

THE BLUEPRINTS

INSIDE THE PRODUCTION ARCHIVES

J. W. RINZLER



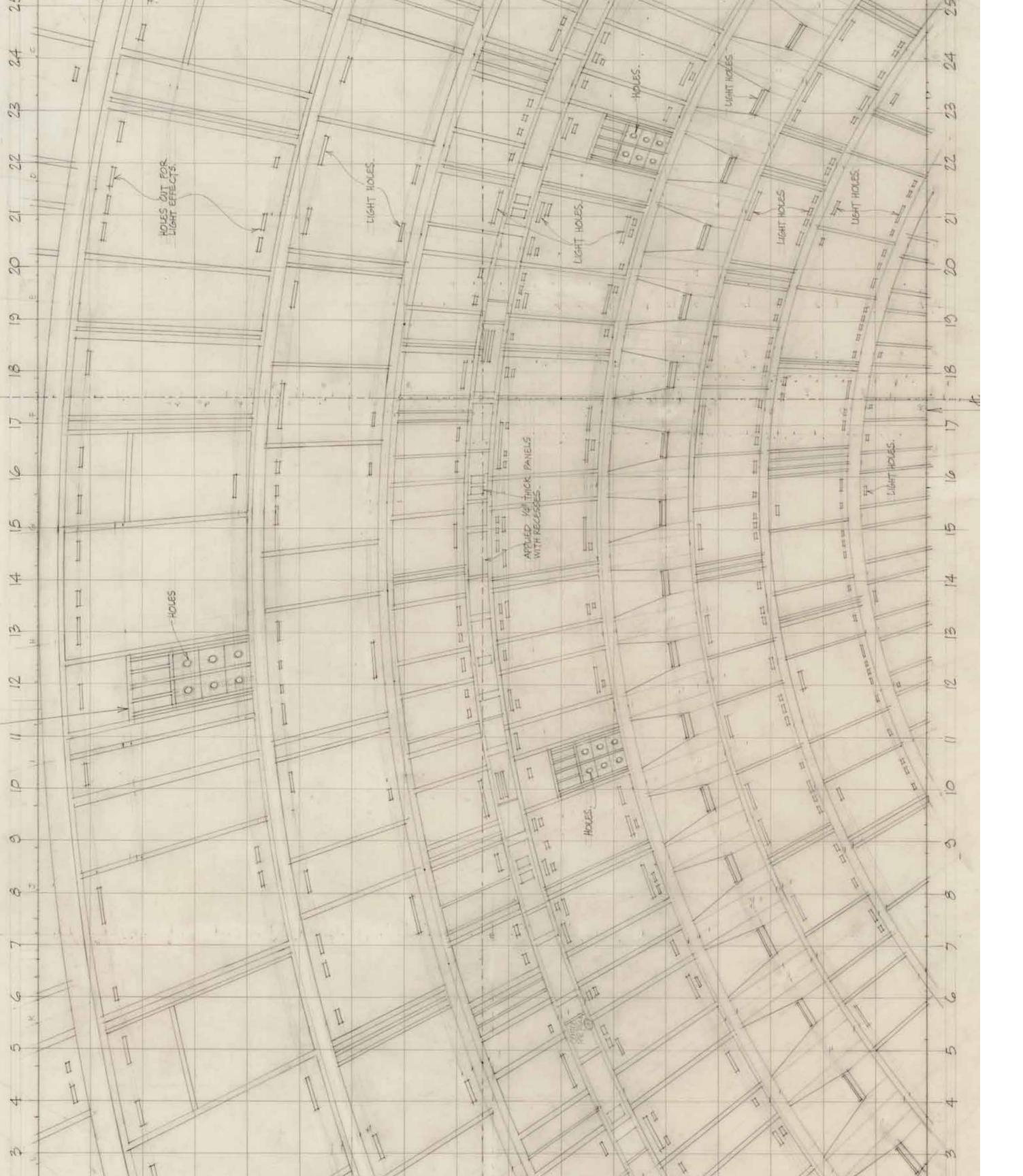
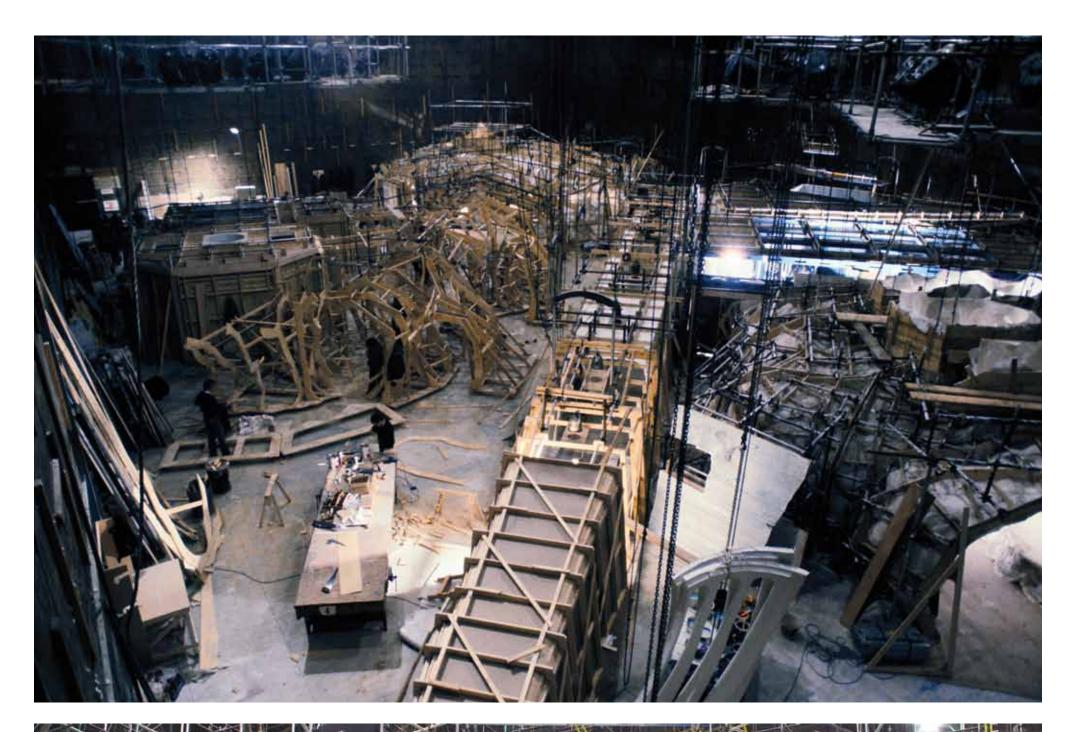
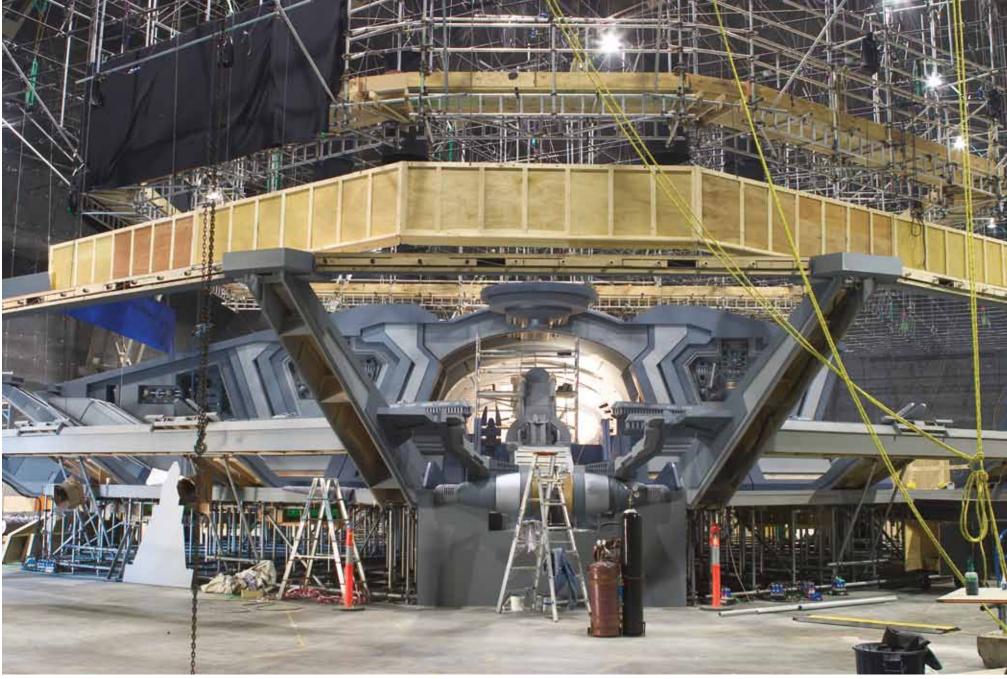


TABLE OF CONTENTS

PREFACE	Norman Reynolds	9
FOREWORD	Gavin Bocquet	9
INTRODUCTION	J. W. Rinzler	10
EPISODE IV	Introduction: A New Hope	Ι2
	The Blueprints	18
EPISODE V	Introduction: The Empire Strikes Back	92
	The Blueprints	96
EPISODE VI	Introduction: Return of the Jedi	186
	The Blueprints	190
EPISODE I	Introduction: Episodes I, II, III The Prequel Trilogy	270
	The Phantom Menace Blueprints	274
EPISODE II	Attack of the Clones Blueprints	308
EPISODE III	Revenge of the Sith Blueprints	318
AFTERWORD		332
ART DEPARTMENT CREDITS BY FILM		332
INTERVIEWS & BIBLIOGRAPHY		333
INDEX		334
PHOTO CREDITS		336
ACKNOWLEDGMENTS & BIOGRAPHIES		336

OPPOSITE The detail is from Ted Ambrose's technical drawing of the gantry built backing from *The Empire Strikes Back*, March 1979.





TOP A photo of Stage 1 at Elstree Studios, in England, taken during the making of *The Empire Strikes Back* circa March 1979, shows the exterior wood structures of the ice corridor and Medical Center sets (note the circular opening in the latter's roof), with other structures in various stages of seemingly chaotic construction.

ABOVE A photo taken during the making of Revenge of the Sith on Stage 1 of Fox Studios in Sydney, Australia, circa July 2003, shows the bridge of General Grievous's Trade Federation cruiser as it is being constructed on a rostrum; the final set would have at least a dozen illuminated screens.

PREFACE

aving worked on the original *Star Wars* trilogy as art director and then production designer, I am thrilled that this beauti-L fully produced book has been published. I am sure it will sit very comfortably alongside the other making-of Star Wars books, having illustrated the very essence of the art department's function.

This is an important book because I believe it is the only one to feature working drawings, which are not usually seen outside a studio and which are normally simply left to disintegrate in their vaults. But these drawings are an absolute essential in set manufacturing. Whilst they may not be the most eye catching or glamorous of the art department's many functions, they are arguably the most important. Until drawings are done, wheels do not turn and workshops are silent. It was always a thrill for me when, after the period of preparation, drawings were issued and construction began. It was also important—because it meant the picture had been green-lighted!

I should mention here that the draftsmen or women who prepare these meticulous drawings are so vital to the process. A competent draftsperson can contribute to the design of a set and bring their experience to the drawing. The downside is that a negligent draftsman can cause havoc

in many ways with costly mistakes through badly executed work. I was fortunate, as you will see from the standard of the drawings—and doubly fortunate in the people I had around me. They proved to be amongst the very best and most supportive of the then-new designer.

Those working drawings, when completed and approved, are duplicated and distributed to all relevant studio departments and theoretically represent the director's requirements for each set. Where time is short, the process can be reversed by producing a drawing before the director has approved a sketch or illustration. In such cases, the production designer would meet with the director and perhaps do a thumbnail sketch of what might be required. He would then spend time with the designated draftsperson in order to produce a working drawing quickly, so that a precise art model maquette could be produced from it, enabling the director to view the set in three dimensions before giving his final approval—with any luck!

It is possible to determine the exact extent of the set to build by producing a camera angle projection based on the plan and elevations of a working drawing. This can be done with any angle or aspect ratio—and can limit the amount of set building. In addition, these projections can

be used to produce forced-perspective sets or partially built perspective corridors wherever the technique might prove economical or save stage space. We used this method often in all the original trilogy Star Wars movies, as you will see.

However, it's important that the director be made aware of the restrictions these shortcuts can place on him; if he is not fully aware of this by the time of shooting, then the best thing the production designer can do is to leave the country in double-quick time.

All in all, working on these memorable movies has left an indelible mark on me. Hardly a day goes by without hearing, reading, or seeing some reference to Star Wars, which has become so immersed in our culture.

Norman Reynolds Art director, Episode IV Production designer, Episodes V and VI

FOREWORD

first Star Wars job was for Norman Reynolds on Return of the Jedi. And my first job on that film was doing a techical drawing of the speeder bike, under the direction of Norman and his brilliant senior art director, Fred Hole. Here I was, a fully fledged draftsman working on the last of a series of films I had loved since first seeing A New Hope while I was studying 3-D design at the Royal College of Art.

Jedi was only the fourth film I had ever worked on. But even then I realized the importance of technical drawing in the art department. Norman, along with Fred, was a great mentor. Both always stressed how technical drawing was the *language* we communicated in—how every mark we drawings of the original trilogy, as some of the environments were to be put on paper mattered, however small or seemingly insignificant.

All of the creative ideas that come together in a film—from sets and props to environments—have to be technically drawn in some way or other, either by pencil on paper or mouse on pad. From simple sketches to architectural models to concept art—and during the more recent years, digital painting and modeling—it is the only way to communicate design ideas accurately to all the relevant departments: construction, prop making, special effects, visual effects, postproduction houses. The designs are only as good as the technical drawings that allow them to be built.

Once I had finished working on *Jedi*, I never thought for one moment that one day I might be the production designer on a Star Wars film. But once I had become a fully fledged production designer some years later, I met Rick McCallum and was asked to do The Young Indiana Jones Chronicles with George Lucas. And after about three years on that TV series, I was offered the production designer's job on *The Phantom* Menace. I would like to think that George had spotted my talent while on Jedi, but, sadly, I don't think that was quite the case.

My work began on Episode I with a mixture of excitement, nervousness—and fear! But right from the start, I made sure I used everything I had learned from Norman Reynolds. A very important part of that was treating technical drawing with the respect it deserved. And to help keep Peter Russell, my supervising art director, and me in line, we actually had Fred Hole working with us on *Phantom*. If we ever fell short of Norman's standards, Fred was sure to let us know. It was good to have him with us, a great comfort.

Rather strangely for me, during the first few weeks on Episode I at Skywalker Ranch, we were going back through some of the technical used again—when a couple of my drawings came up from Jedi. I think George was quite surprised to see those, as I am not sure he remembered I was on it, but that was a nice connection.

One specific area on Attack of the Clones where we had to rely heavily on technical drawings was when we were re-creating Luke's Tatooine Homestead, in Tunisia. We had to go back to the technical drawings done on A New Hope. Luckily, thanks to John Barry and his team, the sets and dressings had all been drawn extremely well and in great detail. When George first walked onto the Chott el Gharsa location and saw the reproduction of the homestead in such great detail, I think it was quite an emotional moment for him. And our clever reproduction was purely down to the accurate technical drawings from over two decades before.

I went on to be the production designer on *Revenge of the Sith*, where we had a similar experience, having to reproduce the interiors of the Rebel Blockade Runner and the Star Destroyer. Again we relied on technical drawings from the previous Episodes, a few of which were those technical drawings of mine from *Jedi*. So I felt my circle had been completed.

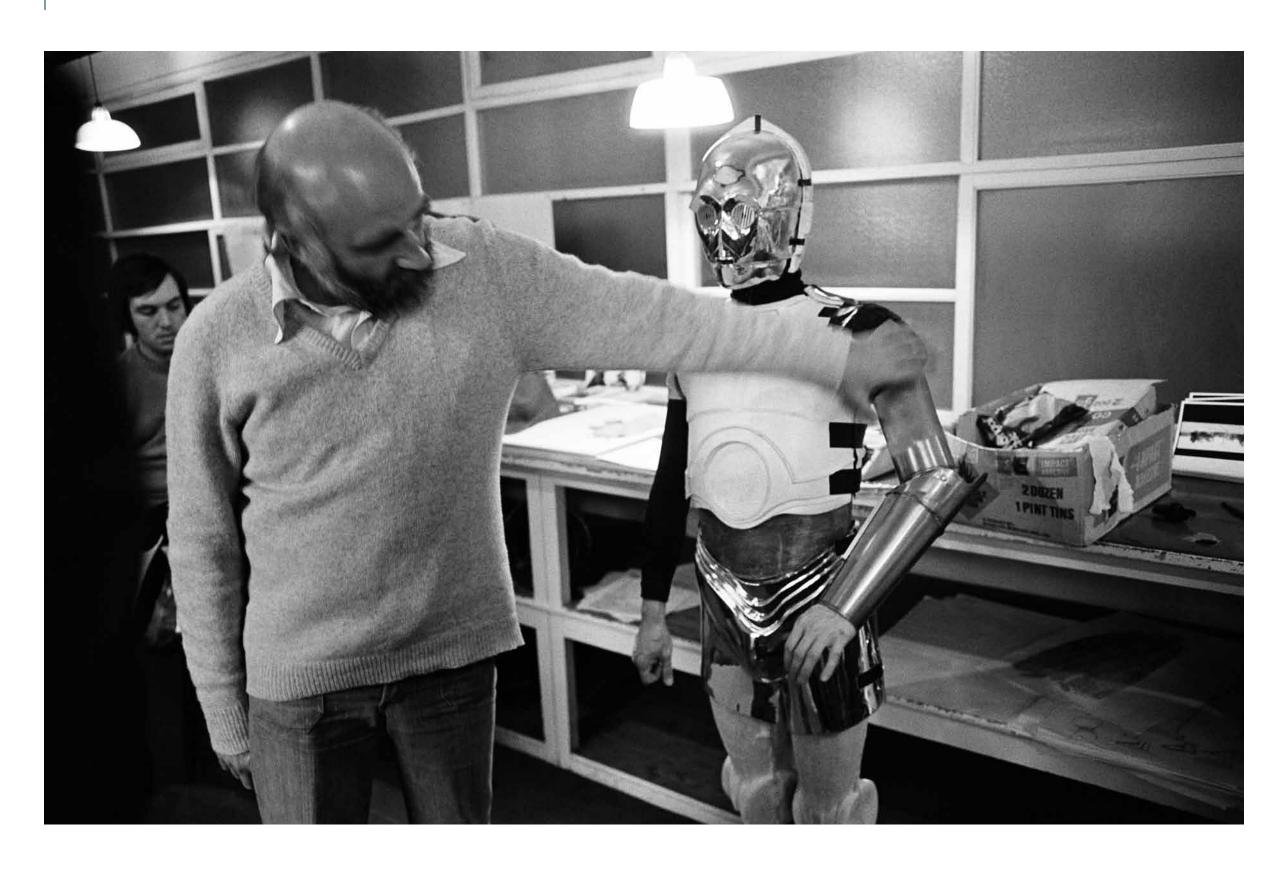
Working on Star Wars, from Jedi to the three Prequels, was a brilliant and life-affecting experience for me. Although it was a daunting task, I have to say that George was extremely supportive of our efforts. Even though he knew most of the art department hadn't done a film of this level before, he made us feel part of the family from day one. You only get one or two of these opportunities in your career, but once you have come through, it gives you a great confidence to go on and do more work at the same level.

My initial aim was to design the three Prequels to a level that George would be happy with and feel that they were seamlessly connected to the look of the original trilogy. But I was also very much aware of the fans' reactions, as they can be the hardest of judges. So one of the most pleasing aspects of the work we did was that the fans seem to accept the design of the Prequels as being naturally part of the Star Wars world.

The common thread running through all six of the films was technical drawing—and that will hopefully never change. Everything every fan has loved about the Star Wars films, from sets to spacecraft to vehicles to props, down to even the tiniest of control buttons, has at some point been carefully and thoughtfully drawn. That's how important it is.



Draftsman, Episode VI Production designer, Episodes I, II, and III



INTRODUCTION

tar Wars: The Blueprints gives a voice to the Star Wars studio art departments who, film after film, laid the groundwork and built the structures of many of the most iconic sets in the history of cinema.

There have been many art-of Star Wars books, usually consisting of fantastic concept illustrations, sketches, and storyboards. Often these artworks are juxtaposed with final frames from the film, unintentionally conveying the idea that concept drawings were translated directly into finished sets. But the fact is that an interim "stage" existed: the blueprint, or technical drawing. Occasionally these same books have even reproduced a few blueprints, but almost always too small to be read, studied, or fully appreciated. (There was a very early set of fifteen blueprints published by Ballantine Books in 1977, with no supporting text.) And yet during principal photography for all six films, actors have worked on very real, very detailed creations. From the Rebel Blockade Runner hallway and the cockpit of the *Millennium Falcon* to the bridge of General Grievous's flagship, Jabba the Hutt's Palace, the Death Star, and the Tatooine homestead—all of these places and hundreds more had to be designed, built, painted, and dressed, with technical drawings showing the way.

One of the reasons, perhaps, for the relative neglect of blueprints is that their progeny, these sets and full-sized vehicles, existed only briefly, wisps of artistry constructed from wood, plaster, metal, foam, fiberglass,

and other materials; cut, sawed, measured, and hammered into form by teams of craftspeople and used just long enough for the days needed before being smashed to pieces and thrown into a junk pile to make room for the next one. The number of stages was always limited, while the number of sets multiplied as the imagination of George Lucas, creator of the Star Wars Saga, expanded in proportion to growing budgets and progressively modernized effects.

Many of these illusory interiors and exteriors for the original trilogy came from concepts worked up in conjunction with Lucas by the nowlegendary Ralph McQuarrie. Lucas would explain his ideas in broad strokes, sometimes supplying reference material, and then McQuarrie would make sketches on the subject until Lucas was satisfied; McQuarrie would then produce a color study and finally a finished painting. Vehicles were generally under the purview of the visual effects art director at Industrial Light & Magic, Joe Johnston. For the *Prequel Trilogy*, Lucas made use of a team of artists under the supervision of Doug Chiang, Ryan Church, and Erik Tiemens. But in all cases, every practical set was eventually turned over to the film's production designers: John Barry (Episode IV), Norman Reynolds (Episodes V and VI), and Gavin Bocquet (Episodes I, II, and III).

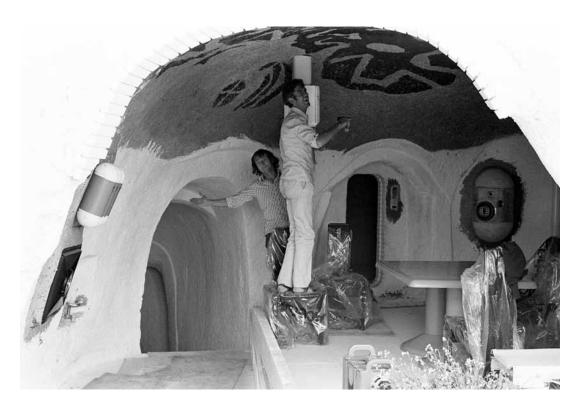
With his team of art directors, assistant art directors, draftspeople, set dressers, and set modelers, the production designer would work out how to translate blue-sky concepts into nuts-and-bolts sets. Not only would

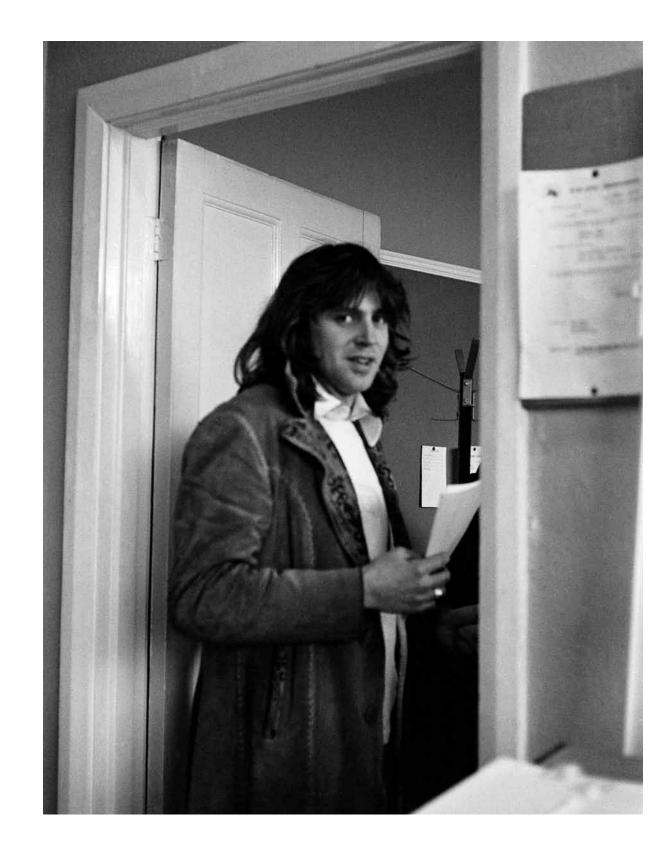
they have to solve many conceptual problems, they would also have to do it as cheaply and effectively as possible, while often considering how one set might be revamped and used as another to further economize

Lost in most of the literature about *Star Wars* is that, particularly for the first film, the production designer conceptualized many sets from the ground up, literally. Luke's garage, the Cantina bar, the white corridor of the Rebel Blockade Runner, many interiors of the Death Star, the Falcon cockpit—nearly all of the sets, really—stemmed from the collaboration of Lucas with veteran production designer John Barry. It is not for nothing that Lucas to this day refers to Barry as a "genius."

Indeed, each film in the Saga contains indelible marks left by the studio art departments. The seemingly disparate parts of these six *Star* Wars art departments came together from a relatively small pool of talent fostered in English film studios. Nurtured on the movies of Sir David Lean, Sir Carol Reed, Richard Lester, Ken Annakin (who directed many films for Walt Disney), and others, they trained with the great production designers of their time, including John Box, Ken Adam, and Charles Bishop. Some of the art department crew, such as art director Alan Tomkins and construction manager Bill Welch, came from the "class of 2001," having worked on Kubrick's groundbreaking, mind-bending film of 1968, 2001: A Space Odyssey.







After having labored on one, two, or all three of the original trilogy Star Wars films, the different men of the art departments split off and reformed for the Indiana Jones trilogy, Alien, James Bond and Monty Python films, and many other movies. They would reappear as Academy Award® winners on *Titanic* in 1998, production designers and art directors of the *Harry Potter* series, and so on. The family tree of this core group would show a pedigree that more or less dominated production design in the United Kingdom, and to some extent the United States,

The unsung heroes of the original trilogy art departments are the draftsmen, who drew in collaboration with their respective art department heads, but who also added their own ideas. They worked quickly and creatively, almost always under difficult deadlines. Their blueprints are often not as sexy as concept work, but they have an attribute that concept art lacks—a sense of the real. In fact, blueprints had to be more worldly and team-oriented works, something that the construction, paint, and plaster departments could use and that other key figures in the creation of the movie could consult, from the director of photography to the set dresser.

Generally the draftsperson's artistry lies within their discipline; in another age, draftspeople would have belonged to a guild. Like their forebears, members of the art department earn their spots and promotions

thanks to years of training and apprenticeship, as they become familiar with a host of materials. A draftsperson might work on a dozen films or more before becoming an assistant art director; very few would ever become production designers. And then there's Reg Bream, by all accounts the superlative draftsman of the original trilogy, fast and unmatched, who seems to have had no other ambition than to create one fantastic drawing after the next.

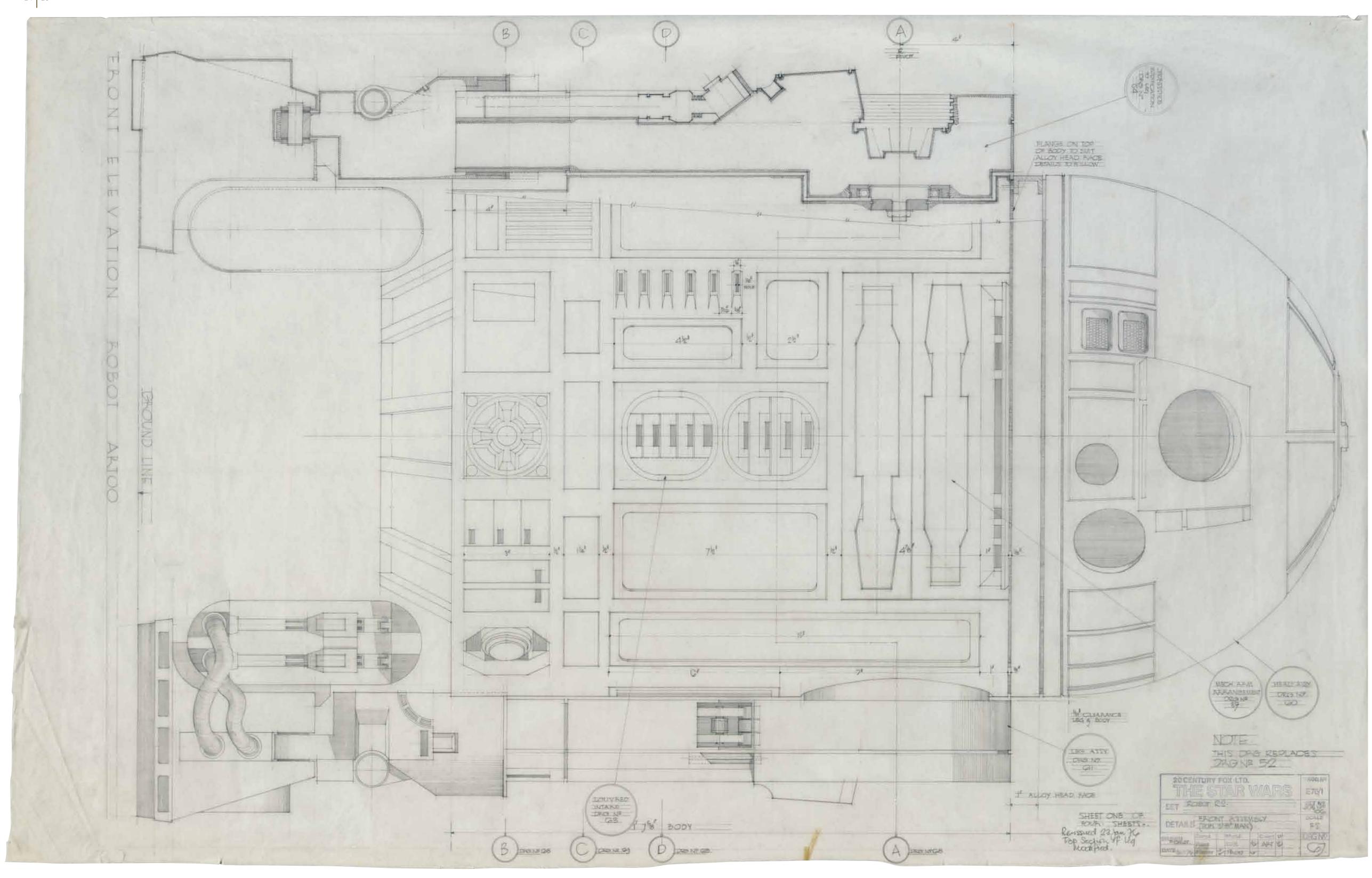
My privilege during the research and writing of this book was getting to hear their stories and the larger narratives of the successive art department chiefs. Norman Reynolds not only consented to several hours of interviews over a period of weeks, but also responded to dozens of e-mails. Talking to Star Wars set dresser Roger Christian was a valuable lesson in the earliest days of the first film's aesthetic revolution and allowed me to add his memories and experiences to the amalgamating history of the groundbreaking first film (his original interview with Charles Lippincott from 1976 is lost, and so his crucial part was not told in *The Making of* Star Wars—but is fortunately now included in this book). Christian was also very patient, responding to many questions via e-mail. He is working J. W. Rinzler on a book about his experiences on Star Wars, Alien, and his other films, and I can't wait to read it.

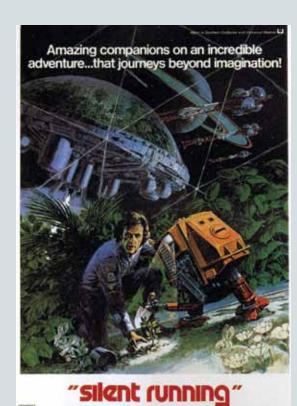
Alan Tomkins was a big help, as were former draftsmen Ted Ambrose, Michael Boone, Steve Cooper, Peter Childs, and Fred Hole, who is the

only draftsman to work on both trilogies and is widely admired as having a beautiful "hand" (and who, sadly, passed away in February 2011). Indeed, Gavin Bocquet told me how much he had learned from Hole as a junior draftsman during the several films they worked on together. Of course, Bocquet's participation was essential to the book and, luckily, he found time to talk while working in England on another film—even pulling in his supervising art director on the *Prequel Trilogy*, Peter Russell, who had essential insights on the technical drawings. Indeed it was great fun seeing Gavin and Peter again (thanks to Skype), as I hadn't seen them since I was at Fox Studios in Sydney, Australia, chronicling their efforts in my book, *The Making of Star Wars: Revenge of the Sith*.

Writing Star Wars: The Blueprints has been an adventure into the past that I hope will endure and that readers will enjoy. My sincere wish is that Star Wars: The Blueprints will preserve the efforts of the magnificently trained and inspired men and women who contributed so much to the

painters (above) and a chargehand for props dressing, Joe Dipple (top).





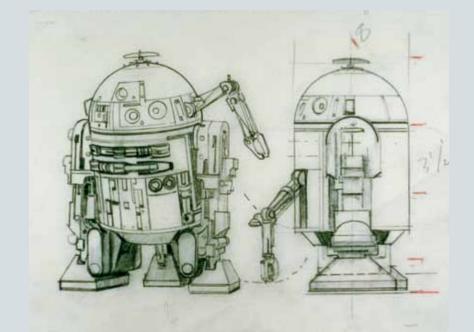
Bruce Dern · Cliff Potts · Ron Rifkin · Jesse Vint

LEFT The theatrical poster for Douglas Trumbull's Silent Running (1972) shows the film's angular robots. Ralph McQuarrie therefore designed R2-D2 as more circular and rounded.

RIGHT A McQuarrie drawing showed how R2's arms might connect to his shell (with a kind of antenna on top).

BELOW RIGHT Lucas, Kenny Baker, and production designer John Barry (on right) discuss how R2 will be built around the diminutive actor; this is one of the few pictures of the droid as it was being developed in its all-wood prototype incarnation.

BOTTOM RIGHT In brown coat, Lucas examines the R2 prototype at Elstree Studios, early 1976 (special mechanical effects supervisor John Stears is on the far right).







ROBOT R2

EPISODE

SET: ROBOT RZ [PGS. 24-25]

DETAIL: FRONT ASSEMBLY (FOR 3'8" MAN)

DRG. NO.: 67 [A] SCALE: FS DATE: JANUARY 20, 1976

DRAWN BY: PETER J. CHILDS

"As I remember, Artoo-Detoo came from this tiny little sketch that Ralph McQuarrie did," says Lorne Peterson. "A couple of brush strokes, a round thing, and a little bit of blue."

In fact, McQuarrie did a few paintings and drawings of the feisty little droid, Harpo to C-3PO's fussy butler persona, but it was up to the art department at Elstree to make R2-D2 a physical reality; they would have to fill in a hundred variables naturally left by McQuarrie's airy if brilliant design work. In turn, the art department would work hand-in-hand with John Stears, who headed up the mechanical effects department. (Much to Lucas's disappointment, R2 never to actually spend money," says Reynolds. "So I rememfunctioned properly.)

R2-D2 began at Lee Studios, where Christian hired carpenter Bill Harman and together they built of Artoo." the droid prototype out of wood. Because Star Wars wasn't given a green light until December 13, final preparations couldn't begin until January, the date of this blueprint, which also indicates that separate drawings would be made for the "mechanical arm arrangement; head assembly, leg assembly." The construction of the R2 body was assigned to an outside fabricator, while its original design and realization were influenced by three little robots seen in the 1972 film directed by Douglas Trumbull, Silent Running: Huey, Dewey, and Louie. McQuarrie had seen that film's square, angular robots, so he'd made R2 round.

"There's no expert robot designer, unfortunately," said Barry. "I had this notion, which I talked to George about a long while before I started on the movie, about how we were going to make it work. There's the Silent

Running technique of using an amputee—they walk on their hands—but that has such severe physical limitations to the look of the thing that if we'd used an amputee, Artoo would have looked remarkably like the ones in that film; I mean, really, very much. So we adopted the other approach, which was a normal guy that's small—he's only forty inches, Kenny Baker, and very strong, fortunately, because it's very hard to move. So, first of all, we started with the tiny man who was going to go inside Artoo."

"I arrived, and I think there were a couple of people around, but they hadn't had the green light, you know, ber John had got in Kenny Baker. They mocked up a little drum for Kenny to get into to establish the size

"So we got Kenny and saw what he could do physically," Barry said. "There was a lot of finding out: Where it was going to hurt him, and all the techniques around the boots. We found it very critical that the boot should be a very positive fixture to his legs, that they lace tightly up and hold the robot's boot firmly to his leg so that it moves as one.

"But of course, this was all going on at the same time that we were trying to get the location stuff off. We had to get truckloads of stuff sent off pre-made to Tunisia, so they could start building sets there. And it was all going on at exactly the same time we were finishing off Kenny and Artoo. That was a really bad patch for us—the two robots were a nightmare to build."

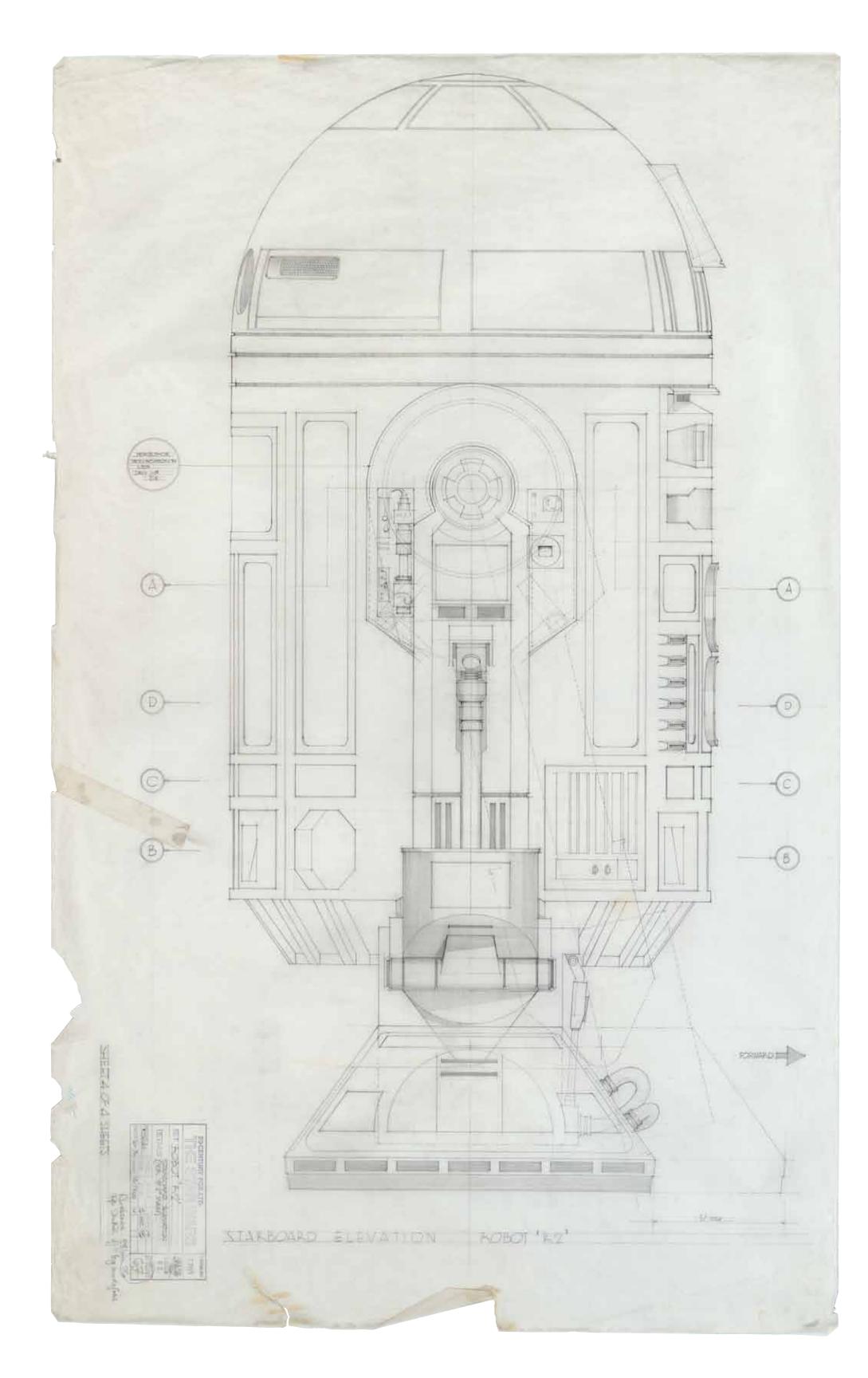


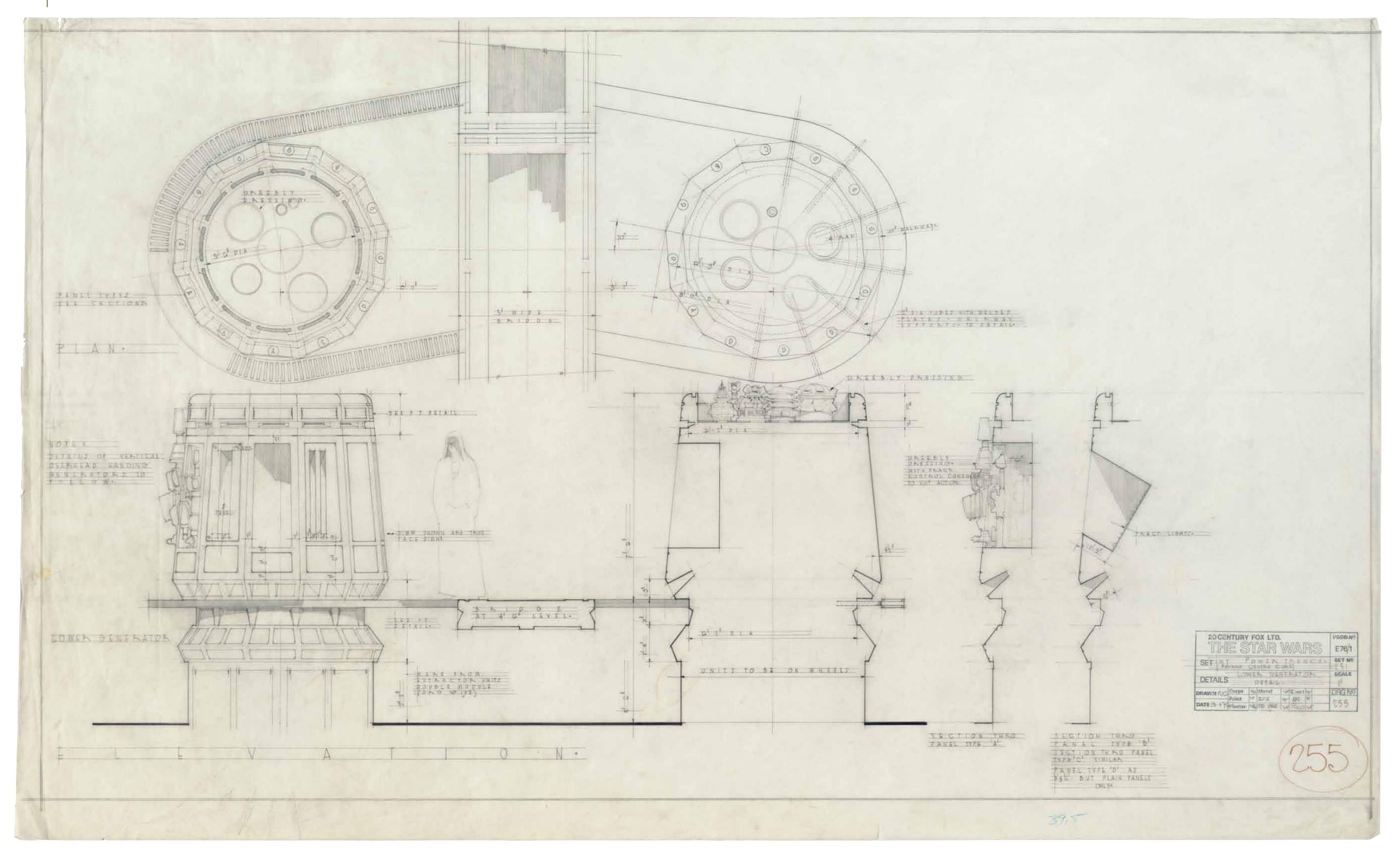
DETAIL: STARBOARD ELEVATION (FOR 3' 8" MAN) DRG. NO.: 67 [B] | SCALE: FS | DATE: JANUARY 20, 1976 DRAWN BY: PETER J. CHILDS

Peter Childs executed at least four blueprints of R2, one of which was reissued on January 23, with "top section of leg modified

"I had never worked on a science-fiction film before, but in my mind the concept really was Flash Gordon and these sort of gleaming white sets and pristine sorts of stuff, but Star Wars had a whole new dimension," says Reynolds. "It's something that George suggested, to have these muddy sets and beat-up reality. I remember the first impact of that was when we had Artoo made by an outside company. He was made in aluminum and to our designs, obviously, and he arrived white and with some blue patches on it. And the first thing George said was, 'We've got to make it all dirty.' And I thought for a moment, This is terrible, but we dirtied it all up and did a few dents and beat it up a bit, and George said, 'Well, that's better.' Well, that had a lasting effect on me, I have to say."

(Reynolds also notes that one of the R2 units was manufactured from parts that would be used on the Death Star sets.)





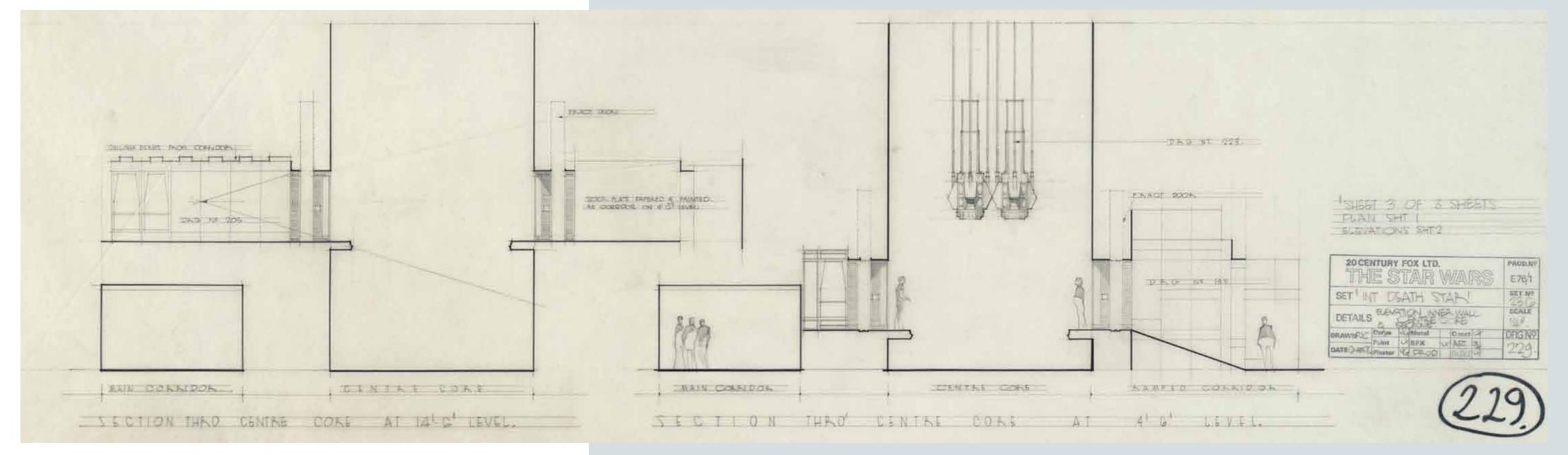


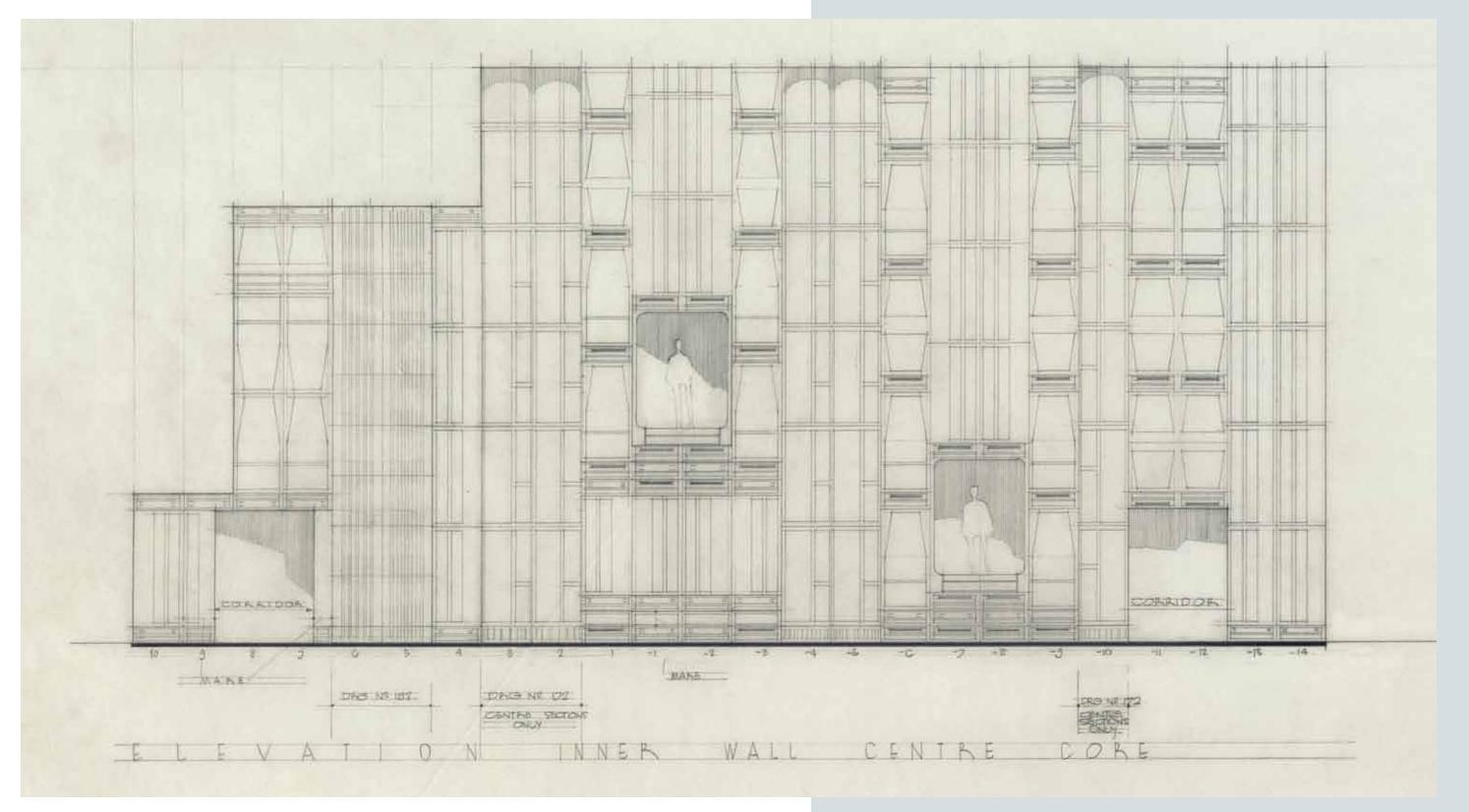




TOP & CENTER ABOVE A single Death Star set was built on Stage 2. It was first used for Luke and Leia's swing and then redressed for Obi-Wan's scene in which he turns off the tractor beam.

ABOVE The Death Star set is prepared for filming.





TOP & ABOVE | SET: DEATH STAR

DETAIL: PLAN & ELEVATIONS, CENTER CORE & CORRIDOR DRG. NO.: 229 | SCALE: 1/4 INCH | DATE: MARCH 2, 1976 DRAWN BY: PETER J. CHILDS

ACROSS Luke and Leia make their dramatic swing to safety with the hanging cores (drawing no. 229) in plain view. Much of the Death Star set was constructed with pieces created by an outside fabricator found by Reynolds, who injected a mixture of fiberglass and resin into concrete molds. This technique allowed the sets to be completed on time.



POWER TRENCH

EPISODE

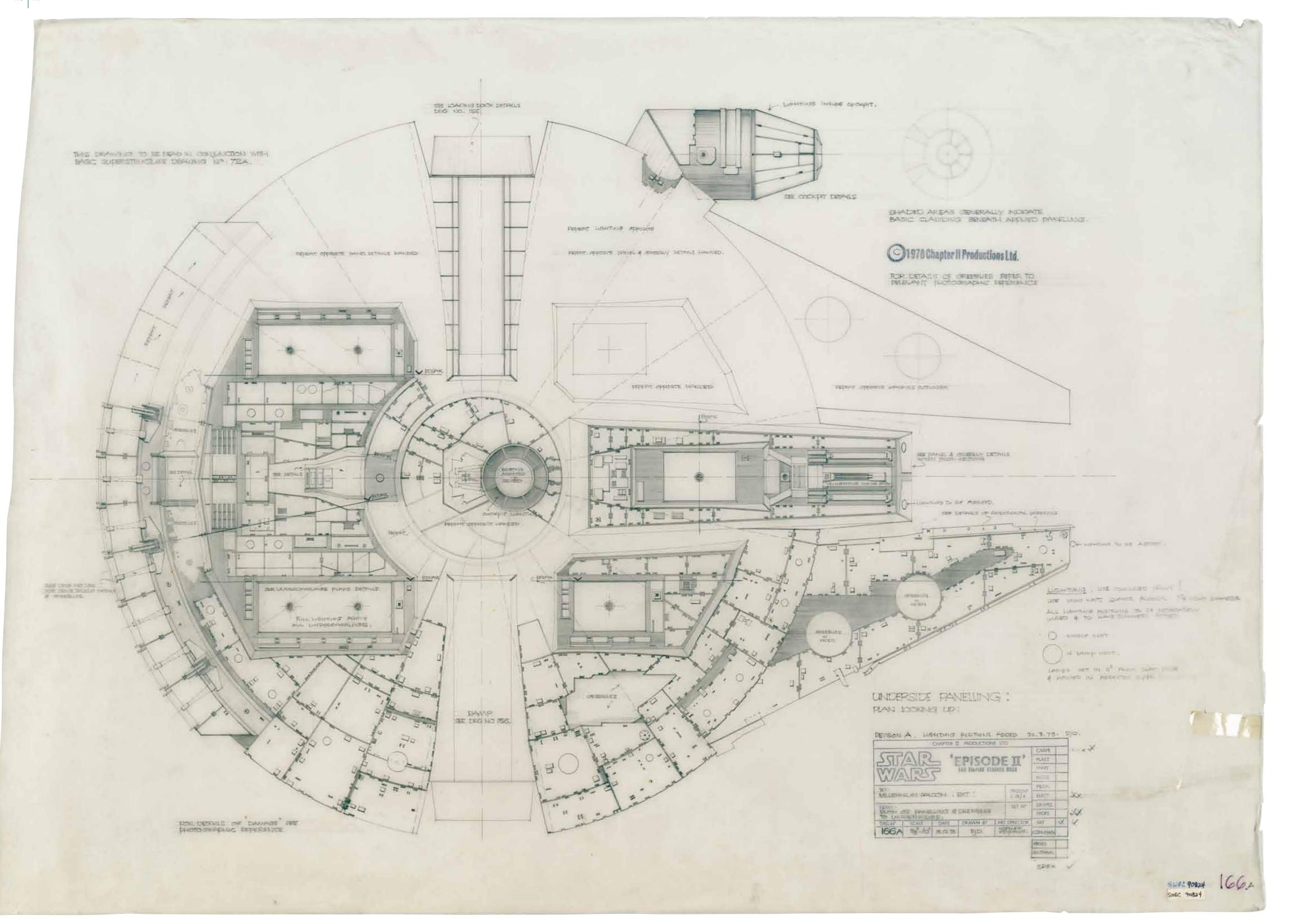
SET: POWER TRENCH (REVAMP CENTER CORE) [PGS. 72-73] DETAIL: LOWER GENERATOR | DRG. NO.: 255 SCALE: I INCH DATE: APRIL 23, 1976 DRAWN BY: PETER J. CHILDS

The power trench set was used for two short but key scenes on the Death Star: Ben switching off the tractor beam, along with Luke and Leia's swing across the chasm. In both cases, the chasm floor was in reality only a few feet below the actors, hence a note on one of throwing switches. the blueprints to prepare for a "high camera tilt down for matte shot lift sequence." ILM would add the matte finished shooting, utilize part of that same set into painting of the chasm in post.

The seemingly massive center "cores" that hang seen from a different angle," Reynolds says. "One could

were revamped as the central core around which Obi-Wan sneaks to find the tractor-beam controls. The dressing for the practical control panel on the central core also had to be suited for the action of Obi-Wan

"You would build the set and then when they another set, which would be changed and painted and over the trench when Luke and Leia make their swing be made into another very economically."





ABOVE The Elstree art department had to match the detailed underside of the ILM *Falcon* model when preparing the technical drawings.

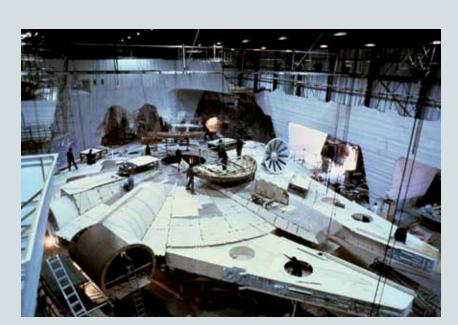


ABOVE Han Solo is on the Falcon's ramp (detailed in the blueprints) within the space slug.

ABOVE RIGHT The metal infrastructure for the full-sized Falcon exterior was constructed by Marcon Fabrications Ltd.

RIGHT The exterior hull and dressing are added to the *Falcon* by the construction and art departments.





LOCATION NUMBER 200127 - 7:200 TYPS F 19-0FF FOR DETRUS SEE DRS Nº 170293/02 OPEN EN OF RHS HEMELRS TO BE SENSED THOSE SHOULD BRADET DETAILS SALER TO THE CHOICE BUT HANDED ASSIST & SPACESHIP. ONE-OFF FRAME AS DRAWN - MARKED FRIS FOR ERECTION

ABOVE SET: MILLENNIUM FALCON

DETAIL: DETAILS FRAME, FR. 16 DRG. NO.: UNKNOWN SCALE: 1:200 DATE: SEPTEMBER 20, 1978 DRAWN BY: RHH/GED

This early blueprint was generated by the art department for Marcon's welded construction of the spaceship's internal metal frame. Of course, this was a "one-off frame as drawn for full-scale Falcon."

BELOW SET: MILLENNIUM FALCON DETAIL: RAMP & DOCKING BAY DRG. NO.: 156 SCALE: I INCH DATE: DECEMBER 13, 1978

DRAWN BY: RICHARD J. DAWKING

The ramp was typical Star Wars construction, making use of greeblies, a recycled practical telescopic tube, applied rubber strips, false hinges, and so on. On Empire, the Falcon and its ramp would remain stationary while several sets would go up and be torn down around it: the Rebel hangar, the space worm "stomach," and the Cloud City landing platform.

MILLENNIUM FALCON

EPISODE

SET: MILLENNIUM FALCON [PGS. II6-II7]

DETAIL: PLAN OF PANELING & DRESSING TO UNDERSIDES

DRG. NO.: 166A | SCALE: 3/8 INCH | DATE: DEC. 18, 1978

DRAWN BY: RICHARD J. DAWKING

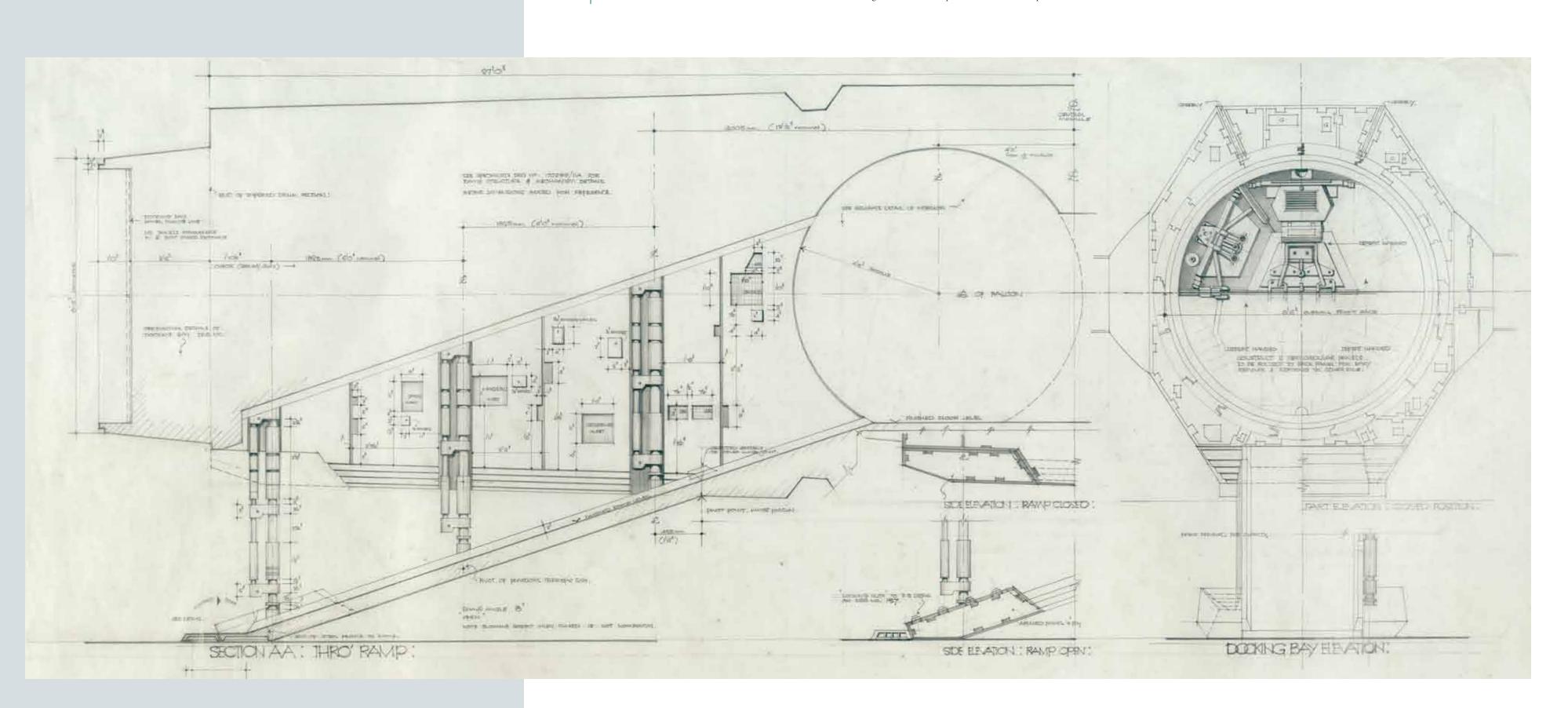
Very early in preproduction, Marcon Fabrications Ltd. contacted the *Empire* production office and pointed out that its facility—with hangar doors that were 160 feet was up, because we were losing height and being bufwide and with 60-odd feet clearance to the eaves—was feted around in that little plane. I remember thinking, big enough for the re-creation of the Millennium Falcon. For this film, Solo's pirate ship was to be constructed full-sized, but the metal armature job was so enormous that it had to be farmed out.

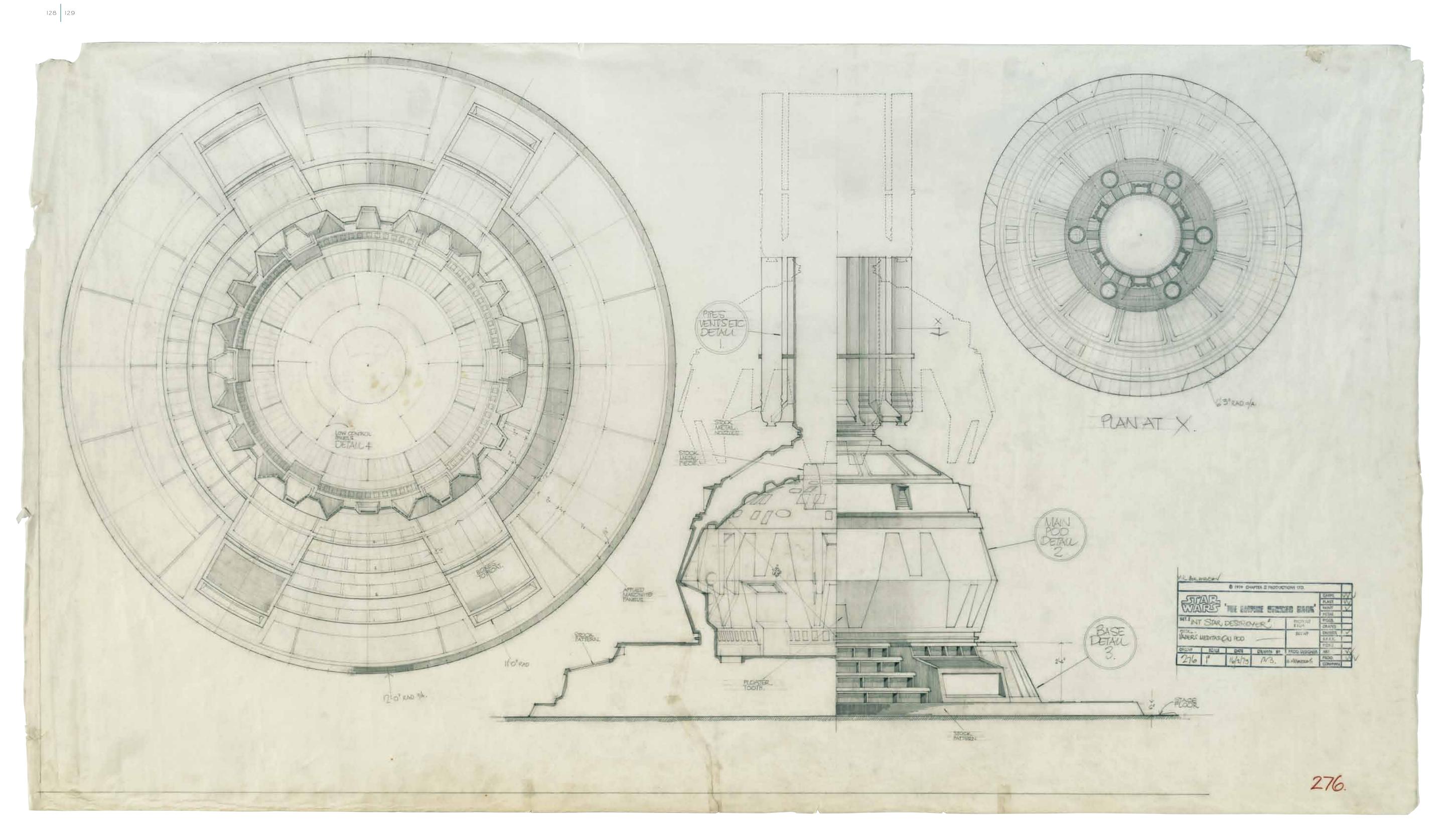
Consequently, a year after work had begun, Norman Reynolds, Bill Welch, and Alan Tomkins, "boarded a tiny Cherokee plane at the Elstree airfield to fly to Pembrokeshire to see the *Falcon* being constructed." According to unit publicist Alan Arnold, who accompanied them, "it was a bitterly cold morning." Marcon was a firm of maritime engineers in Wales, 260 miles southwest of London. Upon arriving at Pembroke Docks, the *Empire* crew examined the 23-ton prop. Talk in the town pub was that Marcon was building a genuine spaceship, perhaps because the company, about a decade before, had made the iconic centrifuge for 2001.

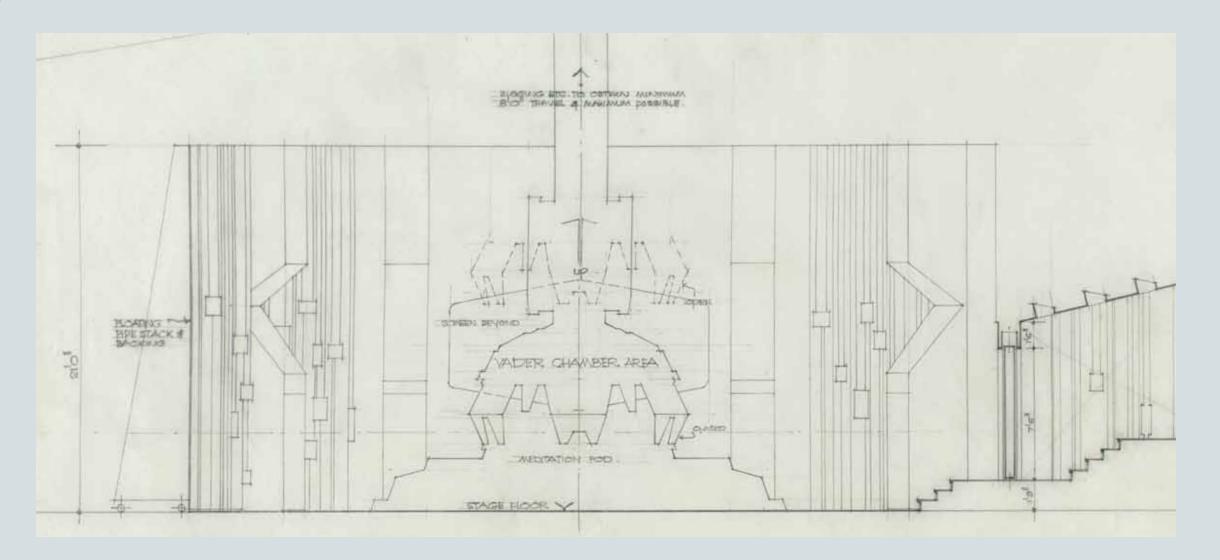
"I did fly down once, but the overriding thought in my mind was actually coming back in this small plane, because I thought we wouldn't make it there to begin with," remembers Reynolds. "I really thought the game Well, I'm not going to finish Empire after all."

The Falcon had to be reconstructed and redrawn in part based on little clips of 35-millimeter film. Because no one had anticipated the success of Star Wars, the previous ship had not been properly photographed and catalogued, and the actual set had been left out in the rain for months until it had wasted away to almost nothing. Indeed, Dawking's blueprint (no. 166A) instructs other departments to re-create the craft's battle damage using photo reference; he also asks for greeblies in the recesses, while shaded areas generally indicated basic cladding beneath applied paneling.

"We had little pieces of film for some parts," Tomkins says. "It was virtually trying to see the way the top of the set worked and how all the buttons and panels joined together into the angle, things like that."







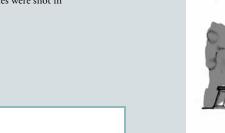
ABOVE SET: STAR DESTROYER COMPOSITE DETAIL: SECTIONS & ELEVATIONS (STAGE 5) DRG. NO.: 255 | SCALE: 1/4 INCH | DATE: FEB. 12, 1979

DRAWN BY: RICHARD J. DAWKING

RIGHT A set concept drawing by Reynolds is of Vader's meditation pod, October 1978.

BELOW RIGHT An art department maquette is of the medita-

BOTTOM RIGHT The exterior of Vader's meditation chamber as it was being constructed on Stage 5, where scenes were shot in



STAR DESTROYER II

EPISODE

SET: STAR DESTROYER [PGS. 128-129]

DETAIL: VADER'S MEDITATION POD | DRG. NO.: 276

SCALE: I INCH DATE: FEBRUARY 16, 1979

DRAWN BY: REG BREAM

Within Vader's flagship Star Destroyer is his meditation pod, also referred to as his "chamber," where the has alopecia, so maybe he just goes into a chamber, The set design was by Reynolds and its teeth-like pod that regenerate him. Then I came up with that idea halves contain a "floater tooth," for camera or light- of this claw-like thing that seals him in. I thought

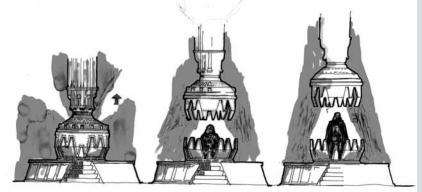
"a dark cubicle is illuminated by a single shaft of light from above. The brooding Dark Lord sits on a raised to flesh it out.

"I was at a loss at quite what to do for that," says Reynolds. "But certain things take a certain amount of time to prepare: Drawing takes two or three weeks, depending, so the making of it would be, say, six weeks, and then installing it in the set is more time needed. know that the date is coming fast upon you. Yet I had reached a point of still not knowing quite what to do. I was literally sitting in the kitchen at home, wondering what on earth I was going to do for this.

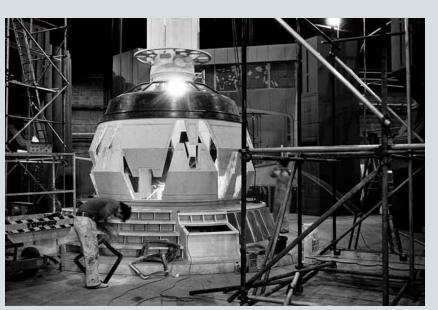
"Well, I thought, This guy suffers from asthma and and it's filled with purified air and other materials that might fit the bill. I drew that while sitting at the The script had described the chamber as follows: kitchen table that night, just scribbling, and then it later became a reality."

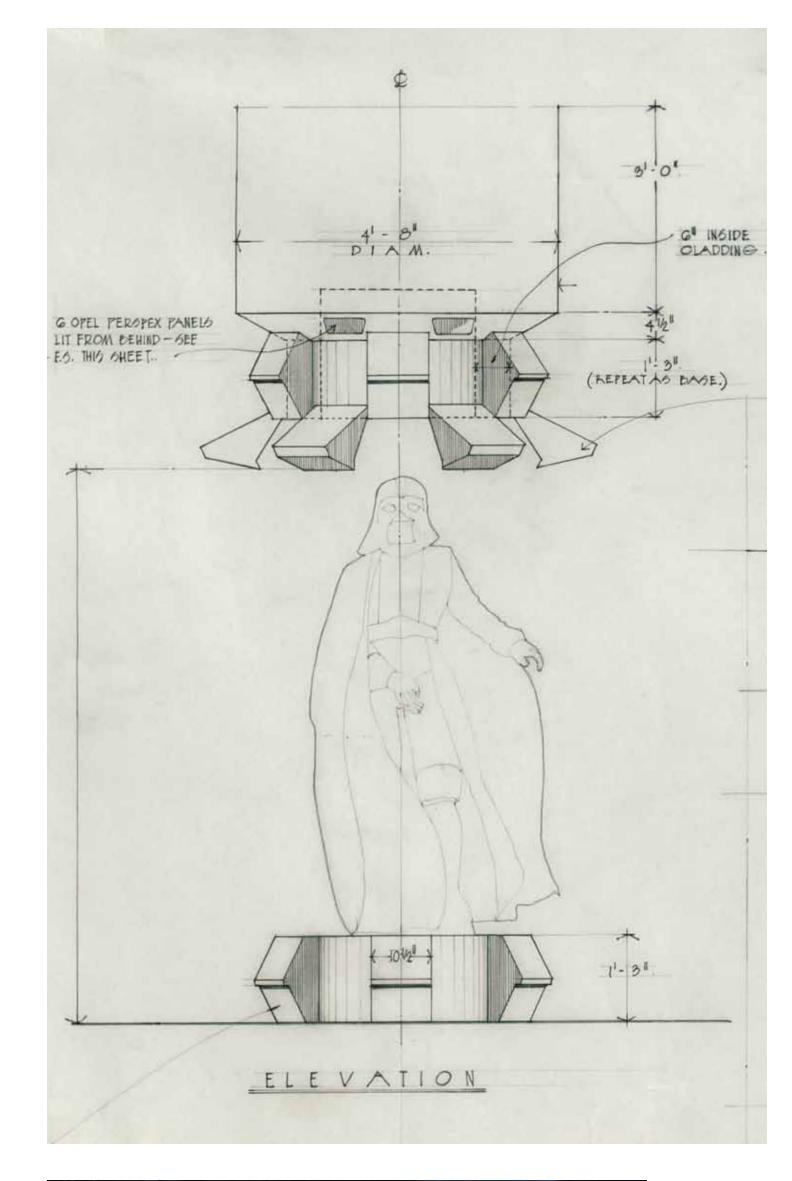
Armed with this concept, Reynolds worked up the meditation cube." It was up to the production designer blueprints in conjunction with Reg Bream. "Reg was so fast," says Tomkins. "We all aspired to the level of his drawings. There's a marvelous one of Darth Vader's pod with these big teeth coming down. Reg was the top draftsman who never wanted to do anything but draw and who was an absolute master with a pencil."

Reynolds adds that actually building the pod was The greatest spur to coming up with a design is to another matter. "Bill Welch did a first-class job," says Reynolds. "It was a very tricky thing to evolve, develop, and actually make."

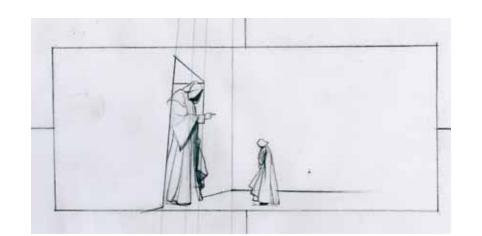


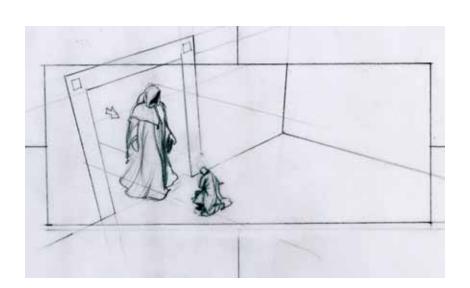














ABOVE LEFT | SET: VADER'S STAR DESTROYER

DETAIL: HOLOGRAM POD DRG. NO.: 281 SCALE: I INCH DATE: FEBRUARY 18, 1979

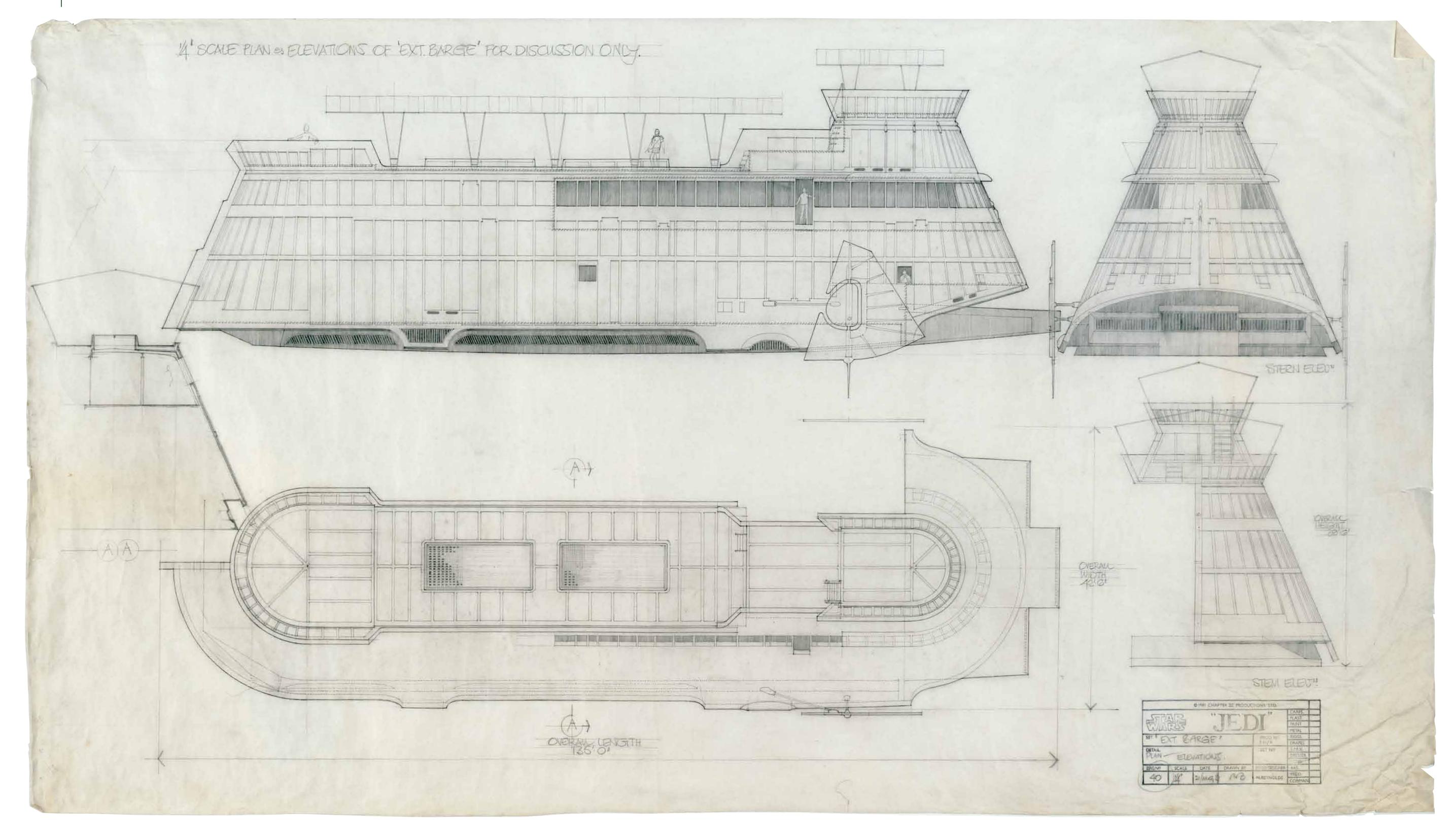
DRAWN BY: STEVEN COOPER

In Empire, the Emperor makes his first appearance, albeit only as a hologram. To initiate their trans-galactic conversation, Vader kneels on his hologram pod, the base and top of which was to be lit through Perspex panels. To help his department visualize what would only be completed in post, Reynolds drew several conceptual sketches that showed the relative sizes of the Emperor and Vader: To visually convey his dominance, the former was to be larger, 12 or 13 feet to Vader's 6 foot, 6 inches.

During principal photography and until fairly late in postproduction, the idea was that the Emperor would enter through a kind of inter-dimensional door. Ultimately, Lucas decided to show only the Emperor's head as a giant hologram.

TOP, CENTER & ABOVE | SET: VADER'S STAR DESTROYER DETAIL: EMPEROR HOLOGRAM CONCEPT DRAWINGS DRG. NO.: N/A | SCALE: N/A | DATE: EARLY 1979 DRAWN BY: NORMAN REYNOLDS

LEFT The Emperor makes his holographic appearance in *The* Empire Strikes Back.



BELOW RIGHT | SET: SKIFF

Intended as a full-sized practical set, the skiff's first form was built on Stage 4 out of clay, and the clay models were then cast in fiberglass. Next, the skiff was transported to another Stage, where its steel undercarriage was constructed. In Yuma, the skiff was attached to two steel I-beams sunk deep into the sand for support. The skiff is the transport on which Luke and his friends are flown





FAR LEFT A full-size practical prop was created of the skiff.

LEFT The underlying steel struts supporting the skiff are visible in this photograph taken on location in the Arizona desert.



JABBA'S BARGE

EPISODE

SET: JABBA'S BARGE [PGS. 206-207]

DETAIL: PLAN & ELEVATIONS | DRG. NO.: 40

SCALE: 1/4 INCH | DATE: AUGUST 21, 1981

DRAWN BY: REG BREAM

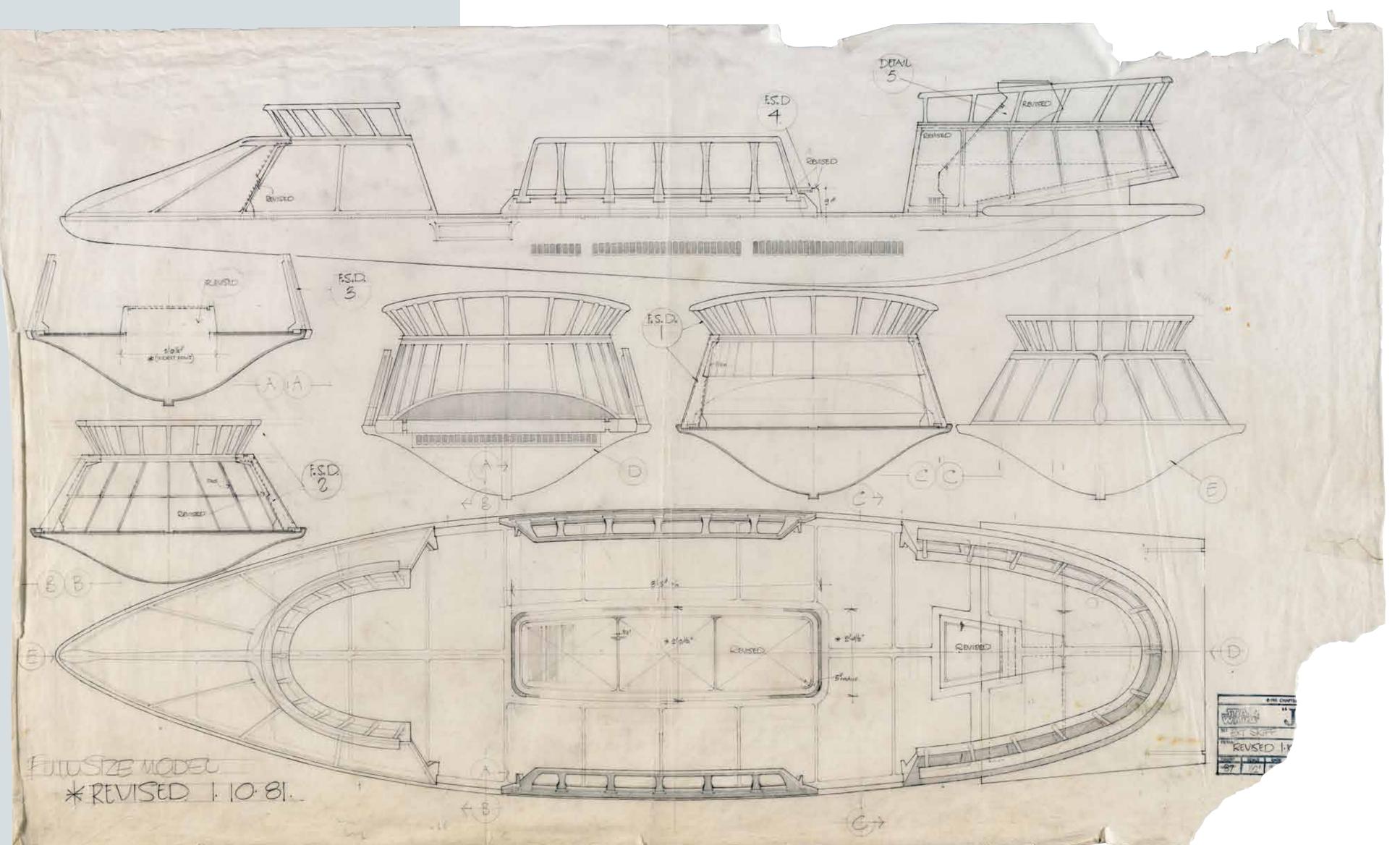
As the script developed, so did Jabba's barge, into the biggest Star Wars set built on location (in Buttercup Valley, Yuma, Arizona, which had prettier and more stern elevation of about 40 feet, a width of 42.6 feet, and a length of 135 feet (per blueprint no. 40), topped by 60-foot masts, the barge engendered a reaction in Reynolds's art department of disbelief: "Building what? Building where?"

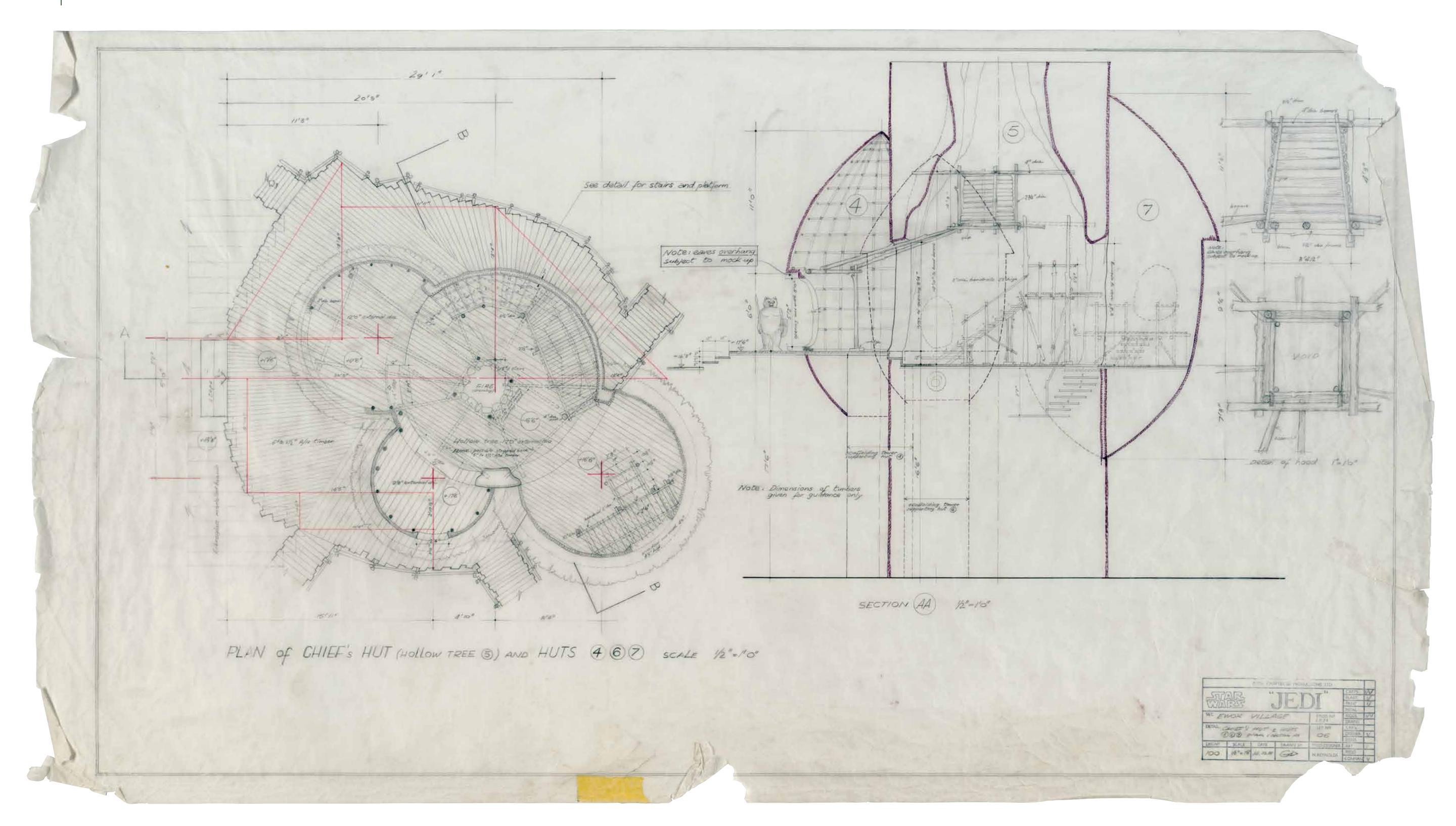
Assistant art director Chris Campbell says, "You see streets and whole towns that are really huge, but, least my mind was at rest." for a single set, this is probably it."

Reynolds was given a million dollar budget to clear the desert of all vegetation over a 4-acre area, and to construct a chain-link fence around the whole locale. There was concern that the set would be literally carried off piece by piece by fans, so guards were posted twenty-four hours a day. Timber and labor were shipped in, the latter from Los Angeles, but the blueprints were once again drawn in England. A worry of producer Jim Bloom and Reynolds was the sails themselves, which be blown to bits at ILM for the scene's climax. went through several designs.

"We were building away up there on this elevated platform, 15 or 16 feet up, and it was like a forest of these great 12-foot-by-12-foot timbers," says Reynolds. accessible sand dunes than those in Tunisia). With a "In the afternoons, I noticed that there would be this wind coming up, so it occurred to me that if it got very windy and the sails were up, then it would actually tear them all off! So I found quite a well-known yachtsman and he devised a rig for lowering it all very, very quickly, which could have saved our bacon. It never actually transpired. It was never really windy enough, but at

> While the yachtsman, "Commodore" Warwick Tompkins, helped with the sails and rigging, issuing orders to his twelve-man crew, Welch's construction team built the barge in thirty-eight days, a job that normally would have taken four months. In the end, the total set would cost \$2.5 million for only a few minutes of screen time during which Jabba's barge, the good guys on the skiff, and more bad guys on a second skiff engage in a do-or-die battle. A miniature of the barge would

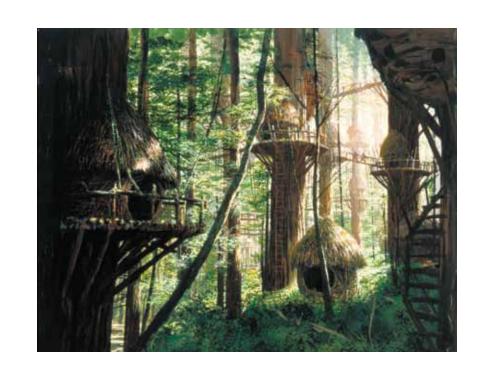












ABOVE Concept artwork of the Ewok village from 1981 was sketched by Johnston.

ABOVE CENTER (BOTH IMAGES) The Ewok village takes form on Stage 3.

ABOVE OPPOSITE The final set is seen with wraparound scenic painted backing.

RIGHT SET: EWOK VILLAGE

DRAWN BY: GEORGE DJURKOVIC

DETAIL: SECTIONS AA, EE & PARTIAL SECTION HH DRG. NO.: 82 | SCALE: 1/4 INCH | DATE: OCTOBER 1981

EWOK VILLAGE

EPISODE

SET: EWOK VILLAGE [PGS. 240-241]

DETAIL: CHIEF'S HUT AND HUTS, PLAN AND SECTIONS

DRG. NO.: 100 | SCALE: 1/2 INCH | DATE: OCTOBER 14, 1981

DRAWN BY: GEORGE DJURKOVIC

The Ewok village was another elevated set, but built even and crew would get to the set via a forklift. Housed in Stage 3, which had been reconstructed following *The* had been Raiders' Well of Souls), each Ewok hut was made up of composite vertical struts, with door and their basket frames. All of this was supported by tubes of each tree house.

cyclorama painted to match the location shoot that would take place in a redwood forest in Northern California (near Crescent City). Most of the scenes on set would be filmed in simulated night or twilight, which would match the lighting of the location exteriors. The smaller trees on set were live ones, which provided realism to the décor. Many of the Ewok forest elements would be recycled for the next set to occupy Stage 3, the Imperial landing platform.

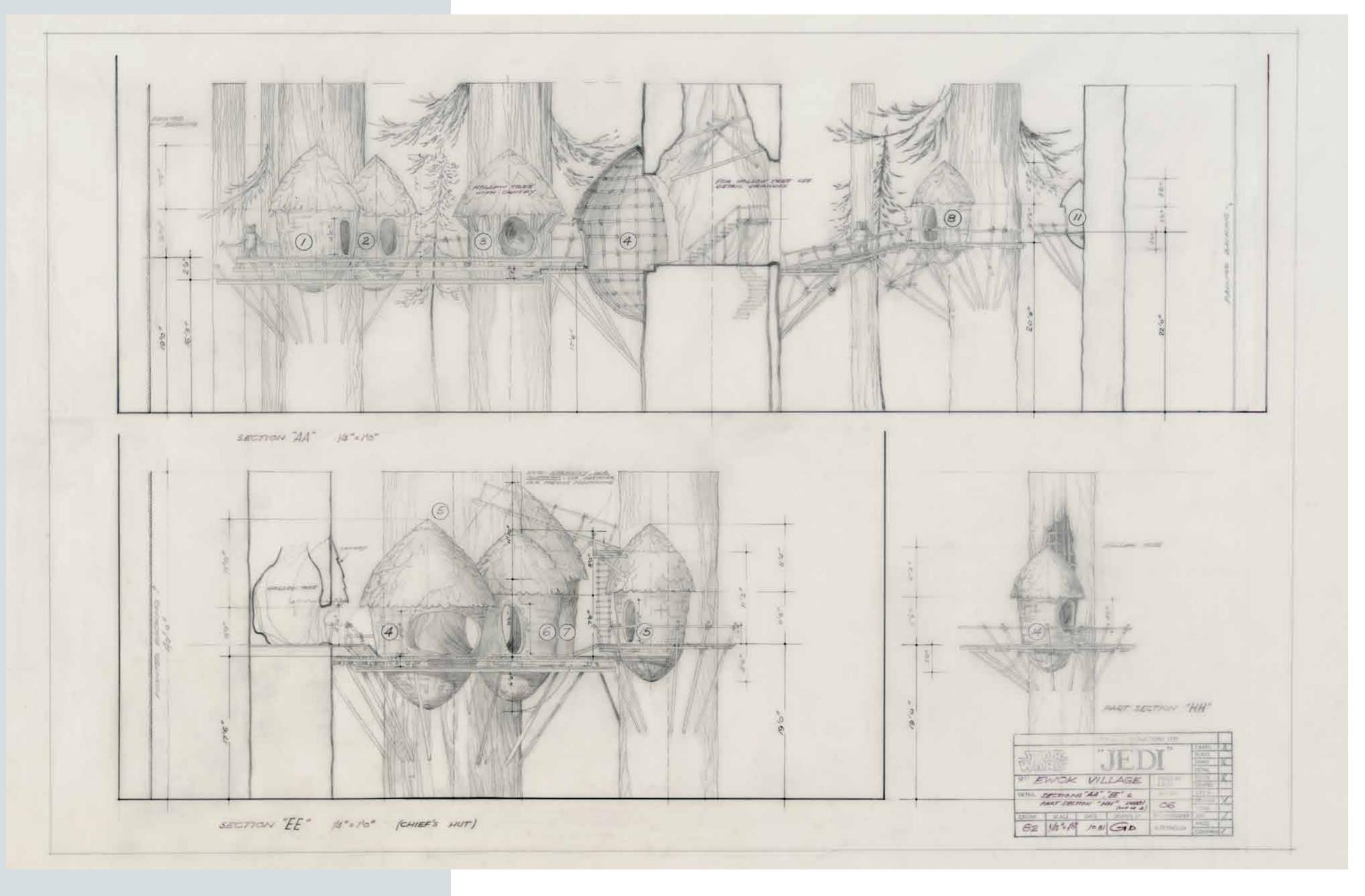
was a fun thing to build, to provide the maximum vertical angle," says Reynolds. "I determined the level of the set floor to be exactly halfway between the stage floor and the stage ceiling. I had never done that before.

Everyone was very nervous to begin with, but we did higher than usual—20 feet off the studio floor. Actors have protective handrails and that sort of stuff, so it

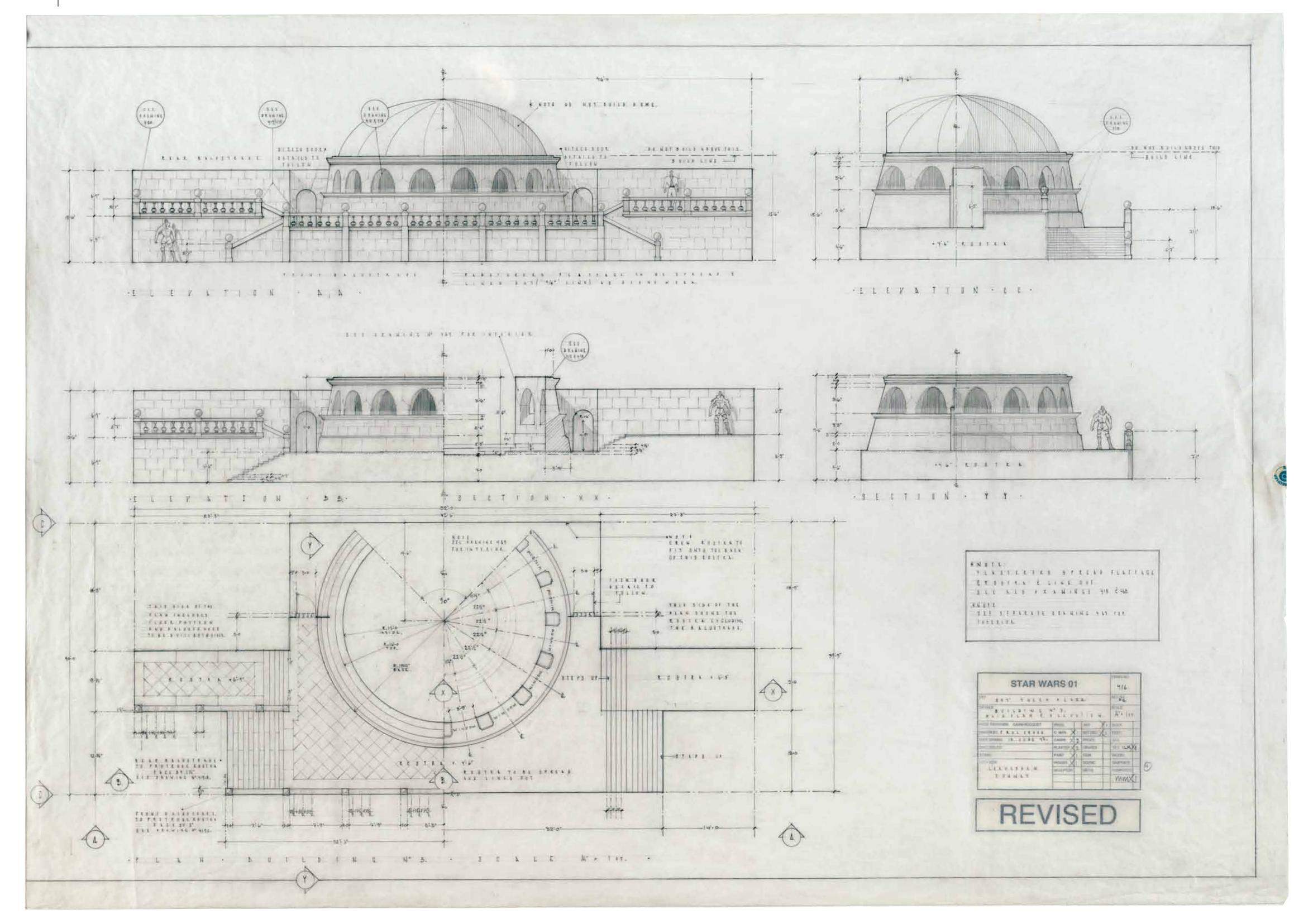
The Ewoks were portrayed by little people wearing Shining fire (the first set to occupy the rebuilt stage five-piece suits with full head masks, elements of which had been cast in the plasterers' shop. "I was second unit director for six weeks, and they put me on the Ewok window openings assembled around composite small village, which I started during the end party," says branch hoops, and finished with a mud spread over Christian. "And George fell in love with these things, the Ewoks. And the more I shot what he wanted, the inserted into the giant fake trees at the base and top more he kept saying, 'Oh, have the babies dancing, and do this and do that.' We spent ten days shooting The huts and trees were surrounded by a scenic the Ewoks dancing and falling and doing acrobatics for the whole ending sequence."

> "I did a series of drawings of Ewoks for fun," says Peterson. "You know, after a while you got pretty tired of Ewoks. So I drew friendly Ewoks stepping out to meet new people in the woods, but they turn out to be stormtroopers—and the stormtroopers would blast away and you'd have Ewok eyeballs and guts flying."

Djurkovic's drawings show the 2-inch diameter handrails, a necessary safety precaution for the elevated "The Ewok village plan was very interesting and set. In drawing no. 100, he notes that the floor was to be made possibly of stripped bark, and that the chief's hut would be constructed within a hollow tree and house a practical fire. The fire would be used for a scene in which C-3PO tells the Ewoks of the heroes' adventures.



274 275





ABOVE Creating the set dressing of the Theed Plaza on the back lot at Leavesdon, early summer 1997 (the upper portions of the buildings would be added digitally by ILM in post) are: dressing/props charge hand Peter Watson, dressing props supervisor Martin Kingsley, and set decorator Walpole.



THEED PLAZA

EPISODE

SET: THEED PLAZA [PGS. 274-275] DETAIL: BUILDING NO. 3, MAIN PLAN & ELEVATION DRG. NO.: 416 | SCALE: 1/4 INCH | DATE: JUNE 18, 1997 DRAWN BY: PAUL CROSS

Lucas chose to film Star Wars: Episode I The Phantom Menace at Leavesden Film Studios, a converted Rolls Royce factory (not of cars but of aircraft) in 1996 and, as usual, they eventually took over the entire facility (which McCallum booked for about two years), plaza of Theed, capital city on the planet Naboo.

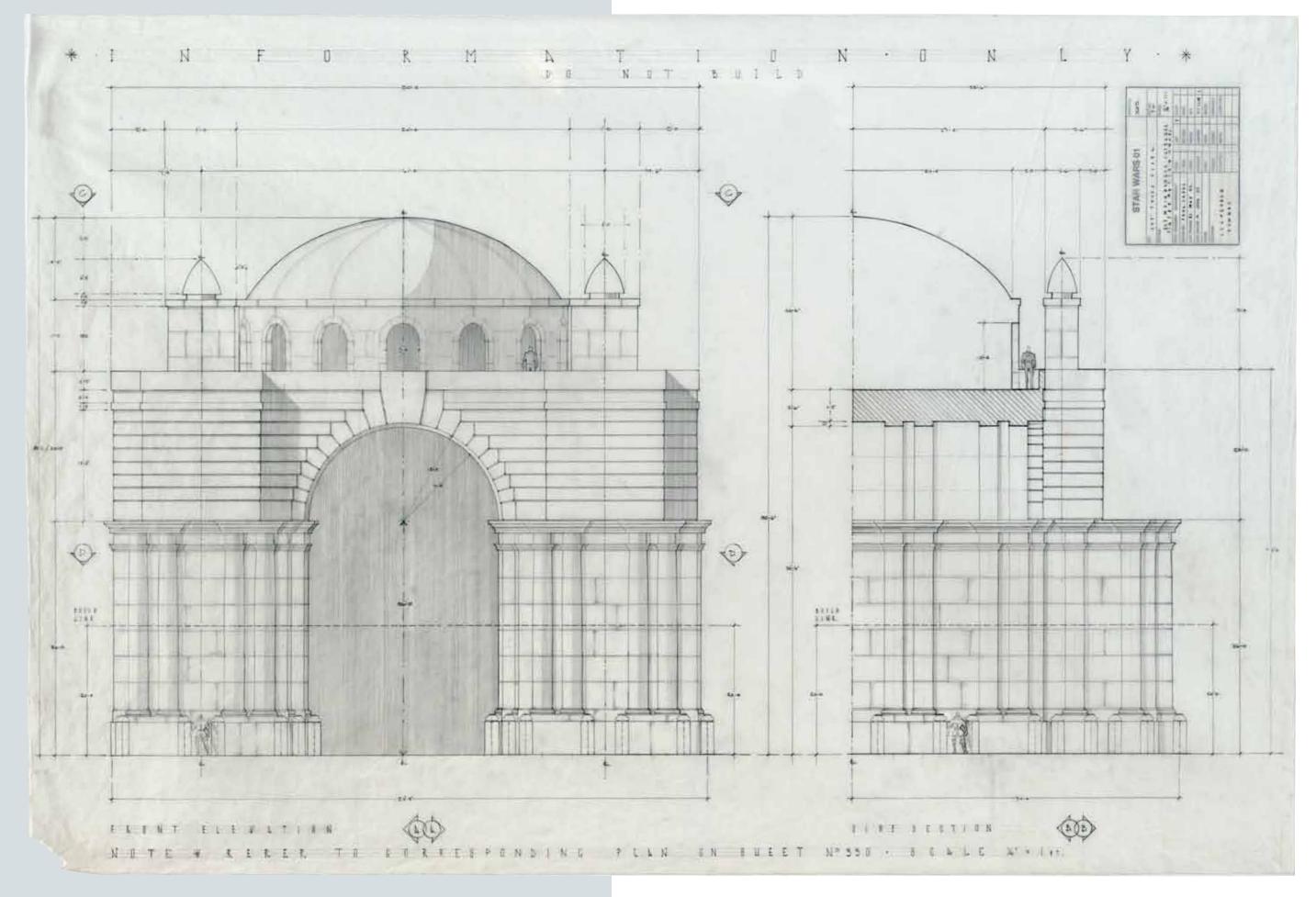
The Lucasfilm Archives have over fifty plans of buildings designed for this luxurious locale, as Lucas's vision of the Republic era was of a rich society not unlike Renaissance Italy. Thanks to advances in visual effects, a combination of practical set building coupled with digital set extensions (the dotted line on the blueprints mark the limits of the real-world builds) meant the creation of a cityscape that, in turn, combined classical architecture with a high-tech space fantasy world.

"Whether it's the Naboo Palace, going up to Norway for Hoth, or the forest for Endor, or Tunisia for Tatooine, George will always, if possible, try to find a location to base his other worlds on, because there's an integrity and detail in that design," says Bocquet. "It's different

when you've got a water planet or a fire planet to find those locations, but, generally, he would always try to find locations for other worlds. So a lot of our set design Hertfordshire, about 18 miles northwest of London. The for Naboo came from what we found on location, first motion picture to shoot there had been *GoldenEye* bouncing off of the Villa Balbianello, Caserta Palace, in 1995; the Star Wars team moved in during August of and Lake Como in Italy. You have to get out there and find the locations, and then that's your inspiration."

Part of that necessity, of course, is drawn from the converting a large part of its back lot into the central fact that the production art department, unlike the concept art department, had to create so much detail, from stone finishes to door handles, which requires knowledge of the tangible. The conceptual artists, though given reams of photo reference, generally dealt with landscapes of the imagination.

> "The work we did for the Theed Plaza epitomizes a lot of what we did on Star Wars," says supervising art director Peter Russell. "Although we only built to maybe a height of 20 or 25 feet, we did a lot of drawings to express what these buildings would look like as computergenerated extensions: that is, Gavin designed them in toto. We drew any number of completed beautiful, very fanciful, romantic, Romanesque looking buildings."





DDG NO : 471 SCALE: 1/4 INCH LINCH DATE: JUNE 17, 1997 DRAWN BY: JANE CLARK PEARCE

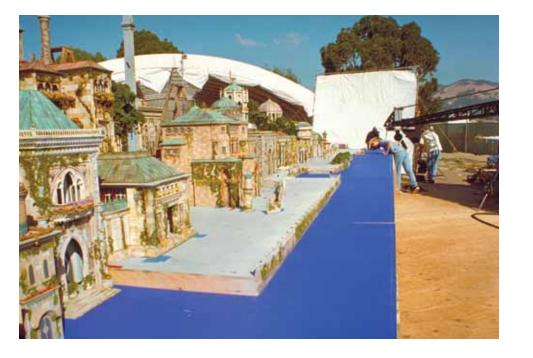
RIGHT On the Leavesden back lot, the Theed Plaza set was built to only 20 to 25 feet; the rest would be digital extensions,









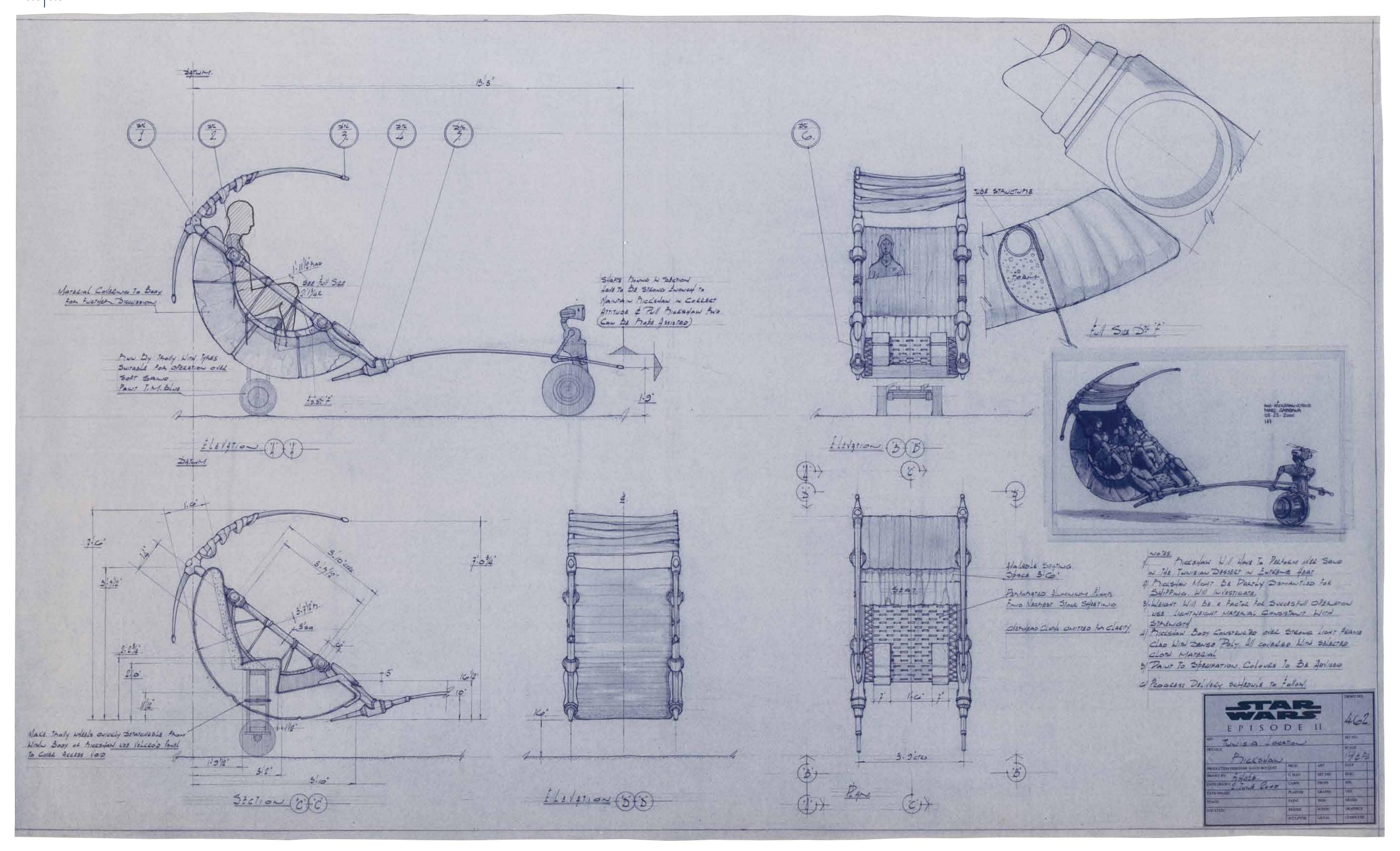


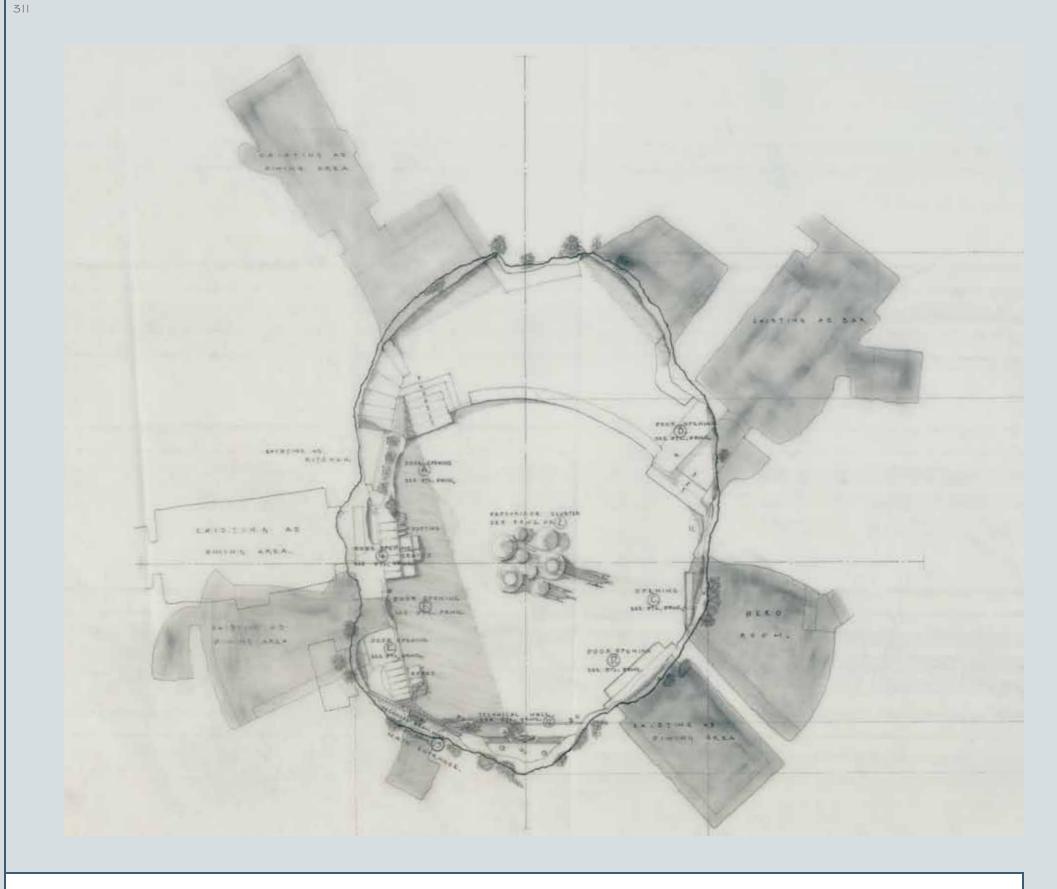
TOP A detail is from an ILM Theed model.

SECOND FROM TOP On this maquette of Theed Plaza the bluish portions would all be digital extension of the white/built

THIRD FROM TOP In the final film, Theed Plaza is seen complete with digital extensions.

 $\boldsymbol{ABOVE}\;\; At\; ILM$ are miniatures of Theed Plaza and the estuary.





TUNISIA LOCATION

EPISODE

SET: TUNISIA LOCATION [PGS. 308-309]

DETAIL: RICKSHAW DRG. NO.: 462

SCALE: I INCH, FS DATE: JUNE 2, 2000

DRAWN BY: FRED HOLE

For *Star Wars*: Episode II *Attack of the Clones*, production designer Bocquet moved his art department from England to Australia, taking some of his staff, but also employing several local draftspeople and art directors at Fox Studios in Sydney.

In the second movie of the *Prequel Trilogy*, Anakin Skywalker (Hayden Christensen) returns to Tatooine. Searching for his mother, he first hires a rickshaw to take him and Padmé to visit his old slave master, Watto. Based on Marc Gabbana's concept art, the practical transport was built on a trolley frame with tires suitable for operation over soft sand, as Lucas once again took production to Tunisia. The day of the shoot, a pickup truck would pull the rickshaw. Fred Hole's blueprint (no. 462) also notes that parts of the rickshaw were to be painted blue, so that ILM could later make it look like it was floating above the ground being pulled by a droid.

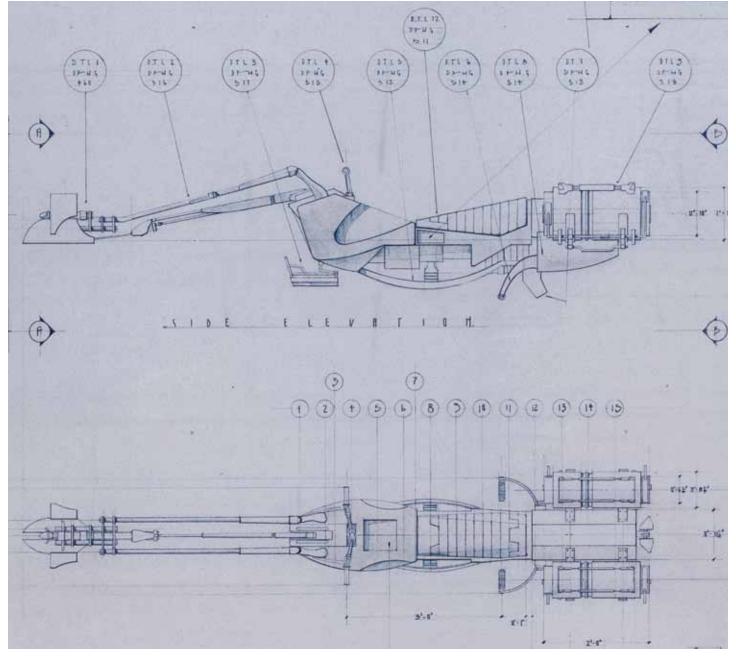
"Another Fred Hole classic," says Russell. "Not quite such a complicated one as the droid tank, but he just has such a sweet hand. You know, he could make a toilet seat look good."

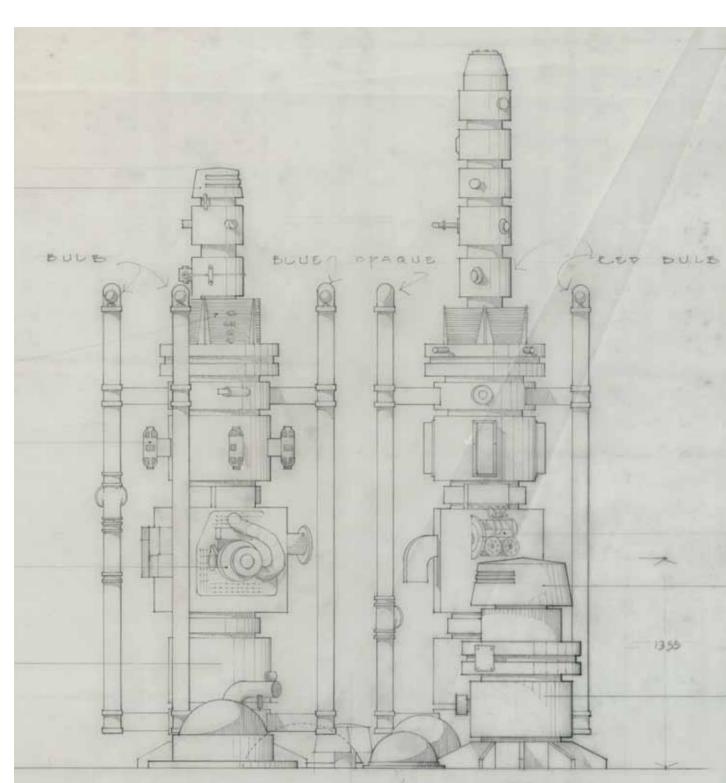
From Watto, Anakin learns that his mother has married a man named Cliegg Lars, so the Jedi Knight travels to the Lars's homestead, where audiences first met Luke Skywalker in the original film more than two decades before. "I think the biggest moment was when we all walked onto that location near Nefta, Tunisia," says Bocquet. "We had reproduced the homestead igloo out there, but it was only really Anthony Daniels, myself, and George who had ever been part of that world, and of course the only two people who had been there were George and Anthony. George never went to see the set before we shot it and I have to say, and Anthony said it, too, that George looked

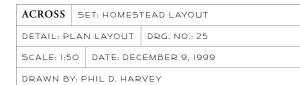
visibly moved when he walked out onto that completed and dressed location. It was a nice thing. I suppose for him that was a big moment of his life, remembering that whole environment and establishing *Star Wars*, because it's so iconic now. The rim of the crater [seen in] the shot with the two suns, it was still there. We had to replenish it a bit, but it was still there."

Indeed, once again, the homestead was a combination of two locations: the berm and surface "igloo" outside of Nefta and the Sidi Driss hotel pit in Matmata, though this time around, thanks to the advances made in effects, the surface and pit could be combined in one shot. "There's a bar in the hotel, and on the wall inside the bar, there's a bunch of pictures of the set being used in *Star Wars*," says Knoll. "I think there are some articles up about it, too."

Art director Phil Harvey's blueprint (no. 25) notes that the homestead layout plan was based on approximated survey measurements and that all measurements were to be rechecked on site. Boxes and crates were to be added as dressing, along with a vaporizer cluster (no. 02), with blue and red bulbs, which recalls the very first blueprint of the "Oil Rig Christmas Tree" created for the first *Star Wars*. Says Russell: "I love the drawing of the old vaporizer, the homage to the original."







TOP SET: SPEEDER BIKE

DETAIL: GENERAL ARRANGEMENTS DRG. NO.: 461

SCALE: 1 1/2 INCH DATE: JUNE 15, 2000

DRAWN BY: MARK BARTHOLOMEW







LEFT SET: LARS HOMESTEAD

DETAIL: VAPORIZER CLUSTER DRG. NO.: OZ

SCALE: I:IO DATE: DECEMBER 7, 1999

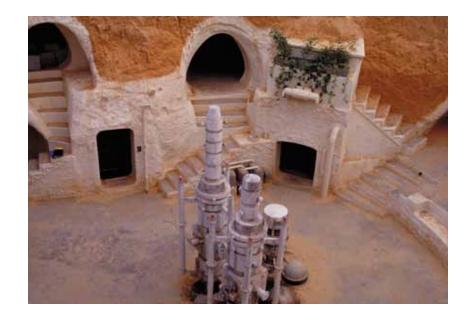
DRAWN BY: B. SCOTT

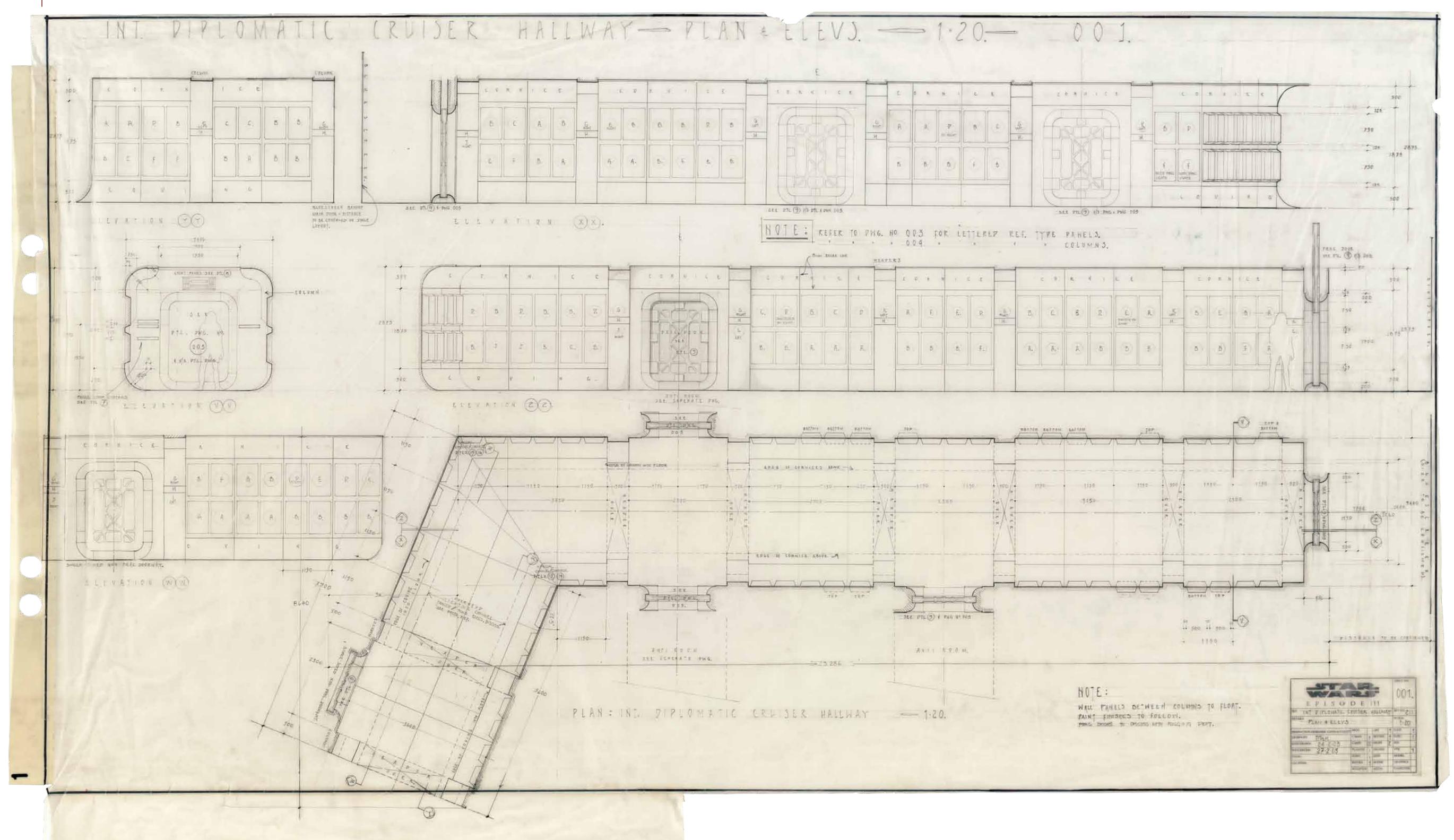
TOP The rickshaw prop had wheels that would be digitally painted out, as are seen in a reference photo taken on location in Tunisia, September 2000.

CENTER The full-sized speeder bike prop was placed before the "igloo" on location.

ABOVE Anakin (Hayden Christensen) is seen on the speeder bike in this final frame.

BELOW The vaporizer cluster is seen on location at the Sidi Driss Hotel in Matmata, where production returned in September 2000 for the first time since the original *Star Wars*.









DIPLOMATIC CRUISER

EPISODE

SET: DIPLOMATIC CRUISER HALLWAY [PGS. 328-329]

DETAIL: PLAN & ELEVATIONS | DRG. NO.: 001

SCALE: 1:20 DATE: FEBRUARY 24, 2003

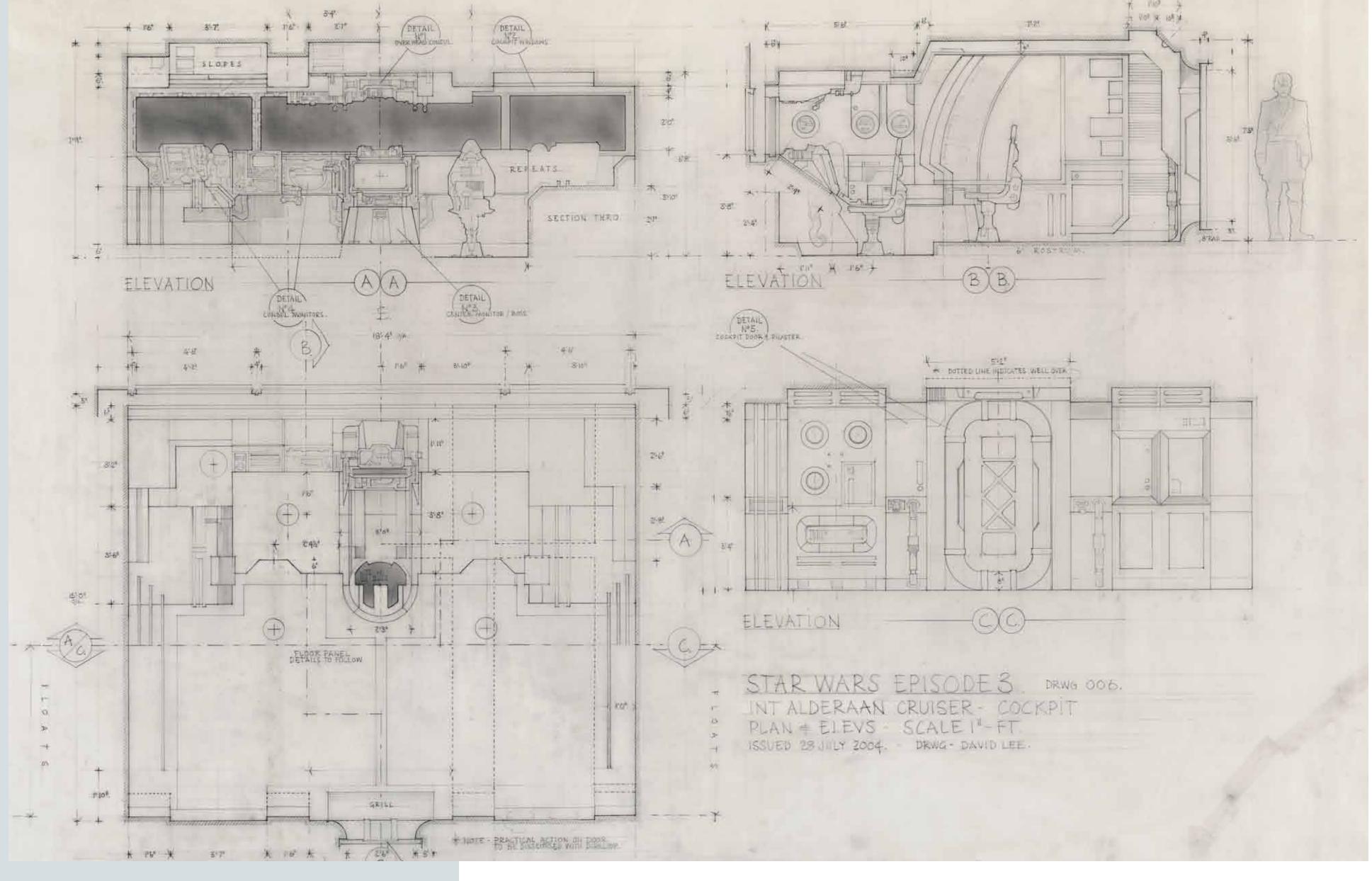
DRAWN BY: PHIL D. HARVEY

The blueprint of the Diplomatic cruiser hallway, designated as 001—the first technical drawing executed for Episode III—was another element that brought the Prequel Trilogy art department full-circle to the first drawings created at Elstree. Ironically, though Bocquet's team built exactly the same amount of the L-shaped corridor as Barry's had of the Rebel ship, their reference material was limited. "The tricky thing about building this set was that the first film wasn't really archived very well, because nobody knew it was going to be successful," Bocquet says. "So we had to rely much more on photographs; we only had a few drawings to work from."

that the wall panels between columns were to float and that several of the doorways were single-sided and

cruiser hallway was fun to do," says Russell. "We were all peering at old DVDs and trying to work out how big it was and how long it was. We couldn't find any useful drawings from the original set, any ones that gave us what we wanted." (Star Wars: The Blueprints collects for the first time both the original drawing of the 1976 corridor, since found in the Lucasfilm Archives, along with its re-creation blueprint.)

In addition to the corridor, the Prequel art department constructed a part of the cruiser not seen originally. For the pickups shot at Shepperton Studios, David Lee drew up a blueprint of the ship's cockpit (no. 006). "That was a three-and-a-half-wall little cockpit for a flying Harvey's blueprint of the rebuild (no. 001) notes scene," says Russell. "George was convinced that ILM could do it with just the seats and blue, but eventually, as a treat, he said, 'No, you can build it.' And that was



TOP LEFT This final frame shows Jeremy Bulloch, who played Boba Fett in the original trilogy, as the pilot to the left of the viewscreen. The cockpit was the last set built for the Star Wars Saga, appropriately at Shepperton Studios where Lucas had filmed decades before on its H Stage.

ABOVE LEFT The re-created Rebel Blockade Runner set was reincarnated as the Episode III Diplomatic cruiser on Stage 7,

ABOVE SET: ALDERAAN CRUISER COCKPIT

DETAIL: PLAN & ELEVATIONS DRG. NO.: 006 SCALE: I INCH DATE: JULY 28, 2004 DRAWN BY: DAVID LEE

ACROSS & ACROSS FAR RIGHT R2-D2 is in the original corridor; Yoda, Obi-Wan, and Bail Organa are in the re-creation.



