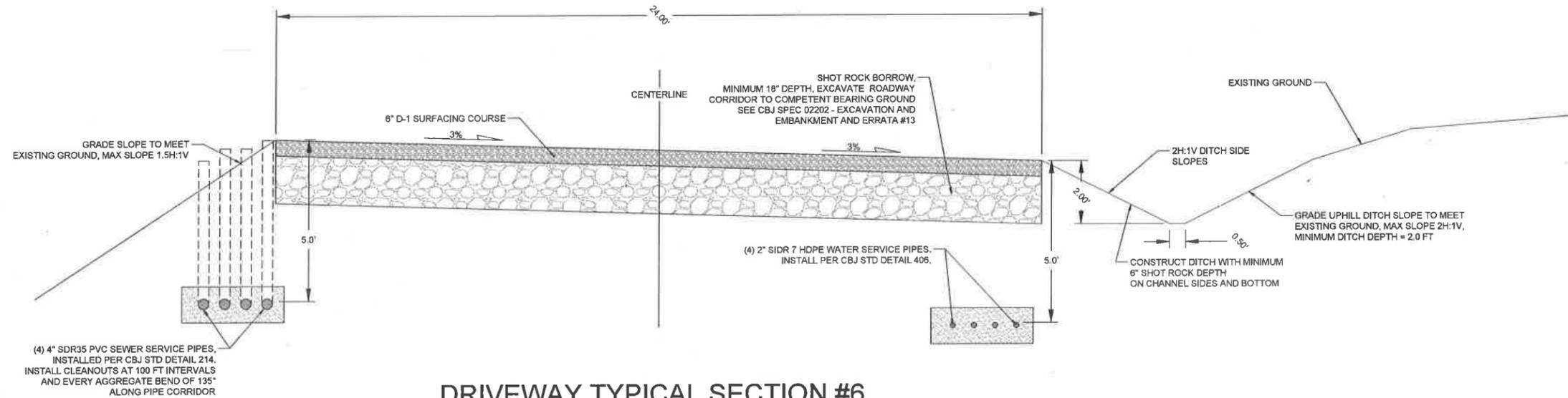
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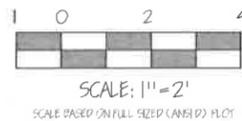
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DRIVEWAY TYPICAL SECTION #5
SHARED DRIVEWAY B - START TO STA 6+00



DRIVEWAY TYPICAL SECTION #6
SHARED DRIVEWAY B - STA 6+00 TO STA 10+15



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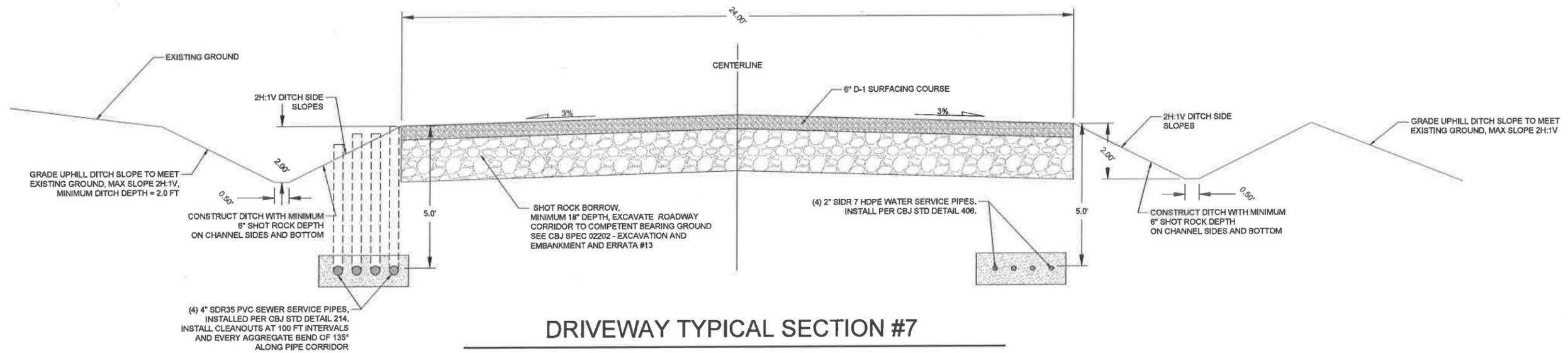
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DRIVEWAY TYPICAL SECTIONS
 #5 & #6

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DRIVEWAY TYPICAL SECTION #7
SHARED DRIVEWAY B - STA 10+15 TO END



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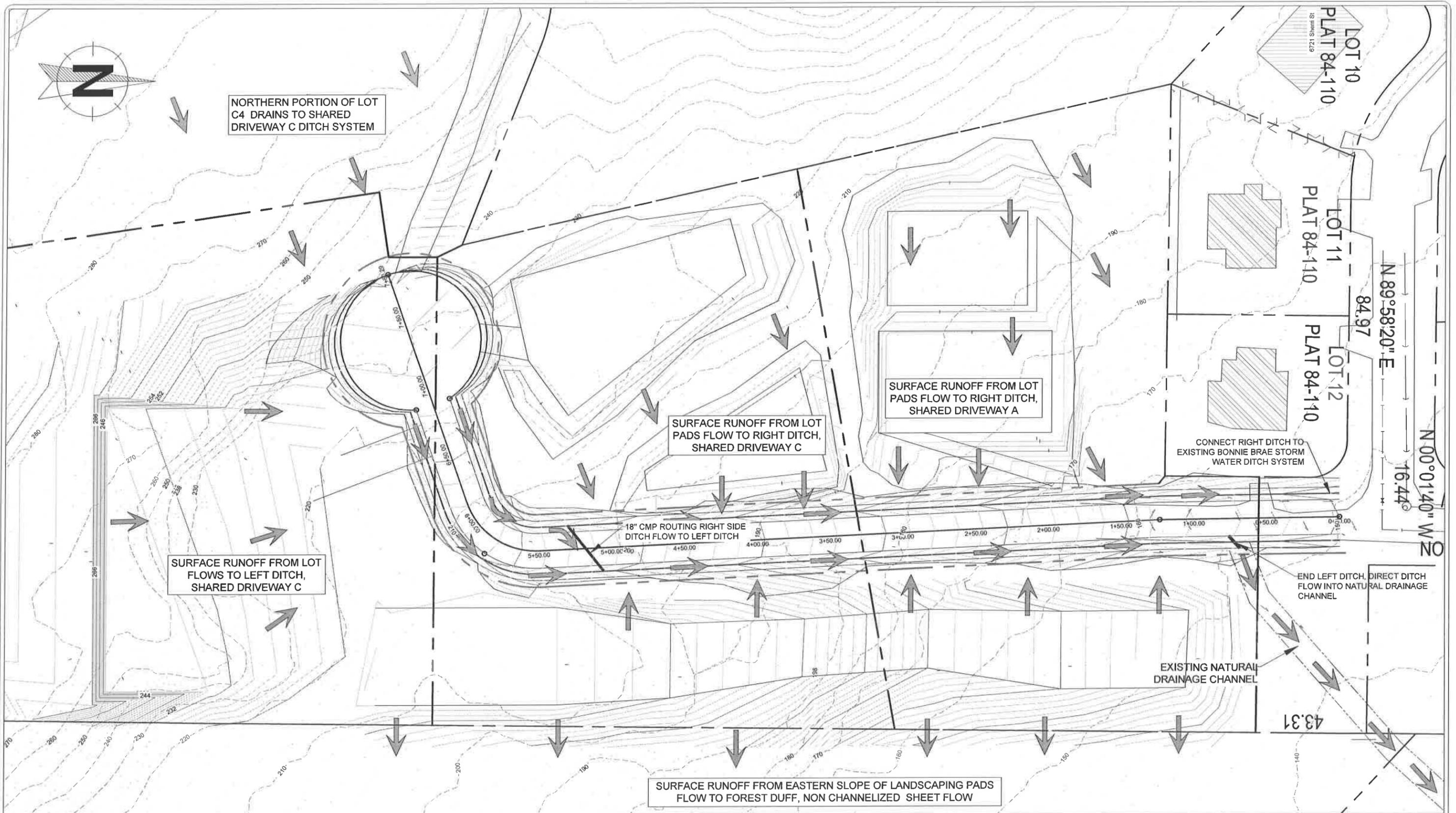
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DRIVEWAY TYPICAL SECTIONS
 #7

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SHARED DRIVEWAY C
 DRAINAGE SCHEMATIC

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REHABILITATE EXISTING DITCH SYSTEM TO GRADE TO DRAIN TO BONNIE DOON DRIVE, MATCH CBJ TYPICAL SECTION #101 DITCH DETAIL, ALL CULVERTS TO BE 18" DIA OR GREATER.

18" CMP, DIRECT FLOW FROM RIGHT DITCH TO LEFT DITCH

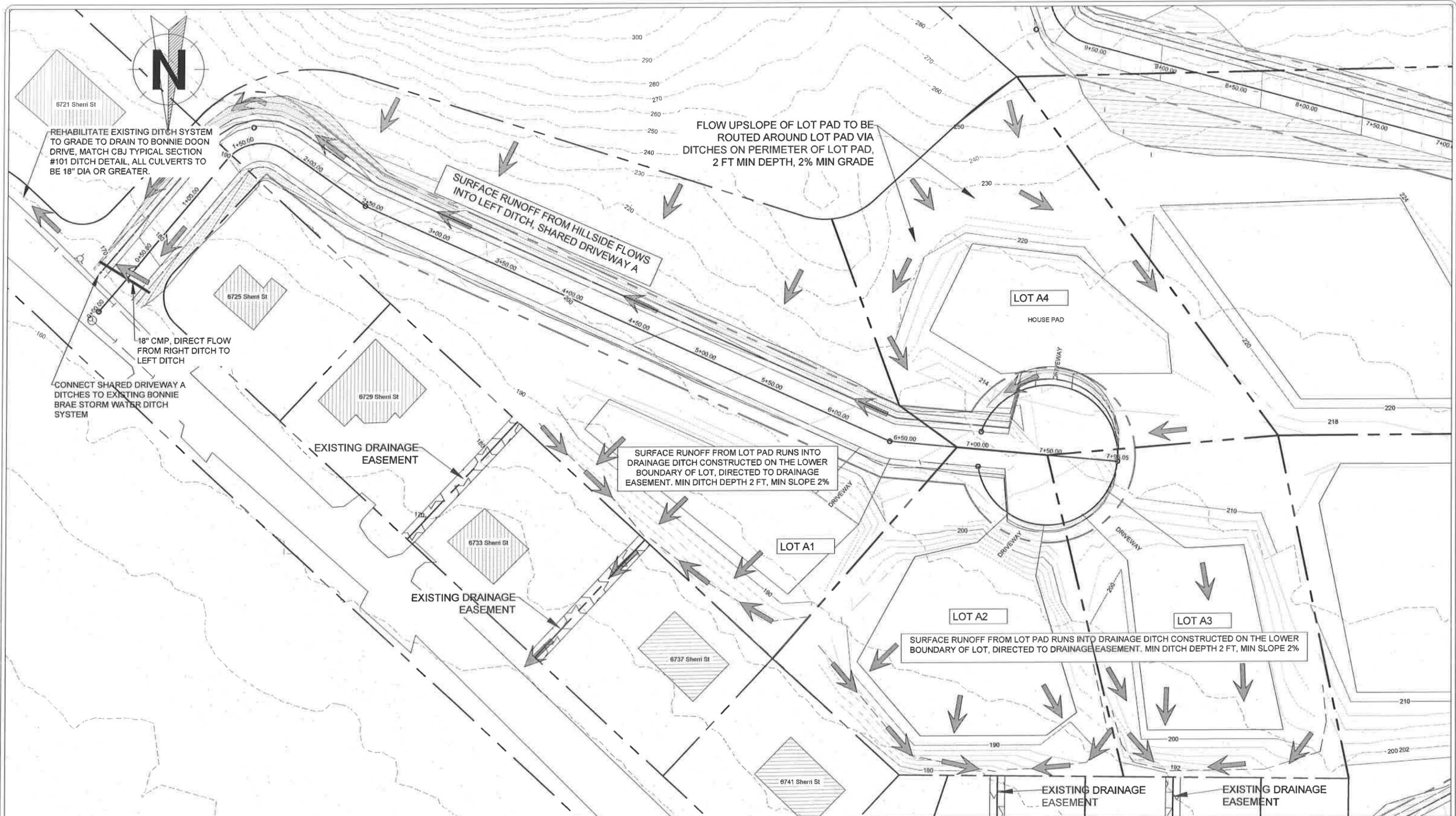
CONNECT SHARED DRIVEWAY A DITCHES TO EXISTING BONNIE BRAE STORM WATER DITCH SYSTEM

FLOW UPSLOPE OF LOT PAD TO BE ROUTED AROUND LOT PAD VIA DITCHES ON PERIMETER OF LOT PAD, 2 FT MIN DEPTH, 2% MIN GRADE

SURFACE RUNOFF FROM HILLSIDE FLOWS INTO LEFT DITCH, SHARED DRIVEWAY A

SURFACE RUNOFF FROM LOT PAD RUNS INTO DRAINAGE DITCH CONSTRUCTED ON THE LOWER BOUNDARY OF LOT, DIRECTED TO DRAINAGE EASEMENT. MIN DITCH DEPTH 2 FT, MIN SLOPE 2%

SURFACE RUNOFF FROM LOT PAD RUNS INTO DRAINAGE DITCH CONSTRUCTED ON THE LOWER BOUNDARY OF LOT, DIRECTED TO DRAINAGE EASEMENT. MIN DITCH DEPTH 2 FT, MIN SLOPE 2%



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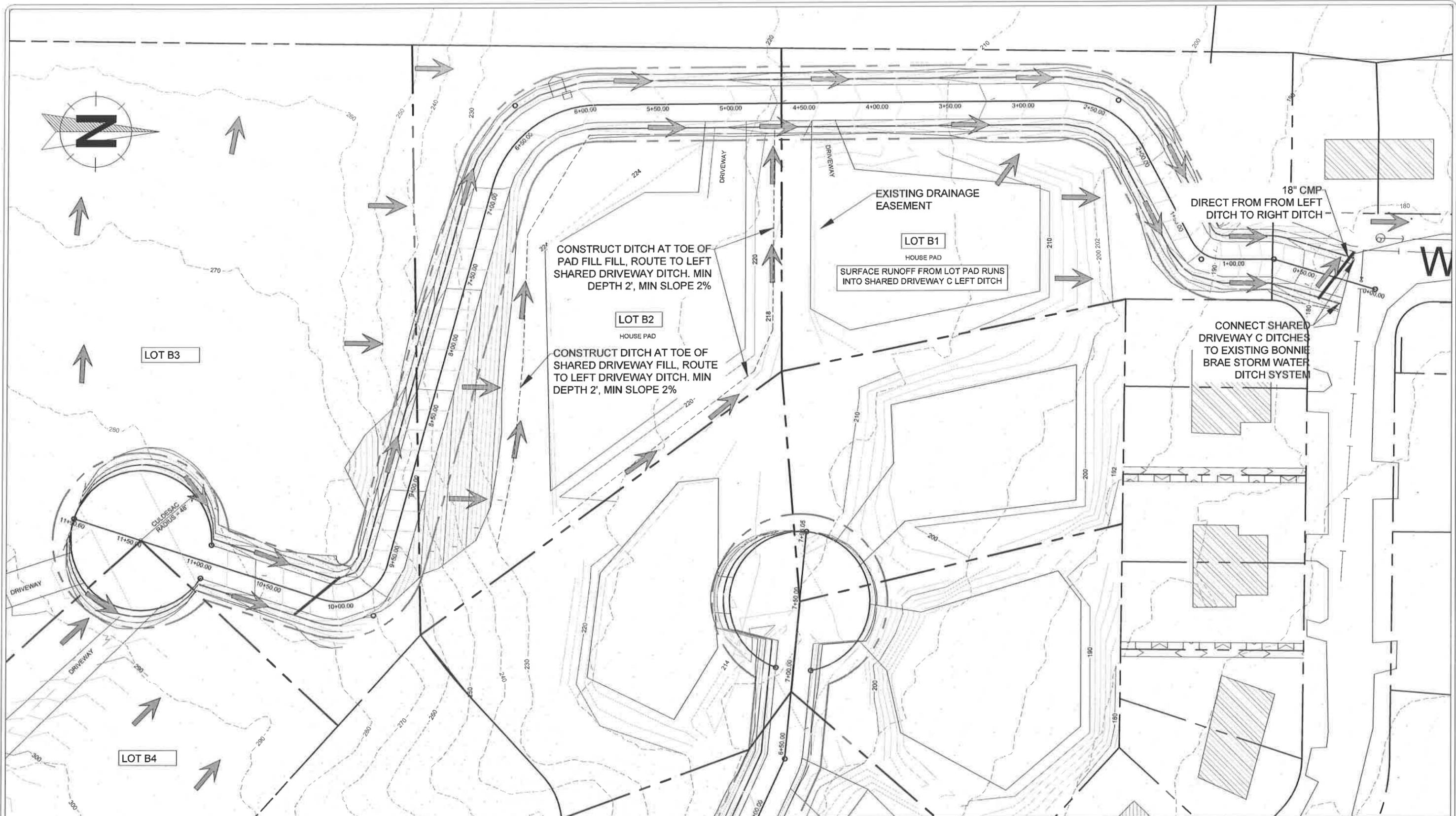
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SHARED DRIVEWAY A
DRAINAGE SCHEMATIC

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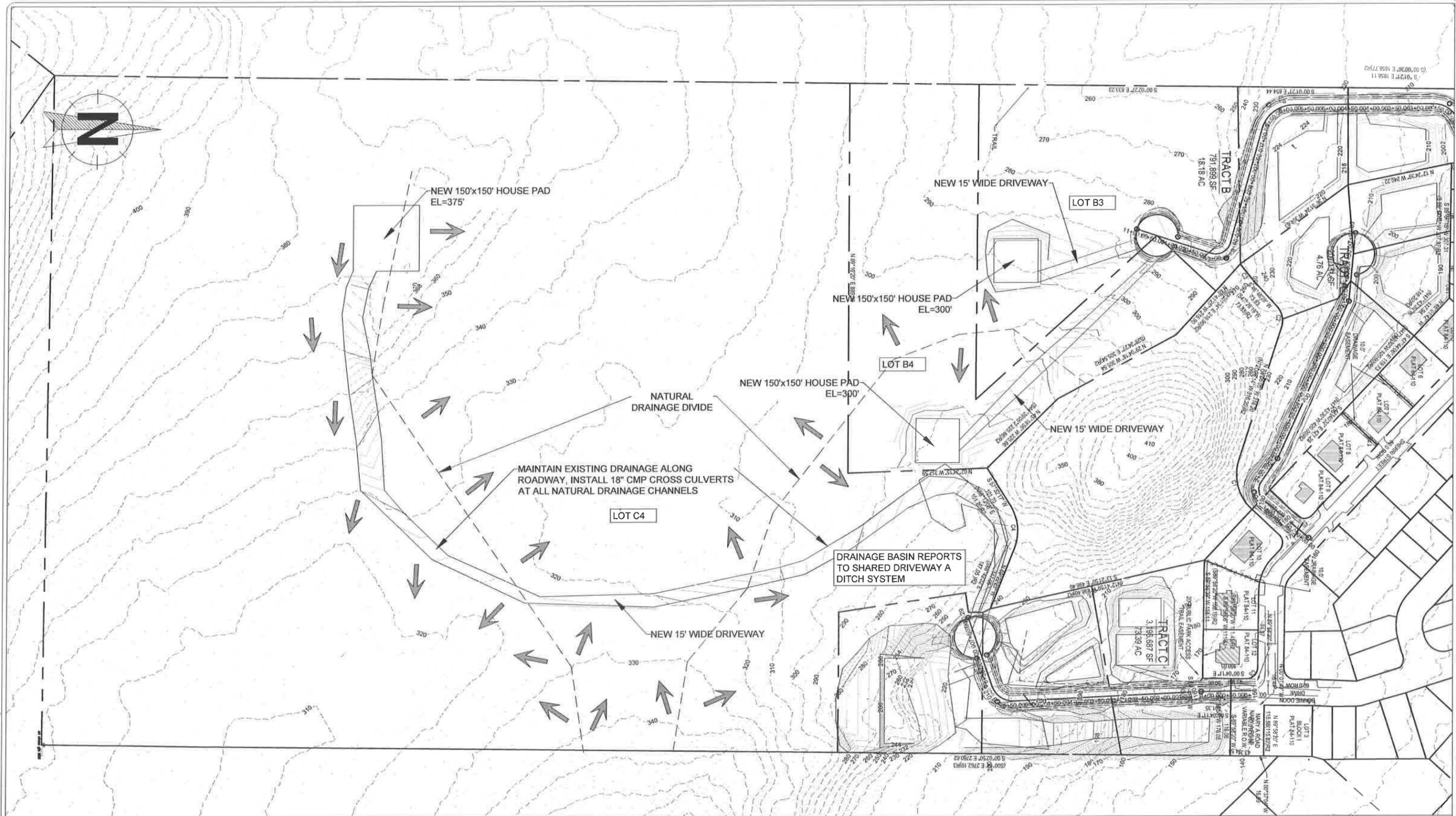
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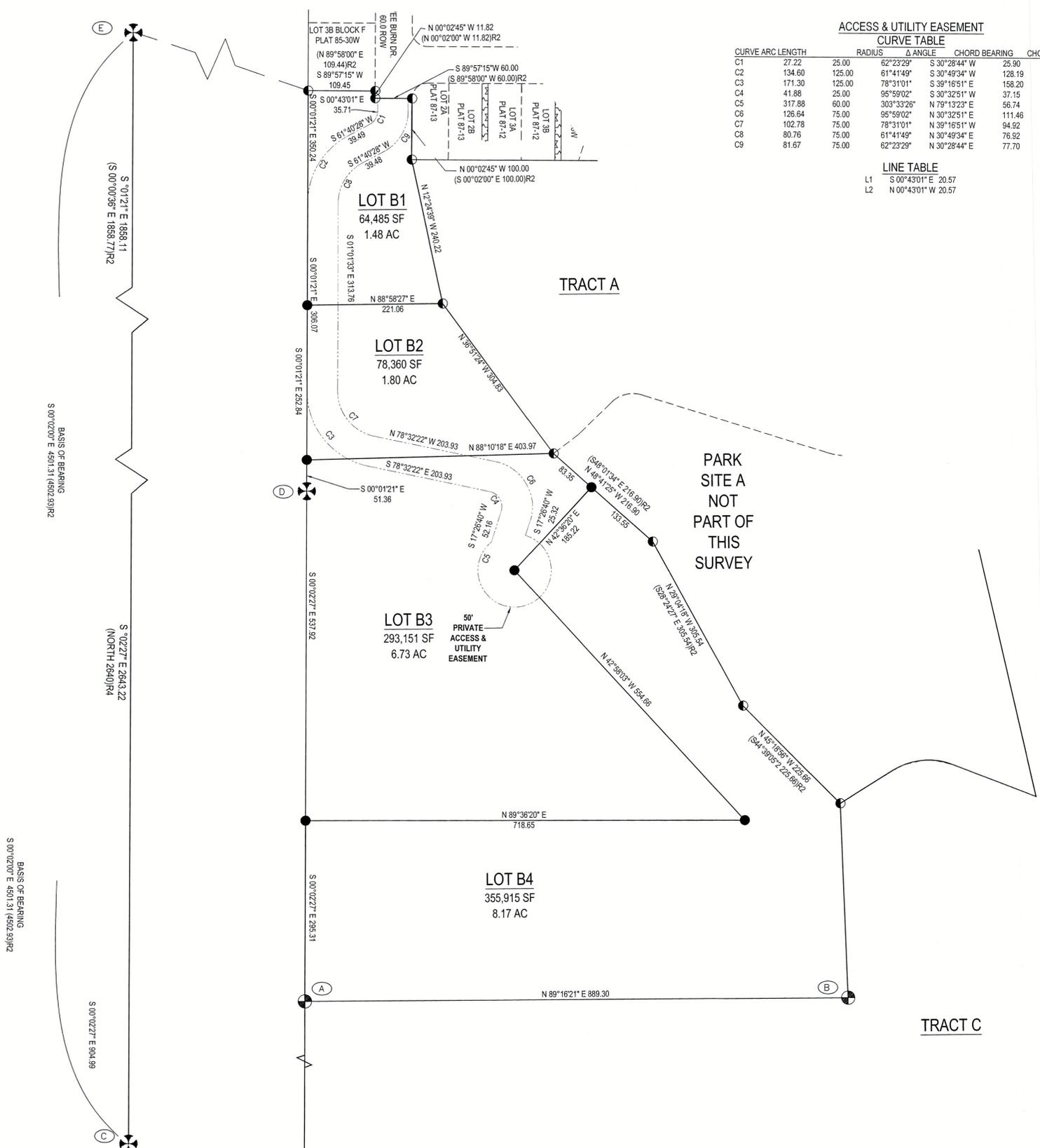
CONSTRUCTION DRAWINGS

SOUTHERN LOTS GRADING PLAN AND DRAINAGE SCHEMATIC

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ACCESS & UTILITY EASEMENT CURVE TABLE

CURVE ARC LENGTH	RADIUS	ANGLE	CHORD BEARING	CHORD LENGTH	
C1	27.22	62°23'29"	S 30°28'44" W	25.90	
C2	134.60	125.00	61°41'49"	S 30°49'34" W	128.19
C3	171.30	125.00	78°31'01"	S 39°16'51" E	158.20
C4	41.88	25.00	95°59'02"	S 30°32'51" W	37.15
C5	317.88	60.00	303°33'26"	N 79°13'23" E	56.74
C6	126.64	75.00	95°59'02"	N 30°32'51" E	111.46
C7	102.78	75.00	78°31'01"	N 39°16'51" W	94.92
C8	80.76	75.00	61°41'49"	N 30°49'34" E	76.92
C9	81.67	75.00	62°23'29"	N 30°28'44" E	77.70

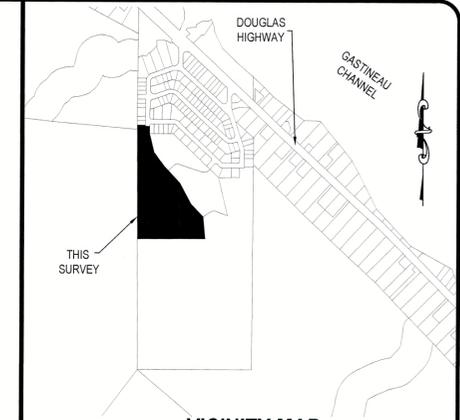
LINE TABLE

L1	S 00°43'01" E	20.57
L2	N 00°43'01" W	20.57

SURVEYOR'S CERTIFICATE

I, JOSHUA IVANISZEK, IN MY CAPACITY AS A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA, CERTIFY THAT THIS PLAT REPRESENTS THE SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE ACCURACY OF THE SURVEY IS WITHIN THE LIMITS REQUIRED BY TITLE 49 OF THE CODE OF THE CITY AND BOROUGH OF JUNEAU, THAT ALL DIMENSIONAL AND RELATIVE BEARINGS ARE CORRECT, AND THAT MONUMENTS ARE SET IN PLACE AND NOTED UPON THIS PLAT AS PRESENTED.

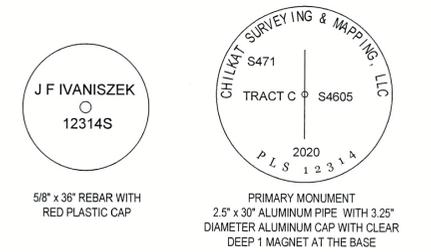
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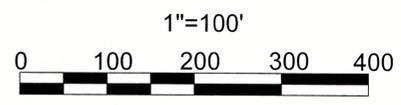
VICINITY MAP
SCALE N.T.S.
SOURCE CBJ BASEMAP

LEGEND:

- GLO PRIMARY MONUMENT RECOVERED
- 12314-S PRIMARY MONUMENT RECOVERED
- 3088S SECONDARY MONUMENT RECOVERED
- 12314-S SECONDARY MONUMENT RECOVERED
- SECONDARY MONUMENT SET THIS SURVEY
- MONUMENT IDENTIFIER
- PROPERTY LINES
- UNSURVEYED LINES
- 10' ACCESS EASEMENT CREATED THIS PLAT
- DRAINAGE EASEMENT PLAT 84-110
- (N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 471
- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 84-110
- (S 00°04'E)R3 RECORD INFORMATION FROM US SURVEY 4605
- (N 89°16'20" E)R4 RECORD INFORMATION FROM PLAT No. 2021-32



TYPICAL SET MONUMENT DETAIL
N.T.S.



PLAT OF
BLACKTAIL MOUNTAIN ESTATES B
A SUBDIVISION OF
A FRACTION OF US SURVEY 471
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT

STATE RECORDER'S OFFICE AT ANCHORAGE

CHILKAT SURVEYING & MAPPING, LLC
10654 PORTER LANE JUNEAU, ALASKA 99801
907-957-1908

OWNERS
PETER PEEL 800 6TH STREET JUNEAU, AK 99801
CREATIVE DEVELOPMENT, LLC
PO BOX 032076 JUNEAU, ALASKA 99803

SCALE: 1" = 100' MIP 2021XXXX DATE: 28 NOVEMBER 2021 SHEET NO. 1 OF 2

